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on Mount Elbrus



Photograph by Maya Skurikhina

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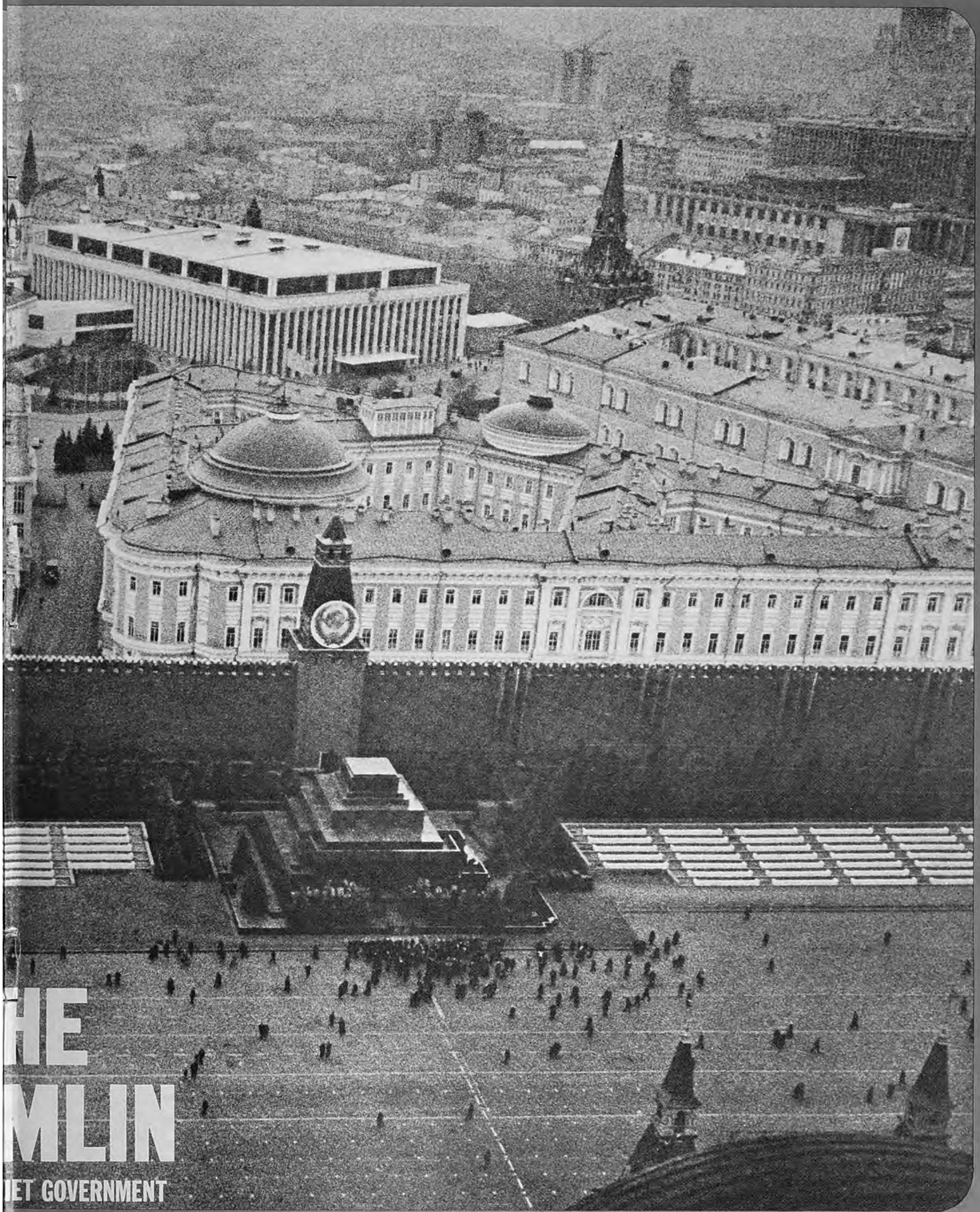

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page 4.

JANUARY 1972; No. 1 (184)

SOVIET LIFE

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DEFINITION OF A SOCIALIST NATION

By Suren T. Kaltakhchyan

Doctor of Science (History),
Professor, Moscow University

Marxism-Leninism defines a nation as a historically evolved community of people with a common language, territory, economic life, culture, and certain common characteristics. The nation developed with capitalism, which did away with feudal economic fragmentation and led to the formation of economic ties on a national scale. Vladimir Lenin wrote that a nation is an inevitable product and an inevitable form of the bourgeois epoch of social development. Within the framework of a bourgeois nation contradictions arise between social classes and intensify into a class struggle.

A nation, being a category of bourgeois society, a product of capitalist economic relations, undergoes fundamental qualitative changes under socialism.

Socialist nations develop from existing nations and nationalities. They preserve whatever is progressive in their earlier development and reject whatever is reactionary and obsolete.

The most typical feature of socialist nations is their unity of economic and political interests. Socialist relations of mutual assistance and cooperation create fruitful grounds for the friendship of people of different nationalities.

As class contradictions and antagonisms were eradicated, the various nations and nationalities in Soviet society developed a continuing social homogeneity. To them the class differentiations that afflict the character and culture of the nations in capitalist society are becoming alien. The Communist Party, the leading force in the socialist nations, educates the working people in a spirit of proletarian, socialist internationalism.

Continued on page 10

Dear Readers,
A year of pleasant association
has just ended,
and we cannot let it pass
without thanking you
for your continued interest
in SOVIET LIFE
and your many helpful suggestions.
As 1972 begins,
we want to wish you and yours
happiness
in a world at peace.

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President of the Presidium
of the Supreme Soviet
of the Kazakh SSR



State emblem of the USSR

The article by Anastas I. Mikoyan in December opened a series dedicated to the fiftieth anniversary of the Union of Soviet Socialist Republics. In this issue we present answers given by the Presidents of the Presidiums of the Supreme Soviets of all the 15 union republics to our question: "What event, what fact in the life of your republic, is most characteristic of the friendship of the Soviet peoples?

A UNION

IRRESPECTIVE OF NATIONALITY OR RACE

By Mikhail Yasnov

President, Presidium of the Supreme Soviet of the Russian Federation

THE RUSSIAN Soviet Federative Socialist Republic is the largest of the union republics. It takes up an area of more than six million square miles, or 76 per cent of the entire territory of the USSR (almost twice the territory of the United States). It is inhabited by 130 million people, more than half the

STRONGER THAN ELEMENTAL FORCES

By Nazar Matchanov

President, Presidium of the Supreme Soviet of the Uzbek Republic

THE TASHKENT earthquake in April 1966 left 400,000 people in the capital of our republic without shelter.

People from all parts of the country sent their savings or part of their wages to help devastated Tashkent. This was an expression of their deep

UNITY

By Alexander Lyashko

President, Presidium of the Supreme Soviet of the Ukrainian Republic

THE UNION of Soviet Socialist Republics was an indestructible wall in the path of the nazi invaders.

The Ukrainian people will never forget the exploit of the fighting men of our multinational motherland who saved the Soviet Ukraine from nazi slavery.

The great friendship of the Soviet nations was displayed not only on the battlefield. We shall always remember that during the war the Russians, Uz-

RESTORED FROM THE RUINS

By Fyodor Surganov

President, Presidium of the Supreme Soviet of the Byelorussian Republic

DURING WORLD WAR II, when Hitler Germany attacked the Soviet Union, Byelorussia was one of the republics that suffered most. Let me recall the figures of our losses: 2,230,000 people—almost a quarter of the republic's population—were killed or tortured to death by the Nazis. The in-

"STRONG AS A DIAMOND"

By Sabir Niyazbekov

President, Presidium of the Supreme Soviet of the Kazakh Republic

I RECALL Leonid Brezhnev's words: "The unity of the multinational Soviet people is as strong as a diamond. And just as a diamond scintillates with its multicolored facets, so does the unity of our peoples scintillate with the diversity of the nations comprising it, each of which lives a rich, full, free and happy life."

OF EQUALS

total population of the Soviet Union.

The Russian Federation contributes more than 80 per cent of the country's oil, almost two-thirds of its electric power, more than half of its coal, steel, grain and milk, 92 per cent of its timber and a considerable part of the entire output of its machine-building industry.

Our Federation was the first multinational socialist state. It was founded soon after the Soviet system came into being. People of more than 100 nationalities live in our Federation. It has 16 autonomous republics, 5 autonomous regions and 10 national areas. Each autonomous republic has its own legislative, administrative and judicial bodies and its own constitution. All autonomous republics are equal. Each one sends 11 deputies to the Soviet of Nationalities, one of the chambers of the USSR Supreme Soviet, irrespective of the number of voters and the size of the population. Inequality—both in economic development and in other respects—was eliminated in the course of building socialism.

Our people are educated in the spirit of socialist internationalism to respect all nations and nationalities, to reject any manifestation of nationalism and chauvinism, any form of national prejudice and arrogance.

The friendship of the peoples inhabiting the Russian Federation, the peoples of all the republics of the multinational land of Soviets, is beautiful and fruitful. Wherever a Soviet citizen lives, whatever nationality he comes from, he always feels at home, he feels that he is a citizen of his country, the Union of Soviet Socialist Republics. The Constitution of every union republic contains an article similar to the one in the Constitution of the Russian Federation: "Every citizen of the RSFSR is a citizen of the USSR."



Emblem of the Russian Soviet Federative Socialist Republic

friendship and heartfelt sympathy. That year the doors of all homes, all summer camps and children's sanatoriums in all republics were wide open to the children of Tashkent.

We have an old custom in Uzbekistan called *khashar:* When a man wants to build a house a *khashar* is announced and people from the neighborhood or the whole village come to help him. The entire country joined in the great Tashkent *khashar.* By the time winter arrived every person in Tashkent had a roof over his head.

Today house fronts in Tashkent are adorned with the national ornaments of all the 15 republics. They are either hewn or laid out in stone, brick and ceramic tile. This is the most eloquent friendship testimonial of any I have seen.

Without the help of the fraternal republics, would we have been able to build a new Tashkent in so short a time? By no means. For me this is the most dramatic example of international friendship. The daily life of my republic, its progress in all areas—economic, cultural, scientific—is inseverably linked with the assistance rendered us by all the Soviet republics. Both during the grim days of the war and the days of peaceful development the peoples of the Soviet Union have always been united by fraternal, ungrudging friendship. The Uzbek Mamadali Tapyoldyrev was the heroic commander of a guerrilla detachment in Byelorussia; today a Byelorussian village is named after him. Shaakhmed Shamakhmudov, a smith from Tashkent, adopted and brought up 16 children of different nationalities orphaned by the war. Each of them calls him father in a different language.



Emblem of the Uzbek Soviet Socialist Republic

beks, Kazakhs, Bashkirs and other peoples welcomed as their closest kinsmen thousands of Ukrainians from the occupied territories.

Here is just one vivid example of the friendship of two sister villages, Rovnoye in the Ukraine and Shroma in Georgia.

At the USSR Agricultural Exhibition in Moscow in 1938 Mikhako Oragvelidze, chairman of the Shroma collective farm, struck up a friendship with the chairman of the Ukrainian collective farm. The Ukrainians challenged their Georgian friends to a competition to see which farm would gather bigger harvests and yield more income for its members. This friendship grew from year to year as the collective farms made further progress.

When the Hitlerites invaded the Ukraine, many Rovnoye collective farmers moved to live and work at the sister collective farm. Wounded Ukrainian soldiers also went to Shroma from the hospitals to recuperate. During those hard years Ivan Kostenko, a sergeant from Rovnoye, sent a letter to Georgia, to collective-farm chairman Mikhako: "Do you remember us, comrade? We will fight for ourselves and for you without sparing our lives. . . ."

In his reply Mikhako told Kostenko not to worry about his family and the families of his friends: "How could you even dream that we might not remember you, dear Ivan? We think of you all the time and are looking forward to the arrival of your wives and children."

The friendship of the two collective farms continues to this day. Whole families visit each other. Returning home they write: "We will always remember the hearty reception you gave us. We felt as much at home as with our own family. This is a test of true friendship."

The war inflicted incalculable losses on the Ukraine, and only the fraternal help of the Soviet peoples made fast rebuilding possible.

The law of friendship of the Soviet peoples, their unity, is one of the cardinal products of our Revolution, of socialism. It is our pride and our strength.



Emblem of the Ukrainian Soviet Socialist Republic

vaders left 209 cities and industrial settlements, 9,200 villages and more than 10,000 factories in ruins. Foreign observers thought it would take 100 years to restore the republic's economy, "reduced to rubble and ashes," as one newspaper put it. But by 1950, five years after the victory, Byelorussia had climbed to its prewar economic level.

The secret of this "miracle" is our Soviet system, the socialist economy, the fraternity and mutual assistance of the Soviet people.

To this day I am moved when I reread clippings from the newspapers of those years:

"The working people of the ancient Russian town of Yaroslavl sent Byelorussia a trainload of tractor parts, textiles, footwear, equipment for a canteen, a hospital and a kindergarten, and toys. . . ."

". . . YCLers of Turkmenia sent 11 carloads of gifts—food, clothing, medicine and books. Their letter speaks of their gratitude to their dear comrades, young guerrillas, for their brave struggle against the common enemy."

Specialists from large industrial centers came to Byelorussia and shared the hardships of life and work in the war-wrecked towns and villages with the people of our republic. Many of them remained with us—they fell in love with our region, with our people.

In recent years we developed many industries we did not have before—oil extraction and refining, fertilizer, radio-electronic and precision instrument making. Everything achieved by a Byelorussia restored from the ruins is the embodiment of the great friendship of the peoples of our country.



Emblem of the Byelorussian Soviet Socialist Republic

One of the facets of this diamond is the friendship of Kazakhstan and the Ukraine. At the end of the 1920s, when the Union was laying the foundations of its industry, the words Dneproges and Turksib were known to everyone. Those were the names of big construction sites—a hydroelectric station on the Dnieper and a railway line in Kazakhstan. The builders of Turksib entered an emulation contest with the builders of Dneproges. The Ukraine sent 15,000 of its sons to build the Turksib. They were followed by about 500 people from the Donets fields, at that time the biggest coal producer in the Ukraine. Workers and engineers from the Ukraine built mines and factories in Karaganda, Central Kazakhstan. Veteran miners passed on their know-how to yesterday's nomads.

During the trying years of the Second World War, when the Ukraine was temporarily occupied by the enemy, Kazakhstan received like brothers many Ukrainians who fled from German slavery. Pasha Angelina, renowned Ukrainian tractor driver, wrote in her memoirs: "In distant Kazakhstan, in Terekty village, we felt at home, we were received like brothers and sisters."

For their exploits in crossing the Dnieper, more than 50 Kazakh servicemen won the title Hero of the Soviet Union. As they marched on farther west, they took along with them Ukrainian soil soaked with their sweat and blood. When the Nazis were driven from the Ukraine, thousands of Kazakhs came to help restore the war-wrecked Donets mines.

Kazakhs helped to liberate the Ukrainian steppes. Years later Ukrainians, together with people from all the fraternal union republics, came to Kazakhstan to help develop our virgin lands.



Emblem of the Kazakh Soviet Socialist Republic



Emblem of the Azerbaijan Soviet Socialist Republic

A TOWN ON WAVES

By Kurban Khalilov

President, Presidium of the Supreme Soviet of the Azerbaijan Republic

OUR REPUBLIC decided to develop the Caspian offshore oil deposits at the end of the 1940s. At that time I was deputy chief of the agency in charge of all the oil fields of Azerbaijan. The entire country watched the battle of man and sea. It was fought out about 60 miles offshore, in the Neftyaniye Kamni (Oil Rocks) area.

The drilling of the first well was started by a team led by Mikhail Kaverochkin, a well-known Baku oilworker.

The first Caspian well, struck on November 7, 1949, the day of the Soviet national holiday, was a powerful gusher. The second well was drilled by Kurban Abbasov, a pupil of Kaverochkin. The development of an oil field on the bottom of the Caspian Sea began, and many young men and women sent by the Komsomol arrived from all parts of the Union, from the different republics. In a short time a trestle work, running for many miles, was laid across the waves—iron streets were stretched over the sea. Steel islets and platforms were built from which the drilling of wells was started.

Today when foreign guests inspect Neftyaniye Kamni, they are amazed. It



Emblem of the Georgian Soviet Socialist Republic

SYMBOL OF FRATERNITY

By Georgi Dzotsenidze

President, Presidium of the Supreme Soviet of the Georgian Republic

RUSTAVI is a young city in Georgia, only 25 years old. It is a steel and chemical city whose products are used in many countries.

It was no easy task to build Rustavi. The entire country, young men and women of all our nationalities, helped erect its factories and houses. At that time the country was still healing its war wounds. The builders lived in tents, were drenched by rain, warmed themselves at campfires. They faced many difficulties, but they knew that their efforts would create a new city.

Besides building materials and equipment, trains delivered scrap iron —tanks and guns which had to go into the open-hearth furnaces to be turned into metal again, not for war but for peace.

To this day we remember April 27, 1950, when the Rustavi Plant began producing and the first Georgian steel was melted. For centuries Georgia has been proud of its fruit, grapes, tea and wine. Today we are also proud of our steel and our chemicals. And we remember that there would be no Georgian steel had it not been for the help of our Russian and Ukrainian brothers, the people of other republics.



Emblem of the Lithuanian Soviet Socialist Republic

PASSING THE TEST

By Ionas Vildziunas

Vice President, Presidium of the Supreme Soviet of the Lithuanian Republic

WHEN HITLER attacked the Soviet Union in 1941, he declared that the multinational Soviet state would collapse under the blow of the invasion because it was "a colossus with feet of clay." In reality everything turned out differently. The grim trial only welded our peoples closer.

All the peoples of the Union selflessly rose up to defend their socialist motherland. Together they fought at the front and behind the enemy lines. Guerrillas of Lithuania fought shoulder to shoulder with guerrillas of Byelorussia, at times in the same detachment. The detachment I commanded was called Druzya (Friends).

One time our detachment had to get in touch with another group of Lithuanian guerrillas. We could not do it ourselves, and Zhukov, commander of a Byelorussian detachment, came to our aid. I told him we needed a house where we could meet at will, without fear of being discovered, with underground workers from nazi-occupied Vilnius.

He put us in touch with the Kuchinsky family in Kolodino village. These ordinary Byelorussian peasants helped us, Lithuanian guerrillas, in our hard struggle. Anastazia Semenovich, a 75-year-old Byelorussian woman, gave us invaluable aid. Notwithstanding her age, she was our messenger. Every visit to us involved danger, but the brave woman coped with all our assignments.

We gave battle to the invaders more than once with Byelorussian guerrillas. In the autumn of 1943 the Nazis



Emblem of the Moldavian Soviet Socialist Republic

THE BIG FAMILY IN TVARDITSA

By Kirill Ilyashenko

President, Presidium of the Supreme Soviet of the Moldavian Republic

MOLDAVIANS, Bulgarians, Gagauzi, Russians, Armenians, Gypsies and other nationalities—15 in all—live like a big friendly family in the village of Tvarditsa. The village was founded by Bulgarians almost 150 years ago, and today tourists from Bulgaria are welcome guests in any Tvarditsa home. Its streets are lined with new, fine houses. Next to the home of Vasili Radukan, a Gypsy, stands the home of Fyodor Kar, a Moldavian. Close to them are the houses of Konstantin Bibikov, a Bulgarian; Ivan Yazadji, a Gagauz; Petro Nagirnyak, a Ukrainian; Ivan Organesyan, an Armenian; Raisa Rapoport, a Jew; Vasili Pyrkin, a Russian. In recent years 1,750 houses were newly built or reconstructed. Each has running water and electricity; many have refrigerators, washing machines and other household appliances, TV and radio sets.

The village has a house of culture with two libraries and a secondary school. The collective farm maintains eight nurseries and a children's summer camp. There is a well-equipped hospital with physiotherapy, dental and X-ray divisions, a children's consultation department, a maternity ward and laboratory. All medical services are free, as they are throughout the country

Tvarditsa is located in the arid Budzhak steppe.

In old chronicles it was called the "land of all troubles." Frequent crop failure, poverty, starvation and national discord were the rule. The establishment of the Soviet state and collective farming changed things. Today the local collective farm—it bears



Emblem of the Latvian Soviet Socialist Republic

A DREAM EMBODIED

By Vitali Ruben

President, Presidium of the Supreme Soviet of the Latvian Republic

LETTS make up a compact majority of our towns and villages. The national composition is quite homogeneous, for the most part. But there is one town in which men and women of 20 nationalities live as friends and good neighbors—Stucka, named after Peter Stucka, one of the first leaders of Soviet Latvia.

At the dawn of Soviet power in Latvia the government, headed by Peter Stucka, mapped out a plan for the republic's electrification, an ambitious plan for those days. "We will harness the energy of the Daugava and other rivers which have thus far been idle," Stucka wrote in 1919. "The Daugava alone can give us 150,000 horsepower." He more than once noted that the industrial development of the republic hinged on the building of electric power stations.

The dream of Peter Stucka, one of the founders of the Communist Party of Latvia, has come true in our days. About ten years ago the rumble of machinery broke the silence of the Daugava's shores. The first group of dam builders had arrived. This hydroelectric station was built by representatives of 28 Soviet nationalities.

On December 21, 1966, all 10 tur-

takes more than an hour to go through this town on waves. The total length of its trestle work is about 155 miles. The offshore oilworkers have their own palace of culture, power station, shops and even their own park and hothouse. Neftyaniye Kamni produces more than 20 million tons of oil annually. Our prospectors are today drilling wells near the shores of Turkmenia. They are also helping the oilworkers of Tataria, Bashkiria and Russia. Our state is built on such assistance.

Russia and the Ukraine provided us with machinery and equipment. Yesterday's grape growers and wine makers learned new trades in the country's steel plants. With the help of Russian, Ukrainian and Byelorussian specialists big chemical factories were built in Rustavi. And today as I walk along the street named Druzhba in this sunny, green city built on the steppes, I think that Rustavi will always stand as a symbol of the fraternity of socialist nations.

surrounded a group of Byelorussian and Lithuanian guerrillas deployed near Lake Naroch. We were attacked by 35,000 soldiers and officers, artillery and aircraft, but we broke out of the enemy ring and inflicted losses on the enemy because we fought together—Lithuanians, Byelorussians, Russians, Ukrainians.

This great battle-seasoned friendship grew stronger in peacetime. The war wounds healed, Byelorussians and Lithuanians are building a radiant communist future in the close-knit family of the fraternal Soviet peoples.

Lenin's name—is one of the best in Moldavia; its annual income runs into many millions of rubles.

The people of Tvarditsa not only work well, but they spend their leisure in interesting and enjoyable ways. Their choir of 130 singers is renowned in Moldavia. Fine songs are rendered in many languages, and the Gypsy, Moldavian and Bulgarian folk dances are superb. Tvarditsa amateur artists have won many prizes.

That is life today in Tvarditsa, a village in our republic unusual for its history and multinational composition, but usual for Soviet life, for its international friendship.

bines of the Plavinas Hydroelectric Power Station began to operate at full capacity.

The Lettish people named the Daugava power development the Castle of Light. It is gigantic. The Kegums station, the biggest in bourgeois Latvia, is tiny by comparison.

The Plavinas station, with a capacity of 825,000 kilowatts, is one of the main plants in the power system of the Soviet Northwest. It is named after the great internationalist Lenin.



Georgi Dzotsenidze
President of the Presidium
of the Supreme Soviet
of the Georgian SSR



Kurban Ali Ogly Khalilov
President of the Presidium
of the Supreme Soviet
of the Azerbaijan SSR



Ionas Vildziunas
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Kirill Ilyashenko
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Artur Vader
President of the Presidium
of the Supreme Soviet
of the Estonian SSR

GOOD NEIGHBORS

By Turabai Kulatov

President, Presidium of the Supreme Soviet
of the Kirghiz Republic

THE KIRGHIZ are one of the oldest Turkic-speaking Asian peoples. At no time in their thousand-year history had they achieved statehood. In European handbooks the Kirghiz were grouped among the nationalities doomed to extinction. Fortunately for us, the October Socialist Revolution opened a new era in history and furnished a classical

LIGHT IN THE MOUNTAINS

By Makhmadula Kholov

President, Presidium of the Supreme Soviet
of the Tajik Republic

TAJIKISTAN is a mountainous country. Barely seven per cent of its territory is plain, the rest is mountain. A hydroelectric station is being built on the Vakhsh River, in the foothills of the Pamirs, the highest of Tajikistan's mountains. It is named Nurek—Light—after a tiny mountain village.

The Nurek station will provide light to many communities in the republic, and water from its dam is already ir-

"FUSED AT THEIR FOUNDATION"

By Nagush Arutyunyan

President, Presidium of the Supreme Soviet
of the Armenian Republic

EARLY in the twentieth century the Armenian poet Ovanes Tumanyan dreamed of the time when people would live "side by side, like our native mountains with their shining summits, always supporting each other and fused at their foundation."

The dream of the poet has come true. The Union of Soviet Socialist Republics is a union of brothers,

RIVER OF LIFE

By Anna-Mukhamed Klychev

President, Presidium of the Supreme Soviet
of the Turkmen Republic

LIFE in Turkmenia would be impossible without water, without irrigating the parched deserts. The Soviet state, the friendship of the peoples brought life to our deserts.

What marked the beginning of this great friendship? The trainloads of

ESTONIANS IN GEORGIA

By Artur Vader

President, Presidium of the Supreme Soviet
of the Estonian Republic

ESTONIA has played host to artists from Russia, Moldavia, Uzbekistan, Armenia and Georgia. Estonian artists, in turn, have been the guests of many Soviet republics. Recently Georgian Art Days were held in our republic. Such reviews of the art of fraternal republics have become tradi-

example of how the national question could be solved. The Kirghiz people acquired their own state. In a comparatively brief period it had climbed to the level of all the other union republics. This was possible only because of the Soviet system; Kirghizia was one of the least developed among them and needed constant assistance. And this assistance came from all sides, especially from the Russian people. Leningrad, for example, assumed patronage of Kirghizia in 1932. Leningrad sent us engineers, scientists and teachers. Leningrad plants swiftly filled orders for young Kirghiz factories. The city's cultural workers and scientists helped the Kirghiz people develop a national theater, opera and ballet and the pictorial arts.

This friendship of Kirghizia and Leningrad continues to this day. But now the help goes both ways. We send any number of manufactured items to Leningrad, including various precision instruments. Leningraders have applauded our dancers and musicians. Our films have won prizes at the Leningrad White Nights Festivals.

Here is one more example. Prior to the Revolution a bitter struggle for the best pastures and water sources was waged between our tribes, claiming no few lives. Kirghiz tribes also fought neighboring Kazakh tribes. All branches of our nation now live in friendship. The fraternal Kazakh people have turned over to Kirghiz stockbreeders for free use the vast winter pasture Kenes-Anarkhai, where about 500,000 fine-fleeced sheep graze. Kirghizia, in turn, placed at the disposal of Kazakh collective farmers the summer pastures in their mountain valleys. We have similarly good relations with our Uzbek and Tajik neighbors, with all the peoples of the USSR.



Emblem of the Kirghiz Soviet Socialist Republic

rigating cotton fields. Why do I single out Nurek? It is one of the biggest hydroelectric stations in the Soviet Union and will help solve the power problem not only of Tajikistan but of neighboring Central Asian republics. It is being built by the entire Union. When it starts operating, Tajikistan will be generating more than 12 billion kilowatt-hours of electric power annually.

"I speak four languages—Tajik, Russian, Ukrainian and Georgian," I was told by Tovar Kurbanov, head of a builders team. But even that is not enough. People from more than 20 nationalities are working on the project. Former builders of the Kara-Kum Canal in Turkmenia, of the Bratsk and Krasnoyarsk hydroelectric stations in Siberia, Armenian tunnelers and Ukrainian miners came here to tame the tempestuous Vakhsh and erect a dam that rises to a height of 985 feet.

The friendship is displayed both in the daily course of events and in emergencies. Here's one recent example. The rivulet Pekho, a tributary of the Vakhsh, flows through the Pulisangin Gorge. Last spring a mudflow came down from the mountains, heading for a tiny village on the bank of the Pekho. The turbulent waters carried a veritable avalanche of rock and rubble, everything in their path. Hundreds of the Nurek station builders—Tajiks, Turkmenians, Russians, Ukrainians, Uzbeks and Georgians—rushed to the aid of the threatened villagers. They helped evacuate women, children and elderly people and loaded their belongings on trucks. The awe-inspiring crest of the mudflow was already visible when the last car of villagers left. In Nurek all doors were opened to them. They were received as kinsmen and stayed until their new homes were built.

The Nurek station is only one of the many construction sites in Tajikistan. But the way people of different nationalities live and work there is typical of the friendship and fraternity of all the Soviet peoples.



Emblem of the Tajik Soviet Socialist Republic

a multinational union of friends.

The Armenian people have more than once felt the great strength of this union, the comfort of this friendship.

The 1920s. Armenia, devastated and exhausted by the Civil War, faced starvation. Food was needed to save our people. Iranian merchants agreed to deliver it, but only for gold. It would take a lot of gold, and our republic had none at all.

News that famine threatened Armenia reached Lenin. One of the few planes available in those days was sent from Russia, which itself was short of grain; Russian pilots Vladimir Melnikov and Boris Kudrin, whose names are remembered by all Armenia, delivered "Lenin's gold," as Armenia calls that aid to this day.

The 1950s. The swiftly expanding industry of Armenia needed more electric power. Our own production was not sufficient. Neighboring Azerbaijan provided us with electricity. In subsequent years natural gas was brought to Armenia from Azerbaijan by the Druzhba (Friendship) pipeline. Poor in fuel resources, Armenia received not only a cheap fuel but also a valuable raw material for chemical plants.

The 1970s. Lake Sevan is called the pearl of Armenia. We used the waters of this lake, located 6500 feet above sea level, to generate electric power and irrigate fields. The level of the lake began to recede; we had to save this gem of our republic. A huge construction project was launched in the mountains. Thousands of people from all parts of the Union came to Armenia. Representatives of more than 20 nationalities are sinking a 30-mile tunnel that will carry the waters of the mountainous Arpa River to Lake Sevan.

This fraternal solidarity of Soviet men and women is treasured by the Armenian people. It saved them in the trying years and helped them build the biggest projects in the republic.



Emblem of the Armenian Soviet Socialist Republic

grain which Russia, short itself, shared with us? Or the decree signed by Lenin allotting millions of rubles to irrigate our area? Both of these and many other similar things.

A large irrigation canal was built in our Kara-Kum Desert with the participation of all the Soviet peoples. It is now being extended, and once again people came from all the republics to work in the desert. These are real friends. It is not easy to work in the desert. What was enough on the first construction sites—willingness, strong hands and good health—no longer suffices. Sophisticated machines are used now, and young Turkmenians are taught to operate them by mechanics from Russia and the Ukraine, land reclamation experts from Lithuania and engineers from Georgia and Azerbaijan.

It has become a tradition with us: When a republic builds an intricate project or develops a new industry, the sister republics send their most capable people to help. Thus, Azerbaijan sent 1600 oilworkers when Turkmenia started producing oil in the 1940s. Today Turkmenia is the third biggest oil producer in the country. This is how it was done when Uzbek collective farmers helped us introduce new varieties of cotton. It also happened when representatives of 36 nationalities began construction of the Kara-Kum Canal.

I would also call the friendship of the Soviet peoples a River of Life, a deep and mighty river from which all the republics, all the peoples of the Union, drink.



Emblem of the Turkmen Soviet Socialist Republic

tional throughout the Soviet Union.

These meetings are not only enjoyable and interesting occasions; they mutually enrich the national cultures. On the days when Estonia heartily applauded the fiery Georgian dancers and admired the inimitable polyphonic singing of their choirs, I had a conversation that moved me very much with an old friend of mine, Otar Taktakishvili, Minister of Culture of the Georgian Republic.

With understandable pride my friend talked about the cultural progress of Georgia in recent years, mentioned outstanding scientists, writers and artists. Alongside Georgian names there were also Estonian, for instance writer Arnold Tamm and scientists Toomas Plam and Linda Tomberg. All of them had been collective farmers. Some got their education in Georgia, others were sent to study in Moscow.

It so happens that there are several Estonian collective farms in Georgia. More than 70 years ago, hundreds of our landless and poverty-stricken peasants scattered all over the world. Some of them landed in Georgia. After the victory of Soviet power in Georgia many Estonians returned home, but some remained in Transcaucasia.

"Estonian collective farms are among the best in our republic," Otar Taktakishvili told me. "We respect the Estonians for their industry, value their calm, restrained character, so unlike the impetuous Georgian temperament. We are happy to have them. In czarist Russia, where national discord was fanned by the authorities, 'aliens' were regarded with mistrust in Georgian provinces. Now people of any nationality living in our land are our friends and brothers."



Emblem of the Estonian Soviet Socialist Republic

DEFINITION OF A

SOCIALIST NATION

Continued from page 2

SOCIALISM engenders a new type of relations between peoples, and these new relations change the very essence of the nation itself. It is no longer analogous to the nation in capitalist society. The socialist nation comes into being as a result of a socialist revolution. It, too, is a community of people with the same language, sharing the same territory, economic interests, state organization, culture and moral concepts, but this now combines with a growing economic, sociopolitical and cultural unity of the country as a whole.

Community of economic life under socialism is not limited to the fact that all classes and social groups are bound to each other by economic relations. This is characteristic of nations in capitalist society, too. What is different is the unity of economic interests of all members of society, which gives internal cohesion and strength to the nation. At the same time, an international economic community is taking shape which unites all Soviet people, irrespective of their nationality or the republic they live in. The closest economic interdependence exists among all the national republics of the Union. The economies of all the republics make up the over-all national economy of the Union, and in this over-all system, the economy of each republic develops.

Community of territory also takes on a new quality. The socialist nations have their own territory with historically established borders, but these borders lose their previous significance. In the Soviet Union there is continuous and comprehensive contact between nations, an effort to make sensible use of the entire territory of the Union for all the people inhabiting it. This, however, does not mean that national territory loses its significance. The life and traditions of any nation are centered in a definite territory. Communists have always shown profound consideration for national sentiments and have ensured conditions that make it possible for the borders of national territories to be defined in a democratic way by the people themselves, or as Vladimir Lenin put it, in full accord with the "sympathies of the population." All our republics, both union and autonomous, have clearly marked borders. Practice has shown that we have solved this aspect of the nationalities problem.

The borders of the republics are determined by the national composition of the population. However, in the course of building socialism and communism, another process takes place, a strengthening of the economic ties of the socialist nations and nationalities and a mingling of nationalities. Masses of people of all nationalities have been and continue to be drawn to industrial centers and to areas of new construction and virgin land development. The practice of communist construction in our country demonstrates the ever growing intermingling of nationalities in all areas of the Union. It is a natural phenomenon and unquestionably progressive. Artificial measures to create national homogeneity would not accord with the objective processes of economic and social development.

Under socialism, the national character of the people also changes fundamentally. As each nation develops, it absorbs everything progressive evolved by the other nations while its values become accessible to them. Therefore, to regard national features as only those which distinguish one nation from another is to give a much poorer idea of the makeup of each nation than is really so.

Such Soviet values as socialist internationalism, friendship and mutual assistance among peoples and Soviet patriotism reflect the new socialist relations. These values are shaped by the whole structure of socialism, by Marxist-Leninist ideology. In a generalized form, they constitute the Soviet character, which is a fusion of the national and international.

We speak—and this reflects a real fact—of the population of our country as consisting of more than 100 nationalities. At the same time we speak of the Soviet people, a generalized definition of the population of our country. This, too, mirrors reality. In the Report of the Central Committee of the Communist Party of the Soviet Union to the Twenty-fourth Congress of the CPSU Leonid Brezhnev said: "*A new historical community of people, the Soviet people,* took shape in our country during the years of socialist construction." This is a precise definition.

The years of Soviet power have seen impressive achievements in the development of our nations. Even the once most backward, illiterate nomadic tribes, for instance, of Central Asia and Kazakhstan, are flourishing socialist nations.*

In the present period of building the material and technical basis for the highest stage of the new society—communism—we are going through a new phase in the development of national relations. The processes presently under way—erasing class differences, closing the gap between mental and physical labor, leveling the socioeconomic differences between town and countryside—strengthen the economic, cultural and ideological community of our nations. Favorable conditions are created for eliminating those survivals of nationalism still encountered in the psychology and ideology of individual Soviet people. The people of all the Soviet nations are continuing to work out a scientific, internationalist outlook.

Bringing the nations closer together under socialism is a natural historical process which is guided by the Communist Party. This has been the trend of the whole development of our multinational Soviet society. The results will be more and more evident the closer our society approaches communism.

This task requires the harmonious and complete blending of interests of the national republics and the USSR as a whole in all spheres of development.

The Soviet multinational socialist country is not a simple aggregate of national republics and regions, but an integrated system whose components are closely linked with one another and interact organically. Harmony and unity in the functioning of all the national republics are ensured by the principle of democratic centralism, which Lenin explained as follows:

> . . . Centralism, understood in a truly democratic sense, presupposes the possibility, created for the first time in history, of a full and unhampered development not only of special local features, but also of local inventiveness, local initiative, of diverse ways, methods and means of progress to the common goal.

At the same time, democratic centralism helps us acquire a profound understanding of the indissolubility of the interests of the national republics and of the country as a whole. This is promoted especially by the constant participation of the masses of all nationalities in the programs and plans for economic and cultural progress of the entire country. The leaders of the national republics are simultaneously members of leading party, state and government bodies of the Union.

In the present stage, as before, primary attention is paid to the economic development of all the Soviet republics. The economic foundation for the continued development of the socialist nations and their drawing closer together in all spheres is the creation of the material and technical basis of communism. It is being created by the pooled effort and close interaction of all the socialist nations. The economy of each Soviet national republic is actually a part of the single socialist economic system of the USSR.

Our productive forces keep pushing beyond the bounds of individual national republics. The specialization and coordination of enterprises and whole sectors of industry, the interconnection of power grids, the better use of manpower and raw stock resources on a national scale, the joint construction of major industrial projects by several republics—all this becomes a vital need, and this is all taken into consideration in the Directives of the Twenty-fourth Congress of the CPSU on the Five-Year Plan of Economic Development of the USSR for 1971-1975. The strengthening of the Soviet national economy as a whole, in turn, ensures the further progress of all the Soviet nations, of each republic. As before, for this purpose a higher rate of development is envisaged for the national republics than for the Union as a whole.

So you see, socialist national relations have been shaped in our country on the principles of full equality, mutual respect and mutual assistance of nations. The flourishing of nations and the development of a new type of national relations in the Soviet Union have become possible as a result of the socialist system and the great and consistent effort of the Communist Party to promote a truly just nationalities policy. The solution of the nationalities question in the Soviet Union is a history-making accomplishment.

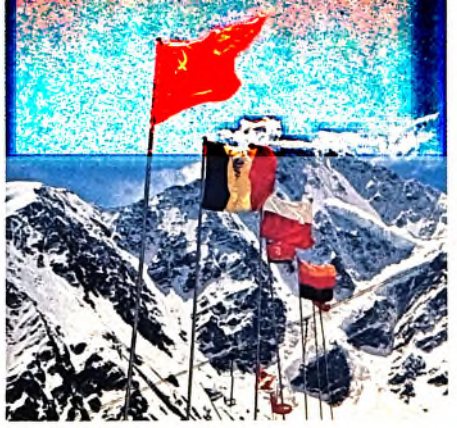
The statement that "the nationalities question has been solved," however, does not mean, obviously, that there are no more problems. The solution of the nationalities question means the removal of political, economic and cultural inequality, and the rise of an atmosphere of friendship of nations. But so long as nations exist, there will also be the problems intrinsic in the relations between the nations and the state they constitute. Another ever-present task is the fostering of socialist internationalism.

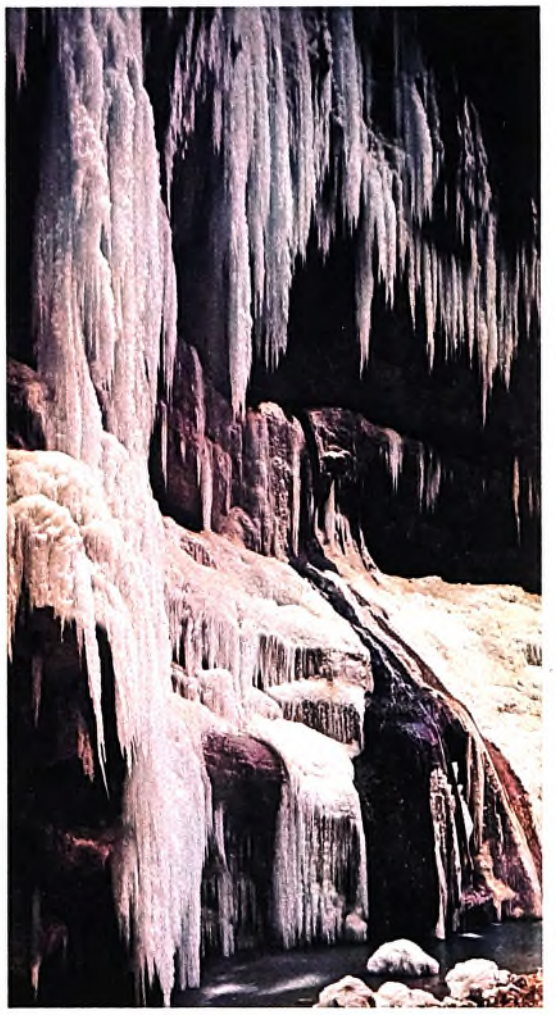
The nationalities question has, in the main, been solved in our country, but other problems still require attention, among them creating the necessary conditions for the continued drawing together of nations, their mutual enrichment with each other's finest traditions and cultural achievements, the breaking down of backward national traditions. So that we still have a good deal of work ahead of us.

*See articles by Anastas Mikoyan and Alexander Matveyev in December 1971 SOVIET LIFE.

A chapter from *Leninism on the Essence of Nations and Ways of Shaping the International Community of People.*

MOUNT





THE TWIN SUMMITS of Mount Elbrus, rising 18,481 and 18,356 feet above sea level, form the highest peak of the Caucasus range. With its foothills, Mount Cheget and Chegem Gorge, Mount Elbrus is a mecca for alpine skiers. Thousands of them are accommodated at its hotels, restaurants, camps and sports facilities situated at altitudes of 6,000 to 14,000 feet. There the visitor can get a tan in winter or ski under the hot southern sun in summer. At any season of the year Elbrus is vacation country. People are drawn to this picturesque locality by its wildness—dense forests, both pine and deciduous, alpine meadows, turbulent mountain streams, and the deservedly famous Chegem Falls, torrents of water that plunge 100-130 feet from the cliffs on the right bank of the Chegem River. The water strikes the rocks below and sprays out in all the colors of the rainbow. In winter the falls freeze over, turning into fancifully shaped ice columns like those in the palace of Andersen's Snow Queen.



PHOTOGRAPHS BY
VADIM GIPPENREITER

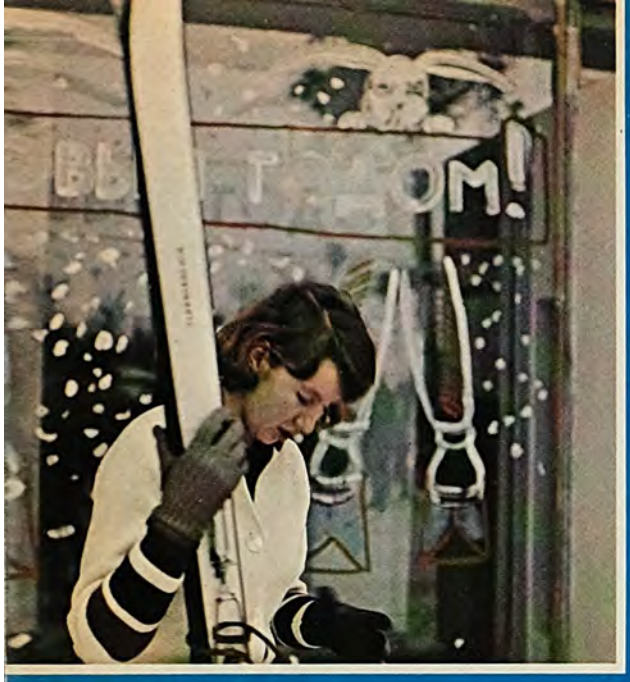


A YEAR-ROUND RESORT IN THE CAUCASUS



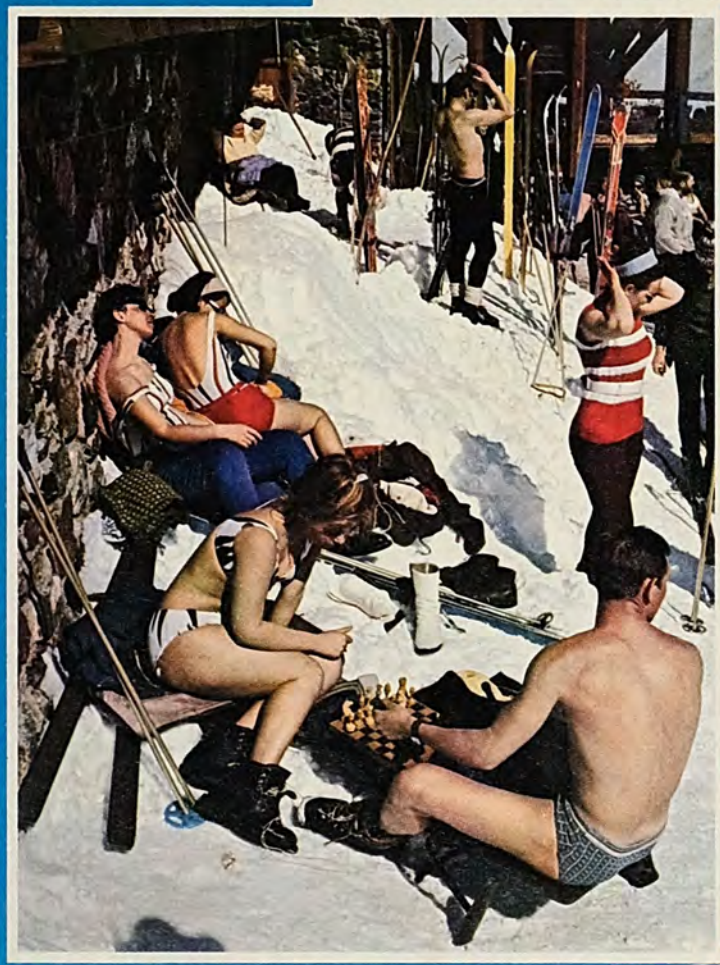


ELBRUS





"Happy New Year!" The Itkol Hotel welcomes its guests. Mount Elbrus is frequently the site of international ski matches. Right: The Old Horizon cableway station in the Baksan Valley.



Left: One of the tracks on Mount Cheget leads the skier to the Ai (Moon) Café for the less energetic types of recreation.

Skiing Some of Europe's Toughest Slopes

The peaks of the Caucasus have a wild and awesome grandeur. They were the setting for many of the ancient Greek myths. Here Prometheus was chained by Zeus for giving fire to mankind, and the Argonauts sought the Golden Fleece.

HELIOBIOLOGY

By Alexander Dubrov

Biophysicist Alexander Dubrov, 40, is the author of about a hundred research papers, including two monographs. At present he is working in the field of heliobiology—studying the effects of solar activity, especially the influence of natural magnetic and electric fields, on the vital activities of living organisms. At the Ninth International Congress of Anatomy, held in Leningrad in August 1970, he read a paper on "The Influence of Natural Magnetic and Electric Fields on Biological Rhythms," in which he offered proof that all biological processes, in individual cells, organisms and even whole populations, depend on the fluctuations of the magnetic field of the Earth. Dr. Dubrov is a member of the Learned Council for the Study of Human Environment and Rational Use of National Resources, USSR Academy of Sciences, Moscow. His article was written specially for our magazine. The opinions or conclusions it contains are those of the author and do not reflect the views or endorsement of the council.

IN 1959 Dr. Nikolai Schultz, a well-known Soviet hematologist from the Black Sea resort of Sochi, published some sensational conclusions: On the basis of almost 35 years of research and the analysis of over 400,000 cases, he proved that the growth or reduction in the number of leukocytes in the blood varied with changes in solar activity. Other Soviet hematologists confirmed this research. Moreover, they traced the dependence on solar activity of such factors as the speed of blood coagulation and the operation of the anticoagulative system.

Their findings helped verify the ideas of Alexander Chizhevsky (1897-1964) who, as far back as 1915, noted the dependence of many biological processes here on Earth on the cyclic activity of the Sun.

The Sun's Control over the Biosphere

We have a good deal of data on the outer structure of the Sun. Its surface temperature is 6,000 degrees Centigrade, its mass 2×10^{27} tons, its diameter 864,000 miles. A star of the yellow dwarf class, it is an immense sphere of red-hot gas whose inner pressure reaches 200 million atmospheres and whose inner temperature is 13 million degrees Centigrade. Continuous thermonuclear reactions take place in this star: 4.4 million tons of solar substances are expended every second. As a result of these thermonuclear reactions, X-rays and ultraviolet rays, light and radio waves, and corpuscular emissions are released into outer space. These are trapped, defined and registered by sensitive terrestrial instruments, which show that during flares on the Sun there are sharp changes in the magnetic field, ionosphere and atmosphere of the Earth.

But we still do not know what takes place within this giant nuclear boiler, what forces maintain the level of this self-destruction, why its activities increase or weaken. Observations by astronomers show that the process is cyclic. There are chromospheric flares on the visible disk of the Sun, and prominences tens of thousands of miles long appear.

Scientists have noticed that the intensification of solar activity is connected with the appearance of sunspots, immense magnetic fields, sometimes with an area of several billion square miles. The temperature on their surface is 1,000-1,500 degrees below the rest of the photosphere, and therefore they seem darker than the remainder of the Sun's surface. Prolonged observations show that sunspot activities occur in a fairly regular cycle of 11 years. This regularity is the outward evidence of the cyclic activity of the Sun.

Professor Chizhevsky was the first to show that the spot-forming process on the Sun and the dynamics of various epidemics, diseases and the death rate have a similar cycle of 11 years. Subsequently scientists in the Soviet Union, the United States, Britain, Germany, Japan, Italy and other countries traced the connection between the cyclic solar activity and various manifestations of terrestrial life—proliferation of germs and viruses, animals and plants; the growth of the quantity of wood in forests and the biological productivity of bodies of water; fluctuations of river levels and crop yields; changes in the composition of the blood; the death rate from cardiovascular diseases.

It took decades of observations to define the basic factors of solar activity that influence living organisms. In the process a very interesting detail emerged. It turned out that in addition to the usual factors—light, pressure, temperature, and the like—living organisms are greatly influenced by changes in the geomagnetic field. At the same time scientists proved that there are close connections between solar flares and the frequency of disturbances in the geomagnetic field. In years of greater solar activity there is a sharp increase in the number of magnetic storms. The same periods reveal a growth in various functional disorders in human beings, because these disorders are closely connected with excitations of the geomagnetic field.

Investigations of Soviet scientists show that the sharp changes in the geomagnetic field caused by magnetic storms and Sun flares have a decisive influence on the course of cardiovascular diseases, affect conditioned reflexes and reduce the attention span of healthy people (which can lead to an abrupt rise in the number of traffic accidents).

I believe that excitations of the geomagnetic field may possibly increase the incidence of cardiovascular diseases by causing acute changes in the permeability of the blood vessels.

This assumption is based on the facts obtained in my research on cellular permeability. Electron microscopy has revealed that the cells of living organisms, consisting of a number of minute structures (nucleus, mitochondria, and so on) are impregnated and surrounded by a special ultrathin sheath, the cell membrane, which has a selective permeability, that is, it lets some substances penetrate and stops others.

It has also been determined that this membrane, which plays such an important part in the life of the organism, is the same in structure in all cells. Seen under an electron microscope, it consists of two layers of protein molecules divided by a layer of lipids. It is as much as 40-50 per cent water.

One can say that the cell membranes look like sandwiches as far as their structure goes, the only difference being that they are a billion times thinner than a human hair.

The permeability of the membranes is a very important property, because it makes metabolism possible within the cells and ultimately in the entire organism.

I found in my research that this permeability is under the direct control of the geomagnetic field. Apparently the control is connected with changes occurring in the water molecules of the membranes. This seemingly simple discovery of the dependence of membrane permeability on the magnetic field of the Earth is of great importance because it helps solve a number of major problems of biology and medicine. The operation of the body as a whole, the activities of all its organs and cells are based on coordinated and rhythmic operation of the mechanism of permeability of cell membranes. Therefore the geomagnetic field, controlling permeability, has a decisive influence on all the processes that occur in living cells, in the organism, and ultimately in the entire biosphere.

Many years ago, Professor Theodosius Dobzhansky of Los Angeles, the well-known American zoologist, discovered and studied the changes in the heredity structures of the cells—the chromosomes. Research was done under natural conditions using a classic model of genetic principles—the wine fly. The changes in the chromosomes of this fly, connected with alterations in the arrangement of genes in the chromosomes, were studied by Professor Dobzhansky in the Mount San Jacinto area near Los Angeles in 1939-1941. According to the professor, the inversion of chromosomes is the re-result of a natural process of mutation caused by unknown evolutionary factors.

An analysis I made recently shows that the process of evolutionary changes in an organism under natural conditions depends primarily on the fluctuations of the geomagnetic field. The seasonal course of the changes in this field coincides with the frequency of chromosome inversions in the wine fly. The facts obtained mean that evolutionary changes in organisms under natural conditions occur under the influence of the geomagnetic field. Therefore we must devote special attention to the relationship between the gene-producing apparatus of germ cells and the natural magnetic and electric fields.

The Sun and Crops

The research of Soviet heliobiologists helps both medicine and agriculture. The influence of solar activity on individual crops, and ultimately on farming as a whole, is sometimes hazy. This is because in large countries—the Soviet Union, the United States, Canada and others—crops are affected by a vast complex of different phenomena.

Yet the influence of solar factors is very clear when one analyzes long-term data on the yields at various agricultural research stations, comparing the growth of plants under otherwise identical conditions.

An illustration is the work of researcher Vladimir Dolotov of the Dokuchayev Museum of Soil Studies, Moscow. Dolotov analyzed the yields of winter rye and potatoes in the experimental fields of the K. A. Timiryazev Agricultural Academy in Moscow and found a periodic sequence related to the 11-year cycles of solar activity. It should be mentioned that correlation of the rye and potato yields with solar activity was evident when these crops were rotated with others, as well as when they were cultivated exclusively. Analysis of long-term data showed that reduced yields occurred during periods of maximum solar activity.

Studies like this one can be of great service in agricultural planning. Professor Knyaginichev of Omsk, Siberia, has pointed out that heliobiological analysis is essential for solving problems of farm productivity and forecasting crop yields.

Research by Soviet scientists has shown that the problems of protecting crops from diseases and pests can also be solved through heliobiology. A brilliant illustration is the late Professor Nikolai Shcherbinovsky's analysis of the ties between solar activity and insect ecology. Thanks to the scientific recommendations and methods he developed, large areas of the Soviet Union and its neighbors—Iran, Turkey and Afghanistan—have been freed of the scourge of locusts.

* * *

Solar activity is a constant and decisive factor in biosphere relations. At the same time, man is increasingly interfering with these relations, established by evolution. This sometimes leads to sad results—soil erosion, pollution of the ocean with oil, the destruction of animals and plants. To provide a firm scientific foundation for conservation efforts, biological stations should be set up all over the globe following a UNESCO decision. At these stations scientists would study, by a single methodology, the population size of various species of animals, their birth and death rates, physiological and biochemical processes, and other important biological data. They would also investigate the heliobiological reactions in healthy organisms, providing doctors with an accurate picture of the changes in bodily functions due to solar activity. Research of this kind could determine new ways to prevent cardiovascular and other diseases.

QUERIES FROM READERS

QUESTION: An article on the city of Kuibyshev (I think it was formerly Samara). What it was like and how it has progressed since 1917. (Max Miller, Los Angeles, California)

ANSWER: Until 1935 Kuibyshev was called Samara. The city is situated on the left bank of the Volga, where the Samara River flows into it; hence its former name. It was renamed in memory of Soviet statesman and Communist Party leader Valerian Kuibyshev.

The city was founded in 1586. It was originally a fortress, defending the borderlands of Russia and the Volga trade route. By the end of the seventeenth century it had grown into a town. It became the center of the Samara guberniya in 1851.

Before the Revolution, Samara was a typical commercial city. Grain, rawhides and wool were sent up the Volga from the city's river station. Though the surrounding area was rich in oil and gas, there was practically no industry.

The city is famous for its revolutionary tradition. In the nineties of the past century, there were several groups of young people with advanced ideas in Samara. Lenin, who lived there for about four years, united these groups into a social-democratic organization. Writer Maxim Gorky also lived and worked there for some time. In 1916 Valerian Kuibyshev escaped from political exile to Samara and organized a large-scale revolutionary movement.

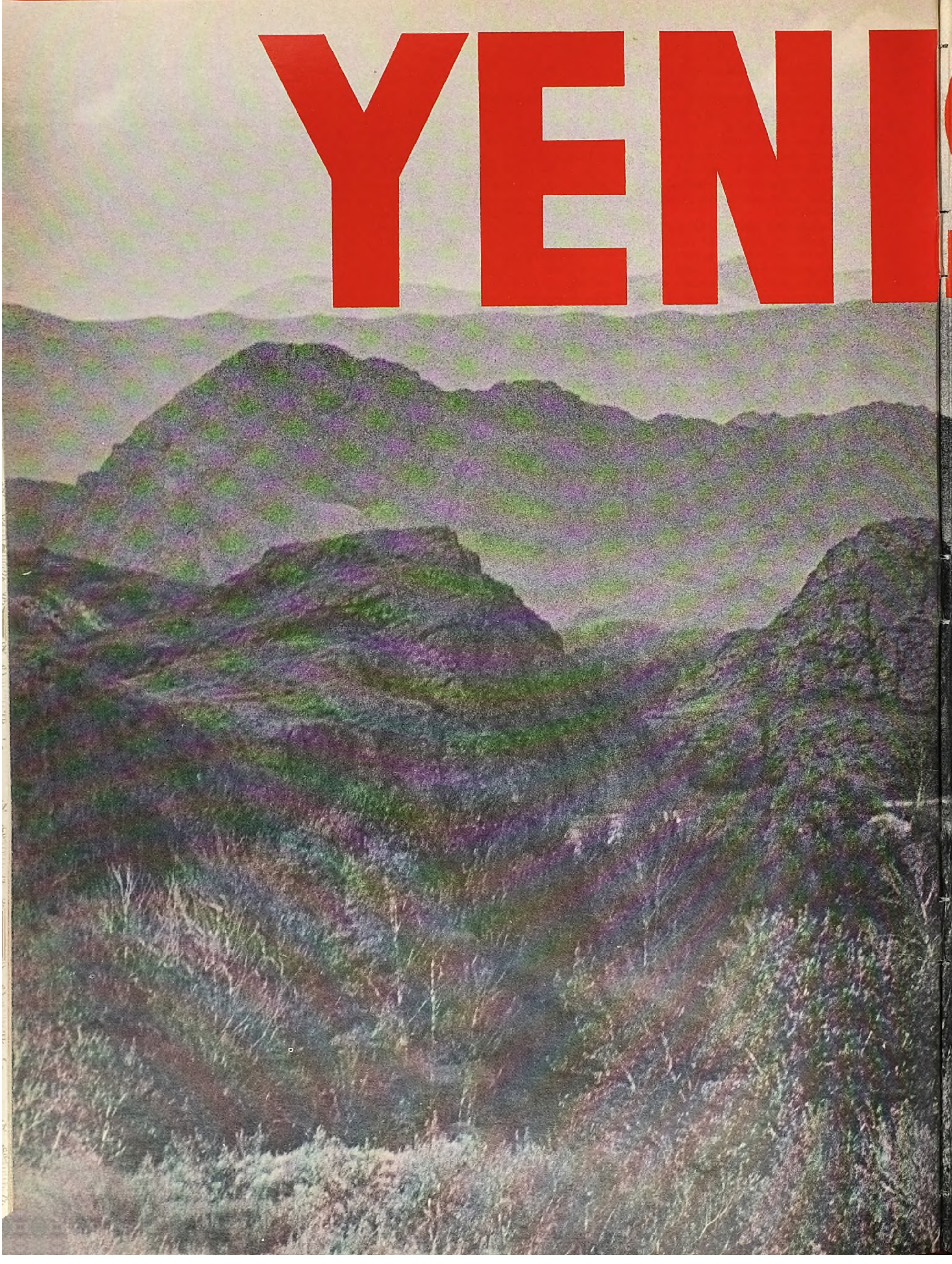
During the Civil War Samara was the focal point for the struggle against the White Guard army under Kolchak, which was threatening the Soviet Republic from the east.

Samara went through critical trials in the early twenties: postwar economic dislocation, typhus epidemic, crop failure and famine. It took an enormous effort to pull through. But in the very early five-year plan periods the Soviet Government began to make intensive use of Kuibyshev's favorable natural and economic conditions. The Donets Basin and the Urals, main suppliers of metal for industry, are comparatively close to Kuibyshev, the reason for setting up a large number of big machine-building and metalworking plants in the city. Besides, Kuibyshev Region has an abundance of oil, gas and shale which led to the development of chemical and oil-refining industries. The city's outskirts are also rich in sulphur, phosphorites, lime, dolomite, gypsum, chalk, clay and sand, the raw materials for a building-supplies industry. The Volga is Kuibyshev's chief source of power.

The city's cultural progress has kept pace with its economic development. Kuibyshev, with a population of more than a million, has about 200 secondary schools, nine college-level institutions and six branches of colleges and professional schools whose main centers are in other cities. Kuibyshev also has local sections of the writers, journalists and artists unions. It has a symphony orchestra and sev-

Continued on page 32

YENİ

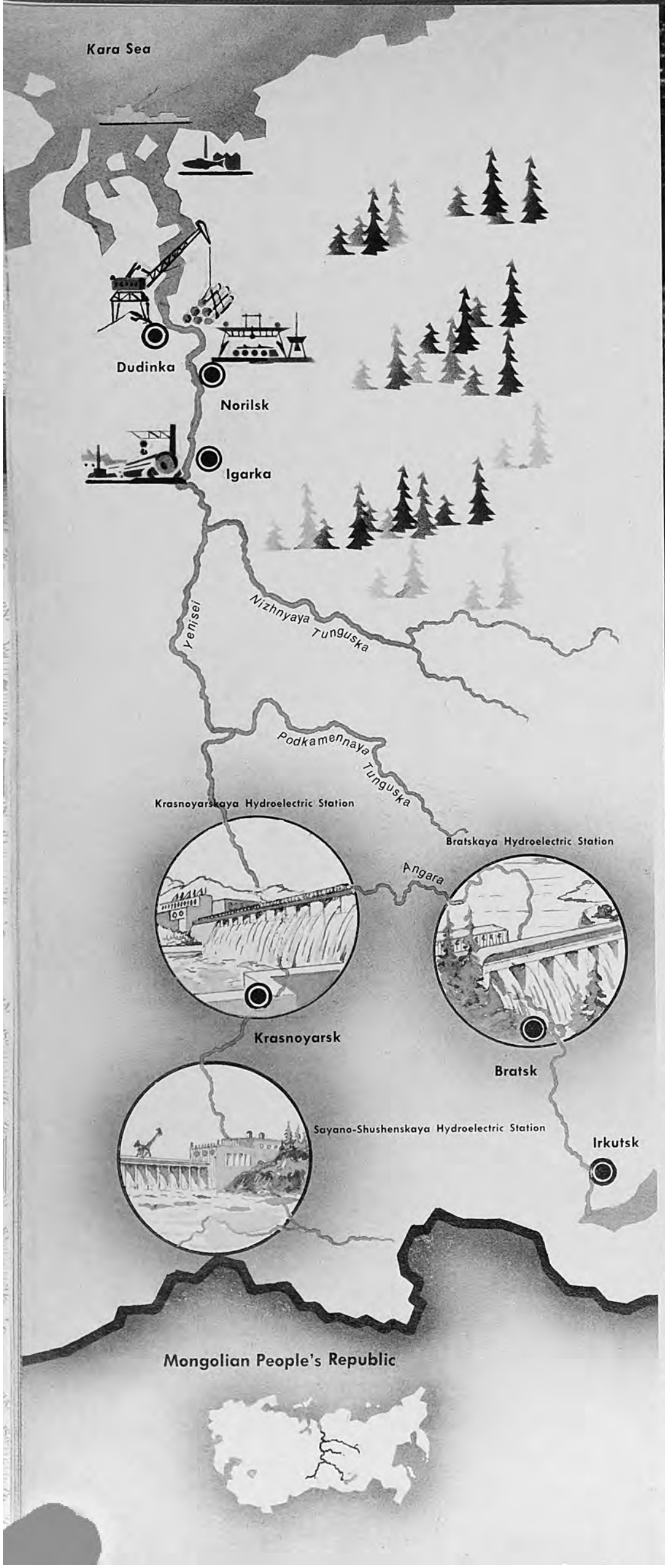


ISEI

A well-known writer and essayist describes some recent changes along one of the world's largest rivers. This is the first in a series of photo stories on Siberia.



By Georgi Kublitsky
Photographs by Anatoli Khrupov


Kara Sea
Dudinka
Norilsk
Igarka
Yenisei
Nizhnyaya Tunguska
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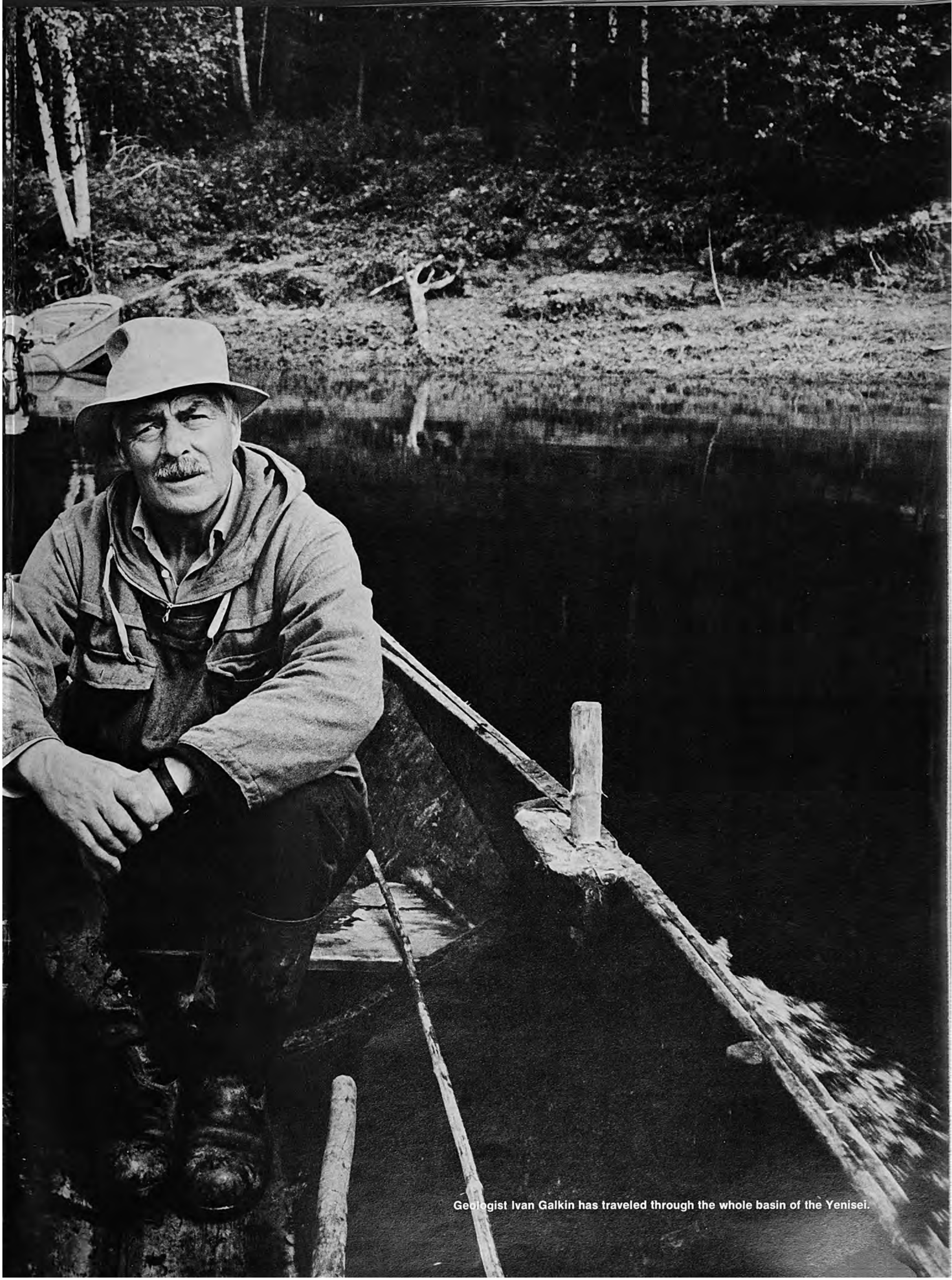
Bratsk
Sayano-Shushenskaya Hydroelectric Station
Irkutsk
Mongolian People's Republic





Geologist Ivan Galkin has traveled through the whole basin of the Yenisei.

A River Of Energy

The Yenisei is Siberia's future. Its network of tributaries joins a vast and immensely rich storehouse of natural resources. It is a colossal source of energy, a gigantic artery winding through an area of almost a million square miles.

ALL TOLD I have made 11 trips down the Yenisei, from Krasnoyarsk northward. Eleven trips, and each of them different: different ships, along a different Yenisei, with altered customs and new problems to be tackled, with new captains spinning new river yarns during midnight watches. My eleventh trip was in 1970. Even compared with 1967, when I last sailed downstream to Dudinka, a lot had changed on the river.

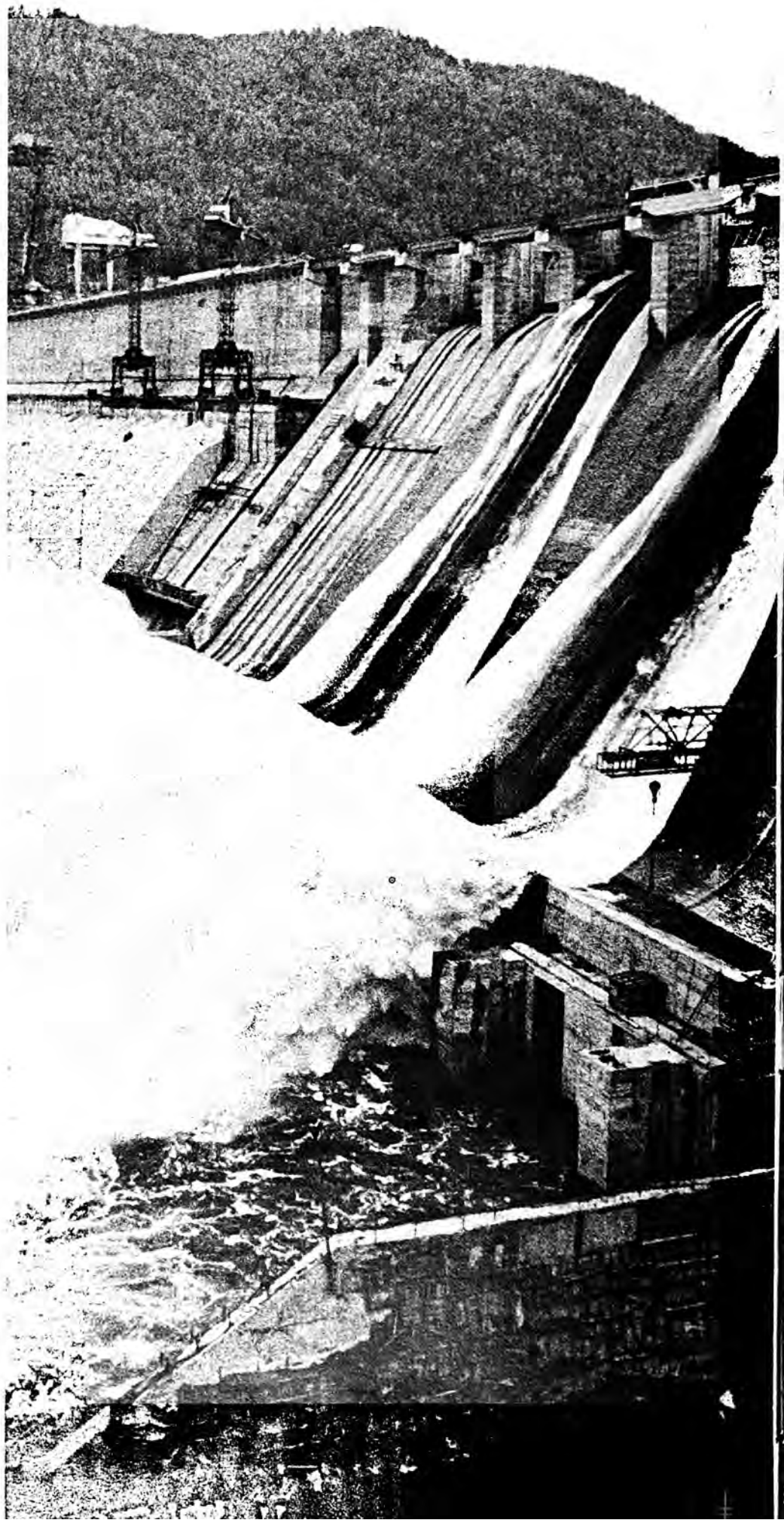
This time my companion was Ivan Mikhailovich Nazarov. Journalists have dubbed him Boss of the Yenisei, though some prefer River Admiral. For 30 years he was the director of Yenisei Shipping Lines, whose fleet plies one of the biggest rivers in this country and the world—longer and broader by far than the Volga.

Nazarov is retired on pension nowadays. But he still serves the Yenisei—he simply can't live without it. Some 10 years ago, while in his "admiral's" capacity, he began writing books, jotting down everything that had filled his life for many years, events he had witnessed and people he had met. The books soon sold out, and Nazarov became a member of the Union of Writers.

Now, for the first time in three decades, he was a passenger on a Yenisei Lines riverboat. In some mysterious way, everybody got to know Nazarov was back. Wherever he stopped, old rivermen came to see him. Port directors visited his cabin, reporting and chatting as if nothing had changed. As a matter of fact, nothing had. Nazarov's authority was never purely official—he is still known as an old riverman, an old Communist and, finally, as a writer on river affairs. He has a real pilot's eye for the Yenisei, the unique knowledge that comes from countless watches and close scrapes in storm and fog.

The shipping schedule is adapted to the river's turbulent ways. The notorious Kazachinski Rapids, where the water boils in a maze of rocks, are always passed in broad daylight. Toward dusk, with the rapids safely behind, we approached the settlement of Strelka near the mouth of the Angara.

The Krasnoyarsk Hydroelectric Power Station is the largest in the world. Its present capacity is five million kilowatts. Its rated capacity will be six million.





Times are different and today's pioneer comes with a much better technological background, but grit and teamwork are still major requisites.





Tuva, where the Yenisei begins.

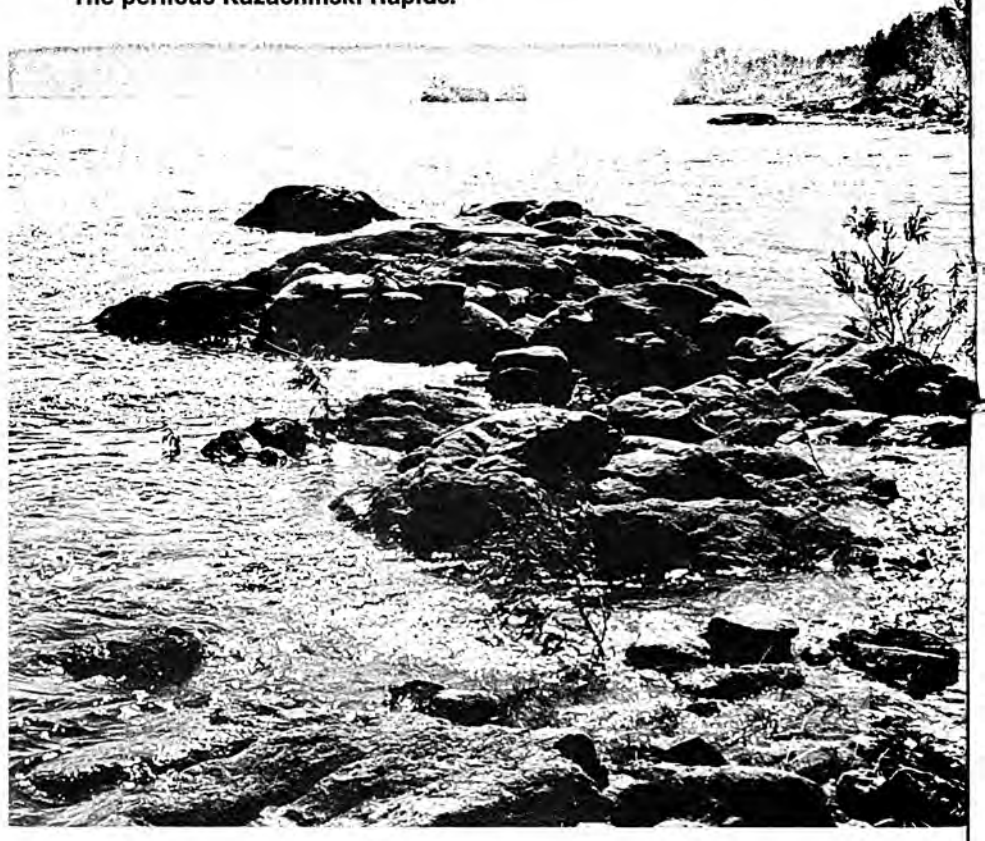


A growing Krasnoyarsk sport.

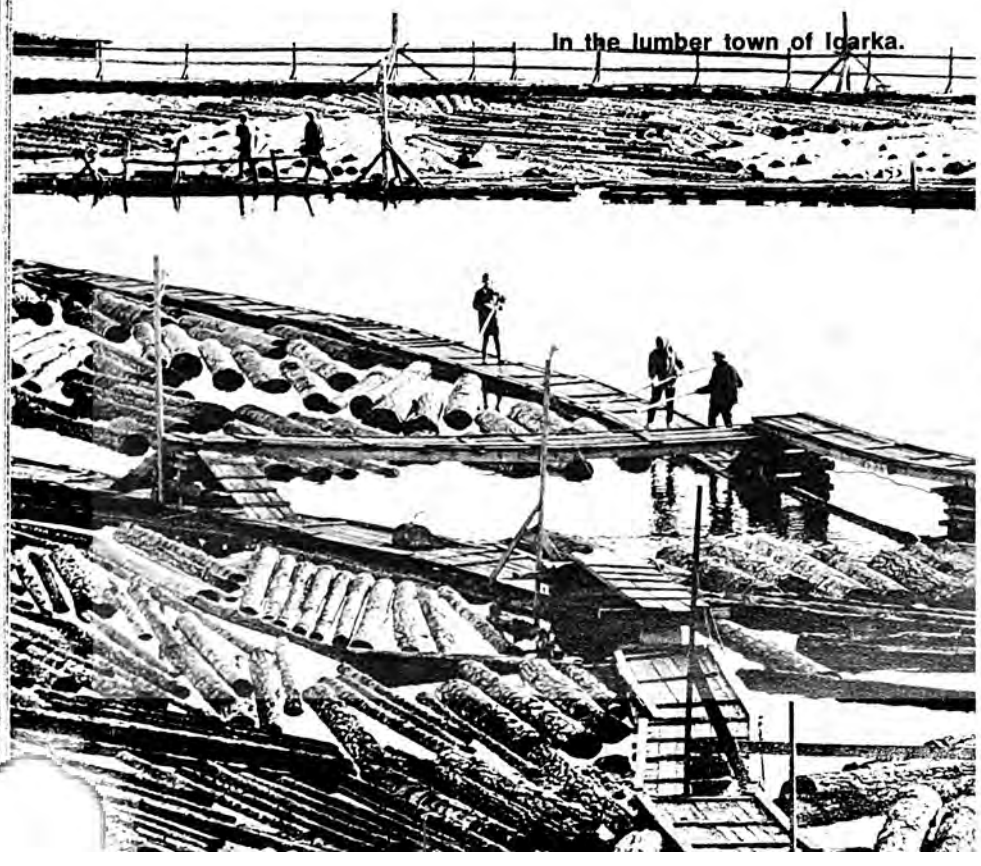
Singer from a Tuvinian farm.



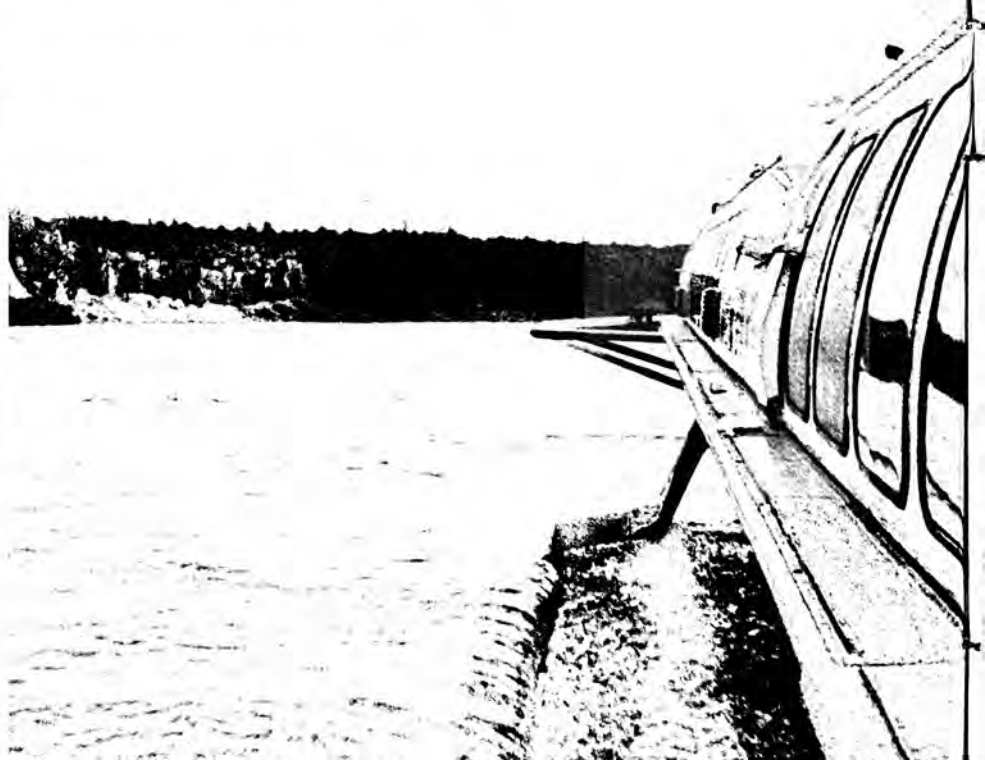
The perilous Kazachinski Rapids.



In the lumber town of Igarka.



Yenisei shore from a hydrofoil.



River of Electricity

I looked at the bluish-brown cliffs on the Angara's steep banks, and my memory took me back 20 years.

The decision to launch a large-scale construction project may seem sudden, almost rash. Usually, however, it is preceded by long years of behind-the-scenes study and preparation. This was the case with the Krasnoyarsk power station and the cement and pulp-and-paper plants, whose sites were surveyed back in 1933.

By 1950 plans for the Mid-Yenisei Hydroelectric Power Station were already under way. Figures had been assembled on the capacity of this plant, which was to harness both the Yenisei and Angara rivers. But then, abruptly, the geologists intervened.

At the mouth of the Angara they had found the country's biggest deposits of lead and zinc. Among other things, the initial plans for the new reservoir stipulated that it would flood the lower reaches of the Angara. It was right here that the deposits were located, not so much on the banks as in the river bed, deep under the turbulent water.

The revised project put the plant not at the river mouth, but higher up. The Angara was to be dammed in such a way as to leave the deposits dry. Its waters would be channeled straight into the reservoir above the Yenisei dam. The turbines would thus utilize the overflow of both rivers. The Angara would get a new bed, and ore miners would have the old one, free and dry. This was something unprecedented in scope.

During the life of a single generation, a revolution took place, transforming the mouth of the Angara. It was a huge leap forward, from the nineteenth century wilderness to the heights of modern industrialization. Years ago, on these same rapids, I saw tiny, sharp-prowed sailboats like the ones manned by early explorers. Today the Angara is a river of electricity, its banks dotted with mines and deposits of lead, zinc, iron, gold, magnesite, talcum, antimony and bauxite. Here are the region's main timber areas, rafting from 10 to 12 million logs a year down the Yenisei. Lower downstream, first-grade pine wood reaches a huge timber-processing complex. Here, where I still remember the glow of solitary windows in an occasional village, the left bank shows a line of buildings stretching for miles. The electric lights, denser in some parts than others, leave the impression of a huge, immensely long city.

These are the departments and settlements of the Maklakovsk, Novomaklakovsk and Novoyeniseisk timber plants. Every year they add more capacities, branching off into new plants and divisions.

What Nansen Failed to Predict

Few visitors can help citing Anton Chekhov's apt words about the splendid, bold and meaningful life that would one day light up the banks of the Yenisei. Few, also, fail to allude to Fridtjof Nansen's book on Siberia, significantly titled *Land of the Future*.

Nansen believed Siberia's future lay in the vast tracts of land available for farming and cattle raising. His visions grew out of pictures of Siberia as it was in 1913; he shared the widespread view that this region, with its sparse seminomad population, was a typical colony of European Russia. Of course, Nansen could not foresee that only a few years later the Revolution would free immense forces and bring drastic changes in the whole outlook of Siberia.

Today, half a century later, the taiga-type landscape of the Yenisei basin bears all the signs of industrialization. The boat winds between rocky cliffs retaining their primordial wildness. Suddenly, after a sharp bend, you see power cables crossing the river on tall supports, high-voltage transmission lines, ore mines, dust raised by dump trucks, and a white diesel-electric river boat carrying passengers from the landing stage of a new, still unmapped factory settlement.

Of course, in its progress toward the ocean the Yenisei still passes long stretches of wild taiga and tundra. Settled areas are not as numerous here as on the Volga. But then, before the Revolution there was only one town on the entire run from Krasnoyarsk to the estuary. The town—Yeniseisk—went bankrupt. After a short-lived gold rush, when local traders entered the church on red carpets laid down in the mud, it relapsed into the quiet, sluggish existence of the old times.

Today any of the dozens of riverside settlements exceeds Yeniseisk at its zenith, both in population and economic activity.

In the middle of the white night we stopped at the port of Turukhansk. Our motorship, the *Chekhov*, was surrounded



In Siberia it's not unusual for a bear to drop in for a look at the foresters. These decided to stay—they are tame.



Fire on a river boat. It doesn't happen every day in the week, but Yenisei boating has its various surprises.



Young Communist League members are very much involved in the construction of the Sayano-Shushenskaya hydroelectric station. They took the national project over as their own.

by a busy crowd of tugs with hitherto unheard-of names such as the *Geophysics* and the *Seismology*. The whole area is being prospected for oil and gas. The triumphs of Western Siberia arouse the envy of geologists in the East, who dream about their own underground oceans of liquid fuel.

Igarka

After the *Chelyuskin* epic* young imaginations were stirred by the arctic. Countless young men and women were lured to Igarka, then just emerging on the barren shore of the Yenisei.

Permanently frozen soil, polar nights, timber plants operating in 58-below frosts, dozens of foreign ships loading Igarka timber—much was unusual in this town. When I came there in 1936, Igarka doggedly lived by Moscow time during the navigation season, asserting, as it were, its exclusiveness. That year, on Gorky's advice, some of the younger residents wrote a book about their life entitled *We Are from Igarka.* It was published in Moscow and was translated into a number of foreign languages.

Three years back I was bound for Igarka on the motorship *Chkalov,* whose passengers were a team of Krasnoyarsk students calling itself Zapolyarye (Beyond the Polar Circle). It wasn't the first year they had spent the short polar navigation season loading timber onto foreign ships.

A strip of red bunting with the word "Welcome!" hung from the conning tower when the *Chkalov* pulled into Igarka harbor. A trumpet blared out and children's voices chanted: "Igarka greets the student volunteers!"

Students in green uniforms with bright sleeve badges climbed up the banks that had once lured their fathers.

Igarka's economy has always been based on wood. It wasn't plain dust but sawdust and shavings that the wind swept through its plank-paved streets. Because of the wooden roads and pavements, the entire town was dotted with signs bearing the words NO SMOKING in Russian and English.

Smokers indulged themselves over wooden sand bins placed at every crossing.

In 1970 I found new districts of brick houses. The old wooden town had been brightened with new asbestos roofs and stuccoed house fronts. You could smoke as much as you liked: The main streets were paved with concrete slabs, and the side streets were laid with gravel.

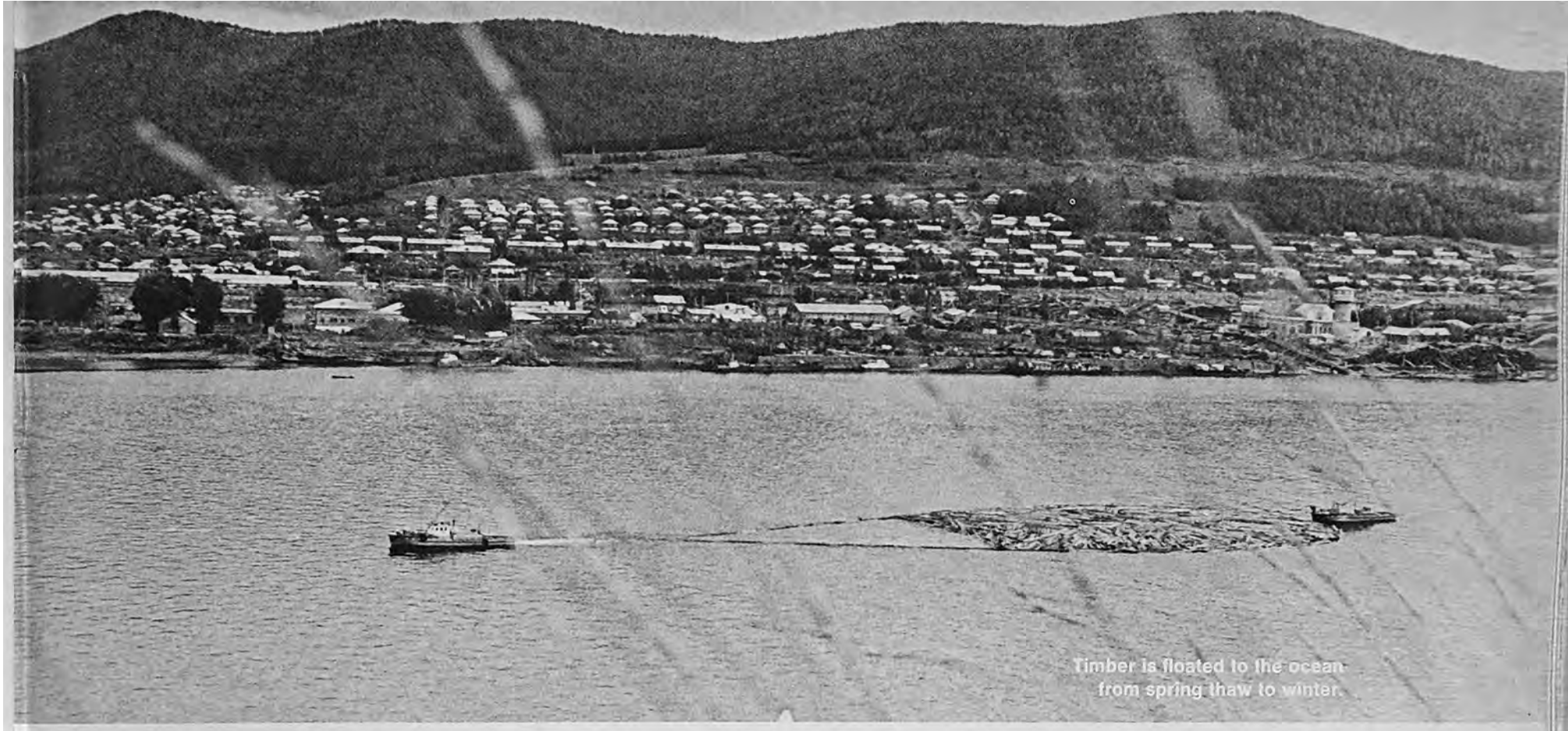
Beside the harbor was a newly built department store named for Yegorka, the fisherman whose lonely winter hut once stood on the site of the town. Local nomads had refashioned the name, Yegorka becoming Igarka, and the old winter camp had become one of our major timber-exporting harbors.

The timberyard is a town within a town. Planks pile up as tall as houses. The alleys for timber cars are as wide as streets—they even have traffic controllers at the crossings. The Yenisei brings the town and its timber plants enormous rafts reaching 25 acres in area, with up to a million cubic feet of timber in each. Upstream come huge ocean-going vessels, sailing about 600 miles to reach the town from the sea. Six hundred miles without a single sandbank, and a channel as clear as the ocean itself.

"You've been here before, haven't you?" asked Nazarov. "Remember the foreign ships? Weren't they dandies? Our craft looked like old washtubs in comparison. It made you feel sad just to look at them. And nowadays . . . Look! You see that one towering above the rest? It's ours! Foreign sailors are always visiting it."

The ships were being loaded. Some of them rode low, their holds half-filled with planks and beams of strong Angara pine.

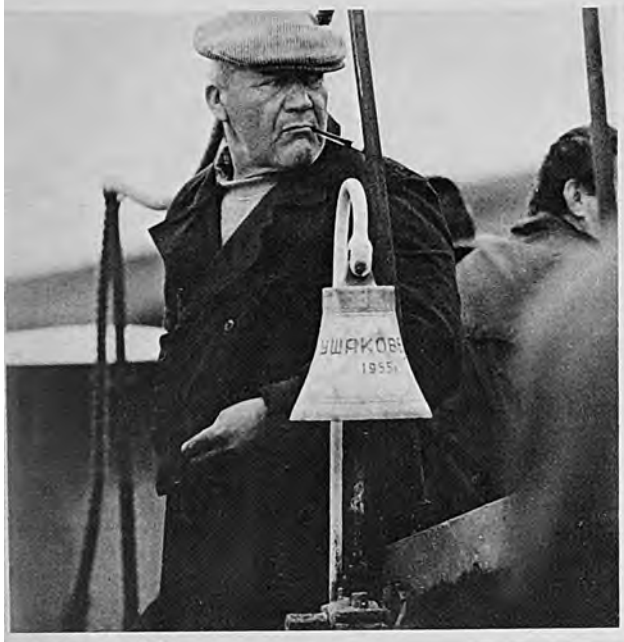
* In February 1934 the steamship *Chelyuskin* was crushed by ice near Bering Strait. In the rigorous arctic winter, its crew was rescued by Soviet polar airmen.



Timber is floated to the ocean from spring thaw to winter.

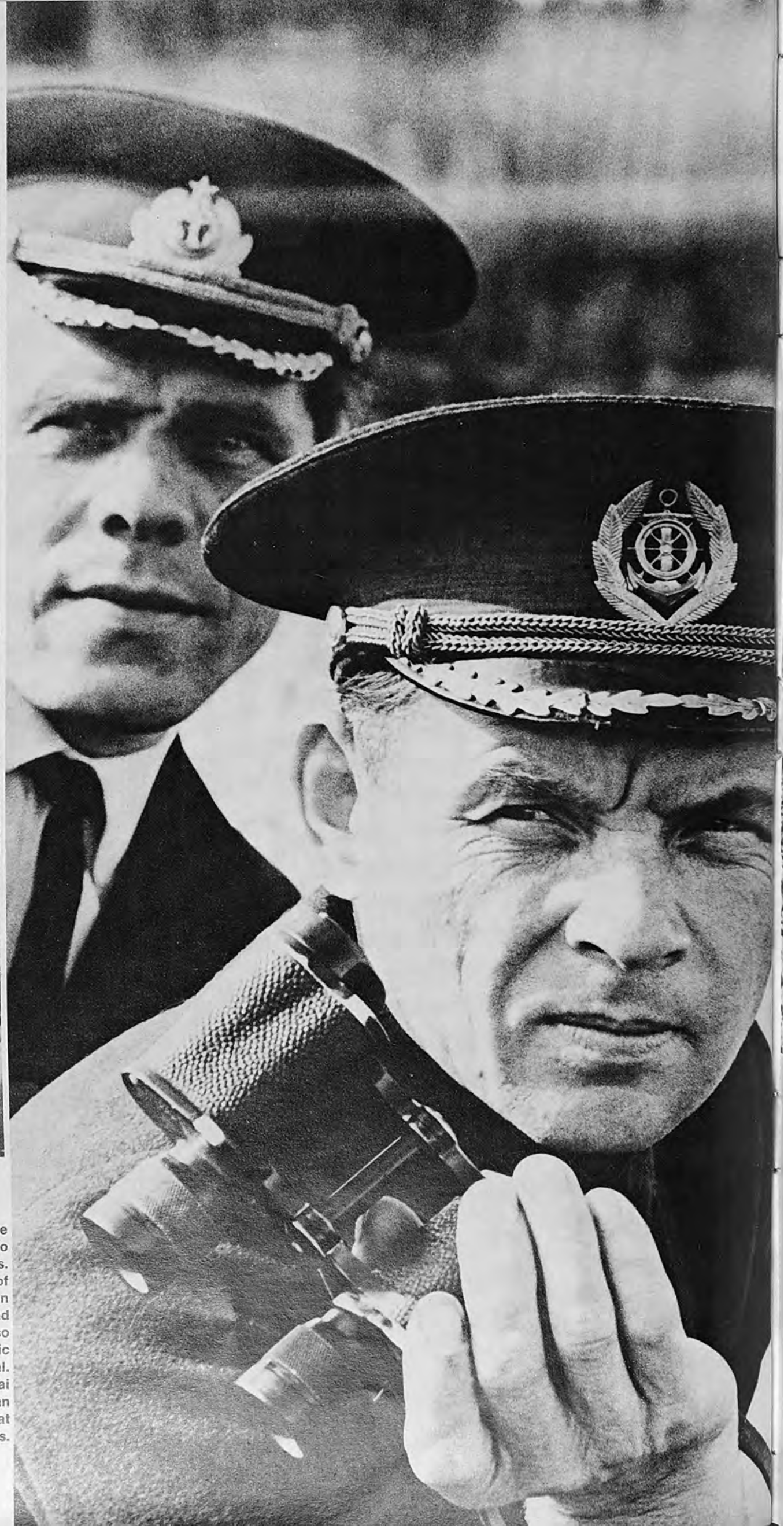


From the Yenisei ports, freight is carried by truck or rail.









Most welcome passenger, the mailman. Top: No shortage of river travelers. At center is the port of Dudinka. The navigation season on the Yenisei is short and the volume of traffic large, so that in summer traffic jams are not at all unusual. Right: Captain Nikolai Beloborodov and Mate Ivan Bogatov (at left) pilot a tugboat at the Kazachinski Rapids.



Dudinka

Another 150 miles north the trees disappear, and even in July the hollows are filled with porous, never-thawing snow. Here the next impressive river port emerges: Dudinka, the administrative center of the Taimyr National Area. The territory of the latter is equal to France and Italy combined.

Nansen called Dudinka a Northern Moscow: two dozen hovels surrounding the big log mansion of the richest trader. A fitting metropolis for the hundreds of encampments where nomads still lived in primitive clans.

The Taimyr National Area of today is the home of many Northern peoples: Nentsi, Selkup, Dolgans, Nganasany, Evenki, Enti. It is a rich stock-breeding region with tens of thousands of reindeer per herd and world-famous pelt farms. Planes and ships carry off cargoes of nickel, copper, cobalt. At international auctions, the world's largest fur firms eagerly look forward to consignments of Taimyr furs. Every fourth polar fox shot in the country comes from this region.

Here, from Leningrad, came the Research Institute of Arctic Agriculture, which assists hunters, reindeer breeders and farmers. It studies the migrations of the Northern fox, the best ways of growing vegetables on permafrost and new means of protecting deer against the merciless gnats. Here, too, are the headquarters of the merchant marine's arctic fleet.

Nowadays there isn't a nationality in the area without its own teachers, singers, physicians, artists. Their life and work have changed radically. A herdsman listens to weather forecasts on the radio and signals his neighbors with flare guns. When he notices wolf tracks, he summons a heli-

These small planes that alight on both land and water are indispensable in Siberia. They carry people, freight and mail. But there are many spots where only endurance and a good pair of legs will do.

copter with riflemen. While he is wandering in the tundra, his family lives in a settlement of cozy log houses, his children do their homework by electric light. Maria Barmich, the daughter of a Nenets reindeer breeder, defended a thesis in linguistics, winning a candidate's degree in philology.

Vitali Mirgunov, secretary of the Dudinka City Party Committee, is a native of this region, born in the Taimyr village of Potapovo, the seat of a deer-breeding state farm. He is literally in love with Dudinka.

"I'm only 35, but I can still remember when it was a village. It all grew up before my eyes."

We walk along a street leading uphill to the helicopter station: Mirgunov is leaving for a trip across the tundra. Around us roar dump trucks loaded with gravel. Pile drivers hammer at the piles with a low, rhythmic sound.

"There, look, that's going to be an apartment house with a hundred units. We're building it on piles, right in the permafrost. On the embankment we'll have 9-story houses. A palace of culture, too, as well as a new railroad station."

One of the suburbs accommodates the settlement of geophysicists prospecting for oil in the tundra. "Oil for Taimyr!" says a placard on one of the houses.

"They'll find it all right," grins Mirgunov. "They've already found gas. Next year we'll refit our boilerhouse for gas."

The helicopter station is high above the town. From it you can see all of Dudinka in a fever of construction. A chain of powerful jib cranes stretches along the river front, where the waves rock seagoing ships at their moorings.

Norilsk—Last but Not Least

I've known Norilsk since 1936, when it was two cottages on a hill plus some barracks. Today the city is a tourist crossroad, as famous as Igarka in its heyday. Visitors inspect the House at the Zero Marker, the very first building put up in Norilsk. This small cottage, with just two windows and wooden shutters, was knocked together in the tundra by the first geological expedition, headed by Nikolai Urvantsev.

In the middle of the town square stands a slab of native rock. "The memorial to be built here will honor the Norilskites who conquered the tundra and founded our town and plant," reads the inscription.

The history of Norilsk, as of most pioneer towns, is a heroic one. In the hardest years men struggled with the elements, froze, starved, slept in the snow, in tents and barracks, forded icy rivers, knocked piles into the stone-hard soil, laid bricks during raging blizzards.

Yesterday's inhabitants, who laid the foundations of the city's splendor and built it up during the hard war years, led a life of privation. Today Norilskites work in a town where the gloom of the arctic night is dispersed by powerful street lamps, where you can swim in a magnificent indoor pool while the thermometer outside shows 58 below.

However often you visit Norilsk, even after a short interval, you are struck by its fantastic growth, the robust vitality of the town and its great plant, fused into one whole. The town itself changes fast enough, but the changes transforming its industrial nucleus are still more striking and fundamental.

Take gas, for example. Three years ago the Messoyakha River appeared in newspaper columns. A spout of gas and water had gushed from a new borehole in the area. In May 1968 the first builders lit fires at the site of the future settlement of Messoyakha. In autumn helicopters carried pipes across the tundra, and in winter the snow was furrowed by sledge convoys. Here as everywhere Norilsk set the pace with its own bold and unusual solutions. The pipes weren't simply laid in the permafrost but raised over it on supports. Messoyakha was separated from Norilsk by a rough 185 miles, as hard to traverse as twice the distance in a warmer climate. The builders had to cross 80 tundra rivers, among them the Yenisei, more than a mile wide at that point. The work, it seemed, would drag on for years.

But by 1970 Messoyakha was supplying Norilsk with industrial gas pumped through the world's northernmost pipeline. The blue flames flared up under the boilers of the city power plant, whose fuel supply had long depended on coal miners.

In 1971 the Norilsk Refinery used its first gas to smelt copper. Estimates show that the new wells save the city from 25 to 30 million rubles annually. They have enabled hundreds of coal miners to switch over to ore extraction and raised production standards considerably.

The Norilsk area also includes the Ust-Khantaisk hydroelectric plant, one of the most difficult and wonderful stations built in recent years. Everything was unusual here: the tundra, the permafrost, the polar night, the fierce frosts, the unruly river carrying 200 times as much water in summer as in winter.

At the Ust-Khantaisk plant experiments were as bold as elsewhere. And bold they had to be, considering the many future stations for which they paved the way. The enginehouse was hewn out of solid rock; two springs sent their floodwaters across the site of the future dam. Early in 1971 the first units were completed. Electricity from the arctic power plant will flow to Norilsk, to the Taimyr power grid, to Igarka and Dudinka.

Alongside Norilsk stands Talnakh, whose history is just as fantastic. In 1960 the first



traces of rich polymetallic ore were found in the tundra. In 1962 the deposits were mapped and construction of houses began. In 1965 the Mayak Mine, Talnakh's first, began operation. Construction in the arctic had never proceeded at such rates—not in any of our five-year plans.

Talnakh literally shook up the older Norilsk complex. Its immensely rich ore differs in many respects from the old, calling for new technology, bigger capacities and bolder thinking. The plant was equipped with the country's largest thermal ore smelters and converters. An oxygen plant, indispensable for processing Talnakh ore, was built in a short time.

The Norilsk Research Center with its several hundred specialists had never worked as intensively. Today the content of metal in the ore is determined by a nuclear reactor. Many calculations are made by computers.

Talnakh raised Norilsk to the status of one of the world's largest centers of nonferrous metallurgy. This town in the Taimyr tundra can vie with the famous Sudbury, Canada, which produces most of the West's nickel.



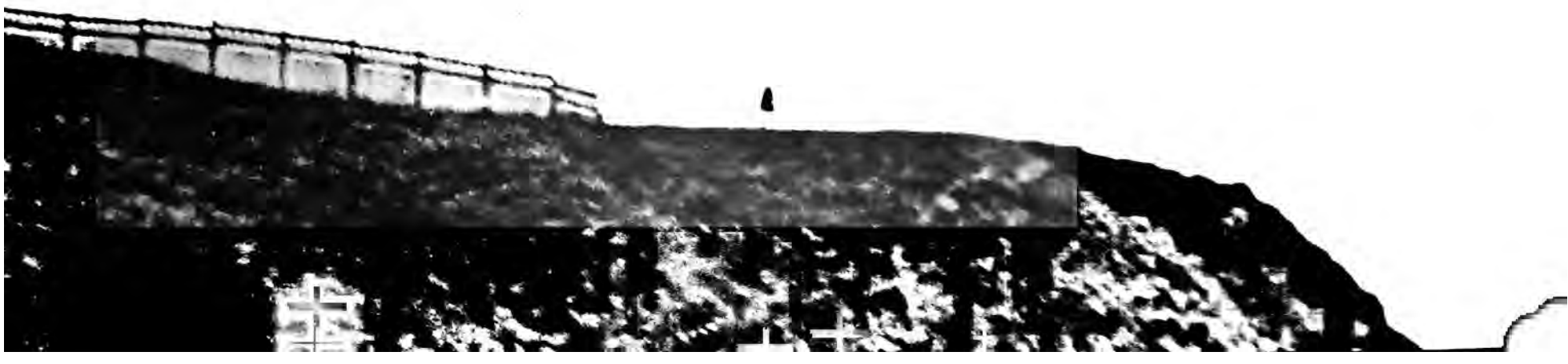
Norilsk has mushroomed in recent decades, and its enormous resources, including the world's purest nickel and cobalt, permit still further increases in ore and metal output. This, however, will require enormous amounts of electricity. The Ust-Khantaisk hydroelectric and thermal stations are a sizable contribution, but they will never suffice. The new gas wells will probably supply a number of powerful new stations in the tundra. The possibility of new power plants harnessing the Yenisei is not ruled out either.

Prospects for the Next Century

Siberia is unthinkable without its gigantic rivers. The Yenisei, turbulent, full of impetuous power, is like Siberia itself, the very embodiment of the region.

From the center of Asia to the country's northern coast, it flows right through the heart of Siberia. The river itself is a colossal source of energy connecting the whole region of more than a million and a half square miles.

The future of the Yenisei is the future of Siberia. Level-headed forecasters—not dreamers—see this as a prospering region of immense industrial power, a region of harmony between nature and civilization.





Andrei Bochkin is a hydroelectric project engineer.



Diver Anatoli Zagrebin says, "There's more space in Siberia."





Still long stretches of unexplored taiga and tundra.



Young Pioneer camp on the man-made Krasnoyarsk Sea.



Pyotr Mitryashev works in Norilsk, beyond the Arctic Circle.



QUERIES FROM READERS

Continued from page 15

eral theaters, including a drama theater, an opera and ballet theater, a children's theater and a puppet theater. The Volga Russian folk choir, known throughout the country, has sung abroad on many occasions.

In the past few years, four new residential districts have been built in Kuibyshev. Each of them, with a population of some 100,000 people, has its own stores, movies, cafés, schools, kindergartens, a stadium and a park.

QUESTION: What is the present situation of the film exchange agreement between the USA and the USSR? (D. L. Trifan, Teaneck, New York)

ANSWER: An agreement on cultural cooperation, covering scientific, technical, educational and performing arts exchanges, is concluded periodically between our countries. One of the provisions calls for film contracts.

In 1969-70 Sovexportfilm bought 16 U.S. films and the United States bought five Soviet films.

In 1971, Sovexportfilm signed a contract to buy the following U.S. films: *Slaves, The Liberation of L. B. Jones, They Shoot Horses, Don't They?* and *The Ring of Bright Water.* The Soviet films *Liberation, A Pacer's Race* and *The Brothers Karamazov* were sold for showing in the United States.

In addition, our countries exchange delegations of film people, participate in international film festivals held in the USSR or the USA and arrange film exhibitions.

Last year Soviet film directors Sergei Bondarchuk (*War and Peace*), Yuri Ozerov and Stanislav Rostotsky visited the United States, toured film studios and watched their American colleagues at work.

The Soviet Union of Film Workers played host to a delegation from the United States: Robert Wise, vice president of the American Directors Guild, and directors Robert Aldrich and Ralph Nelson.

Also last year a large group of U.S. film people attended the Seventh World Film Festival in Moscow. Soviet audiences viewed with interest *The Sandpit Generals, Easy Rider, They Shoot Horses, Don't They?, Ryan's Daughter, Bless the Beasts and Children* and other American films.

QUESTION: What recourse does a worker have when he disagrees with management? Include disagreements on wages, leave, work techniques and personality conflicts. (L. H., Washington, D.C.)

ANSWER: There is a grievance committee at every Soviet enterprise consisting of an equal number of representatives from the union and from management. A decision must be agreed upon by both sides.

Suppose a worker and management disagree and the difference can't be reconciled. The worker then applies to the grievance committee, which is required to act on the application within five days. If the decision of the committee does not satisfy the worker, he applies for help to his trade union committee, which must take action within seven days. If the trade union committee finds the worker in the wrong or if it cannot reach a decision, the worker may apply to the courts, all the way up to the USSR Supreme Court.

But in the event the committee decides in the worker's favor, management must abide by the decision. The law specifies that it cannot appeal the decision to a higher authority.

Generally speaking, such conflicts are rare. Both labor and management know the labor laws well enough to settle their disputes on the spot rather than to start unnecessary court proceedings.

Only 49 people applied to the grievance committees in the metallurgy industry in 1970, not a very large number for a country as big as the Soviet Union. In 27 cases the committees decided in the workers' favor, in 18 cases their claims were considered unjustified, and in four cases management and the trade unions could not agree on a decision.

The press may also intervene in some cases. Of course, a newspaper has no legal right to settle labor conflicts. But it may sometimes influence the sides to revise the case or may help to explain a point in dispute.

Here is an example. The drivers of a timber-felling site in Sakhalin Region wrote to *Trud* (the newspaper published by the All-Union Central Council of Trade Unions) that management had violated the labor laws. At the request of the newspaper, the facts in the letter were checked by the Sakhalin Regional Trade Union Committee of the Timber, Paper and Woodworking Industry. The facts were confirmed. As a result, one of the superintendents lost his job for not meeting labor safety regulations. The Regional Trade Union Committee ruled that drivers be paid for all extra hours and enjoined management to strictly observe labor law regulations in the future.

BOOK ON SOVIET UNION'S SPACE PROGRAM



N.E.W.S. Photo-News

The Doubleday & Company publishers of New York, in cooperation with the Novosti Press Agency in Moscow, recently published the book *Russians in Space* written by the Russian journalist Evgeny Riabchikov. The book gives the reader an inside look at the Soviet Union's vast space program.

This photo shows Stewart Richardson, Executive Editor of Doubleday, presenting the book to Anatoli Dobrynin, Soviet Ambassador to the USA. During their talk Anatoli Dobrynin expressed the hope of further developing USSR-USA cooperation in space exploration.

A special delegation of Doubleday led by its president, John Sargent, visited Moscow and presented this book to the Soviet cosmonauts. After thanking the guests for the gift on behalf of the Soviet cosmonauts, Major General Vladimir Shatalov, who had been in space three times, said:

"Exploring outer space is a difficult job. It requires the collaboration of every country in the world. This is becoming clearer to everyone as time passes.

"It is very gratifying that a good relationship in investigating outer space has developed in recent years between the USSR and the USA. Our countries have already concluded a number of agreements in this field, and new ones are in process of being worked out. They will enable our two countries and all mankind to achieve greater successes in space."



WHO FIRST SETTLED AMERICA?

Pre-Columbian America was probably settled from Siberia, according to members of the Far Eastern Branch of the USSR Academy of Sciences. Nikolai Dikov, a Soviet Arctic researcher from Magadan in Northeastern Siberia, tells how it could have happened.



Burrowing To Paleolithic Kamchatka

I've long been convinced that the clue to America's earliest colonization lay in Kamchatka. But not until 1961 did the Northeastern Institute in Magadan send out a special archeological party to look into the possibility. We traveled by dugout from the upper reaches of the Kamchatka River down to the ocean.

The most interesting place for our studies proved to be a small body of water called Lake Ushkovskoye. A narrow channel links it with the Kamchatka River. From the lake one can catch glimpses of the tops of the Tolbachik, Klyuchevskaya and Shiveluch volcanoes. The waters teem with fish and the southern shore is layered from top to bottom with cultural horizons—11 of them, a record for most of Siberia.

As we burrowed into these levels one by one, we traced several millenniums of man's evolution, digging into the past much more deeply than anywhere else in the northeastern Soviet Union.

We were particularly excited when we got to the fifth horizon and beyond, wondering what we would find. We were on ancient soil, more than five feet below the present surface and, moreover, on the shore of a lake, important because in such places earth accumulates at a snail's pace.

Our palynologist associates soon obtained some interesting evidence from the remains of spores and pollen. It suggested that in those bygone days the climate here had been much colder, and that there had been no woodland vegetation at all in this vast, rocky tundra. The cold of the last glaciation had lingered on, and the mammoth was not yet extinct. It was in these horizons, that is, the fifth and sixth, that we found traces of human habitation. (Radiocarbon dated the fifth level at 10,360 years ago, give or take 350.) The culture differed sharply from those we had already studied at the higher neolithic level. It showed that special methods had been used to work the flints: From a small, wedge-shaped core, the artisan slivered off the thinnest of daggerlike flakes. At last we had discovered traces of a real, though late, Siberian paleolithic culture.

Further digging at Lake Ushkovskoye gradually filled in the picture of a neolithic dwelling. Its half-submerged chambers had exit corridors surprisingly like those in the dugouts of the ancient Kamchadals and American Indians. These chambers probably resembled wigwams.

The most interesting and significant finds were made still further down, in the seventh, still older, paleolithic level. Here traces of hearths of fishermen and mammoth hunters were found on a floor nearly 15,000 years old (radioactive carbon dating indicated 14,300 years, give or take 200). At a depth of more than six feet we came upon charcoal, flakes, scrapers, and hafted flint projectile points—both single- and double-edged—unlike anything found earlier. Near the hearths we dug up a paleolithic burial place. The rock-hewn grave and large surrounding site were scattered with scarlet ocher, that magic "life restorer" which attends all neolithic burials. At the bottom of the grave we found great quantities of beads and pendants. They were ingeniously carved in filigree by knives—also found here—from a soft colored stone, pyrophyllite. Apparently the burial clothes had been decorated with this typical Indian wampum.

This was totally unexpected. Was it just a coincidence? Or did the American Indians' custom of wearing wampum neck-

laces, belts and other ornaments really have deep Asiatic roots?

In short, we found ourselves faced with the question of how the New World was settled.



History

It is now generally agreed that, contrary to the claims of Argentinian paleontologist Florentino Ameghino, the first human inhabitants of America and, similarly, of Australia were not indigenous. Rather, they were migrants from the Old World. Ethnically, this early population derived not from Europe or Africa but from Asia, moreover, from its oldest Mongoloid-Australoid anthropological type.

Some time ago Soviet anthropologist A. A. Zubov offered a daring hypothesis. America, he maintained, had been colonized in two stages, and the Eskimos and Fuegians as well as some Indian tribes populating remote parts of the Americas were descendants of the oldest Paleo-American ethnic group in the Western Hemisphere. However, another Soviet anthropologist, V. P. Alexeyev, believes that adaptation to the cold climate near the North and South poles is responsible for the similarity between the Fuegians and Eskimos. Archeological data have yet to be found to prove either hypothesis.

When did man first migrate from Asia to America? This question is now being tackled by archeological studies in both North and South America. Judging from radiocarbon analysis, most archeologists and anthropologists believe that man first appeared in the Western Hemisphere in the Upper Paleolithic period, between 15,000 and 30,000 years ago, and that he reached the Strait of Magellan roughly 10,000 years ago. This, of course, is a very rough estimate, subject to change as well-dated archeological material is found. There are also few data to answer the related question: How was America first settled by Asians? Many scientists believe the most probable route was through Northeast Asia, but there is a complete absence of any information about archeological remains there. This has led some to suggest completely unlikely, indeed fantastic, routes through the Southern Pacific, Melanesia, Polynesia and even—according to Mendez Correya and Paul Rivet—via Antarctica during a glacial recession.

Till recently we could approach this complex problem only through anthropology and ethnography. Only now that paleolithic remains have been discovered in Kamchatka, on Siberia's northeastern tip, can we add the evidence of archeology.

What strikes the eye first is the drastic difference between the two cultures discovered at Lake Ushkovskoye. They lack continuity, relating most likely not only to different traditions of technique but also to quite different ethnic communities.

The artifacts in the seventh layer are especially interesting. Surprisingly, they have no distinct analogies in Siberian paleolithic cultures. But they do show some unexpected similarities to the southernmost American culture, represented by later paleolithic artifacts from the Fell and Palli Aike caves. The contents of these caves, in southern Patagonia, were studied by Junius Byrd. (Radiocarbon dating places them in 8,760 B.C., give or take 300.) Common features are the use of scarlet ocher and the resemblance between double-edged flint spearheads. They have almost identical leaflike forms, and the hafts are slightly flared at the base. This last peculiarity is more distinct in the Patagonian points with their fishtail hafts. Many archeologists believed that the Patagonian artifacts derived from the fluted Clovis and Folsom points of the Upper Paleolithic period in North America. However, the Patagonian points are much less similar to the North American than to the primitive Kamchatka ones. The latter could not have derived from postglacial America; they are evidently initial. Thus, we believe we can add to the numerous hypotheses on America's colonization still another that explains the similarities between the primitive cultures of Kamchatka and the Strait of Magellan.



The South Americans' Predecessors

We think the early Kamchatka culture, as represented by the finds from the seventh Lake Ushkovskoye level, was a survival of a culture that was widespread in Northeast Asia. It was more ancient than all known Siberian upper paleolithic cultures whose implements included wedge-shaped cores; that is why analogies are lacking. The carriers of this culture were still not familiar with the working of wedge-shaped cores, and the spearheads were hafted. It is quite possible that this culture spread through Northeast Asia and eventually to America some 20,000 to 30,000 years ago, during the peak period of the latest glaciation—which corresponded with the maximum lowering of the sea level. This was when Kamchatka was within the vast near-glacial zone that extended from Northern Europe across all of Siberia to northern America—with which it was linked by the 600-mile-wide land bridge of Beringia (now the Bering, Chukotka and East Siberian seas). At the time there was also a direct dryland link across what is now the Sea of Okhotsk, the Amur, Sakhalin and the Japanese islands on one side and Kamchatka on the other.

In these circumstances Kamchatka could have been settled first by tribes from southwest of the Sea of Okhotsk: They could have crossed the land mass which then existed in place of this sea. Their slow migration northeast through Chukotka and Kamchatka into Beringia would eventually have resulted in the colonization of America.

First to be settled, according to this hypothesis, was Alaska. Somewhat later, during the period of the short-lived corridor between the St. Laurence and Cordillera glacial shields, the southern part of North America was gradually settled. It is possible, though, that primitive men struck out in this direction at a time when this was not a corridor but a cul de sac, and that America's first explorers had to climb across continental ice. The North American glacier would then have acted as a valve. Once on the southern side, primitive man could not get back north—and possibly did not want to. He colonized the South down to Tierra del Fuego and, during a long period of isolation, developed a different cultural pattern. The spears devised by hunters east of the Rockies (and unknown anywhere in the Old World) were Sandia stone points with side shoulders for hafting. Later these hunters devised the Clovis and Folsom types, which are reminiscent of a Japanese bayonet.

Meanwhile there still survived in southernmost America, until some 11,000 years ago, the primitive petiolar (leaflike) spearheads, which are almost identical with those current in Kamchatka some 14,000 to 15,000 years ago. This implies that the first to colonize southern America were not the Sandia, Clovis or Folsom tribes, as most people believe, but either more ancient predecessors or tribes that had a parallel but autonomous development. Only much later did the unique fluted Sandia, Clovis and Folsom points appear in the South. But since the spread of this design was no longer connected with colonization, it was relatively fast.

This, roughly, is the explanation for the similarly designed petiolar points in Kamchatka and the southern part of Patagonia. It is, of course, quite possible that in Patagonia they were current long before they found their way to the Fell and Palli-Aike caves. Archeologists have yet to find in southernmost South America still older sites than these caves. Future excavations in Chile and Argentina may unearth hafted points, or none at all—in which case the American archeologist Preger will be proved right: He believes that the settlement of America began before projectile points were made. Most likely, though, from the very outset America was colonized by well-armed hunters of mammoths and other mammals, rather than food collectors. Their spears were on a par with upper paleolithic techniques and had sharp stone tips. Quite probably they knew of a spear thrower, not only for heavy spears but also for light darts with relatively small stone tips like those discovered in the lower Lake

Ushkovskoye levels. Whatever the case, these future finds will be artifacts of the most primitive American culture, whose carriers were Paleo-Americans.

This cultural-ethnic complex demonstrated great stability in some respects. It migrated slowly from Northeast Asia to North America and subsequently, in the glacial period, via Central and South America to the southernmost point. But it stayed longest at the very coldest tip of South America, in conditions approximating the initial ones.

Some fragmentary remains of this complex are known. They include querns or grindstones like those found at the Ushkovskoye site with their traces of ocher, and the hafted points from the Fell and Palli-Aike caves. Almost identical petiolar points and a similar fondness for ocher were still apparent recently among the Fuegian Yahgan and Ona tribes. They are most likely traditions rooted in paleolithic times. The anthropological type of these tribes is also the most primitive. In the range of Paleo-American features (shape of head, short stature, broad nose, thick lips, wavy hair and dark skin), the Fuegians, especially the Yahgans and Alikulifs, are closely related—amazingly so—to the Eskimos and certain Indian tribes that inhabited the more remote and rugged areas of America, especially California. They are also similar in their dermatoglyphics. It is obvious, therefore, that these tribes have not simply adapted to similar climates: They have a common origin. Eskimos, Californian Indians or Fuegians, they are all descendants of the ancient Paleo-Americans who were the first to cross America. While the Eskimos are the product of interbreeding with the subsequent mesolithic wave of migrants to America, the Fuegians have preserved the original anthropological type and some initial elements of the culture in its purest form.



How America Was Closed

At the beginning of the Holocene period, the Sea of Okhotsk acquired its present configuration. Shelekhov Gulf filled with water, and now the only dry-land link the Kamchatka Peninsula had with the mainland was the narrow northern isthmus—which from time to time gave way to a strait. Henceforth the route to Kamchatka from Siberia and the southern regions of what is now the Soviet Far East lay exclusively through Chukotka. For a time the Kamchatka Peninsula became a preserve of influences deriving chiefly from the North through Chukotka. For a time it was also isolated like America. Finally the Chukotsk and Bering seas assumed their present configurations, and since then, for the past 10,000 years, the Bering Strait has separated Asia from America.

The Holocene meant not only new geographical boundaries between Northeast Asia and America. The uneven development of productive forces served simultaneously to erect a still more pronounced, though invisible, barrier.

In the northern subtropical belt of the Old World some events occurred which significantly affected the development of ethnic and cultural links. The vast world of hunters, fishermen and food collectors began to change. In the valley of the Nile, in Mesopotamia and elsewhere in the Near, Middle and Far East, right up to China, a different life began: Man switched from the collection of produce to its manufacture. In short, he began to till the land and raise cattle.

This revolutionary process extended further north in some places. It reached the tundra-steppe valley of the upper and middle Lena River, where it almost touched the Arctic Circle, at the time the limit to the spread of highly developed cattle raising.

Earlier, in the upper Paleolithic and even Mesolithic periods, it had made no difference to hunters and fishermen where they settled, as long as there were no insuperable natural obstacles, and as long as there were animals to hunt and fish to catch. They were not even deterred by climatic changes. In fact, in these age-long migrations, such changes were hardly felt. But the cattle raisers and tillers had much less reason to migrate through the mainland northeast into the taiga and tundra, past the steppes along the middle Lena, toward America.

So gradually the cultures of the northern and northeastern tip of the Old World, and of America, became relatively isolated from the highly developed cultures of the Old World. This lengthy isolation lasted right up to Columbus and Dezhnev.* A highly indicative symptom was that the Bronze Age, though it reached Chukotka (we discovered bronze chisels at the 3,000-year-old Ust-Belsk burial site), did not cross the Bering Strait into North America. This alone strikingly demonstrates the weakening of the link between mainland Asia and America. Subsequently, in the early Iron Age, these ties diminished still more. Little by little all of the northeastern part of Asia and America was excluded from contact with the pastoral mainland cultures of East Asia, which were progressing at a much faster rate. There begins what we could call the closing of America and the neighboring regions of Asia, where the hunter's and fisherman's way of life continues. There also begins a marked change, whose significance cannot be underestimated, in the development of links between the Old and New worlds.

The ancient civilizations of the Old World, confined as they were within a natural zone, knew ridiculously little about the arctic regions of the Old World and nothing at all about America. The ancient Greeks imagined these distant places were populated by mythical Hyperboreans. The ancient Chinese, on the other hand, believed this was the abode of centaurs—apparently an echo of rumors about Yakutian horsemen. Hearsay of the great colonies of exotic, hairless and fin-footed seals, whose inquisitive faces resembled the human, made the Japanese think of the North as the habitat of a race of all-women. Even the Arabs, who were much better informed about the arctic, continued until the thirteenth century and later to populate the unknown northeastern arctic lands of the "Seventh Climate" with fearful four-eyed monsters. The Arabs pictured these improbable Yajuds and Majuds, with two eyes in the forehead and two in the breast, emitting sounds that blended the hiss of a serpent with the twitter of birds.

But even then, Northeast Asia and America were not completely isolated from one another. With the emergence of highly developed pastoral economies, incentives to migrate from mainland Asia were reduced. But some cultures still spread peripherally, and coastal migration continued.

Along the arctic coast—a very probable paleolithic route of migration from Asia to America—all the way from Norway to Greenland, there extended at the time an amazingly uniform circumpolar culture whose carrier was the wild reindeer hunter. The magnificent rock drawings discovered recently in the arctic regions of Chukotka, along the banks of the Pegtymel River, are related in some aspects to those of Norway, northern Scandinavia, the White Sea, Karelia and finally North America. They supply graphic evidence not only of the high artistic level of these hunters, but also of the strong kinship and interplay of the cultures of the arctic tundras in both the Old and New worlds.

Along the shores of the Pacific and Asian islands iron (though in meager quantities) and some southern cultural elements like curvilinear ornamentation spread northeast as far as arctic America, to the ancestors of the Eskimos.

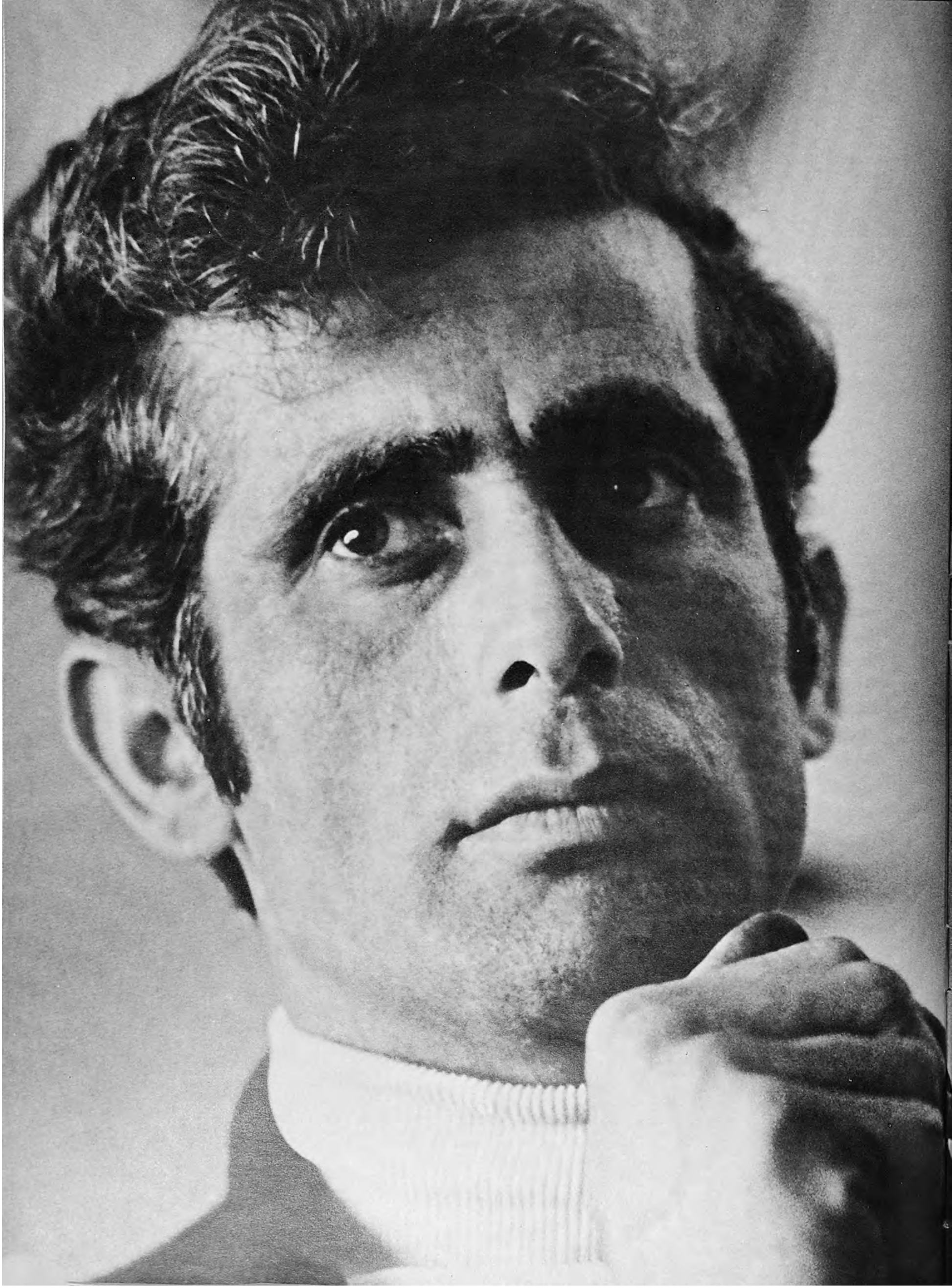
When man first ventured out to sea in the Neolithic period, chance and the elements sometimes ordained cross-Pacific raft voyages, which now and again may have resulted in the opening of America. This is borne out, for instance, by the now famous potsherds that amateur archeologist Emilio Estrado found in a shell mound in Ecuador. These potsherds are amazingly like the neolithic, 5,000-year-old Zemon pottery found in shell mounds on the Japanese island of Kyushu.

It is possible that America's Indian population is indebted to similar, later Pacific voyages—traces of which are yet to be found—for a certain anthropological and ethnographic resemblance to the population of Southeast Asia.

However, we disagree with people who think that such "discoveries" constituted the actual discovery of America. These voyages remained largely unknown in the Old World. Columbus need not turn in his grave: He was and remains the true first discoverer of America, though man settled there thousands of years earlier. Perhaps only the Vikings, who arrived in America five centuries before Columbus, could—with many reservations and to a very small extent—dispute his priority.

Courtesy of the magazine *Dalny Vostok*

* Semyon Dezhnev, a Cossack seafarer, was the first Russian to explore Alaska, in 1648.



On the job he machines all sorts of big metal parts to a hairline tolerance; in his leisure moments he fashions a large variety of beautifully handcrafted objets d'art.



CREATIVE CRAFTSMANSHIP

"My hobby showed me how little I knew. I began to read books on art and visit museums. That's when I happened to read a notice about the countrywide competition of handicrafts."



By Rasim Agayev

Photographs by Valeri Shustov

THE MINISTRY of Local Industry of Azerbaijan received a letter from the jury of a countrywide competition of amateur arts and crafts held in Moscow. It said that for fine workmanship, "elegance and excellent taste" Gamid Gafarov had won a bronze medal. The winner had not given his address and so the jury was forwarding the medal to the ministry, since it undoubtedly knew the craftsman. But Minister Ramazan Memedli Yusif-ogly, a considerable authority on handicrafts, had never heard of Gafarov.

The Minister Tracks Him Down

Gamid Gafarov, 28, turned out to be a lathe operator in the city of Sumgait, 25 miles from Baku, and the minister invited him to display his work in the Azerbaijan capital.

Examining the massive cups and plates of metal, the minister asked:

"How long have you been carving in metal?"

"Since I began working as a lathe operator," replied Gamid. "Three years, that is."

"Only three years? You mean to say you've become so skilled in so short a time? What did you do before that?"

"Tried to find myself. . . ."

Man Seeks His Vocation

Every day there is a Help Wanted program on Soviet radio calling for factory workers, engineers, technicians, teachers, doctors, office secretaries, typists, house painters, and so on *ad infinitum* Posters in the streets carry the same advertisements. Work looks for man. But man, in our country, does not simply look for work; he looks for the kind of job that will do more than provide him with a living. He wants something that offers him the joy of creative effort.

"In our big family of seven, we children knew very early what we wanted to do," Gamid recalls. "When I was five, sister Meleksha was already doctoring all the kids; she became a physician. Faik, who loved the sea, became a navigation officer. Fuad took up painting, and I . . . like all boys, I wanted to travel and have exciting adventures.

"Since long-distance trains passed by the windows of our school, it didn't take me long to get on one of them. I worked as conductor and, after finishing a specialized school, became a railroad car repairman. Though I did a lot of traveling, that did not turn out to be my vocation. My hands itched to make things. I might never have mustered the courage to change—plenty of people ride the wrong train to the end of their lives, you know. But it happened that I served in the navy, in a lifesaving crew, and became a diver. So I returned home with three occupations: railroad car repairman, diver and turner. I acquired the last skill in school, studying machinery. Then I went to the new town of Sumgait to start all over. I got a job as a lathe operator at a factory and a year later qualified for a Grade Four rating. The year after that the factory gave me an apartment, and some months later I got married. I seemed to have settled down for good."

Attitude Toward Work

"I liked my work and was soon given the most complicated jobs; my earnings went up correspondingly. A qualified lathe operator is prized at a Soviet factory, and management shows him every consideration. My factory gives me confidence in the future and relieves me of a good many family cares. It has country houses at the seashore, a rest home in the mountains, a Young Pioneer camp, an overnight sanatorium, a hospital. In general, in a factory, in a big collective, you find it easier to grasp the real meaning of the words 'master of your country.'

"I consider my work creative. What is creative work, after all, if it's not the trace a man leaves on society, on the lives of other men, on their hearts or on the objects they use? Whether it's a poem or a turbine is a matter of vocation. But, of course, the fact that I like my job does not mean that it's nothing but pleasure. Real work always takes a great deal of spiritual and physical effort. It's tiring and a strain no matter how attractive a form of human effort it is.

"I like my job and my factory. But I have a hobby that has become no less a part of

Lathe operator Gamid Gafarov

my life now—carving in wood and metal."

Attitude Toward Art

"Like my brother, who became an artist, I drew and carved in wood during my boyhood. But I never took it seriously. At the factory, however, I once lathe-carved a cup from the root of blackwood. In Azerbaijan carved wine cups are traditional. I presented the cup I made to a friend on his birthday. Our engineer Pyotr Vorobyov happened to see it—and that's when my second schooling began.

"Vorobyov liked to work in wood at home, and he taught me to understand it. I learned that apple wood was a pinkish red and apricot wood the color of meat. If the article had to be hard, ironwood, or *demiagach,* which grows in Azerbaijan and somewhere in Africa, should be used. I learned a great many things from my first teacher. Vorobyov often invited me home to show me his work: cups, bowls, jugs and other tableware.

"Pyotr Vorobyov was a Russian, but he knew Azerbaijan better than a native. He knew where to look for certain trees, where the arts and crafts of old still survived, where the best chasers lived and worked. He reawakened my urge to travel. But these were no longer a boy's trip in a first train. On these journeys I studied the beauty and wealth of the crafts. We traveled to Lenkoran, to the subtropical district in southern Azerbaijan, which abounds in tea, lemons and tangerines, and where summer reigns throughout the year. I returned to Sumgait with a suitcase full of ancient crockery and pieces of different kinds of wood. From those pieces I made jugs, vases and bowls. My hobby showed me how little I knew. I began to read books on art and visit museums. That's when I happened to read a notice about the countrywide competition of handicrafts.

" 'Send them some of your things,' Vorobyov advised me. I chose a few pieces, packed them up and shipped them to Moscow. I wanted to know whether I had really learned anything or was just another amateur. Then the minister located me. There were other exhibitions after that, and more work. Soon my mother urged me to move to Baku, and I got a job as a lathe operator in a boiler factory."

Family

"I was married in Sumgait, a town full of young people and with eight dance halls. But it wasn't at a dance hall that I met my future wife, it was at a construction site. She was working there as a foreman after graduating from college. When we got mar-







Gafarov's wife Bronislava is shopping with friends for clothes for the children. Top: Their boy Eldar (pushing the ocean liner around) in the factory kindergarten. Center: The Gafarovs have guests to dinner. Some of the objects Gamid has made adorn the walls. For a closer view, see the photographs on the facing page. Right: He keeps Eldar company on a visit to the dentist.





"What is creative work, after all, if it's not the trace a man leaves on society, on the lives of other men, on their hearts or on the objects they use? Whether it's a poem or a turbine is a matter of vocation."







ried, I took her to Baku to meet my mother. Mother has been on pension for quite a while now. According to our law, a woman who has had five and more children can retire when she is 50, five years earlier than other women. When my older brother married a Russian girl, Umnisakhanum, our grandmother, grumbled: 'Haven't we enough Azerbaijanian girls?' But with the birth of the first grandson, my sister-in-law became a full-fledged member of the family. Nobody was surprised or upset when I didn't marry an Azerbaijanian girl either. Bronislava is Jewish. By the way, I recently learned that in Baku every third marriage is between couples of different nationalities.

"Though my wife and I are of different nationalities, our tastes and outlook on life and marriage are the same.

"The main thing in married life is love and equality—not formal but real. Children must grow up in harmonious surroundings. They are observant and quick to notice the slightest inequality between their parents."

Their elder boy, Elchin, goes to school. Bronislava takes the younger one, Eldar, to







The Gafarovs live in this apartment house in Baku, the capital city of Azerbaijan. Above right: Gamid and his son in the old section. Baku is a beautiful city, with reminders of past centuries at every turn. The blocks of highrise apartment houses and modern public buildings form a startling contrast. Below: Gamid speaks at a meeting of the workers in his shop. Bottom: The plant engineers find the advice of experienced lathe operator Gafarov useful in making decisions on a job.





kindergarten every morning. She starts work at 8 and Gamid at 8:30. At 6 P.M. Gamid picks him up. Saturday is usually cleanup day, and then the work is strictly divided.

"As a former sailor, I do the mopping. When Bronislava is especially busy with household chores, I take the children out for their walks. In the evening I help Elchin —he's in the fourth grade—with his homework. Since Bronislava usually gets back from work a little later, I fix supper."

His family says that Gamid cooks wonderful Azerbaijanian shashlik, *chikhertma* (chicken soup) and pilau. He does the food shopping at the Sunday farmers market—that's also his job. Bronislava is confused by the big crowds at the Oriental bazaar. But Gamid, like the genuine Azerbaijanian he is, is perfectly at home.

"Our Elchin is fond of riddles and guesswork. He shows a penchant for mathematics. As for Eldar, he likes to help me make things. He is always collecting pieces of iron and wood and fashioning toys out of them. It will be a good thing if he sticks to the hobby —I'd like him to inherit my love for carving.

"We always spend our free time together —going to the movies, a play or a jazz concert, which Bronislava loves, or visiting friends and going to art exhibitions, which is my enjoyment."

Plans

"Once a trade union delegation from Iran visited our factory. One of the members of the delegation, a machinist, thought highly of my lathe but not so much of my knowledge of Persian. However, we managed to understand each other. Well, this man told me there were two things that struck him most at our factory: the way the director spoke to workers—on a basis of absolute equality—and the enthusiastic way we workers discussed the new five-year plan. At the time people at factories, collective farms and offices were studying the draft of the plan and suggesting amendments. The plan concerns everybody. Among the thousands of schools to be built will be the new school where Eldar will study, and the higher pensions will certainly concern my mother. In a year's time the factory will give us a more spacious two-bedroom apartment. That's also part of the five-year plan.

"The plan calls for larger social welfare funds—which will benefit our family budget indirectly. We get free medical aid. Free schooling for the children. Free refresher courses for workers. I finished one to qualify for the highest category. Free preparation courses for entering a higher educational institution and free tuition when we are admitted.

"But the construction of a new city in Siberia concerns me as closely as the school for Elchin and the apartment for us. I believe that people can't live for personal interests alone. If their interests dovetail with the country's, if their road is the road the whole society is traveling, life will be worth living. They will be happy. That is the meaning of socialism. That is the meaning of creative work."





The Gafarovs and their two boys out for a stroll. As in so many Soviet cities, park area is abundant and greenery omnipresent. The city's broad bay—it leads out to the Caspian Sea—is ideal for sailing enthusiasts like the Gafarovs. Below: Waiting for the funicular.

VICTORY NEAR MOSCOW

By Vasili Morozov, Colonel, Soviet Army

Head of the Great Patriotic War History Division,
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One of the most crucial battles of World War II took place near Moscow. It was here, on the approaches to the Soviet capital, that the vaunted Hitlerite army suffered its first major defeat.

HITLER'S MILITARY PLAN attached great importance to the capture of Moscow. The nazi leaders were well aware that as long as the city remained an inspiration and an organizing center for the struggle of the Soviet people, Germany would never achieve a decisive victory. As the capital of the world's first socialist state, Moscow had a unique prestige for the Soviet people and all progressive humanity. Its economic importance was also enormous. The city's industrial center included heavy machine-building, machine-tool, electrical engineering, and iron and steel plants.

It was the largest transport junction of the Soviet Union, where dozens of major railroads converged. This network was vital for the movement of troops and materials from the hinterland to the entire strategic front.

The fighting near Moscow began under very unfavorable conditions for the Soviet forces. It was only a little more than three months since fascist Germany had invaded the country. The Red Army had to fight the superior numbers of well-equipped troops of the fascist bloc. The anti-Hitler coalition had just begun to emerge, and the national liberation movement of the European peoples was still small. There was no second front in Europe as yet. The Nazis were using the military and economic potential of most of the countries of Europe to crush the Soviet Union.

By autumn of 1941 the Soviet forces had been forced to retreat toward Leningrad and to give up Smolensk, 240 miles west of Moscow, and Kiev, capital of the Ukraine. The Hitlerite armies, despite their huge losses, were thrusting eastward.

On an enormous front extending from the Barents to the Black seas, fierce fighting was under way, with its center moving toward Moscow. It was here that both sides were pooling their main effort,it was here that the outcome of the war would be decided.

To seize Moscow, German strategists had worked out the Typhoon Plan as a major part of their autumn offensive on the Soviet-German front.

The German Command concentrated its main forces for the attack on Moscow. The Center Group comprised over a million men, almost 14,500 guns and mortars, and 1,700 tanks and assault guns. The ground troops were supported by 950 combat planes and commanded by such experienced military leaders as von Bock, von Kluge, Strauss, Guderian and Gott.

The Soviet Command could muster in this direction 850,000 men, 780 tanks, 6,800 guns and mortars and 545 planes. These forces made up the Western, Reserve and Bryansk fronts.

Foiling the Typhoon Plan

From September 30 to October 2, 1941, the three fronts engaged in bloody fighting, repulsing the attacks of the enemy. A battle of gigantic scale and importance began. The whole country rose to the defense of the capital, and fierce defensive battles went on throughout October. The enemy managed to penetrate the front line and encircle part of the Soviet forces. Goebbels and his propagandists were predicting the quick fall of Moscow. But this did not happen. The extraordinary stamina of the Soviet troops, the organizing work of the Communist Party and the skill of the Soviet Command helped wreck Hitler's plan for a "lightning defeat."

The fascist "typhoon" was tamed by the courage and staunchness of the Soviet Army. Despite their great losses, the Soviet people held out. This was the main result of the heavy and heroic fighting in October 1941. The Center Group was forced to halt its offensive temporarily, and the Soviet Command used the time gained to reinforce the troops of the Western Front, to fortify the defenses. At the same time, the Hitlerite army prepared to resume its offensive against Moscow. During the first half of November the enemy managed to form two strong main-attack groups which, on November 15-16, again assumed the offensive, trying to envelop Moscow from the north and the south.

Once more, bloody battles developed on the plains near Moscow. Soviet troops fought with unexampled heroism. "Russia is vast, but there's nowhere to retreat—behind us is Moscow!"—every defender of the city heard and understood these words. Heavy fighting continued through the second half of November. By the end of the month the enemy had succeeded in advancing to the Moscow-Volga Canal northwest of the city, had crossed it at Yakhroma 34 miles from Moscow and reached the Kashira area 72 miles southeast of the capital. But that was as far as the fascist armies got. Powerful Soviet counterstrokes stopped their advance irrevocably. The enemy troops were exhausted and lifeless, and early in December their attacks ceased. This marked the end of the most critical defensive period of the battle near Moscow.

The Barbarossa Plan Fails

The failure of the offensive on Moscow frustrated the whole German blitzkrieg—what Hitler called the Barbarossa Plan. The fascist troops had to go on the defensive. The stage was set for a counteroffensive by Soviet forces: The troops of the Western Front, in cooperation with the Kalinin and Southwestern fronts, were to rout the enemy forces that had tried to envelop Moscow from the north and south. At the head of these fronts were Generals Georgi Zhukov and Ivan Konev and Marshal Semyon Timoshenko.

The Soviet counteroffensive began on December 5-6 and was completed in early January 1942. This was the first major strategic offensive of the Red Army in the war. The enemy striking forces were defeated and thrown back westward as much as 220 miles from the lines they had held on December 5, 1941. This was the finale of the great battle.

The defeat of the German troops near Moscow had great strategic and political importance. Having pushed the enemy far away from Moscow, the Red Army started to liberate the country. The offensive on the capital by hand-picked German forces proved a complete failure.

Importance of the Victory

The victory near Moscow greatly influenced the situation in all the other theaters of the war. The resistance movement intensified in the occupied countries.

That the defeat of the nazi armies near Moscow was a turning point in the war was acknowledged later by Western military and political leaders. Thus Churchill, in a survey of the situation on the fronts in December 1941, acknowledged the paramount importance of the failure of Hitler's plans and his losses in Russia. French General Lionel Chassin noted that the year 1941, when German rule was finally to be established in Europe, ended instead in a terrible defeat for the Hitlerites; the battle for Moscow was one of the most crucial of the war. German Vice Admiral Kurt Assmann, in the book *The Fatal Years of Germany*, admitted that the turning point of the war had occurred near Moscow. There, in late 1941, the offensive might of the German armed forces was broken for the first time.

Many foreign authors who are far from sympathetic to the Soviet Union have conceded that near Moscow the Germans suffered their major moral defeat in the war, too. General John Frederick Fuller, the British military historian, wrote that after Moscow the German Army never recovered its energy and that in the eyes of the world, it had lost the aura of an invincible army.

The victory near Moscow contributed greatly to the prestige of the Soviet Union and its influence on the international struggle against the fascist bloc. The victory sharpened the contradictions inside this bloc and frustrated the plans of the Hitlerite command for Japan and Turkey to join the war against the Soviet Union.

After its defeat the Hitlerite army was forced to take the defensive for a whole winter and spring. It was no longer able to conduct offensive operations simultaneously throughout the Soviet-German front. This, together with the dissolution of the threat to the Soviet capital, was a major strategic result of the victory.

ERRATUM

The cutline on page 31 of the October 1971 issue should read:

Alan Krisch of the U.S. (left)

(The person at the right is Anatoli Logunov, corresponding member of the USSR Academy of Sciences and director of the Institute of High-Energy Physics.)

Editor

VASYA



A SHORT STORY
BY GALINA KORNILOVA

Galina Kornilova's first collection of stories, The Big Houses, *published recently, was well received by readers, critics and fellow writers, including such an outstanding man of letters as Konstantin Paustovsky, who promised the young author "not an easy, but a straight and pure creative life." A young person herself, Kornilova writes with warmth, humor and understanding about her own generation. This is one of the stories from the book.*

VASYA* . . . I have only to utter the name to start them laughing. My closest girl friends immediately drop on the rickety sofa, kick their legs in the air and laugh so loud that people passing under the windows of our dormitory room can't figure out what's going on.

But don't they know, these girls, that it's rude to make fun of a man? Well, I must admit that they are not laughing at him in particular; it's just that life is so wonderful and we're all young and happy, that the spring evening is so light and intoxicating and the round moon seen through the window looks like a shiny new button. . . .

It's impossible to stay indoors for long. We rush out and walk along the street, looking around, whispering and giggling, and our hearts thump in anticipation of wonderful and even dangerous things. The street is short, and it brings us onto the square, which is quite deserted and mysterious at this hour of the night. The wind whirls about the square, poking into all the nooks, peeping into the open front doors and flying out of the gates whimpering like a puppy.

In the square we separate. Lyuda Yakovleva, slim and beautiful in her new raincoat, turns off to the embankment, while Maya and I go around the monastery wall and then run to the public garden and disappear among the trees. We find a bench hidden by shrubs from passers-by and sit down, faint with fear and an uncontrollable desire to laugh. Behind the shrubs we can hear the river and the water splashing against the granite embankment. The sound makes us want to go for a swim, floating on our backs with our faces turned up to the sky and the glittering moon, with our hair trailing in the water and the cool waves bathing our bodies. . . . We can still hear the heels of Lyuda's shoes tapping on the pavement of the embankment—she continues her walk there in complete solitude, and we can even see her white raincoat appearing for a moment among the leaves.

Some minutes pass, and without a word Maya and I bend our heads, as we catch the sound of heavy masculine steps from the other end of the embankment. That's Vasya hurrying to meet his unhappy fate, stumbling and tripping as he goes. Soon a dark spot appears in the embrasure formed by the shrubs. Vasya stops just a few steps away from Lyuda and mumbles something, but we cannot make out what he says. However, at that moment our friend starts speaking, and everything becomes clear.

"Oh, Vasili Andreyevich!" says cunning Lyuda in a gentle and quivering voice. "How kind of you to come! I am so sorry to be taking you away from your work on your thesis—I understand everything perfectly well, but what am I to do!"

Her last words are filled with melodious despair. She turns away from Vasya and bends her curly golden head over the parapet.

Maya turns to me, her hair in disorder, her lips moving, and I immediately guess the word she is trying to whisper—"Wonderful!" And indeed, this is an unforgettably glamorous scene: On one side is the moon glaring at the two from above, on the other are the ridge-roofed turrets of the monastery, and in the middle is Lyuda bending over the parapet—with Vasili Andreyevich Voronov, our teacher of medieval literature, beside her. Now the pause seems unbearably long. At last Vasili Andreyevich stretches out his hand and, touching Lyuda's shoulder with the tips of his fingers, says severely:

"Now, stop this, Yakovleva, and control yourself, please! This isn't love, this is just a childish infatuation! Real love will come to you at the proper time."

Lyuda is not convinced and keeps shaking her head, while Maya and I crawl down from the bench and lie on our stomachs on the path, crazy with delight.

At this moment Vasili Voronov takes Lyuda very resolutely by the arm and carefully, as if she were seriously ill, leads her along the embankment to the beginning of the short street where our student dorm is. Maya and I jump to our feet and steal after them, trying to keep in the shadow of the trees, while Lyuda's white raincoat shines ahead of us like a guiding star. At last Lyuda enters the gates, and Vasili Voronov marches along the street alone and disappears in the dark.

A few minutes later we are again rolling on the old sofa in uncontrollable laughter, and the girls in the neighboring room, awakened by the noise, bang angrily on the wall, while in the corridor we hear the dramatic soprano of Valeria, the house mother.

Oh, that miserable, unlucky Vasili Voronov! A young and inexperienced instructor in the literature of the Middle Ages, he entered room 12 to impart to us his knowledge of troubadours and minnesingers. He entered the classroom and, standing on the threshold, hurriedly greeted the vacant desks of the first row. Then he took off his glasses and immediately put them on again and bowed once more, blushing furiously. He was still sitting himself down at the desk and clapping with the palm of his hand on his briefcase, trying to open the lock, while his fate was already finally and irrevocably decided for him. A gentle mysterious smile appeared on Lyuda's lips, Maya's eyes flashed, and all three of us looked at each other significantly. Fate, trying to protect us from boredom and depression, was making us a wonderful gift, which we could by no means decline.

That very day in gloomy November we wrote Vasya our first love letter. We wrote about the star that shone above the dark horizon and about the moth that, attracted by the fire, burned its transparent wings. In the middle of the letter we quoted some lines from a poem by Marina Tsvetayeva, and at the end we begged him to allow the author of the letter to go on loving him meekly and without any hope that the love would be reciprocated. The idea of the star and the moth was mine, but the letter was signed "Lyuda Y." "Lyuda Y." wrote eight letters of the kind during the term. She was our star in this merry amateur performance, though some of the parts, not the main ones, of course, were played by Maya and me.

The bell for recess rings and Maya, jumping from her seat, runs to the professor's desk and stands there waiting for Vasili Voronov to collect his notes. He turns his head with a guarded look.

"Vasili Andreyevich," says Maya bashfully, "I must talk to you, but in private—we may be interrupted here."

The professor looks around like an animal brought to bay and hurriedly sticks his notes into his bag. Waiting a second, Maya says innocently:

"I want to speak to you about the discipline in our group. You know that I am monitor, don't you?"

Maya was indeed monitor of our group, and Vasili Voronov was, as bad luck would have it, the instructor in charge, so a conversation of the kind seemed quite natural. However, by that time the young professor had forgotten what it was to be natural. When explaining new material, he avoided looking at the desk where the three of us sat. He kept his eyes somewhere over our heads or on lanky Kolya Afanasyev, who sat right in front of him. This served no purpose at all, for Kolya was not the boy to be carried away by

Continued on page 63

* Vasya is the diminutive for Vasili.

CLOCKS



Pseudo-Moorish style. Portico roof covers the clockwork drum.



French desk clock, with replicas of Michelangelo's Day and Night.

Gold-plated bronze mantel clock is titled Cherub Leading the Night Away.





Ivory desk clock with bronze gold-plated vase. 18th century.

Marble and gold-plated bronze clock. French. 18th century.



Black and white marble and gold-plated bronze. 18th century.

Copper and gold-plated bronze clock. French. 19th century.





The Triumph of Amphithrite.
French. Early 19th century.

The West European clock collection in Leningrad's Hermitage Museum is considered one of the finest in the world. It was begun in the latter half of the eighteenth century, with Empress Catherine II as sponsor. In the two centuries since, the works of many master clockmakers, for the most part French, have been added.



Wood body faced with tortoise shell, copper and bone. Swiss.

Gold-plated bronze and cut-glass desk clock. Works are in roof.



"Education is everybody's concern, and that means concern for the teacher as well."



MODERN SCHOOL SYSTEM

Interview with Mikhail Prokofyev
USSR Minister of Education

Q: In his report to the Twenty-fourth Congress of the Communist Party of the Soviet Union, Leonid Brezhnev dealt at length with the problems of education. What do you think is the best kind of educational system?

A: Let me start with a statement by one of our most famous Russian scientists, chemist Dmitri Mendeleyev. At the beginning of the century he said: "This is what I consider to be the ideal solution of the problem of public education: a majestic system, created and directed by the state, beginning with primary schools and rising step by step to the institutes. The doors to knowledge are thrown wide open to all gifted persons."

Shortly earlier, a census taken in Russia had shown that four out of every five persons in the country were illiterate.

Now let me skip a little more than half a century, to the recent census. In 1970, out of the 241 million people in the Soviet Union, only a few tens of thousands were found to be illiterate. They were largely very old people; illiteracy was eliminated a long time ago in all the union republics. Your readers might be interested to know that one of the first decrees of the Soviet Government after the Great October Revolution, a decree signed by Lenin, was to end illiteracy. An Extraordinary Commission for the Elimination of Illiteracy and a society called Down with Illiteracy were formed. As a result of an enormous amount of work, written languages were created for more than 40 national minorities who had none.

We could spend a lot of time talking about the development of public education in the Soviet Union. I will only mention the





most important stages. Four years of schooling became compulsory in 1930, seven years in 1939, and eight years in 1958. Five years ago the Twenty-third CPSU Congress set the goal of universal, compulsory secondary education. The recent Twenty-fourth Congress reviewed the progress made and redefined the goal: In the current five-year period the transition is to be completed to a system of universal 10-year education.

Statistics published recently show that the educational level rose most quickly in those areas of the Soviet Union where it had been the lowest, primarily in the republics of Central Asia and the areas of the Far North. One instance: In Kirghizia, a Central Asian republic, only 56 out of every 1,000 workers had a full secondary or higher education in 1939. By 1970 the figure had risen to 643. Kirghizia is one of those republics that, before the Revolution, had no written language.

Q: More than 80 per cent of the students who complete an eight-year school now go on to take a full secondary course. Will you describe the different kinds of secondary school programs they can choose from?

A: Every girl and boy who completes an eight-year school has the following choices: to go on to the ninth and tenth grades of the general secondary school, or to go to a specialized secondary school or a vocational training school. The choice may depend on a number of things, including the family's financial position and the young person's desire to be financially independent as soon as possible. There are many other subjective factors. We must remember that we live in a fast-moving age, and our children mature two or three years earlier than we did. Our times, particularly our accelerated scientific and technical progress, make special demands on young people. For this reason we are increasing the number of vocational training schools that young people can leave, after three or four years of study, with a full secondary education and a skilled trade. By the end of the current five-year period these schools will have an annual enrollment of 400,000.

Q: About the primary schools. For a long time fourth graders were considered primary, first stage pupils. Now they suddenly find themselves in the second stage, since the primary school period has been cut to three years. Has this change justified itself?

A: Completely. Besides, this is only one small element in the total school reform program now being introduced to meet the demands of scientific and technical progress. The information explosion is changing old ideas and theories at an unprecedented rate. It affects not only the highest stages of learning, but the very rudiments, that is, what a pupil gets to learn in the primary school. This is why we have to revise the entire content of school education, eliminating dated material and considering what new material to include.

Eminent scientists, physicians and psychologists were consulted before the four-year primary program was reduced to three years. Projected courses of study were tested with several

thousand school groups, in various regions and climate zones of the country. The results were reassuring: The children had no problem learning the rudiments of mathematics and the elementary rules of grammar. Starting with grade four, they are taught by specialists in the various subjects, not by the same teacher as in the first three grades. I might add that our country is one of the few where specialists come into the educational process at such an early stage in the child's development.

New programs for each of the classes in the secondary schools have been developed. The main idea in all of them is not to cram the heads of children with a great deal of factual information, but to teach them the basic laws of development of the material world and of society from the modern point of view. A well-known Russian teacher, Konstantin Ushinsky, once said that a pupil is not a vessel that has to be filled but a torch that must be fed for the pupil's lifetime with the fuel of an active desire for knowledge. The task of the new school programs is to instill such a desire.

Q: At what stage is this revision of the school program?
A: We've accomplished a lot already. As of the current school year, our pupils have 55 new textbooks, and we're planning a total of 94. The teaching in our schools is done in 57 different languages, which means that we have to print new textbooks, including readers, in as many languages. So you see what an enormous amount of work is involved in school reform.

Q: Does this modernized system of education do more to reveal pupils' career inclinations?
A: To give the pupil a more informed choice of his vocation, we have created a network of special schools in which one or another subject is emphasized in the curriculum. We have experimental schools in which ninth and tenth grade pupils can study biology, chemistry or the humanities, whichever they are inclined to. Finally, we think special elective courses given in the senior grades will play an important part. These elective courses are very varied; they include music, singing, applied sciences, and so on.

Of course, the new system of education requires that the schools be adequately supplied with technical equipment. To meet this need, industry will start production in the new five-year period of more than a thousand different instruments, including aids for studying the phonetics of native and foreign languages. In the same period the state will build new, better equipped school buildings to accommodate six million pupils. Half of them will be in rural areas.

Q: From what you've told us, it's clear that the character of the classroom studies will change and this will present teachers with any number of new and complicated problems.
A: Yes, the problems won't be simple, but I'm sure that our 2.7 million teachers will solve them. This conviction is based on their high level of training, their enthusiasm and, finally, on our extensive system of advanced training and refresher courses. We have 172 institutes for upgrading teachers, and every district has an office that collects and distributes information on advanced pedagogical methods. In the schools the teachers in each subject form groups to hear lectures on the findings of science and technology, on psychology, methodology, and so on, and develop recommendations on teaching methods.

As for prospective teachers, their courses of study have also been changed so that they can start their careers equipped with modern approaches and methods. We have 205 pedagogical institutes and 411 pedagogical colleges.

Every year the budget for education is increased. In 1971, for instance, 5.4 billion rubles, 4.2 per cent more than in 1970, will be spent for this purpose. Education is everybody's concern, and that means concern for the teacher as well. Systematic efforts to improve teachers' living and working conditions—raising their salaries, for one thing—is a manifestation of this concern. There will be another wage rise in the new five-year plan period.

SCIENCE AND EDUCATION

TEACHING CHILDREN is much like sowing crops in spring to harvest in the fall. Every stage of the scientific and technological revolution poses new problems for education. The school must immediately prepare the ground for the next stride ahead, using all the learning acquired in the preceding period. Any inertia in the educational process slows down further progress.

This is especially important for Soviet society since for us the scientific and technological revolution is a tool to accelerate the approach to communism. Education, we believe, is one of the most important elements in the construction of a new society.

The Directives of the Ninth Five-Year Plan (1971-75), approved by the Twenty-fourth Congress of the Communist Party of the Soviet Union, require that by 1975 a high school education be compulsory in both urban and rural areas. We know that now only 30 per cent of our high school graduates go on to institutions of higher learning. We also know that universal secondary education will take large sums of money. Would it not be wiser then to hold off a while? Apparently not.

The technological equipment of the country's farms and factories keeps getting more complicated. It demands not only a large number of specialists with a higher education but large

The scientific and technological revolution affects every area of living, including production, consumption, perception of the surrounding world, recreation. Alexei Markushevich, Doctor of Physics and Mathematics and Vice President of the USSR Academy of Pedagogical Sciences, tells our correspondent Yuri Davydov how it influences the Soviet school.

numbers of skilled workers as well. The economy needs operators of various processes who understand the mechanism of these processes; adjusters of instruments, systems and machines who understand their complex structures; highly skilled workers for the industries related to microbiology, chemistry and radioelectronics. Secondary education is vital as a foundation for training skilled workers. Universal secondary education is now a necessity dictated by our economic and social development, in spite of the fact, I repeat, that it will take tremendous expenditures. In the past five-year period alone, we built new school facilities to accommodate 8.1 million pupils and as a result increased the number of secondary schools from 31,900 to 44,200.

Another problem set the Soviet school by the scientific and technological revolution is modernization of curriculums. This, in its turn, raises a number of other problems. The first concerns the balance of the humanities and natural sciences. For instance, some think that the schools should emphasize the humanities and leave the natural sciences for subsequent special education.

However, apart from purely educational functions, the schools play an important role in molding the character of the children and bringing them up as citizens of their country. They must be taught the history of human society, its present state of development, the laws and forces governing social movement. They must learn to appreciate and understand works of art. They must acquire a certain degree of social consciousness and ethics that reflects the society they live in, an understanding of their obligations to family, country and mankind as a whole. No question but that the humanities—literature, history, geography, esthetics, and so on—must be taught if we are to develop these values.

On the other hand, this is not sufficient to mold personality. Society today needs people who have both knowledge and know-how, people capable of creating material wealth.

In our time a person with a secondary education must have a general idea of the world as a whole, from the structure of the most minute particles to metagalaxies. He must know the fundamental forces of nature and the laws governing them; he must understand the language of mathematical formulas, curves and diagrams, which express the laws of nature and technology with the greatest precision. In the era of the scientific and technological revolution, material production depends to a considerable extent on the application of the findings of mathematics, physics, chemistry, biology, cybernetics, and the like. Secondary education must provide every pupil with the basic facts in these fields. He will need this knowledge for his future studies in any field, including the humanities.

In this way, while molding the personalities of our pupils, we must not only imbue in them a desire to improve the conditions of their own lives and the society in which they live, but also provide them with the means to implement this desire.

For this reason, both our curriculums and our school hours are divided evenly between the humanities and natural sciences. We believe that at present this is the best balance.

As a result of the rapid succession of technological discoveries that change our conception of the surrounding world, our knowledge often becomes obsolete, and this makes it necessary to review the curriculums and print new textbooks repeatedly. Naturally, all this creates additional difficulties. In the Soviet Union, textbooks are printed in millions of copies. Incidentally, they are sold much below cost. If all the texts were re-edited every year, it would require great effort and considerable outlays.

However, that is unnecessary since the schools teach the fundamentals of the sciences. In our time discoveries that lead to revolutionary changes in our existing concepts seem to occur at an average interval of five to ten years. Our curriculums and textbooks are revised at the same intervals. We are presently in a period of change; we have introduced new courses of study in biology, chemistry, astronomy and other sciences.

The flow of new information is so great that the question arises: Should the schools concentrate on giving pupils a maximum amount of knowledge or on developing their ability to think independently? Of course, this antithesis is not altogether valid. For one thing, one century differs from another in level of knowledge. Doing justice to his great predecessors, Newton once said that he was able to see more only because he stood on the shoulders of giants. Today, the number of giants on whose shoulders the future specialist must stand has grown immensely. But he will inevitably have to stand on them.

While acquiring knowledge in consecutive order, pupils not only receive a certain amount of information in a certain field, physics for instance, but also begin to comprehend the interrelationships between various phenomena and the deduction of laws. In other words, they learn to think independently.

At the same time, it must be remembered that thinking is most fruitful when the knowledge is applied to the solution of a problem.

Soviet teachers do their best to teach in such a way as to stimulate their pupils to do independent thinking. If a pupil "invents a bicycle" during his school years or proves a theorem that has been proved previously, this will only do him good. The important thing is to prevent him from making the "invention of bicycles" his occupation in the future. We aim to have the teacher, when he transmits his knowledge to his pupils, awaken their creative imagination by opening up mysterious, untrodden paths.

The most difficult problem posed by the scientific and technological revolution is to combine the process of transmitting knowledge with that of teaching independent thinking. We must get the optimum correlation of these two processes. And we must remember that in augmenting the pupil's knowledge, the teacher must stimulate his thinking rather than his memory.

The scientific and technological revolution has even changed the appearance of the schools. From their first years, children are surrounded by a variety of technological devices. They see educational films, study with the aid of television, use physical instruments, chemicals and machinery. To them the scientific and technological revolution is not an abstract notion that they will have to face in the future, but a part of their daily lives. They will find participation in this revolution less difficult than their parents. They will take less time to master it and push ahead with greater energy.

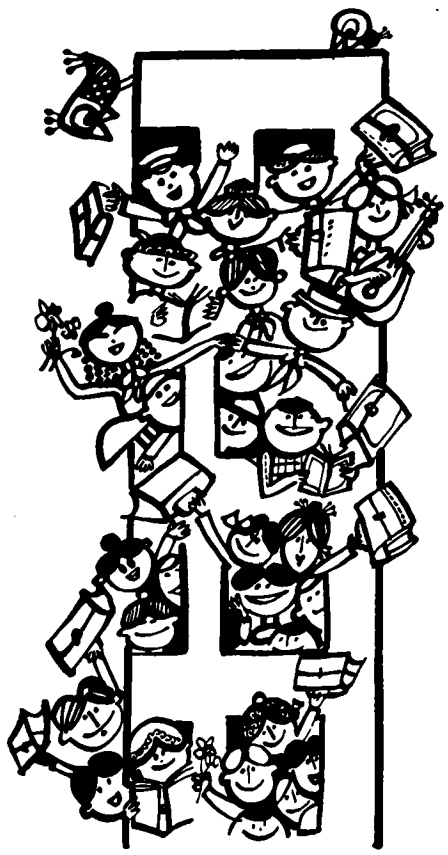


THE SOVIET SCHOOL
FACTS AND FIGURES

The Soviet Union today has 172,-200 general education schools attended by more than 45 million children, as well as 11,000 schools for young workers.

Nine million preschoolers are enrolled in the country's 75,000 nurseries and kindergartens.

The Soviet school is probably more international than any in the world. Classes are taught in 57 languages of the peoples of the USSR.



During the years of Soviet government, specialized secondary schools have graduated nearly 12 million skilled workers and technicians. About nine million people with a specialized secondary education work in industry, agriculture, education and other fields.

More than a million future teachers study at 205 institutes, 411 teachers training schools and 49 universities.

The title of Hero of Socialist Labor has been conferred on 77 teachers. More than 300,000 have been decorated with orders and medals, and 30,000 hold the title of Merited Teacher.

HIGH SCHOOL SENIORS

By ADA BASKINA

OUTSIDE THE CLASSROOM the first graders stood on tiptoe to get a look. The seventeen-year-olds pushed them aside without ceremony. A group of juniors watched without taking offense, because even the lanky ninth grader from Class 9A had to stay outside and eavesdrop. The door was open only to tenth graders as the graduating class at School No. 138 prepared to discuss their future. Thoughtful and dignified, they filed into the room. And they did indeed have something to think about. Final examination time was approaching. Then a diploma would be presented to each of them at the traditional ceremony. Next, the senior prom. And after that?

Career

Volodya Sokolov said:

"I intend to go to the Aviation Institute, the Department of Engines. If I fail the entrance exams, I'll take a job in a factory where they assemble engines. In the space age the country needs designers of high-power engines. Since I was a child, I've liked working with machines. My physics and math marks are excellent, and I've made up my mind."

Lyuba Volkova sighed: "I wish I were as sure as you. When I was a kid,I used to dream about the stage and screen. Then I decided to become a journalist. Technology doesn't attract me at all. I'd like to write."

"And what do you know about writing? Have you ever contributed anything to our wall newspaper?" The questions came from members of the audience.

"I haven't even tried," Lyuba admitted.

"Then why don't you become a ballet dancer?" someone asked ironically.

"There's nothing funny about that," Lena Khokhlova said, rising from her seat. "Lyuba isn't the only one who's not sure what career to choose. There are others who still don't know what they're interested in, whether to study technology, selling or garment-making."

"Whose fault is that?" Galya Medvedeva asked indignantly. "They should have thought about it before. I knew from the first grade that I wanted to be a kindergarten teacher. I love children. I have cousins who are much younger than me, and I like to play with them and answer their questions. Last year I worked with third grade pupils as a Young Pioneer leader. The children still come around to see me."

Galya obviously knew what she wanted, but I thought Lena was right too. Perhaps we adults were to blame for our children's uncertainty about their future trades and professions.

Technology or Art

Alyosha Seliverstov has also made his choice. He wants to be an actor. Alyosha has been a member of the school's drama circle for seven years and as a youngster helped out in the drama studio at the Young Pioneer Club.

He said:

"I'm often asked what my favorite roles are. I feel a little funny talking about it because I'm not an actor yet. Right now I'm enjoying the part of Seryozha Severtsev in Vaniamin Kaverin's *The School Prom.* Severtsev is a student the same age as me, and I want the audience to see him as a young person of today: intelligent, energetic, well organized, at the same time kind and with a good sense of humor."

"That's rubbish," Sasha Ozimkov said, cooling his friend's enthusiasm. "I can understand a girl wanting to go in for that kind of thing, but not a boy. We're supposed to be the strong sex. Our job should be something serious—technology, for instance."

Ira Ushakova disagreed:

"Why should boys be the only ones to go in for serious things? Do you know that every third engineer in the Soviet Union is a woman?"

"Why do you think that only technology is serious?" Alyosha asked in self-defense. "After all, art gives pleasure to everyone. No machine can offer the enjoyment you get from good music, poetry, painting. How can you possibly live without these things?"

"We all like to relax, to amuse ourselves," said Seryozha Tyrishkin. "After working with formulas, instruments and machine tools, we serious people get a lot of pleasure out of listening to music and poetry."

"What do you think art is, clowning?" asked Marik Olshansky, red with indignation. "Only bad art amuses people. Real art enriches your soul."

"My soul?" Seryozha teased him. "But I'm an atheist."

"You mean to say an atheist doesn't have emotions? What will teach you to feel deeply, what will give you ethical ideals, if not art?"

"All right! I'm prepared to accept more than amusement. Let art enrich my soul. But these things are incidental, no great loss to scientific and technological progress."

"On the contrary, they'd be a considerable loss. It's precisely art that confronts humanity with the problems that are later solved by science and technology. Science can develop only if there is ex-

On Teachers Day, the first Sunday in October, the whole country honors its more than 2.7 million educators.

Questions of education are widely discussed by the Soviet public. The trade unions, Young Communist League and other public organizations participate actively in the work of the schools.



change of information—newspapers, magazines, TV, movies."

"What about fairy tales?" Lyuba recalled. "First there were flying carpets and now there are spaceships."

"Fairy tales!" said someone scornfully. "Millenniums passed between the first dream about a flying carpet and the first real airplane. If it takes your art so many years to affect life . . ."

"What do you mean 'so many years?'" demanded Seryozha Korniyenko, who had been silent till then. "Take science fiction, for instance. It stirs the minds of inventors in much less time. And there have been cases when art affected life and fought battles in the direct sense of the word. My father used to tell me that during the war the best artists, musicians and poets performed for the soldiers. They gave tired men the strength to fight new battles and rout the enemy. This means that art is both powerful and serious."

Extracurricular Activity

Despite their full program, many seniors are active in the Young Communist League. One is editor of the wall newspaper, another is sports organizer, and still another a Young Pioneer leader. A tenth grader also is responsible for planting trees and shrubs in the schoolyard.

"But we really don't have time for extracurricular activities, we have so much homework to do," one girl complained.

Vera Vavilova responded with a laugh: "It takes more than homework to make a human being out of you. I've been school YCL secretary for more than two years now. You know how much time that takes, but I think it's well worth it."

"You're a born leader, Verochka," Alyosha remarked gaily. "You're the soul of our collective."

"You're wrong there," Vera objected. "I'm not at all sure that I'm a born leader. I have a temper, I don't always control myself. My family thinks I'm self-willed and stubborn."

There was a murmur in the classroom. The boys and girls were obviously surprised to hear this self-criticism. They knew a different Vera.

"You don't know that side of me," the girl continued. "That's because I try so hard to control myself. When you're in the spotlight, you have to be careful to keep your comrades' respect. If you work with people, you should be conscious of their problems, not indifferent. My YCL work has taught me that."

Someone else said:

"I like extracurricular activities because I enjoy being with other students. I like the feeling that I'm not alone, that I'm part of a team. I think it's characteristic of man today to want to be part of a collective."

"Modern man is an intellectual," Alyosha objected. "It's more natural for him to want solitude."

"There's no contradiction there," Vera said. "Naturally you want to be alone with your books, your thoughts and impressions. But a time comes when the intellectual wants to share his spiritual wealth with others. Who will you share it with, if not your comrades?"

"But we'll soon be leaving each other," Alyosha said sadly.

"There will always be other people around. . . ."

The bells had stopped ringing long ago. The first graders had gone home. The lanky boy from class 9A who had listened at the door had left, too. It was getting dark, but the discussion went on. These upcoming graduates were arguing the real values of life, its purpose, their place in it—matters that they would now have to decide on their own.


Рабочая газета
Рабочая Украина
Рабочая газета
Рабочая Литва
Рабочая Латвия
Рабочая Эстония
Рабочая Молдавия
Рабочая Киргизия
Рабочая Грузия
Рабочая Армения
Рабочая Таджикистан
Рабочая Туркмения
Рабочая Узбекистан
Рабочая Казахстан
Рабочая Азербайджан
Рабочая Белоруссия
Рабочая Якутия
Рабочая Карелия
Рабочая Коми
Рабочая Удмуртия
Рабочая Мордовия
Рабочая Чувашия
Рабочая Марий Эл
Рабочая Татария
Рабочая Башкирия
Рабочая Дагестан
Рабочая Северная Осетия
Рабочая Кабардино-Балкария
Рабочая Карачаево-Черкесия
Рабочая Адыгея
Рабочая Ингушетия
Рабочая Чечня
Рабочая Калмыкия
Рабочая Тува
Рабочая Хакасия
Рабочая Алтай
Рабочая Бурятия
Рабочая Забайкалье
Рабочая Приморье
Рабочая Хабаровск
Рабочая Амур
Рабочая Сахалин
Рабочая Камчатка
Рабочая Магадан
Рабочая Чукотка
Рабочая Ямало-Ненецкий округ
Рабочая Ханты-Мансийский округ
Рабочая Чукотский округ
Рабочая Ненецкий округ
Рабочая Эвенкийский округ
Рабочая Таймырский округ
Рабочая Корякский округ
Рабочая Усть-Ордынский округ
Рабочая Агинский округ
Рабочая Коми-Пермяцкий округ
Рабочая Ханты-Мансийский округ
Рабочая Ямало-Ненецкий



GRANDFATHER FROST AND SUMMER

By G. and V. Karavayev



Every year Grandfather Frost would come to the city and bring presents for the children. But once he learned that Summer also came to the city and wondered: "What does it look like?" Grandfather Frost even had a dream. He dreamed that everybody was laughing at him. "How silly you are, you don't know what Summer is." He couldn't stand it any longer and said to his friends: "I'd better go there and have a



look at Summer. I just can't wait." And he went to the city. There the sun was shining and it was very warm—so warm that Grandfather Frost felt faint. A whole crowd gathered round him. Of course, the children came running too and recognized him immediately. "Here's Grandfather Frost," they yelled. Soon an ambulance came. "I'm so hot," Grandfather Frost complained. "I wanted to see Summer but I can't see a thing!" "Our patient is getting thinner and thinner right in front of our eyes," the doctor said. "We must send him north."



Grandfather Frost sat in the middle of the street, his beard dripping and clouds of steam rising above him. The children were terribly worried, and they started to cry. "Will our dear Grandfather Frost never see Summer?" But then one little boy had an idea: "I know how to help him. We must give him our ice cream!" "You're right, you're right!" the children shouted. Grandfather Frost ate the ice cream and felt much better. The children helped him get into the ice cream cart so that he wouldn't keep on melting. Then they hitched the cart to their



bus and went to the summer kindergarten. Grandfather Frost spent the whole summer with the children at their kindergarten. He went with them to the woods and kept asking endless questions: "What is it? What a miracle!" Once Grandfather Frost covered a little green animal with his hat. But suddenly the hat started jumping away from him. He ran after it and could hardly catch it. The little frog almost burst its sides laughing. Grandfather Frost laughed right along with him. Once Grandfather Frost started chasing a butterfly. When he



covered it with his net it turned out to be not a butterfly, but a hair bow that belonged to one of the girls. Grandfather Frost was terribly upset. But the little girl gave him some ripe strawberries, and in a moment he was happy again. Once, while playing hide-and-seek, Grandfather Frost peeked into the hollow of a tree. Suddenly a crow jumped out and started croaking: "Summer is over! It's time for you to go home,



Grandfather, and start getting ready for the New Year party!" When the children said good-by to Grandfather Frost, they showered him with presents. "Thank you, dear children! You helped me see Summer. I'm the happiest grandfather in the world." High above the trees a basket flew into sight, carried along by balloons of many colors. Grandfather Frost climbed into the basket and flew to the North Pole. The children were sorry to see him go, but they knew that he would come again to bring them their New Year presents.



AS THEY SAW IT

To cover as diversified, exciting and colorful an event as the Seventh International Film Festival in Moscow this year was a thrilling challenge indeed. So many things happening at the same time! Close to 70 countries were represented, and almost 500 competitive entries and out-of-competition films were viewed by an audience of two million in a two-week period! Adult and children's full-length feature films, shorts and documentaries were scrutinized by juries and the general public. The Fourth International Technical Competition of Feature Films was held simultaneously. The International Federation of the Cinema Press and other international and Soviet bodies with juries of their own selected winners of their choice and also awarded prizes at the close of the festival. Artistic debates were held and an international film market opened for those with commercial interests, which arranged film exchanges of every kind. Over a thousand official delegates and guests and scores of thousands of tourists from foreign lands and all parts of the Soviet Union formed one film-conscious throng sweeping the city. So instead of an art review, we offer the reader a jumble of flashback interviews with seven U.S. film personalities as recorded at the time by SOVIET LIFE reporter Maya Gordeyeva.



"Bridge-building Purposes"

Marc M. Spiegel (Motion Picture Export Association of America): The association I represent has as members such well-known U.S. major film companies as Columbia, MGM and Paramount, and even though the U.S. Government is not officially participating in the festival, six of our member companies sent over a total of 21 films.

Maya Gordeyeva: How does this festival compare with earlier ones?
Mr. Spiegel: There are many more participants this time. I feel it has gotten a little top-heavy with people. Also there are many more films. But for me that is what the festival is all about. It is unfortunate that it happens only once every two years. I would like to see it go on a year-to-year basis.

Gordeyeva: Is Sovexportfilm buying your pictures?
Mr. Spiegel: We have sold some already.
Gordeyeva: And how were they selected?
Mr. Spiegel: On the basis of artistic or entertainment value, but usually it is a cross section of general production values. Some of those bought were *Funny Girl, Romeo and Juliet,* Stanley Kramer's *Bless the Beasts and Children,* Sidney Pollack's *They Shoot Horses, Don't They?* and others. Columbia has just signed an important contract with Sovexportfilm for the sale and distribution of Soviet films.

Gordeyeva: Were there many Americans at the festival?
Mr. Spiegel: Three of our companies had a very good representation of top-level directors from Columbia, Twentieth Century Fox, MGM. Film stars per se are really a thing of the past. What counts today is the director and the story. Today a film is sometimes made with completely unknown people who suddenly become stars. I was very happy to see that we did have four great U.S. directors here, and that is what counts. There were, I think, altogether 150 U.S. film people here.

Gordeyeva: Can you comment on U.S. films shown at the Palace of Congresses, the main festival hall, and on the U.S. directors who attended?
Mr. Spiegel: Stanley Kramer's film is outstanding—it had an enormous success. Sidney Pollack's film was also very well received. Hall Bartlett is in an entirely different league. He is an independent director who should be encouraged by all means. His *The Sandpit Generals* is a very interesting picture. Another great success for a U.S. film is *Little Big Man,* the Arthur Penn film, which got a big hand at the Palace. But David L. Wolper's science fiction picture *The Hellstrom Chronicle,* I think, got the biggest applause when it was shown at the Dom Kino (Cinema House). It was directed by Walon Green, a young, very dynamic director. It was interrupted by applause about 15 times, I think, and at the end there was sustained applause for about 10 minutes. Rouben Mamoulian, of course, is one of our deans of directors, and he was also a guest of the festival.

Gordeyeva: What were some of the Soviet films purchased during the festival?
Mr. Spiegel: Columbia, for example, is distributing Yuri Ozerov's *Liberation.* [It had its world première August 26 in Rio and is now being shown in the United States—Ed.]

Gordeyeva: Do you think the festival has contributed to U.S.-Soviet relations?
Mr. Spiegel: The more films shown during a festival to the people of Moscow, the better it will be for mutual understanding and bridge-building purposes.



"To Bring So Many People Together"

Rouben Mamoulian (veteran Hollywood director): I've seen very many festivals, but I think the main virtue here was to bring so many people together. When you have people from 70 countries and they all behave like your brothers and there is mutual understanding —I wish countries would behave the same way to each other.

Gordeyeva: How were the festival films?
Mr. Mamoulian: I liked some very much, some didn't come up to standard. But I realize that the host country could not select—each country chooses its own film, and you have to show it whether you like it or not. I was greatly impressed by the Japanese film *Dodeska-Den* by Kurosawa. And I enjoyed the Soviet picture *The Beginning.* It was beautifully directed, beautifully acted, and I think the girl star is charming, with the grace of an artist. It is a film that will be enjoyed in America. And Ozerov's war film *Liberation* is a tremendous job—he has recorded all of World War II so completely that in the future, instead of books, they will most probably be studying this film. Another charming Soviet film is Rostotsky's *Live Until Monday.*



"An Almost Indescribable Experience"

Sidney Pollack (producer-director of *They Shoot Horses, Don't They?* shown out of competition): It's been an almost indescribable experience. . . . I've been to many festivals before but never to one quite like this. It's been thrilling in several ways. First, to have had the picture as well received as it was. Secondly, just to be in Russia. As my colleague Rouben Mamoulian pointed out—and I completely agree with him—we came here partly because we were excited and interested in having the Russian people see our films. It was a marvelous thrill to have the picture run at the Kremlin Palace with 6,000 people in the audience and all of the ceremony connected with it. The audience seemed to understand the picture well and to like it very much, judging by the applause and the reaction to it.

Gordeyeva: Did you also get a chance to absorb a bit of Russian culture and verify your impressions through personal contact?
Mr. Pollack: I think the Russian people in art, the same as in everything else, are quite serious. This does not mean they lack a sense of humor, but that they take their art very much to heart, and the questions they ask make you think very deeply. They are always stimulating, and this makes you grow. The interviews that I've had with the press, for example, have also been of a deeper nature than the usual thing. I was asked more complex and complicated questions, and we've had a good exchange of views in many areas with the artists. What I found most encouraging and interesting, however, more even than the artistic question, was that when you get right down to it, people are really essentially the same everywhere.

I was privileged to go to the homes of many people I've known about for years and not had the opportunity to meet before—Alexander Zarkhi and Ozerov and Bondarchuk. These are Russian directors we respect enormously in the United States for their films. This visit has been very stimulating for me and my wife, and it started all sorts of wheels turning in our heads. I'm having pipe dreams now about learning Russian, coming back and really being able to speak the language. We've never been treated so warmly and so cordially. It's been a very pleasant trip.



"Perhaps the Most Interesting One of All"

Hall Bartlett (director-writer-producer of *The Sandpit Generals):* Of the many film festivals I've attended, this is perhaps the most interesting one of all because it is completely different. The Moscow festival has a much more dedicated audience than the usual film festival event. I saw a lot of films that I did not like, but also many that I did. I'd say three-quarters of them had a very serious purpose related to man's dignity and freedom. At the usual film festival you find many more comedies, murder stories, just screen exercises and pure entertainment. Nor is there the customary collection of young stars and glamour that I call movie magazine phoney glamour.

Gordeyeva: I understand you were in a unique situation here, with the only American adult feature film in competition?
Mr. Bartlett: That's right. The film's première in the Kremlin Palace of Congresses was, in fact, its first release. It wasn't shown anywhere else before. It received the one special award of the festival officials themselves "For Outstanding Film Accomplishment," which I was very happy to get.

Gordeyeva: What did you think of the Russian audience?
Mr. Bartlett: I think I've never seen a film audience like this one anywhere in the world. Even when I was just introduced to the audience in the previewing part of the ceremony I could feel their seriousness and tremendous interest. They are, I might say, the man in the street in Russia.

Gordeyeva: How do you account for that?
Mr. Bartlett: I've talked to many Russians about this, and I believe the reason is that no country of similar size in the world has so many people going to the movies. I was told by a festival official that every day 13 million people see films in Russia. This is incredible compared with the United States, you know. In the Soviet Union it is the biggest form of entertainment. I believe Lenin pointed out that for Russia the cinema is an important art form because of its great educational potential and its ability to reach tremendous numbers of people. Lenin's statement that we should bring art to the people and the people to art is not forgotten today. I have also noticed that if a picture does not measure up to the standard and is not entertaining, the audience doesn't yell at the screen as they do in some countries—they just get up and walk out. This to me is striking because it relates so closely to what I believe in.



"We Learn from One Another"

Paul Mann (film and theater actor, professor of acting at the University of Wisconsin): A dominant influence in my training and social outlook were the early Pudovkin and Eisenstein films, the Gorky trilogy, *Lenin in October, Chapayev* and *Mother.* I have seen practically every Soviet film shown in the United States from the time I began to study —and that was in 1932. What bothers me is that there are less and less Soviet films being shown in America today.

Gordeyeva: Now that you've seen a sampling of new Soviet films at the festival, which pictures do you think Americans would like to see?
Mr. Mann: I know that the young people would definitely want to see *Uncle Vanya* and *Three Sisters,* based on the Chekhov plays, and *Hamlet* and *King Lear.* Also the screen version of Dostoyevsky's *Crime and Punishment* and Tolstoy's *Anna Karenina.* How can you not be interested in such a film as *King Lear,* for example? I think *The Beginning* is a refreshing film; there's something very simple and direct about it. The plot—making a star—is one used many times in Hollywood. We sat and discussed it, but Hollywood wouldn't have done it that way. I think it will be a very popular film when it is shown to the world.

Another film that impressed me was *The Battle of Berlin.* We know the sacrifices the Soviet Union made, but that number, 20 million lives lost in the war, is a staggering figure. I think most Americans are to this day ignorant of the role of the Soviet Union in World War II. There is a generation that has grown up without any knowledge of World War II, except as taught in a history class. The loss of one person is a terrible loss. To lose 20 million is a number that is not in the American consciousness. World War II is part of the painful experience suffered by the peoples of the Soviet Union, particularly its Western section, and the people of the U.S. are not really aware of it. The fact that there were so many films dealing with war at the festival is as it should be, for World War II and its aftermath are still in the traumatic consciousness of people today. It is being worked out, resolved and clarified to this day, a necessity which still exists, and it must be done in the deepest and truest way.

Gordeyeva: What in your opinion was the major value of this festival?
Mr. Mann: I believe festivals of this kind provide cinema people of different countries with an opportunity to learn from one another. We all know that films can be the greatest educational force in the world. The question is: In what direction do these films lead people? Films themselves do not create peace. People have to create peace, but films can make a significant contribution in this direction. Honest and artistic films can arouse audience consciousness to the festival slogan "For Humanism in Cinema Art, For Peace and Friendship Among Nations.

Gordeyeva: What festival films did you like most?
Mr. Mann: Two of the films I like most and which do, in fact, partake of the slogan and deal with brotherhood are the moving Italian film *Sacco and Vanzetti* and the Swedish pic-

ture *Joe Hill.* It was very distressing to me that it was not the United States but other countries that made those pictures; our own film makers so frequently deal with tender little problems that are interpreted as being oh so profound.

Gordeyeva: What do you think of the training of actors in this country?
Mr. Mann: As an actor and teacher of actors I believe in the Stanislavsky method. This has brought the social and moral values of Russian life very close to me. In the sense of relationship to art, being here feels like a homecoming rather than something new. The training you give actors is no doubt the finest in the world. Young actors here have opportunities that do not exist anywhere else in the world. A great many actors, from 50 to 70 per cent in England and America, are permanently unemployed, training is terribly expensive and there are very few really fine theater schools. It is still almost an ideological struggle to make a different attitude prevalent so that actors are regarded, as they are here, as people of worth and dignity, rather than an attitude of respect only for the wealthy, the successful, the hot, achieved actor of the moment. Your actors are spoiled by the unawareness of the privileges they enjoy. They don't really understand how easy it has been made for them to do their creative work. Their training is taken care of, it is free and, once they are developed, they know they will work because in Moscow alone you have about 35 full repertory theaters. I share the prevailing view here that all art must be educational and elevating and that there has to be an element of entertainment in it which holds the audience.



"Their Problems Are Complex"

Ruby Dee (film, theater and TV actress): Before being invited to be on the children's film jury here, I hadn't really thought an awful lot about children's films although I had judged a great many, done some English for foreign films, mostly cartoons, and edited an anthology of poetry for children. Although I do concerts for children at home, I hadn't really thought deeply about children's films until this particular trip. Now a whole area of my life and work has fallen into a kind of perspective. I've already started on an idea for a TV series for young people, but shall now take a whole new look at it after seeing so many films from all over the world directed toward children. It's marvelous to be able to see what's the best generally from so many lands; 26 countries took part in the children's festival.

Gordeyeva: What children's films in competition did you like?
Miss Dee: There was one made in Britain directed to third-world children. It came from a really deprived area and was a delightful story about a small boy who stole, worked, plotted and schemed to buy a bicycle he longed for, but then he comes out of the store with a baby carriage instead; his mother is pregnant and they are very poor. It was all very touching. There were also two or three films about the role children played in the resistance against the Nazis, one was a Soviet film called *Polonaise of Oginsky.* We were tremendously impressed with them all. Activities of children during the resistance is a whole area that never really came to my mind. I began to translate that word in terms of other kinds of resistance beside the one of the outside enemy in one's homeland. There's a kind of resistance children must put up in terms of the quality of their lives, which I think is beginning to happen at home. I began to focus sharply on the millions of children in the United States —white and black and the third-world children. I think children in America are far more sophisticated, far more disillusioned, than children, say, in the Soviet Union, where they are tended and adored and absolutely adulated. They don't have some of the terrible problems children face in America. I don't think of anyone above the age of nine as a child in America. Our children grow up too fast and their problems are too complex. It's because of the times and the society they live in. I think they lack the kind of innocence you find in children here. I don't know whether the kids at home would respond to the tender little problems projected in many of the films we have seen, because in the United States we talk about the narcotics addiction of children, poverty among them and the racism we are embroiled in.

There was also a penetrating study of a different kind of tragedy in a child's life. It was a Polish film called *Your Brother Abel,* about a young boy who died because he could not stand the rough treatment of his classmates. I thought it was more a film for teachers and parents, but the children voted it first prize, surprisingly, in their children's jury, which worked separately from us. So, in a sense, I suppose children are far more aware and ready for what we call grownup complications. This is, perhaps, due to the fact that in terms of the development of the human personality, children have always so much further to go than their parents.

A film I enjoyed very much was produced in the Federal Republic of Germany. It was called *Children's Olympic Games* and showed through children's drawings the involvement of all races and people in the Olympiad. There were also films for children dealing with such abstract subjects as time and life and so on. I had never seen such films before.

Gordeyeva: Can you comment on some of the winners in the competition?
Miss Dee: Well, we voted first prize to a Soviet film about a little boy's love for a turtle and children's cruelty to animals. The boy goes to extremes. He leaves the hospital, desperately tries to get a corps of the tank brigade not to run over the turtle, which has strayed into the area. His friends attempt to determine just how much the turtle can take—can it hold up a tank? And the boy comes along just in time to save it. He diverts the tanks so that they don't crush the turtle—from which the film gets its name: *Attention! Turtle.* It shows the war machine giving way to the turtle.

Gordeyeva: I understand there was also a U.S. children's prize-winning film, wasn't there?
Miss Dee: Yes, the American film *Tender Warrior* got a very good hand—it was extremely funny and the children loved it. It concerned a boy saving animals trapped to be killed—a kind of ecological lesson. He was in a tug of war with a bigger boy setting the traps. The bigger boy's father was bootlegging whisky on a farm still, which gets burned up in the process. With all the animals and snakes in it, it was funny, real and touching. So, in a sense, both the Soviet and American films were related to the subject of inspiring love for animals.

Gordeyeva: You mentioned a children's jury. Did it help you in your work?
Miss Dee: It was interesting to have a jury of children to judge the films themselves in a competition of this kind. But one of the questions I asked our chairman when we started was whether we should be governed by what we think children will like, or should we be governed by what we think we want our children to be exposed to? And he said the latter, because what children see, after all, is the responsibility of film makers.

Gordeyeva: What are some of your impressions over and beyond the film festival?
Miss Dee: I was impressed with a lot of things in the Soviet Union, for example—with the fact that people don't have to worry about their old age; if you're sick, you don't need money to have a doctor or go to a hospital. That there is no such things as unemployment; everybody's got a job. There's no Mafia here, no underworld, no dope, no beggars and no bums on the street corners and nobody who's hungry. I can't discuss the politics of this because I don't really know much about it, but I'm impressed with these facts of human existence. I wonder sometimes, if you have all these things, then what is it you strive for? Perhaps it is for greater spiritual values, greater strength in that direction. The important thing for me is that nobody has to cry that he's hungry and nobody has to die because he's sick and doesn't have money. That is crucial for me today. It's beautiful to know it is possible to live with that minimum basis of human security and that it can be taken for granted like air.



"The Most Representative in the World"

Albert Johnson (program director of the San Francisco film festival): This is my second Moscow film festival. It is the most international, the most representative in the world, including such small countries as Kuwait, Lebanon, Chad and Senegal, so you get a very international flavor here, and the press bar of the festival manages to bring everybody together—it is the microcosm of the world.

Gordeyeva: Would you like to show some Soviet films in the States?
Mr. Johnson: I would first of all like to show Soviet films at universities—a collection of perhaps eight films to give our students some idea of what is happening in contemporary Soviet cinema. Most Soviet films are not distributed widely in America, but on the campuses I think it would be possible.

Gordeyeva: Did you find Moscow interesting?
Mr. Johnson: In the American eye Moscow has always been one of the most glamorous cities in the world, also one of the most mysterious—and it is so terribly far away. To be able to be here is more thrilling than to be in London or Paris. It is really something special to be here. I find the language problem isn't such a barrier after all—many people here speak English or French. I am able to converse with them, and they are willing to act as interpreters if necessary. And I have made many friends here. The festival people make it easy for me to meet people and talk to them. I've been invited to a few Russian homes for lunch and tea—they're very generous. I feel very much at home here.

AROUND the COUNTRY



TALL CHIMNEYS

Soviet engineers are working on projects for supertall chimney stacks that will give cities better protection against industrial pollution. A 1,050-foot stack has been designed for the Donbas town of Uglegorsk in the Ukraine. Similar structures are to go up near Moscow, in the Baltic republics and the Urals. Authorities say these chimneys can reduce ash and dust concentration near the Earth's surface to a thousandth of their present level. Designers are working on structures that will boost the smoke right into the upper layers of the atmosphere.

CLIMATE FACTOR

Leningrad scientists have established another factor that affects climate: periodic changes in the speed of rotation of the Earth around its axis. After studying several centuries of astronomical observations and a mass of information on ice conditions in the Northern waters, the researchers concluded that when the speed of rotation is high, the warmth of the Gulf Stream currents increases. The icecap begins to recede from the shores of the European part of the arctic, and this mellows the climate.

The forces of rotation, according to the scientists, affect the circulation of the atmosphere, the level of the world ocean and hence the character of the prevailing currents. They believe that observations made by the astronomical time service could help long-term weather forecasting.

ANCIENT BOOKS

An exhibition of old Russian handwritten and printed books has been mounted in Novgorod's Cathedral of St. Sophia. Among the items on display are Peter the Great's letters to his son, Czarevich Alexei; a Slavic grammar compiled in 1723 by Maxim Polikarpov, who taught at the Brothers Likhudov's Slavic-Greek school in Novgorod, and a very ancient letters patent from Grand Duke Mstislav Vladimirovich of Novgorod to the Yuryev Monastery printed on parchment. The ink for the latter was made of gold dissolved in glue.

SHIPS FOR EXPORT

The Baltiisky Shipyards recently launched an ocean-going ore carrier named *Figaro*. It is the fourth motorship of the so-called opera series, built under contract for the Swedish Valleninus Rederier. Its three sister ships, *Rigoletto*, *La Traviata* and *Madame Butterfly*, are already plying the seas under Swedish colors. Similar vessels with a dead weight capacity of 41,800 tons have been delivered to Norwegian and West German firms.

The *Basra*, a dry-cargo motorship with a displacement of 20,240 tons, built at the Kherson Shipyards in the Ukraine, has put to sea for performance trials. It is equipped with the most modern navigation instruments and loading equipment. This is the Kherson Shipyards' second motorship for Iraq.

Motorships with a dead weight capacity of 14,960 and 18,425 tons have been delivered to Britain, Norway, Kuwait and Pakistan, and large-capacity tankers have been built for Algeria and Cuba.

Soviet shipyards are at present building large-capacity dry-cargo and refrigerator ships and oil carriers under contract for foreign firms.

CORAL CHRONICLERS

Some paleontologists specialize in fossil corals—prehistoric multicellular organisms dating back some 700 million years. These coral skeletons are apparently chroniclers of our planet: Their outer structure clearly registers diurnal fluctuations, with daytime and nighttime growth lines differing. They confirm the calculations of astronomers that the length of the year 350-400 million years ago was not 365-366 days as now, but 420! The corals registered the change in the speed of the Earth's rotation, which has been determined with mathematical precision; the length of the solar day increases by one second every 50,000 years.

GLASS ELECTRODES

Millions of instruments are used in the chemical industry to determine the oxidizing potential of the liquid medium. Their voltaic couple until recently consisted of gold and platinum electrodes. After a lengthy quest Leningrad University chemists replaced these with glass electrodes, which permit high-precision control of production processes. The first experimental batch has been successfully tested.



ROCK PROBES

The Institute of Hydrogeology and Geological Engineering has designed a mobile station for determining the physical and mechanical properties of rock, thus enabling geologists to get along without drilling wells.

The new method is a simple one. The station's probe, made up of miniature sensors, is inserted into the ground to a depth of 100 feet. Its electric and radiometric impulses are fed to a mobile laboratory. Here special instruments draw diagrams of the soil's density and humidity and the level of the subterranean waters on paper tape. The efficiency of such an installation is 10 times that achieved through conventional laboratory methods.

MEDIEVAL WINERY

School teacher Alexei Pechersky, a member of the geographic society of the Kazakh Academy of Sciences, discovered the remains of an ancient winery —eight ceramic vessels fixed in the ground—in a quarry of the Dzhambul Brickyard. Seven of the vessels could hold 185 gallons each, and the eighth 425. The winery is 750 years old.

22,000 CLUBS

A new trade union palace of culture has been opened in Khabarovsk in the Soviet Far East. The city's residents go there to relax, hear a lecture, see a film or watch a performance by amateur or professional actors.

The auditorium seats 800 and boasts a mechanized stage. The palace also has a large hall for lectures, exhibitions, dances and banquets, and a gymnasium.

It houses more than 500 different amateur groups including song and dance ensembles, as well as a people's university and a lecture bureau.

Soviet trade unions own a total of 22,000 clubhouses and palaces of culture.

KARAKUL COLORS

Karakul comes in five basic shades: black, gray, brown, pink, and sur, or varicolored. Until recently Bukhara sheep produced only golden and silvery sur. Scientists of the USSR Research Institute of Livestock Breeding in Moscow have developed four completely new tints: platinum—ivory on a coffee-colored base; bronze—bronze-tipped pelts on a dark brown base; amber—amber-tipped on a brown base; and anthracite—steel gray tips on a jet black base reminiscent of the glitter of anthracite coal.

The institute is now working on gray karakul, trying to give it a pearly tint.

TV TOWER

The tower of the Kiev TV station is being added to in an unusual way: in 26-foot sections from the top down. All the basic work is done on the ground; assembly, welding and hoisting proceed in all kinds of weather. The station is one of 47 in the country now being rebuilt.

GAS STORAGE

Operations are under way in the vicinity of Lvov, Western Ukraine, to set up underground gas storage facilities with a capacity of several billion cubic feet. The fuel will be pumped into the spent seams of local gas deposits. One of these, the Ugersk Seam, has already stored away several hundred million cubic feet of gas.



110-YEAR-OLD DANCER

The mountain village of Atar in the Abkhazian Autonomous Republic, Georgia, gave a party to mark the 110th birthday of Selakh Butba. Members of the Folk Song and Dance Ensemble of Senior Citizens arrived to congratulate Butba, who is one of the ensemble soloists. True to his motto, "young till a ripe old age," the guest of honor celebrated by outdancing many of the guests a quarter his age.



TAMED LYNX

The Central Popular Science Film Studios have released *Unselfish Love*. The film is about a Siberian woodman who found a baby lynx in the forest and brought it up. The wild animal not only became completely domesticated but proved itself a devoted friend.

Many trainers and zoologists claim that the lynx cannot be tamed. The film proves otherwise.

Every sequence is real, shot on location under natural conditions; there are no combination shots or tricks of montage. The man and the animal understand each other and get along perfectly.

SINGING BELLS

The tower of the Historical Museum in Kaunas, Lithuania, houses a 35-bell carillon. For 20 years well-known Lithuanian composer and bell player Viktoras Kupriavicius has climbed the tower stairs to play this set of bells, which he fitted with a control panel of his own design resembling an organ console. Kupriavičius plays both solo and with his son. Their repertoire includes some 400 folk melodies, fragments from classical operas and symphonies, and works by contemporary Soviet and foreign composers.

Kupriavičius recently gave his 1200th concert, at which he performed one of his new compositions.

The chiming bells annually draw over 100,000 Kaunas residents and guests.

ONAGER HERD

The onager, a rare wild ass, has become acclimated on the desert island of Barsa-Kelmes in the Aral Sea, Central Asia. This animal formerly lived in the desert plains and hills of Central and West Asia. It was almost completely extinct. Several onagers were brought to the island from Turkmenia in 1953, and the herd today numbers 80.

Besides the onagers, giraffes, Central Asian gazelles, hares, marmots and green toads live on the island, one of the Soviet Union's 89 state preserves.



GIANT PEARS

The 200-year-old pear trees in the Pamir village of Chkhokh, Tajikistan, bear large and tasty fruit that can be stored for long periods. These rare trees grow as high as a multistory house.

Scientists have singled out and described more than 10 varieties of pear in the Pamirs. Outstanding among them is the kayon, with fruit that weighs up to a pound and a half. This weight is made possible by the alpine tree's polyploid nature and its large size.

The Khorog Botanical Garden, situated 6,560 feet above sea level, is making a study of rare fruit crops in the Pamir region.

YOUNG COSMONAUTS

More than 13,000 boys and girls are members of the numerous hobby groups at the Moscow Young Pioneer Palace. But none of the groups compare in popularity with the pilot-cosmonaut club, which has some 200 members.

Here the youngsters train like genuine cosmonauts, on centrifugal and zero-gravity simulators and gymnastic wheels, and even make parachute jumps. In addition, they study the fundamentals of space and aviation engineering, astronomy and aerodynamics.

ULTRASOUND FOR STEEL

Soviet scientists have developed an unusually strong steel with a high boron content. The melted metal, heated to a temperature of 3,000 degrees Centigrade, is subjected to a powerful stream of ultrasound, a completely new technique. Steel combined with boron in this fashion does not crack even under high pressure. It will be put to use in a number of industries.

BODY CELL FREEZER

A programmed electronic freezer for bone marrow and other tissues has been designed in the Soviet Union. It allows high-precision control of the cooling of cells, preparing them for prolonged conservation at ultralow temperatures.

The blood transfusion center in Tbilisi, capital of Georgia, is serving as an experimental base for the freezer. Associates of the center's applied research laboratory are, among other things, trying to set up a bone marrow bank.

LEAPING FISH

Leaping fish, more correctly *Hypopthtalmichthys molitrix,* inhabit the Amur, its tributaries and the bottom land lakes of Khabarovsk Territory in the Soviet Far East. This beautiful fish of the carp family has a distinguishing peculiarity: It panics at the appearance of a ship, a boat, a person, an animal or a shadow. It rises to the surface, leaping 10 feet into the air. At times, miscalculating the distance, it falls back into a boat or on a raft.



CLIMATE TO ORDER

A phytotron—an artificial climate station for plants—is under construction at the USSR Research Institute of Plant Breeding and Genetics in Odessa, the Ukraine.

The phytotron's greenhouses will spread over more than 19,000 square feet, and the area of the climate chambers will be 4,840 square feet. The refrigeration unit will have a capacity of two million large calories per hour.

The institute's chemical, physical and biological departments will be housed in the main laboratory building. In air-conditioned hothouses built nearby, the climate of the subtropics, the Far North, Siberia or Central Asia will be artificially created and droughts and storms enacted. Scientists experimenting with the selection process will be able to harvest two or three crops a year; this will accelerate the breeding and introduction of high-yield plant varieties.

A RARE MINERAL

It's hard to say which mineral our planet's geologists have less of —lunar rock, or betekhtinite, a copper iron lead sulphide found on Earth. There are three known sources of betekhtinite: the Manfeld deposit in the German Democratic Republic and two deposits in the Soviet Union—in Urupnensk, Northern Caucasus, and Dzhezkazgan, Kazakhstan. Each has only a minuscule quantity of this very rare metal. The first Soviet find was made in Dzhezkazgan in 1966.

Among its hundreds upon hundreds of exhibits, the museum of the Dzhezkazgan Mining and Metallurgy Complex has a crystal of betekhtinite weighing some four pounds, the only sample of its size in the world.

MOTOR IN A WHEEL

The traction system of the Lunokhod—the Soviet moon vehicle—is made up of electric motors installed in the wheels.

The system is also being applied in ground vehicles. The huge BELAZ (Byelorussian Automobile Plant) dump truck, used in open-cast coal and ore mining and transportation of building materials, has a similar electric traction system with a motor in each wheel.

This type of dump truck, which weighs almost 50 tons, can develop a speed of 30 miles an hour while carrying a 70-ton load.

The wheel is manufactured in Moscow and Leningrad. It is designed so that it can be mounted on different heavy-duty motor vehicles, including trucks and self-propelled scrapers.

TOWN OF MASTERPIECES

How many years will a wooden structure built by a real master survive? The Church of the Nativity of the Virgin Mary in the village of Peredki, a masterpiece of Russian national architecture, is mentioned in manuscripts dating back to 1539. Under the supervision of specialists it has been taken apart log by log and moved closer to Novgorod to become a display in that city's exhibition of ancient wooden architecture.

Expeditions sent out for the purpose have found any number of unique wooden structures—log cabins, barns and windmills—in the region. There are plans to move about 40 of them to the outdoor museum.

THE OCEAN'S PULSE

The world ocean is swelling. Its volume has increased by 4,780 cubic miles in the last few decades, and its average level has risen by two and three-eighths inches as compared with half a century ago.

Leningrad oceanographer Igor Maximov attributes these increases to solar activity. He analyzed observations made in 140 Atlantic ports over a number of years and found a connection between the level of the world ocean and the behavior of the Sun. According to Maximov, our planet's water envelope pulsates, reflecting the cycles of solar activity.

The level of the Baltic and North seas, he estimates, has risen by three and one-eighth inches. In the Southern Hemisphere this effect has shifted the borders of iceberg movement 930 miles southward.

ASIAN READERS

Kirghizia, a Central Asian republic with a population of about three million, prints more than one million copies of newspapers and magazines a day in the Kirghiz language. Before the Great October Socialist Revolution the Kirghiz people had no written language. The first Kirghiz newspaper appeared in 1924. Today the republic has universal literacy, and one person out of every four attends either a higher or secondary school.



FOSSILIZED AIR

The air that Antarctica breathed 25-30 thousand years ago, say scientists, has been preserved in the lower layers of the ice as fossilized bubbles. Drilling the ice at the Vostok polar station, Soviet scientists brought up core samples from a depth of 1,640 feet and shipped them to Leningrad.

Looked at through a microscope, the bubbles glitter like mercury balls. These samples of deep antarctic ice will give us an idea of what our planet's atmosphere was like in the distant past.



INSECT PRESERVE

A preserve of bumblebees and other beneficial insects, the first in the country, has been set up near the city of Isil-Kul in Omsk Region, Western Siberia. The USSR Society of Entomologists is experimenting there with the domestication of bumblebees. Several dozen man-made hives have been placed in a glade in the middle of a birch wood, and multistory hives are being tested there. Local people help find bumblebee colonies and move them to the preserve. The bumblebees waste no time in making themselves at home and quickly get used to people.

ROCK CLOUDS

Recent studies have revealed that two clouds of stony meteorites are revolving in a near-Earth orbit between our planet and the Moon. They are so tenuous that they can hardly be discerned on film. Subject to lunar gravity, they do not fall to Earth. Astronomers believe the rocks are from different parts of the universe.

Further studies of these clouds may shed light on the Earth's origin, life on other planets and solar winds.

HUGE GUN

The Czar Cannon in the Moscow Kremlin is a familiar tourist sight. Visitors are told that it was cast by the Russian master Chokhov in 1586, that it weighs 44 tons and that its caliber is 890 millimeters. What they usually aren't told is that this is not the biggest of the cannon made by Russian gunsmiths that have come down to us.

For instance, in Perm there is another huge gun. Its 108-ton carriage has a tablet bearing the following inscription:

"Twenty-inch cast-iron smooth-bore cannon manufactured at the Perm steel and gun plant in 1868. Weight of barrel, 50 tons; of cannon ball, 1,060 pounds; of powder charge, 140 pounds."

AROUND the COUNTRY

pet LION





one of the family

Text and Photographs
By Valeri Shustov

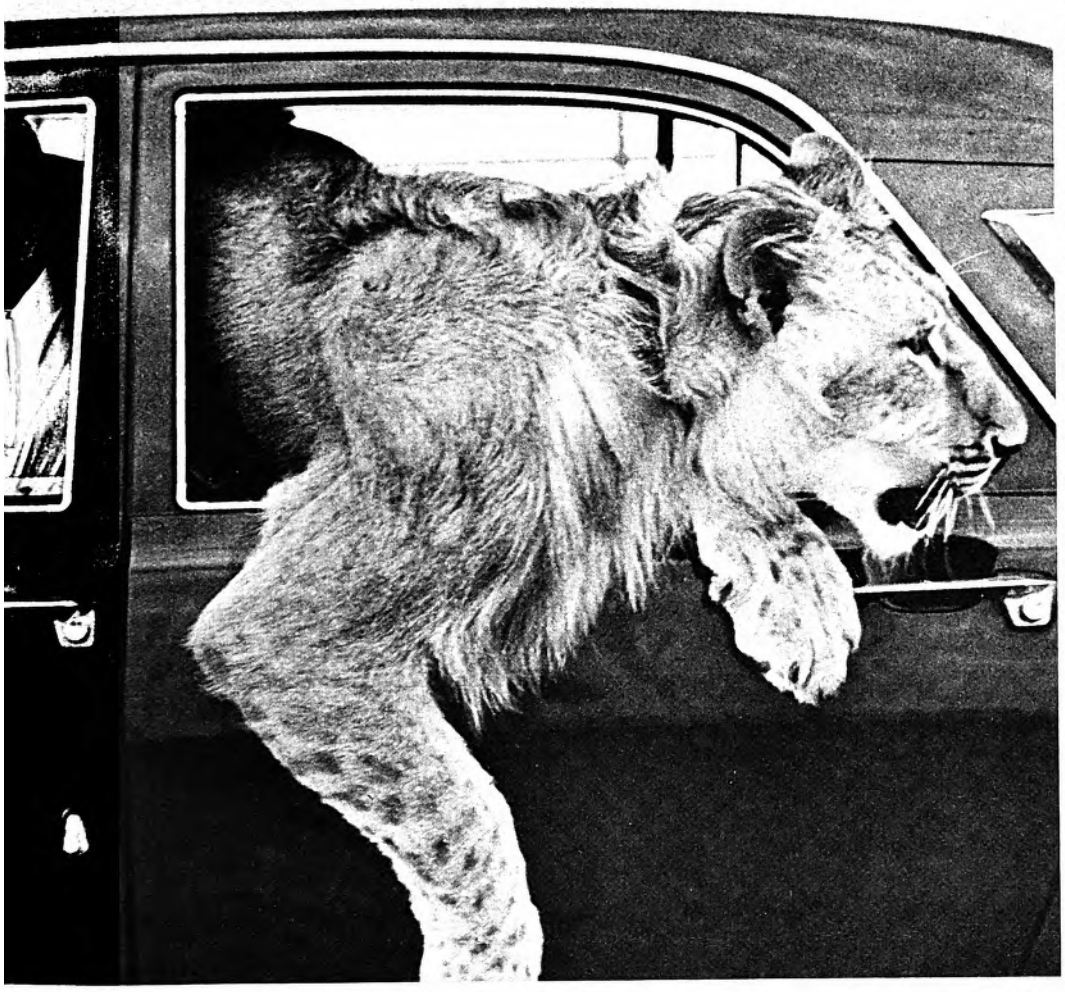
THE OTHER DAY I dropped in to see the Berbetovs, my Baku friends. I opened the door and froze into immobility. On the floor, like a mat, lay a lion —a real lion as yellow as sand and two yards long. He switched his tail and stared at me out of eyes the color of the sun-bleached savanna.

My hosts cordially invited me in. As if sensing my hesitation, the lion got up and, as I thought, tried to grab me by the leg. But he only licked my trouser cuff.

"King, you mustn't! Those are new trousers!" said the mistress of the house, adding with a smile: "Don't be afraid, Valeri! Stroke him."

Leonid Berbetov, an architect, his wife Nina, a philologist, and her mother are all







fond of animals. They have brought up a reindeer and a wolf, and King is their latest pet. Leonid and Nina brought him home from the local zoo when he was a sick, helpless baby. They took him, Leonid told me, to save his life. With the help of veterinarians and with good care, King's health was restored.

At first the cub was wild, but gradually he became formal and reserved, understanding what he could and couldn't do. He hated being locked into another room for playing pranks.

Within a year he turned into a 265-pound giant with a skin like burnished bronze. This domesticated lion is as regal and handsome as its brothers born and bred in Africa.

Brought up with the architect's two children, King behaves like a junior member of the family. He knows Leonid and Nina as Father and Mother, and when offended, he complains in a low growl.

But King has plenty of character. He tolerates no undue familiarity. When Berbetov's four-year-old son Roma goes too far and climbs up on his back, the lion carefully shrugs him off onto the carpet. If the children annoy him, King closes his eyes and pretends he is asleep. He always comports himself with dignity, touches nothing without permission and never gobbles his food. I saw him lingeringly consume 10 pounds of meat. But King has one weakness: champagne. A bit too much of this beverage was poured into his medicine one time. Slightly drunk, he jumped onto a shelf and pushed down everything he thought superfluous. Usually, however, he is quiet and obedient.

Once King was shown to an animal trainer. The trainer's comment:

"This isn't a tame lion, it's a well-bred one."

King's good breeding enables his masters to take him for walks in town. The Berbetovs do that early in the day, before the streets fill with people. Too many curious passers-by might frighten their pet, or vice versa.

"What are your plans for him?" I asked.

"King is going to appear in a movie," Nina told me. "Don't you think he'll make a great actor?"

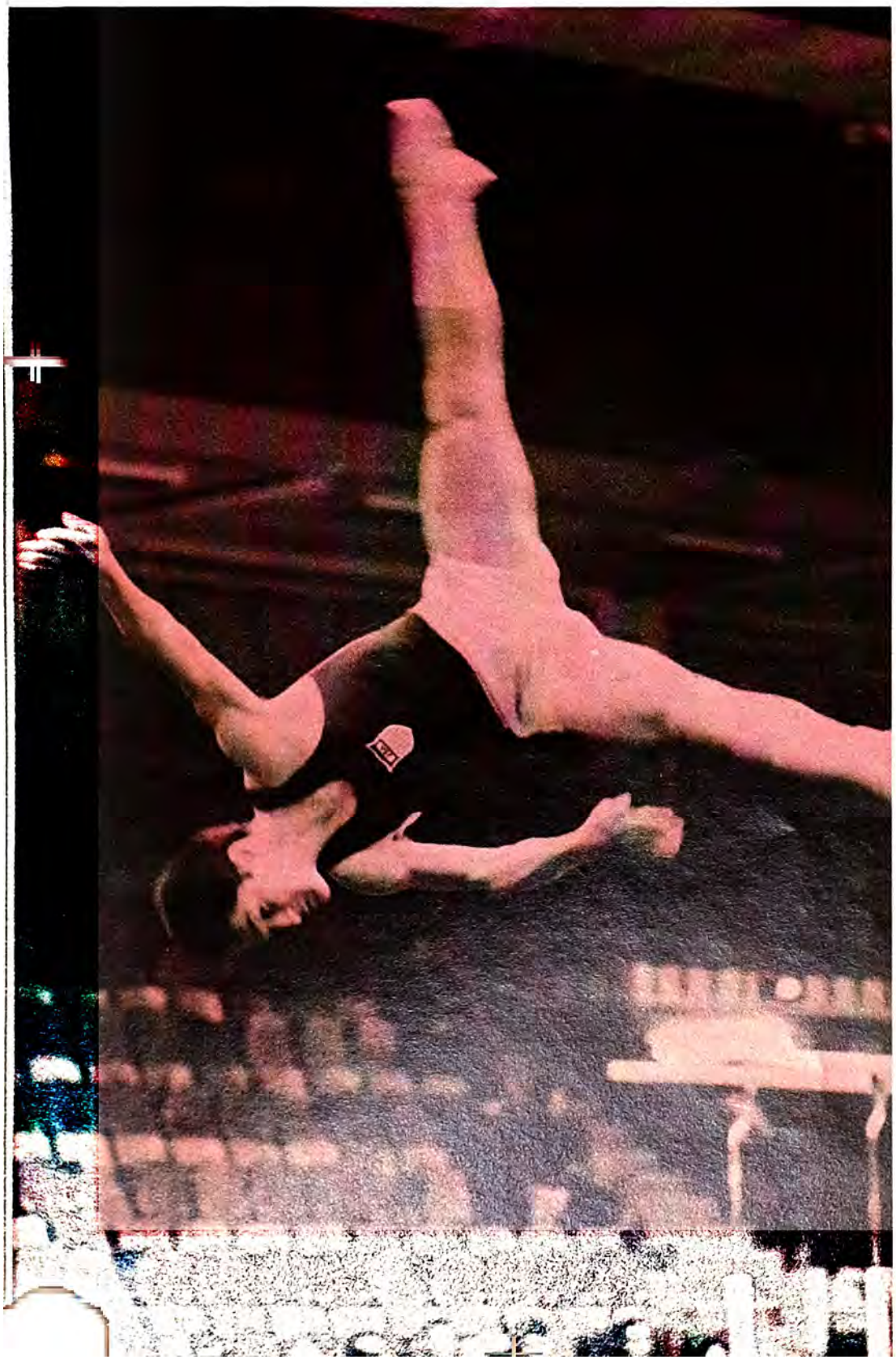
As I was leaving, I said in a blustering voice: "I'm not afraid of King!" Suddenly he jumped out of a corner and hugged me. My heart missed a beat. It's hard to get used to a lion, no matter how well-bred this one is reputed to be.



Valeri Shustov has photographed earthquakes and assorted hazards, but he's never been backed into a corner like this.

U.S. GYMNASTS IN RIGA

By Vladimir Khotinsky
Photographs by Vadim Kivrin



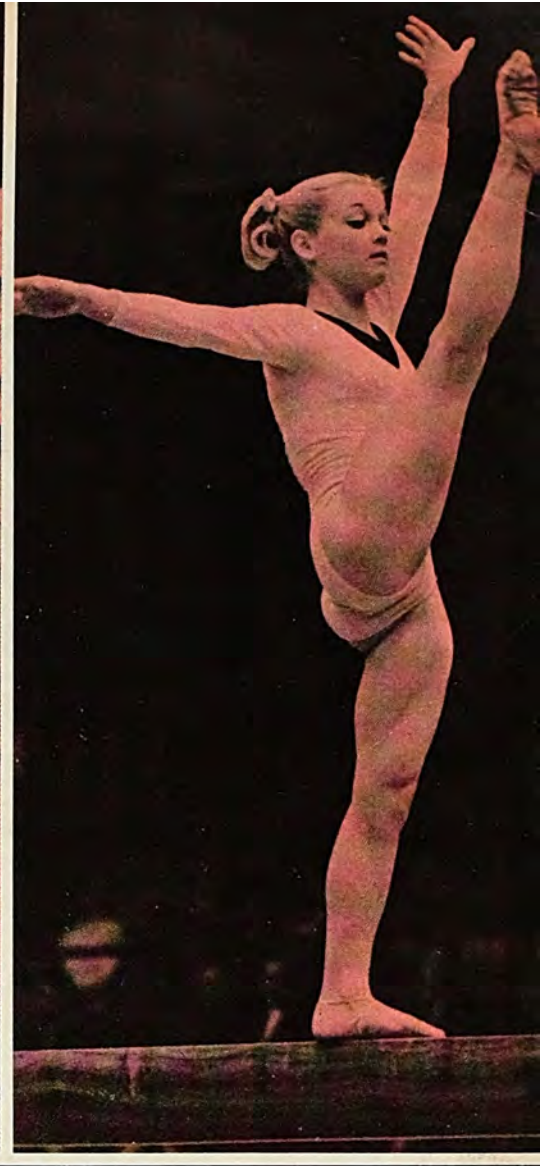
THE PERFORMANCE OF AMERICAN gymnasts at last year's international meets came as a surprise to many fans. We were able to see some of them in action at an international tournament staged last April in Riga, capital of Soviet Latvia. The routines of 18-year-old Kathy Rugby (see photographs at right) and 19-year-old John Crosby (below left) won the particularly high praise of spectators and judges. Here are the comments of former champions Larissa Latynina and Yuri Titov. **Larissa Latynina:** Kathy Rugby is a splendid gymnast, confident in all the exercises and simply matchless on the beam, which everyone thinks is the trickiest piece of apparatus. Kathy is unquestionably the ace of the American team, the only contender, I believe, who can hold her own against European and Japanese opposition. My first acquaintance with American women gymnasts was in 1961 when our national team toured the United States. It's a pleasure to see how much progress the Americans have made in this sport since. Their routines are just as intricate as ours, but they still have certain faults in technique, which prevent them from executing each movement perfectly.

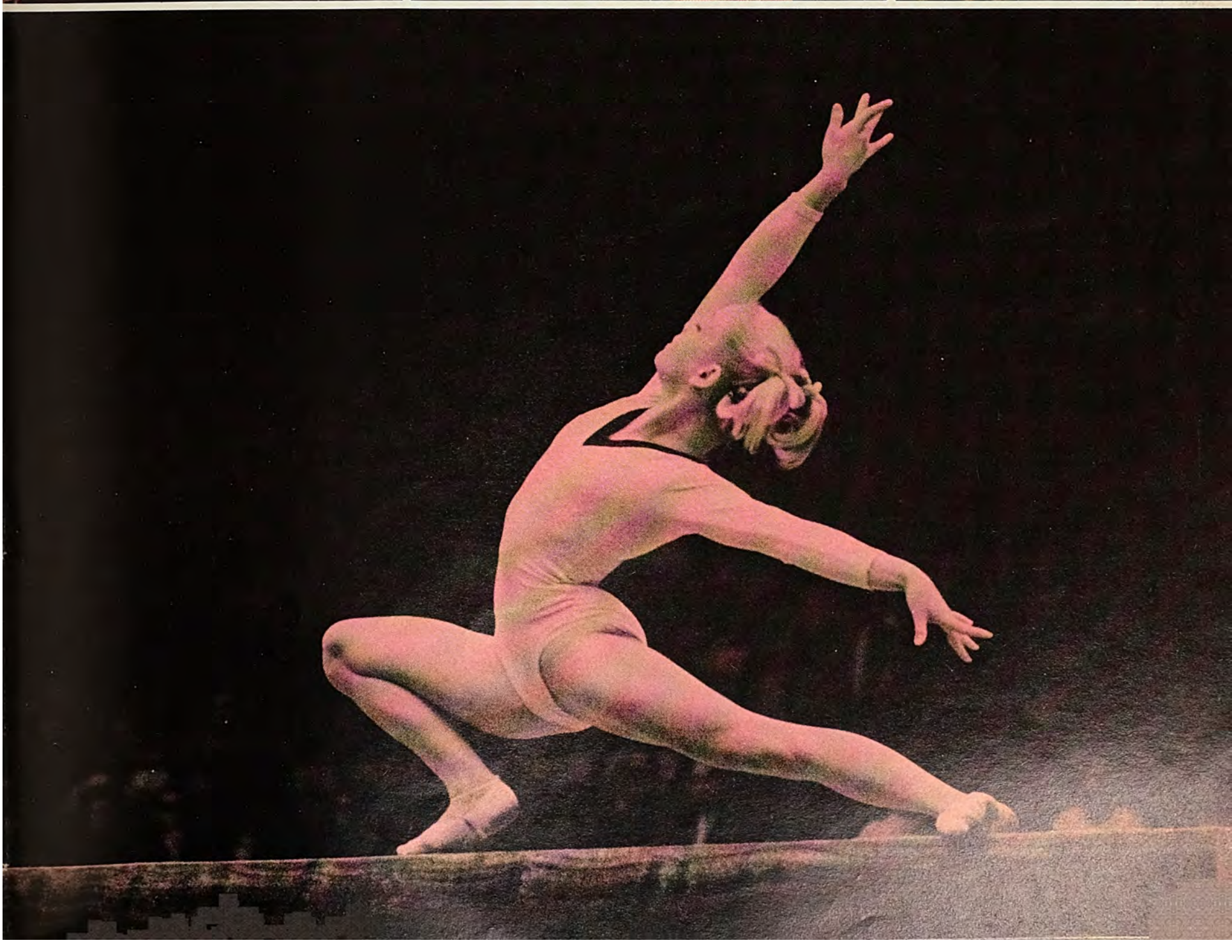
There's no longer the big gap there was 10 years ago between Soviet and American gymnastic standards. At that time the Americans included many acrobatic elements in their routines, but much more often now Kathy and her teammates make original and interesting transitions from one exercise to the next. You also note their effort to present finished compositions, to achieve a sensible combination of intricacy and beauty. [At center right, Kathy Rugby receives an award from Latynina.] **Yuri Titov:** I must say that the American men gymnasts have also made progress though perhaps not as much as the women.

I competed with them in various tournaments, starting with the 1956 Olympics in Melbourne. At that time they didn't pay nearly as much attention to perfecting their technique or presenting attractive routines as they did to introducing as many stunts as possible. For instance, I still remember the routine of Armando Vega, a leading American gymnast at the time. He wound up each exercise with a spectacular dismount. I think that what prevented the Americans for a long time from winning in world championships was their dependence on such individual stunts. The picture has changed now, and it seems to me that in the near future they will be among the strongest bidders in the world title and Olympic tournaments. There is already one spectacular performer on the American national squad—John Crosby, who did so well in Riga.









SOVIET FOLK ART EXHIBITION TO TOUR THE USA

BY VICTOR MARTYNOV

THE EXHIBITION Folk Art of the Soviet Republics opens this month in Washington, D.C. During the year the 1500-odd examples of the work of professional and amateur craftsmen from the 15 republics of the Soviet Union will be shown in New York, Boston, Los Angeles, Minneapolis and Chicago.

More than a hundred nationalities live in the Soviet Union. Those with the largest populations comprise the 15 constituent republics; the smaller ones are autonomous republics, autonomous regions or national areas.

Each nationality has its own history and traditions, and, of course, its art rooted deep in the centuries. The display items chosen by the sponsors of the exhibition—the USSR Ministry of Culture and the USSR Chamber of Commerce—therefore reflect not only the variety of folk art, but the development of each of the national cultures.

Most of the exhibition items were made by craftsmen from the Russian Federation, the largest and most densely populated of the republics. Each region in this great stretch of territory has its historical peculiarities and its own way of life faithfully reflected in its folk art.

Thus, the indigenous craft of Northern Russia is bone carving. The principal occupation, hunting, provided an abundance of raw material: walrus tusks and reindeer and elk antlers. The carving is scrupulously detailed, attributable, perhaps, to the long polar night, which lasts half a year. The results are such masterpieces as a casket sent to the exhibition by the Museum of History in Moscow. Delicate lacelike bonework decorates the sides, while the cover depicts the ancestral way of life.

A little to the east and south, in the area of the old town of Solvychegodsk, enamel painting developed as the favored craft. Examples of the regional miniatures will be on view in the historical section of the exhibition. Rostov enamel is considered the finest.

Russian porcelain has two sharply distinct schools—the Dulyovo and the Leningrad. The exhibition includes work by today's best-known craftsmen—both the bright painting of the Dulyovo ceramicists and the austere delicacy of Leningrad porcelain.

The Russian Federation display contains a fascinating variety of sulphide glass, famed Vologda lace, miniature lacquer painting, clay and wooden toys.

Amber is the congealed resin of prehistory in which the brightness

Glassware by Mikhail Grabar. Georgian chasing by Koba Guruli (bottom).





A jug and wine bowl in silver and enamel designed by Boris Gambatov.



and warmth of the sun has been trapped. The largest deposits of this translucent fossil material are in the Soviet Baltic republics. The Latvian, Lithuanian and Estonian displays will feature lovely amber jewelry as well as wood decorated with copper, glimmering chased brass and nielloed silver items.

Niello and chasing, although differently styled, are also characteristic of the Caucasus handicrafts. It is difficult to tear your eyes from the images hammered in dark copper by the skillful Georgian chasers. Daghestan craftsmen in the mountain village of Kubachi make silver and gold bowls, goblets, narrow-necked jars and weapons adorned with chased inlaid patterns.

Here are ceramics from the Ukraine. A whole family of merry monsters with mugs in their paws. They seem to be inviting people to taste the beverages which the hosts have poured.

The famous carpets from Turkmenia evoke an image of a great platter of pilau smoking in the center of the rug. Sitting around it are old Turkmenians sipping green tea from laced philas, recalling the past and discussing the present.



Metal brooches from Estonia in the exhibit from the Soviet Baltic republics.

Old Russian jeweled silver dipper sent by the Museum of History in Moscow.



SCHEDULE

Washington, D.C. Corcoran Gallery of Art, January 12 to February 8
Los Angeles, California March 5 to April 1
Minneapolis, Minnesota April 26 to May 23
Chicago, Illinois June 16 to July 13
Boston, Massachusetts August 6 to September 2
New York, New York September 26 to October 23
Admission free everywhere

VASYA

Continued from page 43

Provençal poetry. It was like playing the violin before a dummy.

I, on the other hand, took a great interest in medieval poetry and did my best to establish scholarly contact with our professor.

But nothing came of it. The moment I raised my hand and asked Vasili Andreyevich what the attitude of Albigensian heretics to problems of love and marriage was, for instance, our instructor would stiffen with fright and mumble something incomprehensible, or say dryly that the problem was not included in the syllabus.

Thus things went swimmingly. Our life was full of excitement, and we even grew prettier with each day. Vasya, on the other hand, presented a rather pitiful sight. You could see at first glance that this ship, which had set out into the open sea without enough rigging, had been holed and was ready to sink any minute. And absolutely nothing presaged the changes that were to put a sudden end to our having such a wonderful time.

Our punishment arrived in the image of Alina, a postgraduate student with a round, fat countenance and a figure as massive as a safe. This young woman, who was absolutely devoid of any sense of humor, fell in love with our Vasya quite properly one fine day. The energy that had been seething in her without any outlet up till then was now directed at clearing everything that stood in her way from the path to her beloved's heart. We still can't figure out how Alina learned of the dismal condition Vasya was in, but she immediately took the most urgent measures. We were quietly enjoying ourselves at the seminars in medieval literature when a notice appeared in the hall announcing a meeting of the whole department to be held in room nine. And this meeting concerned us.

How I wish I could open the heavy door of room nine right now and go in! The light there poured in through the tall Gothic windows. Four bright parallel streams of light pierced the hall, illuminating the benches and bookrests. Through the windows one could see the sky and its play of colors and the floating bouquets of clouds that used to divert my attention and not let me concentrate. Losing the thread of the lecture, I would turn around, but I could never stop admiring the sight.

In the top row under the very windows I would find the bench where we sat that day. Jolly, angry and surprised faces turned to look at us from below. The face of Alina, standing on the rostrum, was crimson red. It was a red face expressing bewilderment and nothing else. But at the same time Alina spoke of respect for people, of the object of life and of those who had no such object. When a person speaks about such things, his face must resemble a bas-relief, it must be lit up with an inner light, or else people will not believe him. However, it turned out that everyone believed Alina. She finished her speech, and a hum of voices rose in the spacious room. Again people turned their faces to look at us, but now the number of merry ones was considerably less.

"Go," Lyuda hissed in my ear, "Go and take the floor, or we're finished. Say some fine words, the way you can. . . ."

And here I must confess that there is nothing I have loved more since childhood than speaking before an audience. I adore being listened to—maybe this is a hereditary trait. Perhaps some remote ancestors of mine used to climb in turn onto the large boulders by the highways, onto the wooden porches of their houses and other elevations and, having waited for everyone to stop talking, address the people.

I stood on the rostrum waiting for the audience to calm down, meanwhile examining those around me. I saw our dean, Nikolai Nikolayevich, sitting nearby, shaking his head disapprovingly; I saw Maya's boy friend, Askold, a fourth year student, looking at me yellow with rage; I saw all the boys and girls of our group nodding their heads and waving their hands at me in friendly sympathy. But I could not see Vasili Andreyevich Voronov among those present, for he had not come to the meeting.

I stood there on the rostrum in my simple white blouse and at last, when everything was quiet, said thoughtfully:

"It really makes me wonder, friends, how you undertake to solve a problem at one meet-

Continued on page 64

NEXT ISSUE



The favorable comments about our special issue on the Volga last August inspired a trip down the Dnieper. From the Russian Federation the Dnieper flows for 140 miles across Byelorussia and the Ukraine, serving as the latter's main waterway. Staff members of the magazines SOVIET LIFE and *Ukraine* and the Ukrainian branch of Novosti Press Agency sailed from Kiev to the Black Sea. Their feature and picture stories give a detailed account of the Ukrainian Republic today.



Zaporozhstal—translated into English it means Zaporozhye steel—is the name of one of the largest and oldest steel mills in the Soviet Union. Zaporozhstal began operating in 1933, during the First Five-Year Plan, and right from the start the people who worked there took special pleasure in breaking records. That probably explains the present 9,000 shock workers at the mill and the fact that it is fulfilling its quotas for the Ninth Five-Year Plan ahead of schedule. There will be an illustrated article about these steelmakers in February.



Three thousand tons of honey netting four million rubles is what Bashkirian beekeepers can expect to harvest each year. The climate and vegetation of this autonomous republic in the southern part of the Urals produces honey that is tasty, aromatic and nutritious. All the state farms and 8 per cent of the collective farms of Bashkiria have apiaries, many with upwards of 500 hives. Bashkirian honey is in great demand not only in the Soviet Union but in foreign countries as well. In 1961 it received the highest rating at the international fair, held in Erfurt in the GDR, while the bee that makes it was awarded a gold medal at the Twentieth International Beekeeping Congress. For more details on this delicious sweet, see the picture story in the February issue.

An article with some interesting facts about cultural and scientific contacts between the United States and the Soviet Union prior to 1933, the year diplomatic relations were established between the two countries.

The scientists' role in society and their responsibility to the people grow daily. Boris Paton, President of the Ukrainian Academy of Sciences, comments on this and discusses the current activities of his colleagues.

An article by Yuri Ilyenko, director of *White Bird with a Black Mark*, winner of a gold medal at the Seventh Moscow International Film Festival.

A picture story about an event that surprised sports fans—the double victory of a 22-year-old student in the last world ski-jumping championship.

COMING SOON

Democracy and Communism

VASYA

Continued from page 63

ing that all mankind has been working at unsuccessfully for several centuries. . . ."

There was a hum again, someone burst out laughing, the freshmen sitting in the first row shouted something, but Boris Kiselyov, who was chairman, rang the small bell and called everyone to order.

"Graduate student Alina," I went on, "has been telling you of the letters, smiles and provocative questions asked at the seminars. She has called it 'hooliganism,' 'frivolous flirtation' and 'violation of human dignity.' She believes it to be an attempt to insult the professor and disrupt his class. It never enters her head to ask a question that is the basis of many outstanding works of fiction—'And what if it is just love?' She probably believes that the only attitude the professor in question is capable of evoking is a humorous one, and she has failed to see that he is an extremely kind, honest and generous man, that he is worthy not only of respect, but of real love as well.

"And if that is the case, how can one person blame another for feeling that way about him? How can she blame this person for not being able to control herself and breaking our iron discipline? And how can she speak of discipline and standards of behavior when such a subtle thing as love is involved?

"I'd also like to remind you of something else. Once upon a time two Italian families, the Montagues and the Capulets, interfered with a similar matter. They, too, tried to straighten things out and organize everything in the most appropriate way. There is no need telling you here how that story ended. But let this immortal play by Shakespeare serve as a warning to those who, speaking loudly and in cold blood, undertake to kill a living human emotion. . . .!"

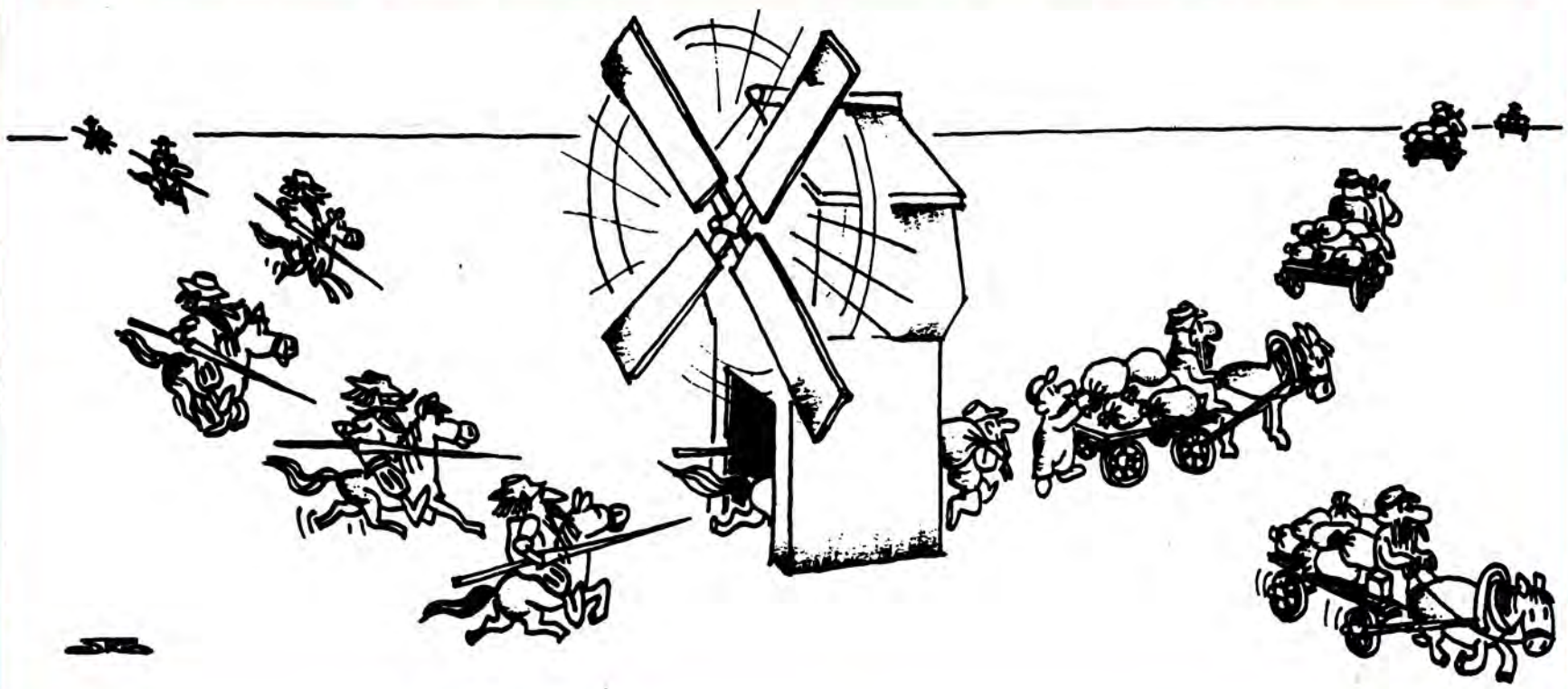
I stepped down from the rostrum in light sorrow and walked up the steps to my seat in dead silence. From the corner of my eye I could see the students' quiet faces and the flaming countenance of the defeated Alina. And there on top, Lyuda sat with her head buried in her hands upon the bookrest, dying with silent laughter. Maya kept pounding her on the back with her fist to bring her to her senses.

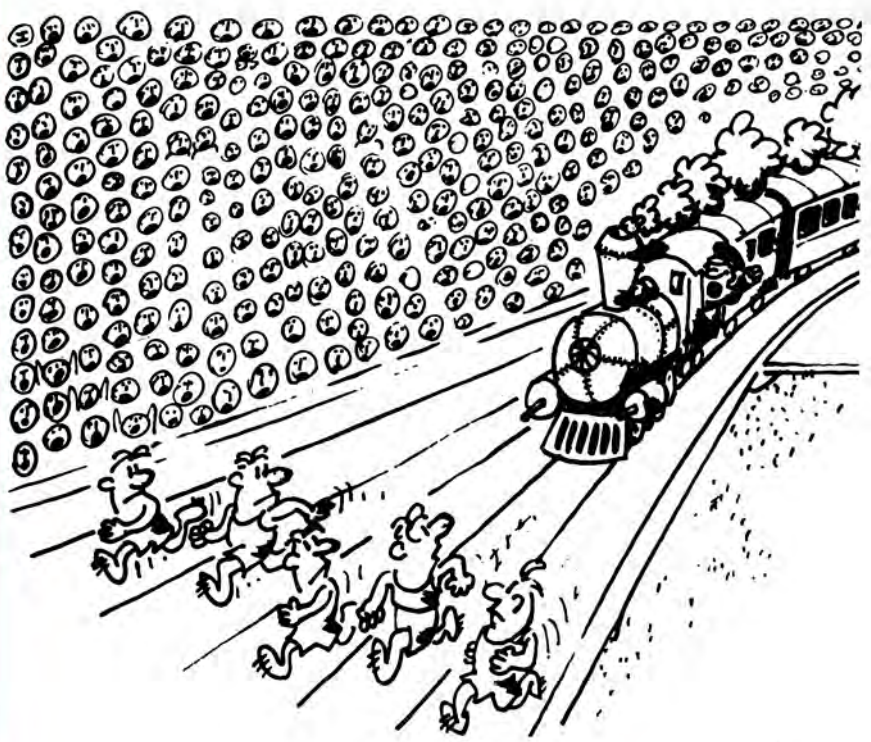
I sat down on the bench and started listening attentively to Borya Kiselyov speaking on the next item of the agenda—the routes of the summer hiking trips. And here Lyuda finally raised her head, and to my great surprise I saw that she had not been laughing at all but crying. Her cheeks were wet with tears and her nose swollen.

"I understand now," sobbed Lyuda, "I understand everything now. I am in love with Vasya. You were right when you said that he is honest and generous. And I shall go on loving him for the rest of my life, while this Alina is just a beast and a bluestocking!"

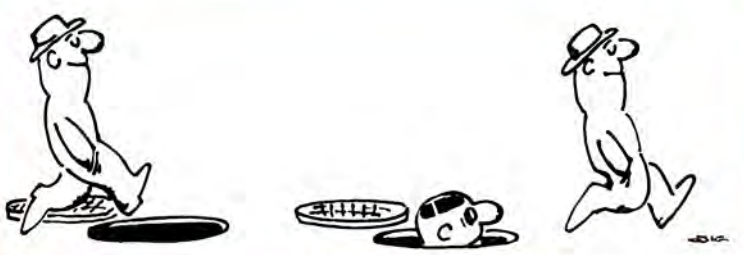
But the most wonderful thing about it is that she still loves him. When I visit the Voronovs and we remember the whole story, Vasya chuckles happily and says that he understood everything from the start, and it is still a question of who was pulling whose leg. But every time we speak of it, I feel sorry for the people who will never see me on the stage, for the moment I pronounced my fine words, they would start laughing and crying and falling in love with one another to the end of their days.

HUMOR











The first snow.
Photograph by Igor Zotin

SOVIET LIFE

THE DNIEPER RIVER

NOVELIST ALEXANDER FADEYEV

FEB 25 1972

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Main Waterway of the Ukraine



The Dnieper flows for 1400 miles through three Soviet republics. The big river has its source in the Russian Federation, on the slopes of the Valdai Hills, and then takes its long course through Byelorussia to the Ukraine.





DOWN THE DNIEPER

Photographs by Valeri Shustov, Boris Gradov, Nikolai Selyuchenko

THE DNIEPER is the great river on whose banks the Slavs have lived since time immemorial. Source of inspiration for poets and storytellers, the Dnieper was glorified in countless tales and legends. Its shores were the seat of the first great old Russian state, Kiev Rus, the cradle of the statehood and culture of three fraternal peoples—Ukrainians, Byelorussians and Russians. Kiev on the Dnieper was the capital of the Kiev Rus princes. During the reign of Prince Vladimir in the tenth century the Dnieper waters served for baptism.

There is symbolic significance in the fact that the great river has its source in Russia, on the slopes of the Valdai Hills, and that the other famous Russian river, the Volga, also begins its endless course there. The Dnieper then flows through Byelorussia; further on, in all its power, it reaches the Ukraine. These three republics and the Transcaucasian Federation were the founders of the present Union of Soviet Socialist Republics.

The name Dnieper was first mentioned in fourth century documents. Until then the river had been called by its ancient Greek name Borysthenes (Flowing from the North). The old Slavs called it Slavutich (Son of Glory).

The Dnieper, from source to mouth, is more than 1,400 miles long. For the first 400 miles it flows through Russia, the next 350 miles through Byelorussia and the remaining 700 miles through the Ukraine.

This blue vein connects the huge economic districts of the European part of the Soviet Union, carrying the three republics' endless stream of cargo.

A plan for the complex reconstruction of the river has been drafted and is being carried through. It is intended to expand the power resources of the Dnieper area, to irrigate the lands in the arid zone of the Ukraine, to create a deepwater route from the sea to Kiev, to improve the marshy areas of the Polesye depression and to develop numbers of fisheries. In 1932 the Dnieper Hydroelectric Power Station began to operate. In 1956 the Kakhovka station was built, followed by the Kremenchug in 1960, the Dneprodzerzhinsk in 1963 and the Kiev station in 1965. Now the Kanev station is almost finished. When it goes into operation, the Dnieper cascade will be completed and the river will be fully controlled in its middle and lower reaches. Even today the Dnieper power stations generate more than 11 billion kilowatt-hours of electricity a year. In the future the river will constitute the main part of the great Neman/Dnieper water route, which will connect the Baltic and the Black seas.

A number of us from the magazine *Ukraina*, SOVIET LIFE and the Ukrainian section of Novosti Press Agency decided to take a cruise down this river of friendship. We took along everything to make our voyage a success—lots of enthusiasm, a good supply of notebooks and film, and a fine weather forecast. The forecast did well by us. For the 15 days of our voyage the warm summer sun shone for all of us, historians and naturalists, poets and artists, but especially for our photographers. And often we recalled the words of the great Gogol, who celebrated the beauty of the incomparable Dnieper. With the wonderful riverliner *Zarya* (*Dawn*) and its crew at our disposal, we began our voyage in the beautiful city of Kiev, capital of old Kiev Rus, and sailed downriver to the Black Sea.

FEBRUARY 1972, NO. 2 [185]

SOVIET LIFE

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Galina Menkush (at left) and Maya Avdiyevskaya, soloists of the Verÿovka People's Chorus of the Ukraine. *Photograph by Alexander Makarov.*

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THE UKRAINE TODAY

BY ALEXANDER LYASHKO

President of the Presidium of the Supreme Soviet of the Ukrainian Republic

Alexander Lyashko, born in 1915, is the son of a Ukrainian railwayman. He started his working career as an apprentice in a metal plant, fought against nazi Germany in 1941-1945, graduated from the Donetsk Industrial College after the war and worked as an engineer at the Novo-Kramatorsk machine-building plant in the Ukraine. He subsequently became a party official, serving as First Secretary of the Donetsk Regional Party Committee and as Second Secretary of the Central Committee of the Communist Party of the Ukraine before being elected to his present office. Lyashko is also a member of the Central Committee of the Communist Party of the Soviet Union and Vice President of the Presidium of the USSR Supreme Soviet.

THE FIFTIETH ANNIVERSARY of the formation of the Union of Soviet Socialist Republics will be observed by our multinational state at the end of this year.

This union was the natural development of the Great October Socialist Revolution of 1917, which abolished all kinds of social and national oppression.

On December 30, 1922, the First Congress of Soviets, expressing the will of the Soviet people, agreed to form a voluntary union of sovereign Soviet socialist republics. This new state, the USSR, embodied the principles of proletarian internationalism.* The Ukrainian people are proud that they were among the initiators of this union.

A review of the past decades reveals the truly historical significance of the union for the Soviet peoples. The fraternal alliance has multiplied their strength many times over. It has been a powerful accelerator of the economic and cultural progress of all the Soviet republics, a decisive factor in ensuring their independence. The unbreakable friendship of the peoples of the Soviet Union became one of the most valuable gains of socialism.

* See Anastas Mikoyan's article in the December 1971 issue.

Fruitful Road

One must look at the past to see what the Ukrainian people gained from their fraternal alliance with the other Soviet peoples, to appraise their economic, scientific, cultural and sociopolitical development.

Prior to the Revolution, the Ukraine was a semicolony of the Russian Empire, with an underdeveloped industry and agriculture, mass illiteracy and poverty; today it is a highly developed socialist republic with large-scale industry and agriculture, an advanced science and technology, and high living and cultural standards.

In 1970 the republic extracted 228 million tons of coal, 122 million tons of iron ore and close to 215 trillion cubic feet of gas. It produced 52 million tons of steel, 138 billion kilowatt-hours of electricity, 147,000 tractors, 475 million yards of textiles, and 146 million pairs of boots and shoes. Our republic outstripped advanced Western countries in extraction of iron ore and coal and in per capita manufacture of pig iron, steel, coke and sugar.

Our total volume of industrial production has gone up 61 times as compared with 1913. But it is not only a matter of quantitative change. Our older generation recalls how backward the prerevolutionary industry of the Ukraine was. Besides, prior to 1917, as many as 86 foreign companies held concessions; the leading branches of industry were in their hands. In a 15-year period, 1898-1913, these companies made a profit of some five billion rubles in the Ukraine.

Now that the people are the sole owners of our republic's wealth, we have 150 industries, including aircraft, automobile, machine-tool, radioelectronic, petroleum.

Life in the Ukrainian countryside has changed completely. The statistics of prerevolutionary years tell the story: Forty-two per cent of the land belonged to the landlords, the czar's family and other big proprietors, while some 630,000 peasant families had no holdings of their own. The implements they used to till the land were primitive—wooden, horse-drawn plows and wooden harrows.

The collective farm system brought new life to the toiling peasantry. Modern machines—tractors, combine harvesters, trucks—appeared in the fields. The farms of our republic employ more than half a million tractor drivers and harvester operators, 170,000 agronomists, zootechnicians and engineers. Gross agricultural output has gone up 2.7 times.

Before the Revolution, 70 per cent of the population of the Ukraine was illiterate, now our school enrollment is about 1.5 million. We have roughly 700 people with a higher, secondary and incomplete secondary education per 1,000 of working population. Almost one-third of the population is presently studying. On the staffs of institutions of the Ukrainian Academy of Sciences are 10,000 researchers, including many who are world famous. No less than 900 research centers have been set up in our republic in the years of Soviet power.

For the Sake of Man

"Everything in the name of man, for the sake of man"—this is the law of Soviet society. The policy of our Communist Party is to create a steady rise in the living and cultural standards of the people.

Housing is being built on a vast scale throughout the country. In the previous five-year plan period alone (1966-1970), two million apartments were completed in the Ukraine. Some nine million people were provided with better housing.

An important index of living standards is the public health system. We have 28 doctors per 10,000 of population, more than the most advanced Western countries.

Wages of factory and office workers keep going up. At the same time the public consumption fund keeps mounting. It pays for free education and medical care, pensions and scholarships, free or cut-rate accommodations at health and vacation resorts; it covers a large part of the expenditures for the maintenance of nurseries, kindergartens and housing.

The public consumption fund in the Ukraine in the five-year period 1966-1970 averaged 1,076 rubles per capita. This is a sizable addition to the budget of every family.

The Sources

From what sources did the Ukraine people draw the strength and power to travel the path they did from backwardness to progress in a single generation?

The sources are the leading role of the Communist Party, socialism and the friendship of the Soviet peoples. In work and study, in moments of joy and sorrow, in periods of victory and grim trial, the Ukrainian people have always had the friendly support of their brothers, of all the Soviet peoples and, first of all, the great Russian people.

Let us recall the early Soviet five-year plan periods when the Ukraine was building its pioneer industrial enterprises. The whole country came to our aid in constructing such large-scale projects as the Dnieper hydroelectric station, the Kharkov tractor plant and the Novo-Kramatorsk engineering plant. The legions of builders included Russians, Byelorussians, Georgians, Kazakhs, Uzbeks and Azerbaijanians. Men and women of 50 of the nationalities in our country worked on the Dnieper station.

The Ukraine would also have been unable, singlehanded, to hold out in the fierce battle with fascism. Here are two items that testify to the comradeship in arms in this fight against the nazi hordes. The men of the First Ukrainian Front who were awarded the title Hero of the Soviet Union for their exploits in the Battle of the Dnieper came from 33 nationalities. The sons and daughters of more than 60 nations and nationalities of the USSR fought in the guerrilla detachments of the Ukraine.

We also recall the years of war when our republic lay in ruins, as though a cyclone had passed through our land. Retreating before the onslaught of the Soviet troops, the Nazis left "scorched earth" behind them; they set hundreds of towns and thousands of rural communities afire, demolished 16,000 factories, power stations and mines. The damage done to the Ukraine by Hitler's men was enormous.

The Ukrainians particularly felt the warmth of all the other peoples of the USSR in the postwar period. Equipment, materials and experts poured in from everywhere. Western economic observers predicted that the restoration of the Ukraine's war-ravaged economy would require dozens of years. Our industry reached the prewar level by 1950, only five years after the end of the war.

It is impossible to conceive the present-day Ukraine outside of the strong alliance of Soviet peoples. It is bound to the fraternal republics with unseverable ties of cooperation. Exchange goes on all the time, adding greater and greater vitality to the vast structure of the socialist national economy.

The Russian Federation supplies the Ukraine with machine tools, motor vehicles, and equipment for blast and open-hearth furnaces, rolling mills, engineering and lumbering, as well as for chemical, food and light industry plants. The Caucasian republics provide oil and oil products, electric locomotives, tea and citrus fruit. Nonferrous metal, polymetallic ore and cotton come from Central Asia; lumber, paper, motor vehicles and tractors from Byelorussia, and transport vehicles, radio apparatus, computers and refrigerators from the Baltic republics.

It would take more space and time than we have to list all the commodities shipped from our republic to other parts of the country. They include coal, pig iron, steel, rolled metal, iron ore, mineral fertilizer, diesel locomotives, tractors, aircraft and instruments.

The ties of our Ukrainian culture with those of other peoples are equally close and fruitful. Soviet Ukrainian literature and art are flourishing, their finest traditions developing. They glow with all the colors of their distinctive national characteristics, and they absorb all the best in the literature and art of other peoples.

The works of Soviet Ukrainian writers have been translated into scores of languages and are read in all the republics. Our plays and songs are just as popular in other parts of the country as in our republic. Audiences at home and abroad admire the films made in Ukrainian studios. Our actors, singers, and musicians are world-famous. At the same time, the finest artistic creations of the Russian and other peoples of the USSR are part and parcel of the cultural life of the Ukrainians.

National narrow-mindedness and chauvinism are alien to the Ukrainians, as they are to all the peoples of the USSR. A constant and fruitful exchange of national cultures is typical of the Soviet way of life. The theater companies and music and dance ensembles of Moscow, Leningrad, Byelorussia, the Central Asian and Baltic republics, and the Caucasus perform regularly in Kiev, Kharkov, Odessa, Uzhgorod, Ternopol and other Ukrainian cities. Art exhibitions are held, and festivals of the national cultures of other peoples are staged in Kiev. Festivals of Ukrainian literature, art and science are annual events in the other republics.

People's Representation

One of the major achievements of the Ukraine as a member of the big family of Soviet peoples is the establishment and consolidation of our socialist statehood. Voluntarily entering into a union with other republics and enjoying equal rights, the Soviet Ukraine strengthened its sovereignty, which is guaranteed by the whole of the Soviet Union's political, economic and military might, by the support of all the fraternal peoples, by mutual assistance.

Socialism made the working people active participants in running the affairs of the state. This can be judged by the composition of the Supreme Soviet of the Ukraine, the parliament of our republic. Of the 484 deputies, 146 are workers and 97 are collective farmers. They make up 50.2 per cent of the total. In this highest lawmaking body of the Ukraine 169 of the deputies are women and 62 are young people under 30.

Most of the 500,000-odd deputies to the local Soviets of the Ukraine are workers and farmers.

The Soviet Ukraine plays its part on the international scene. It is one of the founders of the United Nations and is an affiliate of the majority of its bodies. The Ukrainian Republic's activities on the world scene contribute to the implementation of the peace program adopted at the Twenty-fourth Congress of the Communist Party of the Soviet Union.

The 47 million people of the republic are moving confidently along the creative road they have marked out for themselves. Their vanguard is the Communist Party of the Ukraine, one of the militant detachments of the CPSU. The Twenty-fourth Party Congress unfolded great prospects before the working people of the Ukraine, as well as before all the other Soviet people.

Our republic will prosper still more in the new five-year plan period. The results of the first year of this plan and the strong and steady contribution of labor have made us very happy indeed.

The Ukrainian people will always cherish and strengthen the friendship of Soviet peoples, the source of the strength and might of the socialist state.

50 YEARS
OF THE USSR
1922-1972

A FAMILY OF

THE RUSSIAN EMPIRE was inhabited by more than 100 nations, nationalities and ethnic groups. Officially the Russians were recognized as the ruling nation; all the others were treated as colonial or semicolonial peoples. They were subjected to the triple yoke of czarism, the Great-Russian bourgeoisie and local feudal relationships; czarist Russia was indeed a prison of nations. The Socialist Revolution of October 1917 had among its cardinal objectives the abolition of national oppression. The Soviet Government granted every nation of the dissolved empire the right to self-determination and set up an entirely new and voluntary international community. The Bolsheviks and their leader Lenin conceived of this community of nations as a harmonious family of absolutely equal peoples in which national antagonisms were replaced by mutual trust.

Difficult Task

Achieving this was an enormously difficult task. National antagonisms, which were deeply rooted in Russia, had reached almost a breaking point. The bourgeois nationalists of the Ukraine, Byelorussia, Lithuania, taking advantage of the chaotic situation, worked feverishly for separation from Russia. In Transcaucasia, too, nationalism rose to a peak. The anti-Russian sentiment fomented by the feudal and other reactionary elements infected the Central Asian peoples as well: the Uzbeks, Kirghiz, Kazakhs, who had suffered cruelly from their obligation to the czar and from military requisitions (until the October 1917 Revolution Russia was a belligerent in World War I). The old enmities between the various small nationalities threatened to erupt—as they actually did in Transcaucasia, for instance—in bloody clashes. Under these conditions the national policy of the Soviet state had to be both clear and flexible, firm and cautious.

Addressing himself to the working masses of Russia's national outlands, Lenin wrote:

"We want a voluntary union of nations, a union that would not permit violence by one nation against another, a union founded on the fullest trust, on a clear recognition of fraternal unity, on entirely voluntary consent."

For this policy to be implemented, it was necessary not only to nip in the bud every relapse to Great-Russian chauvinism, but to demonstrate in practice the determination to help small peoples in the country's provinces pull out of their economic and cultural backwardness. In the first years of Soviet power, Central Russia was still devastated from World War I and the Civil War, and all resources seemed exhausted. Nevertheless, the government found ways to help the outland peoples. For instance, in 1921, when many of the universities and colleges in Russia proper were still closed, national universities were opened in Tashkent (Central Asia) and Baku (Transcaucasia) by special government decree. Any number of such instances of concern could be cited.

The policy of Lenin's party gradually persuaded the working people of the non-Russian nationalities to abandon their prejudices and suspicion. In March 1921 a resolution of the Tenth Congress of the Communist Party noted that the right to self-determination and the formation of independent Soviet republics had built mutual trust among the working masses of the different nationalities, had "raised this trust to the point of enthusiasm, of readiness to fight for the common cause."

Equality

In December 1922 the First Congress of Soviets of the USSR proclaimed a Union of Soviet Socialist Republics.[1] The declaration on the formation of the Union pointed out that it was only under Soviet power that national oppression could be uprooted, an atmosphere of mutual trust created, and the foundation of fraternal cooperation by the nations laid. Mikhail Kalinin, a Russian worker and a party comrade of Lenin, was elected Chairman of the Central Executive Committee of the USSR.[2] The three other Soviet republics were represented on the committee. In his closing remarks to the congress Kalinin said:

"Whole millenniums have passed since the best minds of mankind began to tackle the theory behind the search for forms that would make it possible for the peoples to live in friendship and brotherhood, without the most terrible torments and mutual struggle. Only now, on this day, is the first stone being laid in practice toward this end."

The first congress of Soviets proved the success of the Leninist national policy. On the eve of the congress Lenin flatly rejected the so-called autonomization plan. It provided that the Soviet republics, with autonomous rights, merge within the framework of the Russian Federation. What was proposed, in other words, was a form of amalgamation in which the Russian Federation would be vested with full power and the independence of the other republics (the Ukraine, Byelorussia and the Transcaucasian Federation) curtailed. Lenin proposed instead a voluntary union of independent and equal republics. His proposal was accepted.

Overcoming nationalism required much painstaking effort, tact and caution. Lenin kept reminding those in authority that the decades of czarist Russia's great-power chauvinism had left open wounds. And that it was therefore the duty of the Russian Communists and the Soviet Government not only to observe the principle of national equality meticulously but, even more important, to make the most painstaking effort to eliminate the accumulated mistrust and resentment.

Fraternal Assistance

The proclamation of equality of nations, coupled with the rigorous application of this principle in everyday life, was the first blow struck at nationalism. But for the broad masses to be convinced that a basically new relationship between the large and small nationalities was a real possibility, the equality of the newly formed republics had to be demonstrated in action. They had to be made economic and cultural equals, and that had to be done in a historically brief period, in a matter of two or three decades.

It was no easy thing. The backwardness of Russia's national provinces, especially those in the East, was appalling. Take Uzbekistan, for instance. Tashkent, the regional center,[3] as late as the second half of the nineteenth century had a slave market where people were actually bought and sold. And it was these regions that had to be brought to the level of Central Russia.

Aid of all kinds, from Central Russia primarily, was the main, and originally the only, answer. The redistribution of the national income of the Union as a whole in favor of the backward nations made for their speedy progress.

If by 1939 the fixed assets of industry in the country as a whole had increased about eight times compared with 1927-1928, in the Central Asian republics the increase was 19 times. Hundreds of industrial enterprises had been built in the Central Asian republics, dozens of them big ones of countrywide importance. In Kazakhstan, a republic neighboring on Central Asia with no industry of any kind, an industrial base was established that subsequently, during the war with nazi Germany, played a vital part in keeping the front supplied.

Impressive cultural and scientific progress was made by the republics. Local cadres were trained. The peoples of the outlying regions saw tangible evidence of growth. This gave them confidence and a sense of national pride. It also made them increasingly aware of the unity and friendship of all the peoples of the Soviet Union, of their fraternal mutual aid, of the community of their efforts, all of which is what we mean by socialist internationalism. This sense of being a single family, of the new, Soviet patriotism, is what enabled the Union to stand up against and win the war with the nazi aggressor.

[1] See article by Anastas Mikoyan in December 1971 issue.

[2] The country's supreme authority between all-Union congresses of Soviets between 1923 and 1927. Its functions are now performed by the USSR Supreme Soviet.

[3] Now the capital of the Uzbek Soviet Socialist Republic.

NATIONS

BY BULAT ZABIROV
Candidate of Science (History)

A Hard Test

Millions of Soviet soldiers repose in eternal sleep over the vast expanses of the land, from the Black to the White Sea, from Moscow to Berlin, from the Volga to the Elbe. Russian poplar and birch, Byelorussian weeping willow, Polish linden and Hungarian chestnut trees rustle over their common graves. Resting there are the sons of all the Soviet peoples, men, young and middle-aged, born in the Urals and Siberia, in the hamlets of Central Russia, in the mountains of the Caucasus, in the oases of Central Asia, in the steppes of Kazakhstan. . . . An old Georgian woman dressed in black visits a Lithuanian village. Her arms gently supported by towheaded boys, she walks to the edge of the village, bends over the grave and lays a handful of Georgian earth on it. . . . Russian mothers go to the graves of their sons in Estonia and Moldavia, Ukrainian mothers go to Byelorussia, Armenian to Latvia. . . . The heroic deeds and the blood shed in the war of liberation cemented even more strongly the family of Soviet nations. In the fire of the war against nazism socialist internationalism was tested and hardened.

Attacking our country, Hitler Germany pinned its hopes on the breakdown of the union of Soviet republics, on the revival of nationalism under the impact of the first serious defeats of the Red Army. This could not and did not happen.

All the Soviet divisions on the war fronts were multinational in composition—people of every Soviet nationality. Thousands of them won the honored title Hero of the Soviet Union.

Worthy of mention is the fact that among the famous snipers of the Soviet Army were many members of the small nationalities from the remote taiga regions of Siberia and the Far East. Hunters by trade, these men who could hit a squirrel, a marten, a sable in the eye did not miss their mark at the front either.

But the ones who bore the brunt of the hardships and sacrifices were the Russians. And every nation of the Union pays homage to them for the leading part they played in the historic struggle.

Internationalism in Action

Equality of the nations and peoples of the Soviet Union is not only guaranteed by the Constitution and the laws of the country but is actually practiced in all walks of life. As a matter of fact, the small peoples and ethnic groups are the subject of special concern. It is like the care shown by a family for its younger children.

Representatives of all the various nations and peoples inhabiting the Union are to be found in the top government bodies in Moscow. In the Soviet of Nationalities of the USSR Supreme Soviet 66 of the 750 seats are held by members of the small national minorities, which total less than one per cent of the population of the Union. This is characteristic. There is no strict proportion here, but rather a typical illustration of our socialist democracy.

The Secretary of the Presidium of the USSR Supreme Soviet is Mikhail Georgadze, a Georgian. The Chairman of the Soviet of Nationalities is an Uzbek woman, Yadgar Nasriddinova. One of the Vice Chairmen of the USSR Council of Ministers is Veniamin Dymshits, a Jew. The Chief of the Central Statistical Board of the USSR is Vladimir Starovsky, a Komi.

To be an internationalist in our socialist interpretation of the word is to think not only of one's own nation but to regard as primary the interests of all the nations and peoples, of the entire multinational Soviet state. This overriding idea runs like a red thread through the national policy of the Communist Party of the Soviet Union, through all its efforts to instill new social attitudes. And this idea has penetrated deep into the consciousness of our people, of all the nationalities.

The socialist internationalism of our peoples manifested itself most conspicuously in the difficult period of postwar reconstruction of those parts of the Union that had been occupied by the Nazis (the Ukraine, Moldavia, Byelorussia, the Baltic regions, the western part of the Russian Federation). All our republics participated in this urgent work.

A more recent example of this internationalist principle was the rebuilding of the Uzbek capital, Tashkent, after the earthquake.[4]

National alienation and isolation are promoted in no small measure when people confine themselves to their national territories. In the Soviet Union such territorial isolation is becoming a thing of the forgotten past. Hundreds of thousands and millions of people leave their homes and travel far and wide to lend their knowledge and experience in the construction of new cities and factories, in the harnessing of nature. They share know-how, build families, enjoy their new homes.

As a result, there is hardly a big plant in the Soviet Union where people of different nationalities do not work side by side. Take the Baku oil refinery in Azerbaijan, the Transcaucasus. Among the best workers in the plant, whose portraits are on display in the hall of honor, are people of 13 different nationalities, including an Azerbaijanian, a Russian, an Armenian, a Lett, a Tatar, a Mordovian, an Ossetian, an Avar, a Ukrainian.

People of scores of nationalities not only work but study together. They spend their leisure and go to parties together. As a result there are many mixed marriages. Flaxen-haired Russian girls marry swarthy black-haired Georgians and Azerbaijanians. Tall, good-looking Letts and Lithuanians marry dark-browed Ukrainian girls. A quiet, reticent Byelorussian chooses as his wife an impulsive Ossetian. Of what nationality are the children of these couples? That gets little thought: The children usually decide for themselves which nationality to choose, the father's or the mother's. The really important thing is that these mixed marriages bring healthy, gifted, fine offspring.

Mutual Enrichment

In this atmosphere, swiftly developing national cultures benefit each other. A dual process is to be observed: On the one hand, the purely national culture of each people blossoms; on the other, the mixing of the different national cultures gradually creates a new socialist culture common to all Soviet nations. The best features of all the nations of our country, the best elements of their culture, blend into one. Soviet cultural life acquires an ever more distinctly international character.

Prior to the Revolution many of the nationalities in Russia had no alphabets of their own—the Kirghiz, Kazakhs, Yakuts, the peoples of Daghestan in the Caucasus among them. Today all these peoples have their own alphabets and their own literature, and they contribute to the culture of the Union as a whole.

All the Soviet nations, including those that were formerly outside the mainstream of civilization, are now, under socialism, demonstrating their creative talents, creating significant spiritual values. For the drawing together of our nations this fact is of cardinal importance. It refutes the lies about "superior" and "inferior" nations, objectively helps to formulate an internationalist outlook among the people of the large nations, develops among the small nations a healthy sense of national pride.

A new historical community of peoples—the Soviet nation—has been formed in our multinational land in the course of socialist construction. It is a community without the inner contradictions that arise from nationalism. Multinational in its ethnic composition, this community is an entity in its social beliefs, ideals, interests, aims. In all of mankind's history no such community ever existed. It is the fruit of socialism, of the new epoch in the social history of man.

Our socialist way of life makes for internationalist attitudes. A great deal has already been done to create and develop these attitudes, but it would be wrong to assume that nothing remains to be done. Once in a while, in one form or another, manifestations of national conceit, of national egotism, are still observed. But we do not close our eyes to the complexities of the national problem, we continue to work and to educate.

Marxists look forward to the new, growing, progressive; they do not look back to the old, the moribund. We are confident that as we continue to build the new life, the spirit of socialist internationalism, the ideology of friendship of the peoples, will ultimately triumph in our multinational society.

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[4] See article in the February 1971 issue on the restoration of Tashkent.



Combine operators Mark Braga (with medals), Grigori Dudnik and Vladimir Tamara open the festival. In the small photo farm manager Stepan Tereshchenko (center) leads the procession.



HARVEST FESTIVAL

By Tatyana Larina
Ukrainian Journalist

Golaya Pristan means Bare Wharf. That's what the country around was like when the place was named. Here, at the mouth of the Dnieper, below Kherson, there were great stretches of barren sand. No trees, no shrubs, no water. The region has retained its old name, but the description does not fit any longer. Reclamation, irrigation and afforestation have changed the face of the land. Large fisheries have been set up. Irrigation gives the collective and state farms of the region rich harvests of wheat, rice, grapes and melons. The villages on yesterday's wastelands are hidden behind masses of orchard foliage. The journalists on the Zarya arrived in time for a harvest festival at the Rossiya Collective Farm in the village of Bekhtery, Golaya Pristan Region.

THE SUN was just beginning to gild the tops of the poplars, the orchards surrounding the little white houses with freshly washed windows were still full of the heady nighttime aroma of scented tobacco and other flowers, but the village of Bekhtery was already up. Nothing unusual—in summer villagers are always up with the dawn. But that day there was something festive in the early rising. Bekhtery was preparing for the Harvest Festival. For a long time, the end of harvesting has been celebrated in the Ukraine. Collective farm life added a new quality to the old tradition. In the socialist village the Harvest Festival turned into a review of achievements and a ceremony to honor the front-rank collective farmers.

The festival began out in the steppe, in the field where Nikolai Kravchenko's team was harvesting the very last plot of wheat. They were using combines, but when only a little of the wheat was left standing, they stopped the machines and got down. Squaring his shoulders, Nikolai brandished a shiny sickle, the harvest symbol. And it seemed that not just Nikolai but thousands and thousands of peasants were making the same motion over the endless steppe. Then he bent down, took a tuft of the golden wheat in his powerful hand and swung the sickle with a forceful yet gentle motion, cutting the wheat at the very roots. This was repeated again and again and again. . . .

Girls in national costumes accompanied Kravchenko. Singing, they sheafed the newly cut wheat, bound the sheaf round in the old way, with a beautifully interwoven girdle of straw, and decorated the sheaf with field flowers and bright ribbons.

In the meantime, in the village center, people were gathering at the palace of culture. All in their holiday best, they came in families: the old folk, the middle generation and the children. Nearly everyone wore a badge on his chest—an ear of wheat on a red ribbon.

Songs, laughter and jokes were heard everywhere. Here and there people drew back to make way for a whirlwind dance—the Ukrainian national *gopak.*

Then a festive procession approached from the steppe. It was led by a Merited Grain Grower surrounded by girls. He was carrying the symbol of the festivities—the sheaf of wheat. Following him came a large group of collective farm machine operators, who had excelled in field work, and team leaders. The procession closed with three combines driven by collective farmers Mark Braga, Vladimir Tamara and Grigori Dudnik. The honor of driving to the festival on their combines was accorded them because, like Nikolai Kravchenko, they had made such good showings in the harvesting.



In the square in front of the palace of culture, the arrivals from the field were met by members of the collective farm board, members of the collective farm party committee, guests from the regional center, a delegation of workers from the town of Kherson and a crowd of their own fellow villagers. With a low bow to the people, Nikolai Kravchenko presented the festive sheaf to collective farm chairman Stepan Tereshchenko and said:

"Congratulations on the new grain! May we collective farmers always work well and you, our head, may you lead us well. And may there always be peace on our earth!"

The chairman took the sheaf and also bowed low to the arrivals from the field and to all the people:

"Thank you, from the bottom of my heart!" he repeated several times. The villagers responded to the heroes of the harvest and the chairman with traditional greetings. Children and girls presented flowers to the newly arrived. The orchestra struck up a ceremonial march. Everybody sang. The song was about the sheaf. Some of the lines went like this:

Oh sheaf, oh sheaf, bright and gay,
What wheat we have garnered today!

* * *

Oh sheaf, that is whiskered like a mouse,
Prosperity you bring to every house!

Senior collective farmer Vasili Korshak, who had often been cited for his work but who is now retired, presented the heroes of today's harvesting with the traditional bread and salt. Again a march struck up, and again there was singing.

Stepan Tereshchenko made a short speech. On behalf of the collective farm board, he congratulated everyone, thanked everyone, reported that the collective farm had done a good job: The wheat had been sown and harvested, and more was sold to the state than the plan called for.

It was getting too hot outdoors, for the sun was already high, so the ceremonies continued in the palace of culture, where it was cool. With a sense of the importance of the occasion, people took seats in the hall and members of the presidium took their places on the decorated stage. The collective farm banner was brought in, and the team leaders made their reports. The chairman talked not only of achievements but of shortcomings, too. "Festival or no festival," he said, "we cannot turn a deaf ear to self-criticism." Then money prizes were awarded. With every award music was played and the hall applauded. The children's choir sang the "Harvest Hymn."

The festival again moved outdoors. Tables had been set up in the square along three sides of the palace of culture. They were covered with elaborate Ukrainian embroidered-lace tablecloths and spread with all the gifts of the sunny earth, which the efforts of man had made bountiful, and with all that Ukrainian cooks could prepare—snacks, pies, grapes, apples, pears, watermelons. Barrels of wine were rolled out. And everywhere there was melodic, sparkling, catchy Ukrainian music—in the square, where toasts were offered, on the stage, where workers from Kherson and local amateur artists were giving a concert, and in the stadium, where contests were held and games were played.

The chairman of the board—in Ukrainian he is called the head of the collective farm—was everywhere. In the morning Stepan Tereshchenko was in his Sunday best: black suit, white shirt and necktie. Later he took off the jacket and rolled up his sleeves. He had already clinked glasses with the old folks at the festive table, danced with the girls, raised a barbell, and now he joined in a tug-of-war. This is one of the oldest of folk contests and is a must in any festivity. It always provokes lots of laughter and jokes.

The summer day is long, but evening approaches. The older people make their way home, where the holiday will be continued with the family and relatives gathered together. But the young people carry the festivities well on into the evening, with the exception, that is, of those couples who wander off to some unfrequented nook in the orchards.

And in the morning the people of the Rossiya Collective Farm will be out working in the steppe again, for there is so much still to be done there.

SIX POINTS

The USSR's Foreign Policy Program

Following is an outline of the foreign policy program as proposed by the Twenty-fourth Congress of the Communist Party of the Soviet Union (1971).

THE FIRST POINT envisages elimination of the hotbeds of war that threaten the world today and promotion of a political settlement in these areas based on respect for the legitimate rights of states and peoples; the USSR's active participation in opposing any acts of aggression and other violations of generally accepted international norms. All countries must agree to reject the use of force or threat of force to settle international disputes. To make this principal the law of international relations, the USSR proposes that all countries conclude bilateral or regional treaties to that effect.

The common aim of all the measures advanced in the first point is to restore peace wherever it has been violated, to end aggression where it exists, to prevent the emergence of new sources of military conflagrations and thereby create a situation favorable for the solution of fundamental international problems. For it is impossible to hope for a solution as long as there is the constant threat of expanded military conflicts.

The second point proposes measures aimed at effecting a radical shift to a détente and peace on the European continent. Its initial premise is that all countries should proceed from the final recognition of the territorial changes that have occurred as a result of the Second World War and the establishment of genuine collective security in Europe. In this connection the point reiterates the readiness of the countries signatory to the Warsaw Treaty to annul this treaty simultaneously with that of NATO or, as a first step, to do away with their military organizations.

The significance of this point is quite obvious. It is Europe that has twice played the role of detonator of world war. In our time, too, it remains an arena for direct confrontation of the principal military forces of the two world systems. It is here that the bulk of troops and arms is concentrated. Effectively reducing these troops and armaments and convening a European conference—the need for which is almost universally recognized today—would not only dispel the dark clouds of military danger looming over Europe but cut the fuse, as it were, of a new world war. If Europe set an example by ending this military confrontation and creating a single security system for all states, the precedent would have far-reaching consequences for peace all over the world.

The third point deals with various aspects of the problem of arms limitation or destruction, first and foremost, weapons of mass annihilation. It looks to the conclusion of treaties banning nuclear, chemical and bacteriological warfare; an end to all nuclear weapons tests, including those underground; the creation of nuclear-free zones in various regions. The Soviet Union stands for nuclear disarmament of all states possessing this weapon of mass annihilation and proposes for the purpose a conference of the five nuclear powers: the USSR, the USA, the People's Republic of China, France and Britain.

The implementation of all these measures would deliver mankind from the peril inherent in the new kinds of lethal weapons. Their removal from the world's arsenals would make a decisive contribution to the preservation of nature and the whole environment of our planet. The use of chemical and bacteriological weapons, let alone nuclear weapons, would not only take a tremendously heavy toll of human life but might even do irreparable damage to the conditions for mankind's existence.

The fourth point develops in greater detail the subject of disarmament. It looks forward to an end of the race in all kinds of armaments, including conventional weapons. A worldwide conference is proposed to discuss every aspect of disarmament. The USSR favors the abolition of foreign military bases and the reduction of armed forces and armaments in regions where military confrontation is especially dangerous, in Central Europe, above all. Measures must be worked out to diminish the likelihood of the accidental outbreak or premeditated staging of military incidents and their development into international crises or wars.

The principal idea here remains the same, namely, to reach agreement between states to limit their over-all military potential, ease the tension resulting from military confrontation, cut off possible sources of military conflicts and create a mechanism for averting dangerous international crises that could explode into war. To solve these complicated and urgent problems, a tried and trusted method is available—negotiations among equals and without any preliminary conditions. This needs special emphasis, for the opponents of a détente in some Western countries are trying to cultivate a kind of negativism. The public is being filled with misgivings about the outcome of negotiations; if there is not 100 per cent guarantee of success, it is claimed, all conferences, meetings and talks are not only useless but harmful and even dangerous. Who would be so foolhardy as to guarantee that talks will be successful before they are even held?

The fifth point involves an important principle. It insists on complete implementation of the UN decisions to end the remaining colonial regimes and on universal denunciation and boycott of racism and apartheid.

Although the number of people under colonial and semi-colonial rule has diminished to 36.3 million—one per cent of the world population—the conscience of mankind cannot rest until the evils of colonialism are forever eradicated. Nor can mankind tolerate the policy of racism and apartheid, which is not only a source of human misery but a real threat to peace.

The sixth point deals with international cooperation. The Soviet Union is ready for mutually advantageous cooperation with all countries willing to reciprocate. This includes joint solution of problems of conservation, exploitation of power and other natural resources, the development of transport and communications, the prevention and elimination of the most dangerous and widespread diseases, the exploration of space and the world ocean. A European security conference would, for example, not only make for greater trust in Europe but would open up broad opportunities for all-round economic, scientific and technical cooperation. And this could create conditions for solving such problems as the organization of transcontinental shipments of goods, the building of powerful electrical transmission lines and, with this base, the establishment of a unified power grid for Europe which would result in major advances in solving the continent's fuel and power problems.

These points of the Soviet program, important as they are economically, have great political significance, developing and supplementing, as they do, the principle of peaceful coexistence of states, irrespective of social systems. They show clearly that the implementation of this principle presupposes not only the exclusion of war as a means of settling disputes and the elimination of distrust and enmity from relations between states, but also the development of all forms of businesslike cooperation between them, on the basis of complete equality and mutual benefit. The new Soviet proposals are based on the CPSU Program, which says that in our time peaceful coexistence between the socialist and capitalist states is an objective necessity for the development of human society. The fact that the Soviet Union and other socialist countries put forward a broad, long-term program for economic cooperation with other countries, including the industrially advanced capitalist countries, is eloquent proof of the peaceful intentions of the socialist states and their confidence in the future.

Talking of the struggle for peace, Lenin said that our country would like to see the least possible number of general statements, solemn pledges and high-sounding formulas and the greatest possible number of very simple and clear decisions and measures leading to peace, if not to the complete elimination of the threat of war.

These are the main elements of the program for peace and international cooperation advanced by the Twenty-fourth CPSU Congress.

One may wonder how good the chances are of implementing this program in the present international situation.

Obviously, only time and trial can give a definite answer. However, experience in international relations, the growing trust between nations, the prestige of the USSR in the area of foreign policy and the increasing coordination of that policy in the socialist commonwealth all support an optimistic view.

Immediately before and since the congress, a whole series of international moves promoting détente have been effected with the active participation of the Soviet side. They include the treaty between the Soviet Union and the Federal Republic of Germany affirming, in particular, the inviolability of the borders that resulted from the Second World War; the four-power agreement on West Berlin; the visit to Canada by Alexei Kosygin, Chairman of the USSR Council of Ministers; the visit to France by Leonid Brezhnev, General Secretary of the CPSU; meetings and other forms of contact of Soviet leaders with the heads of foreign states and representatives of parties and public organizations, and certain results achieved in the Soviet-American strategic arms limitation talks (SALT).

The dividing line between "real" and "unreal" things in foreign policy is not rigid but can be changed by circumstances, by the balance of world forces, by the display of initiative at the proper time and by anticipating the possible course of development. It is with these considerations in mind that the Communist Party of the Soviet Union and the USSR Government build their foreign policy.

Courtesy of Magazine *Communist*

ON GUARD FOR PEACE

54TH ANNIVERSARY OF THE SOVIET ARMY

By Marshal of the Soviet Union Ivan Bagramyan

Ivan Bagramyan, born in 1897, was the son of an Armenian railroad man who worked in the city of Elizavetpol (now Kirovobad, Transcaucasia).

He is a regular army officer. In 1915 he was called up to serve with the czarist army, and in 1917 he graduated from a school for warrant officers. His service with the Red Army began in 1920. He fought in the Civil War (1918-1920) and was an army group commander in the Great Patriotic War (1941-1945). In 1934 Marshal Bagramyan graduated from the Frunze Academy, and in 1938 from the General Staff Academy.

In 1955 he was appointed Marshal of the Soviet Union. Currently, he is Inspector General of the USSR Ministry of Defense.

THE SOVIET ARMED FORCES grew out of detachments of armed workers (the Red Guard) and revolutionary-minded soldiers and sailors.

The young Soviet Republic was threatened by domestic counterrevolutionaries and foreign intervention from the first days of its existence (it was established in November 1917). Regular troops were needed to defend the world's first socialist state.

On January 28, 1918, Vladimir Lenin signed the decree forming a Workers' and Farmers' Red Army. On February 18, 1918, the army of the Kaiser's Germany, which had been at war with Russia since 1914 and had not responded to the proposal on peace from the Soviet Republic, resumed its offensive on the entire Russian front. Revolutionary Petrograd (Leningrad), then the seat of the Soviet Government, was endangered. The first Red Army regiments were sent to fight the German interventionists.

Now every year we celebrate Soviet Army and Navy Day on February 23; that was when Soviet regular troops fought their first battle with the interventionists. And as we honor that memorable day, I would like to tell you what our armed forces stand for.

In the first place, it should be noted that the very establishment of a regular army in the first months after the victory of the Socialist Revolution in Russia was forced by circumstance. The problem of forming an army had not been raised by Marxism before for the simple reason that all the aspirations of socialism were directed to peace, not war. Lenin made the point that "the question of building the Red Army was absolutely new, it had never been posed even theoretically."

The Soviet Government's first act in international politics was to proclaim peace and pull Russia out of the First World War. The young socialist state, in spite of the very dangerous domestic and foreign situation, went as far as to demobilize the czarist army immediately and completely, because the socialist state did not want to continue the unjust war.

The Red Army came into being as a protective force against outside aggression, especially from the Kaiser's Germany. The Soviet Armed Forces developed in the course of the Civil War and foreign intervention (1918-1920). After the Civil War, the Red Army was nearly demobilized—its numerical strength was reduced from five million to 586,000 officers and men. It was preserved only as a shield against foreign aggression, a very real and ever present danger.

For a certain period, even under Soviet power, our country still had social classes objectively hostile to socialism (owners of private enterprises during the so-called New Economic Policy and kulaks in the countryside). There was, then, a possibility that the capitalist system, which had been toppled by the people of the country, might be restored. Therefore the army retained in some measure its function as defender of the political and social structure of the new system. The fact, though, was that this job could have been done even without a regular army—the people's militia would have been sufficient. But since there was a possibility of aggressive forces from outside coming to help domestic counterrevolutionaries, a regular army was absolutely necessary.

Subsequently Soviet society eliminated class antagonisms, and so as far as internal development was concerned, the Soviet Army had done its job. That is why, as the Program of the CPSU points out: "In terms of internal conditions, the Soviet Union needs no army. But since the danger of war coming from the imperialist camp persists and since complete and general disarmament has not been achieved, the CPSU considers it necessary to maintain the defensive power of the Soviet state and the combat preparedness of its Armed Forces at a level ensuring the decisive and complete defeat of any enemy that dares to encroach upon the Soviet Union."

The Soviet state, which came into being as a workers' and farmers' state, has matured into one of the entire people, into an instrument for the expression of the interests and will of all the people. Obviously, a state of the entire people is interested not in suppressing the people or any of its parts but rather in boosting the initiative of society and all its members. The task of the Soviet Army is to protect the creative work of the Soviet people from outside aggression. If the world achieves general and complete disarmament, there will be no need for the Soviet state to have an army.

The agreement on West Berlin and the sensible character of the strategic arms limitation talks help ease the burden of maintaining and developing armed forces.

A favorite bugbear of some Western countries is "red militarism" and the "Soviet threat." This is sheer nonsense. The entire history of the Soviet Army proves that it took action only in cases of extreme necessity, when outside forces threatened the very existence of our state. Suffice it to recall the Great Patriotic War of the Soviet people against the nazi invaders (June 1941-May 1945).

Our country has no caste of militarists, divorced from the people and prospering from war preparations. We Soviet soldiers, from private to marshal, are sons of the working people and vigilantly watch over their interests. Attempts to impute to the Soviet Union intentions that are alien to its nature have always fallen through and will fail in the future. All the peoples of the world know that the Soviet Union counterposes to the aggressive policy of imperialism the policy of active defense of peace and consolidation of international security.

The Soviet Union devotes its forces to the constructive tasks of building the material and technological foundations of communism, to the improvement of the well-being of the people, to the consolidation of the country's defense potential on behalf of universal peace. The Soviet people have equipped their army and navy with the most up-to-date means of discouraging aggressors—atomic and thermonuclear weapons, missiles of different ranges, the most advanced warships and submarines, supersonic planes, automated control systems and so on. Soviet strategic rocket troops have developed into a truly formidable force. Their combat possibilities make them the principal means of containing aggressors. Since victory in modern warfare calls for the joint effort of all armed services, the Soviet state constantly concerns itself with the harmonious development and perfection of its land forces, antiaircraft defense troops, air force and navy. Their weaponry, military machinery and organizational structure meet every modern requirement.

For all their colossal technological possibilities, the principal force of the Soviet Army and Navy is the men to whom the powerful weapons are entrusted. The command, political and technical personnel of the Soviet Armed Forces is made up of people whose cultural level is high, whose versatile skills and knowledge enable them most efficiently to direct the troops and handle the latest weapons. Well-educated and well-developed young people come to serve in the army. Most of them have a secondary, a specialized secondary or a college education. And this helps young soldiers to quickly master the skills of modern warfare and to learn to use complicated machinery.

Standing side by side with the Soviet Armed Forces and protecting the security of nations are the armies of the socialist states. As a result of collective measures, the military organization of the Warsaw Treaty has been strengthened and the troops of our allies are in an excellent state of preparedness.

In conclusion, I would like to recall something which Leonid Brezhnev said in the report to the Twenty-fourth Congress of the Communist Party of the Soviet Union (March 30, 1971).

". . . We have no territorial claims on anyone whatsoever, we threaten no one and have no intention of attacking anyone, we stand for the free and independent development of all nations. But let no one, for his part, try to talk to us in terms of ultimatums and strength.

"We have everything necessary—a genuine peace policy, military might and the unity of Soviet people—to ensure the inviolability of our borders against any encroachments, and to defend the gains of socialism."

TRAVELS AND THOUGHTS

By Natalia Kashchuk
Ukrainian poet,
Contributor to the Kiev magazine
"Ukraina"



***LIKE** an overripe cornfield, the August night sky keeps dropping its stars. Raise your palm, and you'll have a handful. The grand river, the Dnieper, and the grand sky, the Ukrainian steppeland sky, are rushing toward one another. Any minute now it seems that they must merge to continue together toward the universe. The sky in the city is never so close.*

Our kindly white motorship. What a wonderful experience: to leave behind on the bank the bustle of daily life and surrender oneself to quiet thoughts and reflections and so head down the river, dissolving in the night; to give oneself to the quiet, the starfall.

Our Ukrainian poet Vasil Simonenko said:

In everything, my son, you have a free hand,
But you cannot choose a fatherland.

I am eager to see this land, this blade of grass between the rocks, this leaf carried by the wind. The clouds in the sky. The ears of corn in the field. I want to see people, hear their voices, their laughter, see their smiles. And I also want to show my son this world, this land, these roads on which I traveled and came to know my homeland.

My boy is with me, also on deck. I hear his breathing, I feel his warmth. He was long falling asleep tonight, after all the excitement: his first voyage by ship, and such a long trip at that—through the whole of the Ukraine. His first night right under the stars.

Nighttime, especially on such a wonderful night, disposes one to recollection. I recall legends about the Dnieper. In one, a young Slavic woman is being pursued by a cruel invader. She is running as fast as she can, so fast that even the swallows cannot keep up with her. She is saving not just herself but another life pulsing under her heart—her son, the son her warrior husband awaited but never saw, for he fell, fighting against heavy odds. She is not running, she is flying. But her pursuer is on horseback. The forces are too unequal. He gains on her. He is about to grasp her long hair, streaming in the wind, about to wind the strands around his hand. But the fair locks suddenly turn into a flowing stream of water—the ground has opened up to hide her from her enemy. And when the time comes for her to give birth to her first child, a spring issues at the site. That is how the Dnieper-Slavutich (the glorious Dnieper) came into being.

. . . I am awakened by women singing. Katya, Lyuba and Ulya, of the Zarya's crew, are cleaning the windows of the salon and singing softly. Making out the words, I realize it is not a Ukrainian but a Byelorussian

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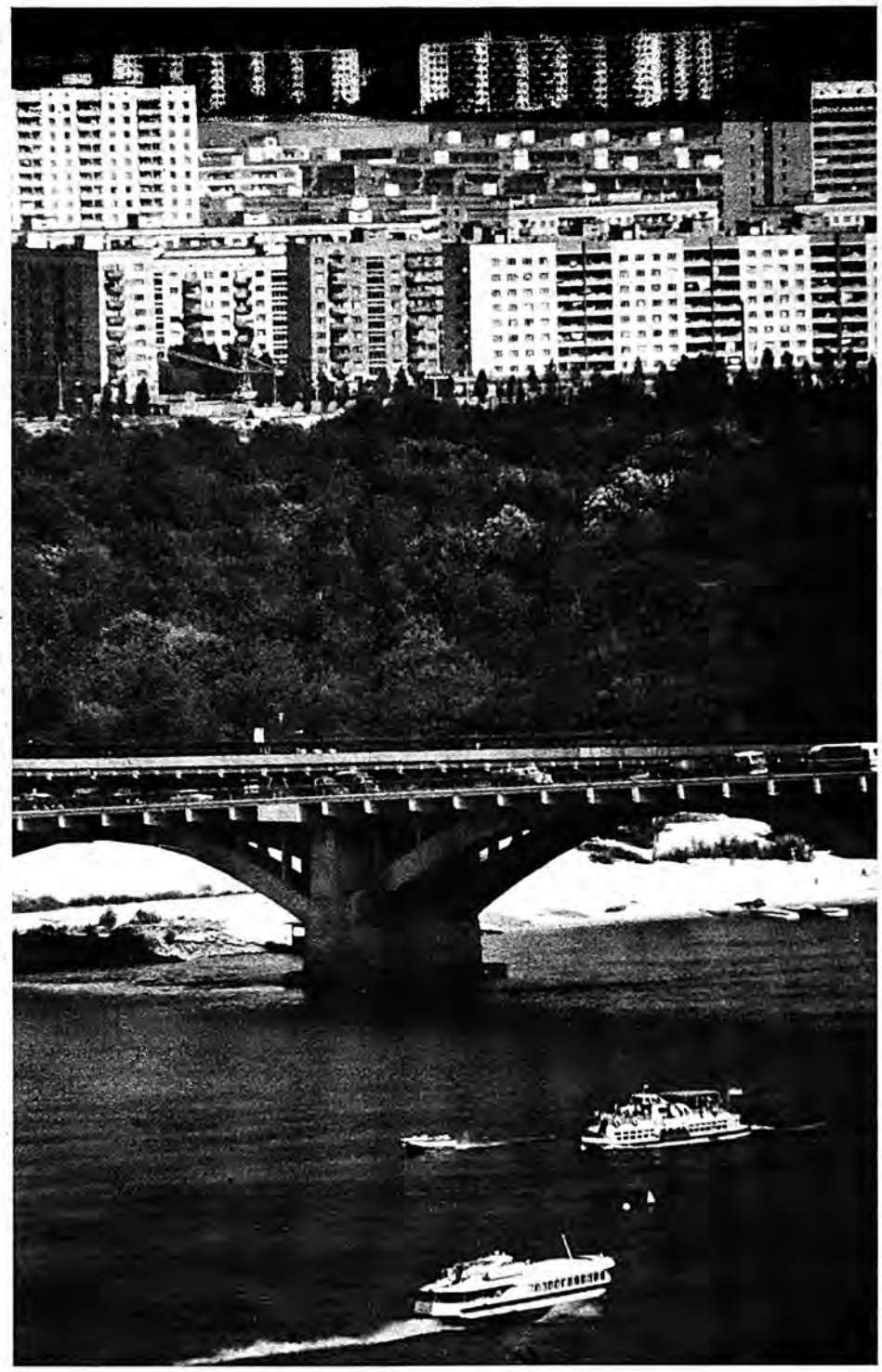




KIEV
Ukrainian Capital



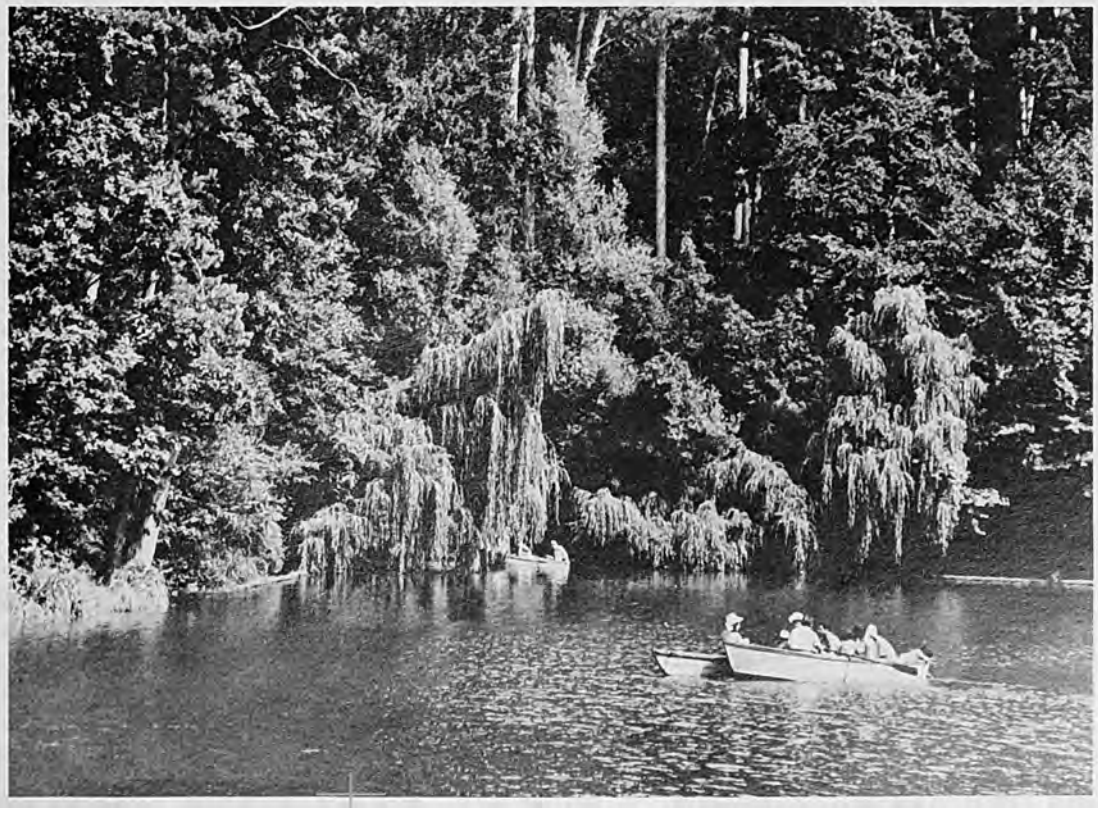




This monument to Bogdan Khmelnitsky (1595-1657), Ukrainian hetman and patriot who united his country with Russia, stands in one of the principal squares of Kiev. Top right: The city's parks, particularly the one on Vladimirskaya Hill which offers a sweeping view of the Dnieper, are well patronized by people of all ages and interests. This is a typical scene. Center right: Another popular pastime is squirrel feeding. Right: The performance has been over for quite a while and most of the spectators, these two excepted, have gone elsewhere. Top left: Ukrainian poet and newspaperwoman Natalia Kashchuk was a member of the journalists group aboard the Zarya.

Kiev is even more beautiful at night than in the daytime, as this photo testifies. The view of the Dnieper and the lights of new housing developments was taken from Vladimirskaya Hill, which is on the right bank of the river, in the center of the city.





There is a virtual mass migration from the city center and outskirts on hot summer days. Kiev's favored location on the Dnieper gives its citizens long stretches of beach practically within walking distance for many and a short bus or trolley ride for most.

The genuine pearl of the Dnieper is Kiev, oldest city of the European USSR. This capital of the Ukrainian steppes arose on the hills embellishing the right bank of the river. Everything is to be found here, more clearly etched than perhaps in any other Soviet city—antiquity and modernity, the Ukrainian national character, calm and broad, and an elusive multiformity and internationalism.

Kiev is rich in priceless monuments of past ages, beginning with the eleventh century—the Pecherskaya Monastery, the Golden Gate and St. Sophia Cathedral, among others. Against the background of St. Sophia's cupolas looms the monument to hetman Bogdan Khmelnitsky (1595-1657), the Ukraine's national hero.

In the evenings and on holidays the streets and parks are filled with people. It is pleasant just to walk through this city of gardens and museums, or climb to the top of Vladimirskaya Hill in the evening and gaze down at the Dnieper, the lights, and the distances of the left bank. No wonder Mayakovsky wrote: "Here I stand on the Hill, the Vladimirskaya, and broad spaces spread below, never to be covered by my pen . . ."

TRAVELS AND THOUGHTS

Continued from page 10

song. The Dnieper brought it from our neighbor. Byelorussia is on our northern border. I remembered, once, crossing paths with a wedding boat train on the Byelorussian part of the Dnieper. A festive but solemn file moving downstream. The boats, decorated with pine branches, flowers and colorful ribbons, were carrying young men and women in their holiday best. They were singing. And it was that very song the Ukrainian girls are singing now.

Kiev was still in my mind when the Zarya approached Pereyaslav-Khmelnitski, another remarkable city on the Dnieper, where a crucial event in the history of my country took place. It was here that the Pereyaslav Rada, in 1654, decided to reunify the Ukraine with Russia. The initiator of this great move was hetman Bogdan Khmelnitsky. A majestic monument was unveiled in the city on the tercentenary anniversary. Two sisters, a Russian and a Ukrainian in national dress, stand in bronze on a granite base, to symbolize everlasting and inviolable friendship, the unity of the two republics. The city's central square is named for Bogdan Khmelnitsky.

Our next stop is Kanev, a town 90 miles below Kiev, a memorial to the Ukrainian poet Taras Shevchenko (1814-1861). Here his grave is and a museum devoted to his life and work.

The evening is as quiet and solemn as the one on which I began these notes. From the landing stage we make our way up the steep slope of a mountain to the poet's grave.

When we reach the summit, the setting sun, a huge and flaming disk, has already touched the earth, and the bronze figure stands out sharply against this fiery background. A rebel and prophet, a great poet of the people, Shevchenko moves toward us from the sunlight and the flames.

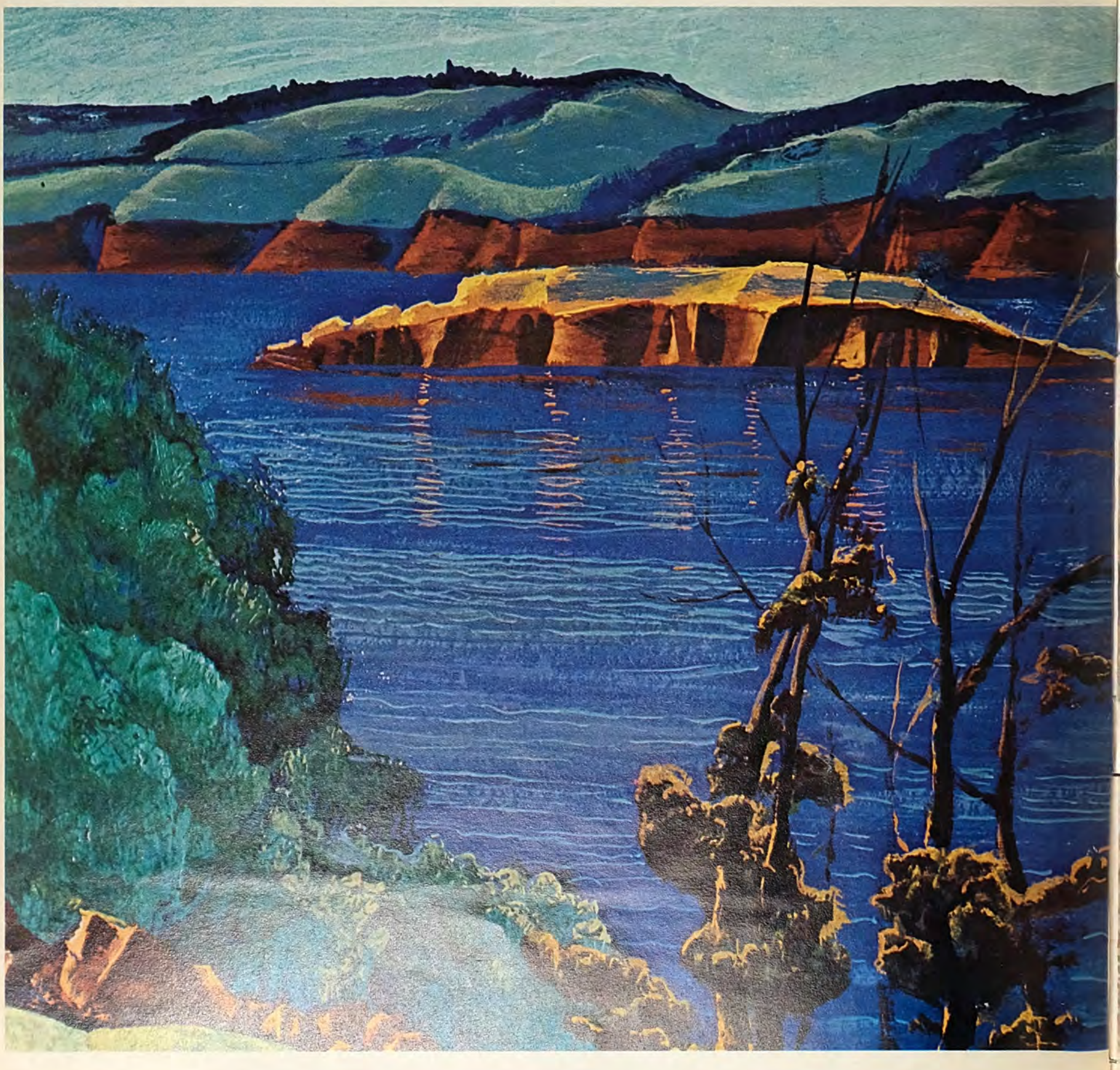
The bandore, or kobza, is a national musical instrument, traditional and beloved in the Ukraine. A kobzar is the Ukrainian word for a kobza player who sings ballads, many of which are original with the player.

Shevchenko called a book of

Continued on page 20

Artist Leonid Stil did the paintings reproduced here. With him in photo at right is Jan, son of the captain of the Zarya.

Khortitsa Island



ARTIST'S VIEW OF THE DNIEPER

THE REPORTERS TEAM on the *Zarya (Dawn)* included Leonid Stil, a Kiev artist. We saw this humorist and life of the party, who can cook, dance, play the balalaika, sing and tell the tallest stories, doing everything but drawing. It made us gasp when, at the end of our cruise, he hung some 30 drawings all over the boat. They were, he assured us, cartoons of all of us, including the captain. However, we thought some of



Dneprodzerzhinsk at Night.



them a bit too caustic, and a few of us were even outright offended. But he only chuckled:

"Of course, of course! If I had made you all handsome, nobody would have been hurt at my departure from realism!"

We were still more surprised when, a few days after the cruise, Leonid brought to the office an armful of colorful paintings, three of which are reproduced here. In a discussion of the paintings, someone said: "All this is very striking, but is it true to life?" No doubt Leonid would object to such a comment in a serious debate ("The artist has the right to his own interpretation," etc., etc). But still under the free-and-easy influence of the *Zarya,* he just let it go.

The captain's five-year-old son frequently kept Leonid company while he worked. Jan was the only passenger who escaped our satirist's wit.

One gets the feeling of young people all over the place on a visit to any one of the big industrial projects on the Dnieper. These pictures were taken at the site of the thermoelectric station in Tripolye, 30 miles south of Kiev. Bottom: Valentina Zaida, a member of the Komsomol Committee on the project, gives a pep talk to a team of fitters.

The Fields.







THE TRIPOLYE POWER STATION

Young Communist League Memorial



In Honor of Youthful War Heroes

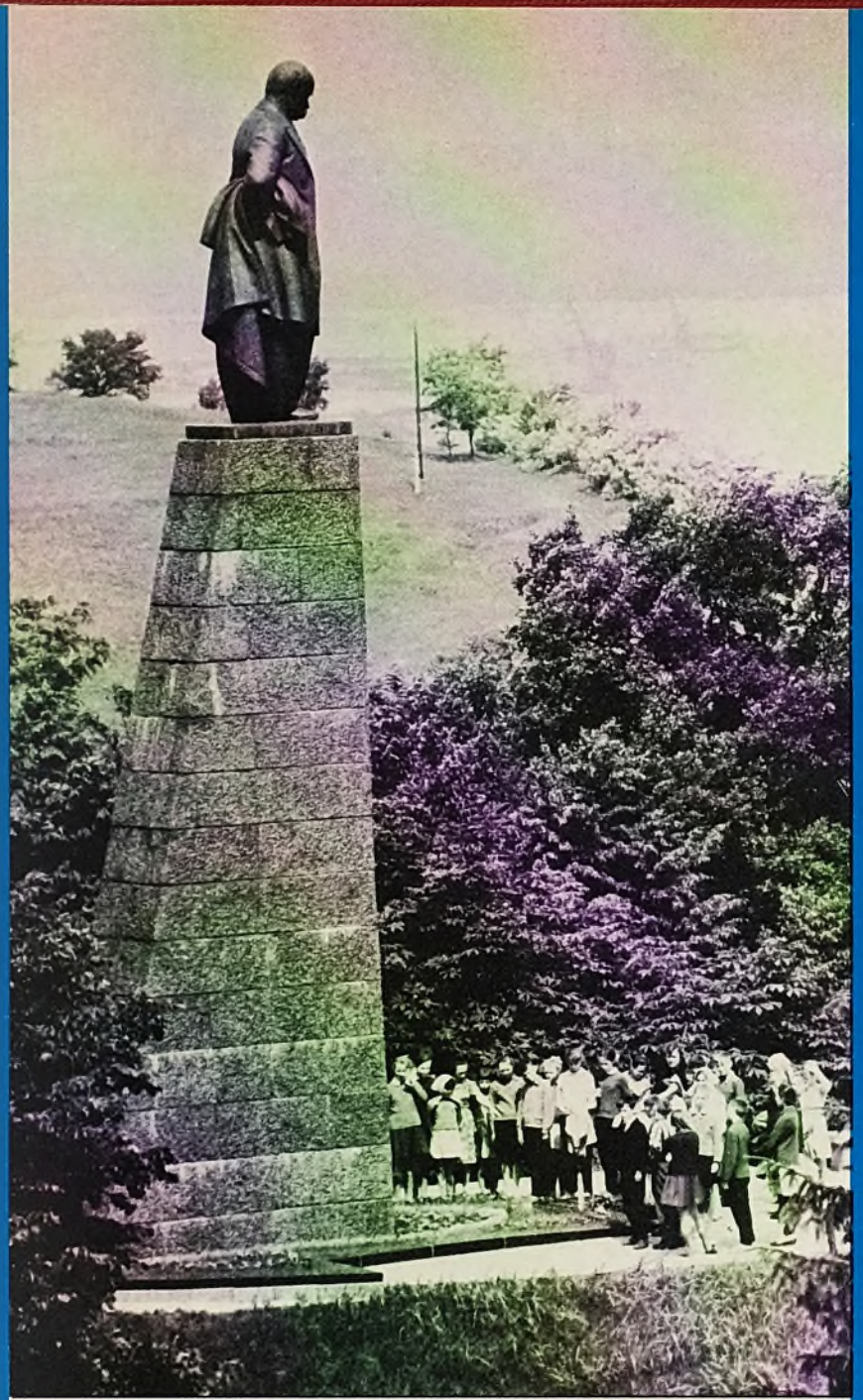
IN THE VILLAGE OF TRIPOLYE, some 30 miles below Kiev, a big thermoelectric power station is being built along the river bank. Four turbines are already in operation, while the remaining ones are being assembled. Most of the builders are young people, YCLers. When the *Zarya* visited this project, assembly worker Valentina Zaida, a member of the YCL Committee there, told us:

"There are lots of youth construction sites all over the country, but ours is especially popular. Young people come to us not only from the Ukraine and Byelorussia, but even the Far East, which is 6,000 miles away."

"What makes Tripolye so popular with them?"

"It's a matter of history. In 1919, during the Civil War, a detachment of Kiev YCLers distinguished themselves in battle against the counterrevolutionary bands here. It was an uneven fight. Almost the entire detachment of several hundred was destroyed, and the wounded were taken prisoner and brutally executed. This event is known as the Tripolye tragedy. Books have been written about the young heroes who gave their lives for the revolution. Songs are sung about them, and every present-day YCLer is familiar with their story. But Tripolye itself has not changed in 50 years. You saw it—the same white houses nestling among gardens. . . .Except for this big construction site on the riverbank!

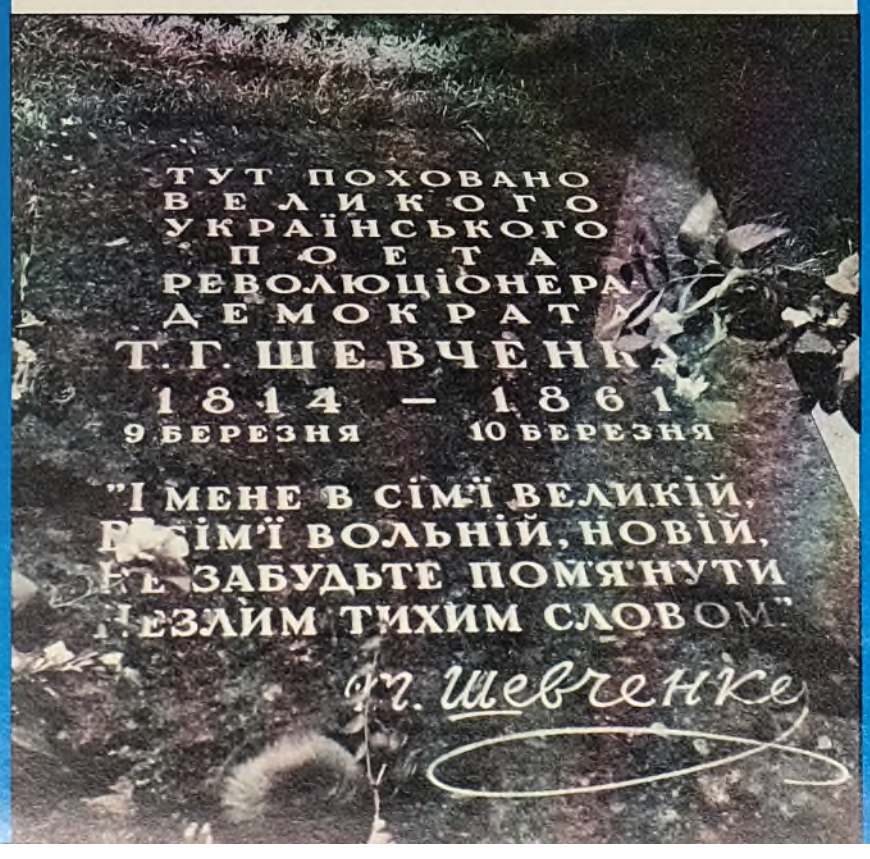
"Our young people see this project as an opportunity to distinguish Tripolye again, this time by peaceful labor. The Ukrainian YCL is patron of the construction site. The new station will be a monument to the heroism of the first generation of YCLers. That's the reason for its popularity."

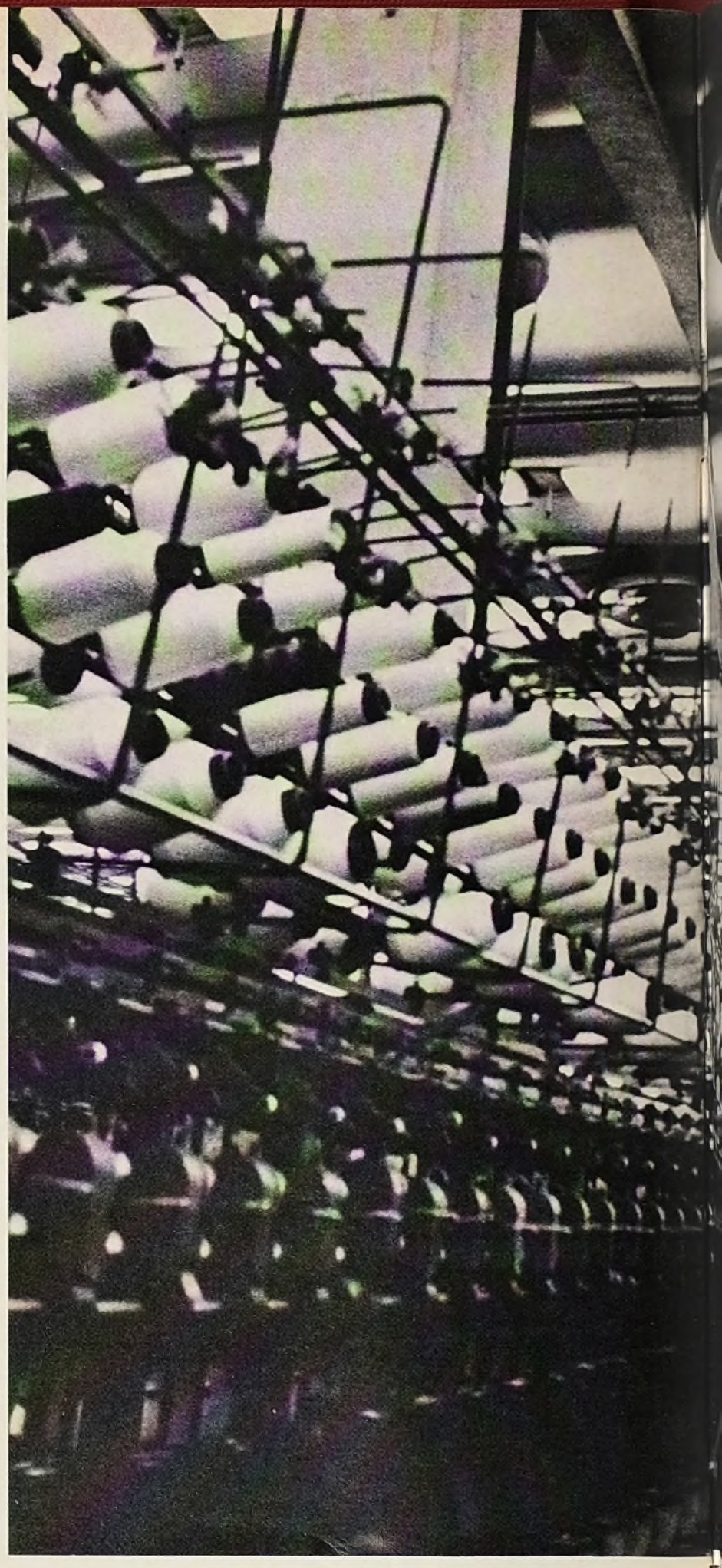


Taras Mountain

Overlooking the Dnieper is a monument to a great poet. Taras Shevchenko is buried there, as his will specified. Inscribed on the tombstone is this request:

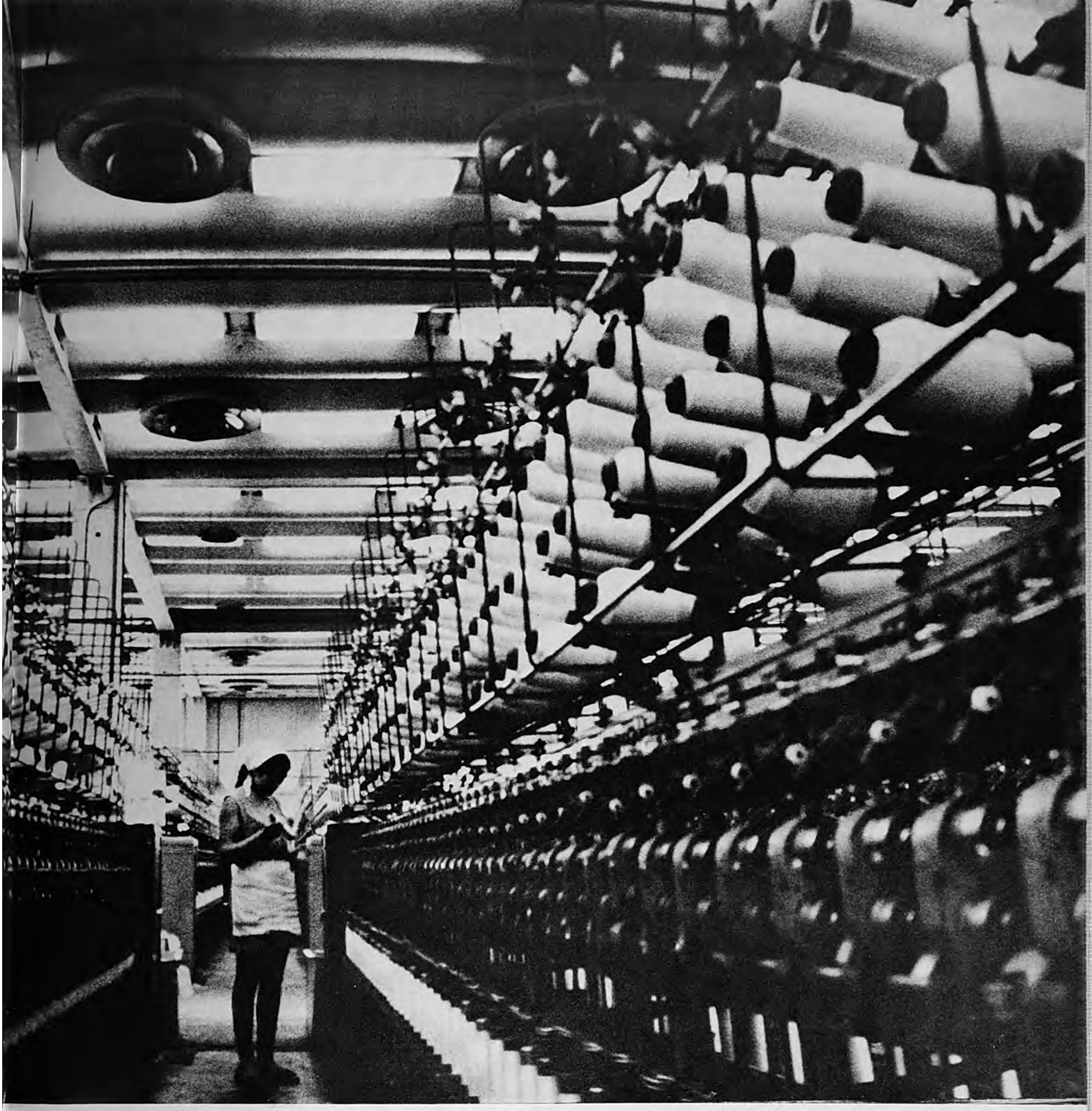
And in the great family,
In the family that will be free and new,
Don't forget to remember me
With a kind and quiet word.





YOUNG COLLECTIVE

By Alexander Gazimur



Not long ago Cherkassy was known mostly for its fruits, berries and canned food, but now it has a considerable industry. Recently a large textile complex, including a silk mill, started operating. The mill is the last word in modernity, brightly lit and immaculately clean.

During our cruise down the Dnieper River we were shown through engineering plants, iron and steel mills, oil refineries and textile mills. We were struck each time by the collective spirit, the teamwork, the sense of tradition, the pride the personnel took in their factories. The workers of the old Petrovsky iron and steel mill in Dnepropetrovsk are proud of their revolutionary traditions; at the entrance to the mill burns an eternal flame in memory of those who fell in the Revolution and in the war against the nazi invaders. The workers of the wheel-making factory in Kremenchug told us proudly about the children's summer camp they had built.

We visited a three-year-old silk mill in Cherkassy that especially impressed us.

Director Alexei Platonov is the typical manager of a Soviet factory, well grounded not only in weaving but also in economics. Born of generations of weavers in Ivanovo in Central Russia, Platonov started work at a textile mill after going through a vocational school. He put in 25 years in the textile mills in Tashkent, capital of Soviet Uzbekistan, Central Asia. For 20 of those 25 years, he was assistant foreman. While working, he completed an evening specialized secondary school of the textile industry and then the institute. For the last 12 years he has been working in the Ukraine. He was production manager of a big textile mill in Kherson, a city at the mouth of the Dnieper, and was appointed director of the mill in Cherkassy three years ago.

Cherkassy: Industrial Town On the Dnieper

Vigorous and plain-spoken, he knows many of the workers by their first names: He has an exceptional memory.

In the town the silk mill is described jocularly as the brides' fair. Women make up the majority of the workers; most of them are young. The educational level is high: 1200 have a seven-year to nine-year education, 2200 a ten-year or eleven-year (complete secondary) education and 85 a specialized secondary education. Six workers graduated from higher education schools. Of the total number of workers, only 140 have less than seven years of schooling.

Since the mill is new, working conditions are very good. The big, brightly lighted shops are fully air-conditioned, a constant temperature of 61°F. is maintained. The shops are immaculate.

Three years ago the director took over from the builders and began to recruit personnel. Cherkassy is a beautiful, well-built modern town on the bank of the Dnieper. Attracting the necessary number of engineering and other technical personnel was no problem at all. Specialists just graduated from textile institutes were glad to move to this Southern town with its mild climate. People from other mills took jobs. Of course, the personality of the director played no small part. People in the textile industry know Alexei Platonov. We heard about him in Kherson. When we told people we had been in Cherkassy and seen the new silk mill, they said: "Platonov's mill? We know Alexei very well. He is an excellent organizer, a competent textile man and a big-hearted person."

As for the operators, some of them came from the vocational technical school; the rest were trained right at the mill.

Platonov said:

"I know from my own experience that teaching workers a new trade is much easier today than when I began to work. This is because their general educational level is so much higher. A few decades ago it took four years to train an assistant foreman; I know this from personal experience too. Today things are totally different. Today a girl applies for a job at the mill, normally, with a complete secondary education. She has some elementary technical knowledge, knows the fundamentals of mechanics, physics and chemistry. In a year and a half she can handle the job of assistant foreman without any trouble.



"Or consider the trade of weaver. It used to take a year to train a weaver, and now it takes no more than four months.

"We are in touch with all the big, advanced mills of the industry in Moscow, Vitebsk (Byelorussia) and Kherson, and exchange technical information with them. If some development is of interest to us, we write to the mill concerned, regardless of the republic it is situated in, and send our specialists there to study the matter and then to introduce it at our own mill. There are no trade secrets. This is a socialist country, we don't hide information from each other. Besides, our ministry holds regular meetings and conferences for exchange of technical experience. These help too."

The mill at Cherkassy now has three departments: spinning, weaving and finishing. Naturally it has its own specific scientific and technological problems. Two research institutes have signed contracts to help solve them.

"From the point of view of the technological level," Alexei went on to say, "our mill meets the highest world standards. Two of the departments are outfitted with Soviet-made machinery—spinning machines and looms. The finishing department is using equipment made in Czechoslovakia, Japan and France."

So much for the technical side. The mill now has its own production experts—workers with experience. Unlike the situation at older Soviet mills, the personnel at this one are young. Sociologists say that these young people are very promising for the future of mill development. In the USSR a working collective is a social concept. These young people have their own interests, problems and hobbies, but in their work relationships, they are a well-matched team. They understand mill problems and take an active part in solving them. In other words, a common sense of purpose unites all the workers and engineers: the sense that they all own the mill, though they work in different sections. That is why they feel it their duty to help solve production problems that affect the collective as a whole. To do that they must have a clear idea of where the mill is headed—what it will be like a few years from now, what opportunities it offers each employee with regard to wages, working conditions and advancement, and how it helps him meet his cultural, educational and professional needs.

This is what the director had in mind when he said that it takes five years for a young collective to take shape.

The party, the trade union and the Young Communist League touch every phase of the multifaceted activity of the collective. The powers these mass organizations have are indicated by the fact that the party branch at the mill has the right to check on the work of management. The trade union committee acts for the workers on welfare, cultural and recreational matters, besides working and living conditions. It also initiates labor legislation, uses the courts, if necessary, to make its point and has certain other juridical functions.

Each public organization at the mill has its specific area of activity as designated by the collective. The union committee of 18 members, for instance, is responsible for concluding a collective agreement, for checking on labor safety requirements, for participating in setting wage scales. Another obligation of the committee is to organize socialist emulation for better production and to get the workers involved in management. The committee organizes leisure-time activities and administers the social insurance fund. It has built a summer camp for the children and set up vacation facilities for the workers and their families. Last year 2,000 people used the mill's out-of-town recreation area. The committee organized a kindergarten. The amateur performing-arts groups it initiated have won prizes at regional contests. In a word, the trade union committee of this mill, where practically every employee is a member, is very actively responding to the day-to-day needs of the collective.

The most pressing problem facing any young collective is housing. Many girls from nearby villages applied for jobs at the mill. They had to be housed. In 1970 the mill was permitted to keep 600,000 rubles out of the profits. Half the sum was supposed to be spent for social and cultural needs and general welfare. But the workers chose to spend the entire amount on housing construction as well as an additional 100,000 rubles that the mill applied for to the ministry. One block of apartments has been completed. Newlyweds had priority when the apartments were distributed by the mill committee.

Because there are so many young workers, the Young Communist League branch is large, with 1700 members. Obviously the YCL committee deals with problems that are of particular concern to youth. Here is a case in point. A sports complex was to be built, but not in the immediate future. The YCL members said they could not wait. They needed a gymnasium right away. At that time an administrative building was being designed for the mill; ministry funds had already been appropriated. The YCL committee proposed that the building include a gymnasium and a club. The young people were told that the blueprints were completed, that no gymnasium or club had been provided for and that there was not enough money anyway. But the YCL committee kept pushing and won the support of the party branch. The administrative building was redesigned to provide for a club and gymnasium.

Cherkassy, 120 miles downstream from Kiev, is one of the oldest cities on the Dnieper but one of the most modern in appearance. Seen from a bird's eye view, it looks like a blueprint, with streets large and small crossing one another at right angles. Building, mostly residential, goes on all the time. The right photo shows a bar built into the steep river bank in a residential area.



A word about the party branch. It is generally the source of all initiative. The Communists originated a five-year plan for the cultural and personality development of the members of the collective.

When the workers of the mill discussed the country's draft five-year plan for economic development, the Communists proposed ways for getting the job done sooner. They suggested that the planned targets for five days could be met in four by raising the professional level of the worker. Sixty teams are now meeting their five-day production quotas in four days. The initiative of the Communists has caught on throughout the mill.

The workers we interviewed there said that they liked the general atmosphere.

One of the girls told us:

"I came to Cherkassy from a village after I finished the ten-year secondary school. When I got into the swing of the work, I entered the evening department of the institute. My friends attend the evening specialized secondary school. We YCLers don't like to wait; we are a restless crowd. We try to solve our problems on our own." Flashing a radiant smile, she added: "Do you know what Walt Whitman, the American poet, said? Something about 'our blood is burning with the fire of unexpended strength.' That's true of us, too."

As we said good-by to our hosts at Cherkassy, we carried away some of their enthusiasm. One shift had finished its workday, and music was coming from the loudspeakers at the gate. We recalled that in one of the interviews the director told us that it took five years to shape a collective. He had miscalculated in this case, we thought. The mill had a fine collective already, after only three years, with its own traditions and its own style of work, and a strong feeling of community.





Alexei Platonov, the director of the Cherkassy silk mill. Bottom right: Captain Nikolai Shmigol of the Zarya *getting a binocular view of the traffic along the river.*



SILK MILL WORKERS

IN EARLIER TIMES the Ukrainian girl was depicted in folk tales and paintings as a simple peasant. How do Ukrainian women look today, and what is their life like? Voyaging along the Dnieper, we saw them in the most diverse roles. Some, of course, still live in their native villages, working on collective and state farms. But a great many women have moved to the republic's towns and cities. They study at the universities and hold jobs in engineering and other professions. A number of them work in industry—in Cherkassy, at the local textile mills.

At the Cherkassy silk mill, as at other textile enterprises, women comprise the majority of the staff. In the shops you see girls' faces everywhere and hear their lively, ringing laughter. Moscow press photographer Valeri Shustov, who was with us on the *Zarya,* took pictures of two of them.

Nina Shishko (standing in the photo at left) is 19 and the daughter of a Ukrainian farmer. She came to the mill two years ago after finishing an eight-year school in the nearby village of Khutory. New she is a timekeeper in the warping shop.

After breaking in at her job, she entered the ninth grade at an evening school to complete her high school education.

"What are your plans?" we asked her.

"I'm going to become a textile engineer."

Katya Zhmaka (in photo at right) is a weaver. She's 20 and also a farmer's daughter, from the village of Podol in nearby Chernigov Region. Katya finished an industrial training school in Kiev before coming to the Cherkassy mill in 1967. She is now planning to enroll at a textile specialized secondary school.

Both girls are members of the Young Communist League. Nina is a YCL organizer, that is, she heads a group of YCL members in a production sector. Katya is one of the YCL leaders in her weaving shop.

Their favorite pastimes: films, the theater and concerts. Katya also goes in for track and field sports.

Yevdokia Silik, secretary of the mill's party organization, said:

"Girls like Nina and Katya are an example for others. There are a great many like them in our collective, and they'll make a fine replacement for us older people."

TRAVELS AND THOUGHTS

Continued from page 12

his* Kobzar, *and he himself was called a* kobzar *by his people. His poems have long since become folk songs. Even now one can hear this wistful song floating over the Dnieper's peaceful pools and backwaters:

My evening star,
Rise o'er the mountain. . . .

The* kobzars *of today are people of advanced years. They were very much worried that the tradition of performing folk ballads to the accompaniment of one's bandore might disappear when their lives ended. They decided to pass on their art to the younger generation. That was how a* kobzar *school was founded as part of the Ukrainian Music and Choral Society. Such recognized folk singers as Georgi Tkachenko and Mikhail Polotai began teaching the young everything they had learned from the* kobzars *before them.

***The* kobza *also is acquiring a new lease on life. Perfected by many masters, its sounds have grown much richer: There is a bandore orchestra in Poltava which performs such unusual selections as the* Moonlight Sonata.

"Our thoughts, our songs will not die, will not perish," Taras Shevchenko wrote. Indeed, they did not die.

During the years of the Soviet people's Great Patriotic War against the Hitlerite invaders, the entire Dnieper, from its upper reaches to its mouth, was a fighting line, fierce and relentless. The assault crossing of the Dnieper by our army in the fall of 1943 occupies a special place in the history of that war. Like a mighty wave it rolled from the steppes of the left bank to cross over to the right. On the Zarya we pass scores of unforgettable places associated with that national epic. There are stretches of bank here where every mile has its common grave. Yes, our people paid dearly, very dearly, for the right to be free, for this land where towns and villages prosper serenely today.

Many kinds of artistic crafts have flourished in the Ukraine from time immemorial. In recent years they have been experiencing a thoroughgoing revival. The Ukraine's decision to promote these crafts is responsible for the respectful attention given its folk masters, craftsmen and artists. So many new names have emerged and so many interesting works have been created that a number of exhibitions were arranged. The artistic ceramics, not only of Opishnya and Kosovo, old centers of the potter's art, but of Vasilkovo, a new home for craftsmanship, attracted general attention.

It is gratifying to note that in all the different national crafts, the young—from school groups and Young Pioneer Palace art studios—make a creditable showing alongside old masters. The ancient art of decorative mural painting is also being

Continued on page 24



PROBLEMS OF THE DNIEPER

By Ostap Ivko

DURING OUR TRIP on the *Zarya*, we heard various people say that harnessing the Dnieper's water resources (the cascade of power stations and large reservoirs in the lower and middle reaches) had disturbed the balance in nature. We ourselves observed an unfortunate result of the changes man had made: the multiplication of algae in the river, most marked in the lower reaches. En route we also learned that the people most familiar with and best equipped to tackle the problem could be found in Kiev, at the Institute of Hydrobiology, Ukrainian Academy of Sciences, where a great deal of work is being done to find ways of preserving nature's balance on the Dnieper.

And so here we are at the institute, which is housed in an old-fashioned building on old-fashioned Vladimirskaya Street. We are received by Yakov Tseyeb, head of the institute's hydrobiology laboratory. This 66-year-old professor is a doctor of biology and the author of 70 scientific papers on plankton and the general subject of living water organisms. Son of a Crimean peasant (Southern Ukraine), he taught biology in his youth and then became a researcher. The last 15 years Tseyeb has devoted himself to the Dnieper. Here is the discussion we had:

Q: What does harnessing the Dnieper's resources mean for the country's economy?
A: The cascade of power stations and water reservoirs on the Dnieper serves a number of major functions. The river helps us generate 10 to 11 billion kilowatt-hours of electricity a year. The reservoirs supply water for irrigation systems, thereby ensuring high and stable yields of wheat, rice and other crops over large areas. The reservoirs also help us meet the fresh-water deficiency in a number of the Ukraine's industrial centers. The river is now navigable for large vessels between Kiev and its mouth. The fish catch has gone up. All this certainly contributes to the economy of the republic and the country as a whole. In addition, the Dnieper's importance as a source of drinking water for urban areas will eventually increase.

Q: What basic changes have occurred in the nature of the river itself as a result of the cascade?
A: First of all, a sharp increase in the volume of water. The Dnieper's total surface, for instance, or, as we say, the river's mirror, is today 10 times greater than it was before power plants were built. The river now accumulates up to 9.5 cubic miles of water, with the Kakhovka reservoir alone accounting for four cubic miles.

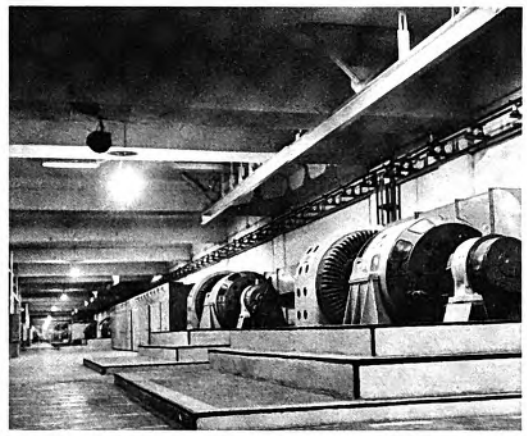
But this increase in itself does not present problems for the river's natural balance. The detrimental factor is the slowing down of the water flow. Formerly, more than two-thirds of the Dnieper's waters emptied into the sea. Now, up to 80 per cent is retained in the reservoirs, and the annual clearing of the bed during spring floodtime is not as sweeping as it used to be. The flow of the river for the rest of the year has also slowed down, of course, since the rate of water expenditure is regulated by the needs of the power stations and irrigating systems.

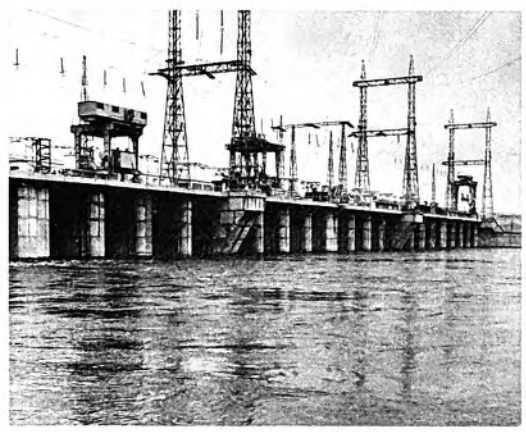
As a result of this regulated discharge, the water exchange rate is dropping, and the same substances remain in the reservoirs, producing favorable conditions for the intensive growth of blue-green algae. Algae appear in the July-August period and, beginning with September, start dying off and decomposing, forming harmful products of decay in the process and consuming the water's oxygen. The result is a deterioration in the purity and drinking quality of the water. The decomposition of algae is biological pollution; in terms of damage, it is the equivalent of industrial pollution of rivers and lakes. The nature and determining factors of these complex processes have been thoroughly investigated by our researchers.

Q: Does it follow, then, that blue-green algae are an inevitable and ineradicable evil of flatland reservoirs?
A: No, that conclusion would be wrong. After a careful study, we found that algae reproduction can be radically limited by a proper shaping of the reservoir bed. The point is that the Dnieper reservoirs, as a rule, were built without dams. The water spread freely over the adjacent land, which was just a bit lower than the reservoir's design horizon. Large shallow areas thus formed in which the water was kept warmer, the culture medium richer: These areas therefore became seats of initial blue-green algae reproduction. Reproducing rapidly under such favorable conditions, the algae then spread to the rest of the reservoir. If our reservoirs were confined by dams, they would be deeper even at the edge, and this would markedly limit algae reproduction.

But actually, the job of countering biological pollution in the Dnieper reservoirs is very complicated. An integral system of measures is necessary. The principal direction of effort is to work out scientifically







substantiated construction standards, hydrological regime parameters and rational designs for flatland reservoir beds. Our institute evolved a system called Technical and Biological Conditions for the Reconstruction of the Dnieper Cascade's Reservoirs in the Interests of the Water Economy, Fish Industry and Public Health. It is already being employed by designing and building organizations.

Construction of the Dnieper cascade's last component—the Kanev power system below Kiev—is now under way, and a number of our recommendations are being taken into consideration.

Q: The shallow sections of reservoirs will, of course, be done away with by means of dams. But this involves capital construction and will therefore take considerable time. What can be done now and in the immediate future to reduce the spread of blue-green algae?
A: Several things. One of the methods our institute worked out with the Institute of Hydromechanics, Ukrainian Academy of Sciences, is to aerate the water in the reservoirs, that is, enrich it with oxygen at definite points, especially where the water is tapped for drinking purposes. Aeration can be effected by installations on the shore or on special vessels. The equipment is rather simple—something like a net of pipes with openings is placed in the near-bottom layer of water. Common pressurized air is pumped into these pipes; rising as bubbles, it is absorbed by the water, enriching it with oxygen.

The additional oxygen intensifies the self-purification processes in the reservoir. Experiments at our institute have shown that oxygenation of the bottom layers of water does much to limit the development of blue-green algae in the early stages of vegetation. Aeration systems are so well developed now that we can already move from experiment to industrial testing, especially since the aeration method is not expensive.

Another approach is to extract the algae for commercial processing. The Dnieper cascade and other flatland reservoirs contain hundreds of thousands of tons of blue-green algae. Special vessels are used to fish it up. This is more complicated than aeration, but it's more efficient in the sense that we are able to turn an evil into a blessing. The point is that blue-green algae contain a good deal—50 per cent—of protein, vitamins and other nourishing substances and can serve as fine raw material for the microbiological industry. High-calorie cattle and fowl feed can be made out of algae, and even sugar.

The difficult thing is to design and manufacture an algae-fishing installation. Blue-green algae are minute, and extracting them from the water calls for very sophisticated devices. The installations we have thus far designed are not very efficient, but they hold considerable promise. We hope, in the near future, to be able to design a machine that will do the job.

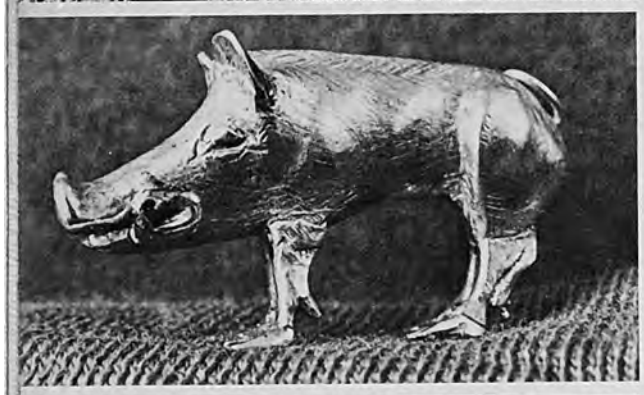
The raw algae brought up must be dried immediately so that they can easily be shipped to a processing plant. At our request the Institute of Thermophysics, Ukrainian Academy of Sciences, developed an algae-drying system.

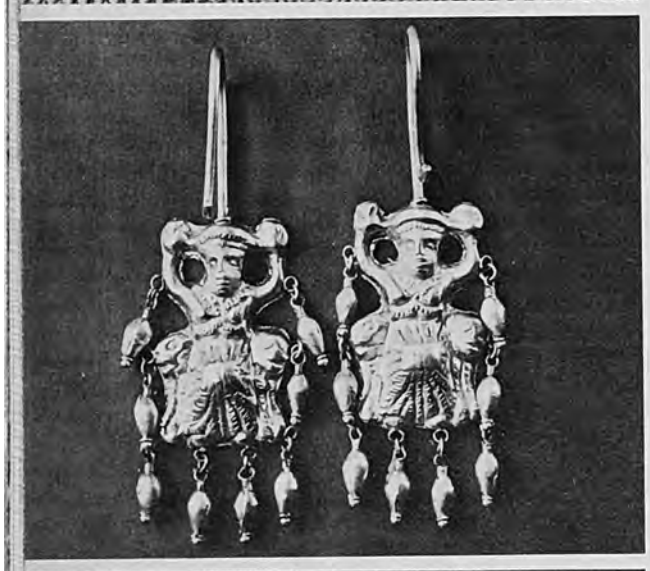
A number of other research centers in the country are now working on problems related to the preservation of a natural balance in flatland reservoirs. A special scientific and technological commission has been set up under the State Committee for Science and Technology of the USSR Council of Ministers to work out ways of enhancing the efficiency of reservoirs.

Q: To conclude our talk, a word on the Dnieper's future, if you don't mind.
A: The Dnieper of the future will be the main element of a deep waterway—a throughway, so to speak—between the Baltic and Black seas. Not only the lower and middle reaches, but the upper reaches, too, will have undergone changes by then. The Dnieper will be augmented with large volumes of water from the rivers and lakes of northwestern European Russia. It will become possible to increase the water exchange rate in reservoirs, and that, in turn, will help balance the river's natural factors. The Dnieper will begin flowing faster in its lower reaches, too, and that will help restore its stock of valuable sturgeon. I am optimistic about the future of the Dnieper.









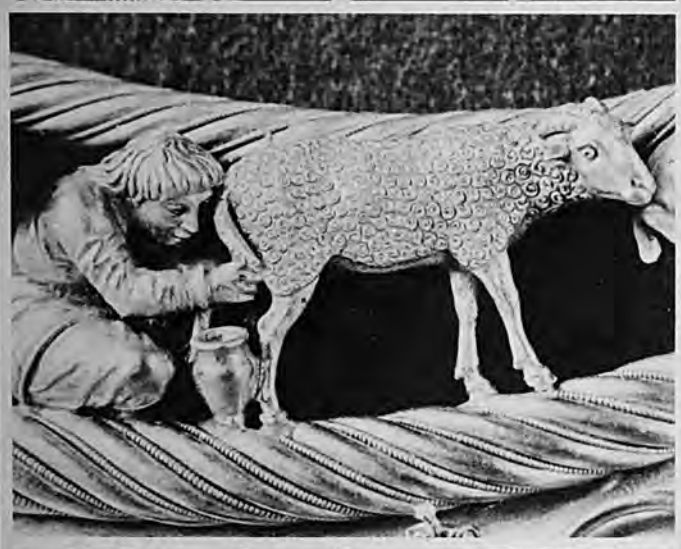


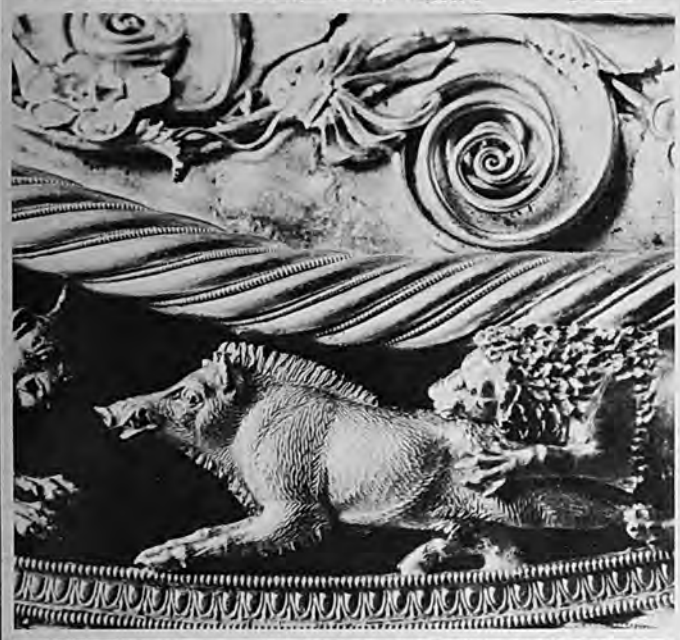


Decorative objects from the Scythian burial mound. Second from top: Fragment of a royal sword. Fourth from top: A queen's gold earrings.

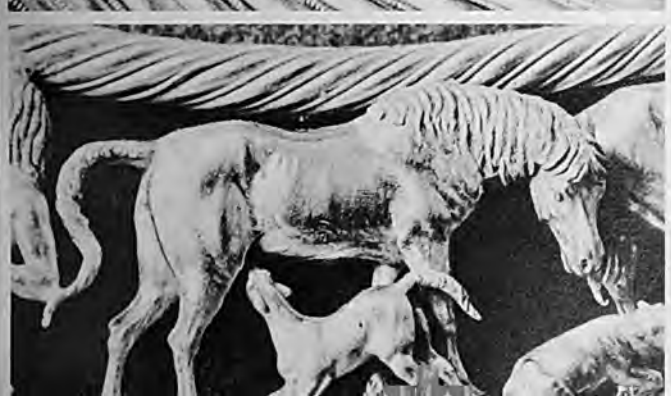












The gold breast ornament below depicts scenes from Scythian life. Photos of the detail are on the left.



ARCHEOLOGICAL SENSATION

BY ALEXEI TERENOZHKIN

Doctor of Science (History)

UNTIL RECENTLY, what we knew of Scythian history and culture came largely from the prerevolutionary collection of jewelry at the Hermitage Museum in Leningrad. These objects, actually fragments of Scythian life, were often found in great numbers: Sometimes several thousand gold objects were removed from a single burial mound. Archeologists of the past century were interested chiefly in the valuables themselves. They paid little attention to what was far more important: the recording of archeological finds, their location and detailed description.

The excavation of the Tolstaya Mogila (Thick Grave) shed light on the sumptuous burial rites of the Scythian kings and the Scythian way of life in the fourth century B.C. Archeologists for the first time were able to reconstruct with great accuracy what the rich women wore, their headdresses in particular. Of greatest interest, however, were two finds: the handle and gold sheath of a sword, covered with chased pictures of animals, and a large gold pectoral.

There is no question but that these unique objects were made by an ancient artist skilled in every aspect of his demanding vocation—casting, rolling and chasing. His versatile chisel shaped miniature figurines, some eight inches high. Made to order for its noble Scythian purchaser, the pectoral is embellished with numerous real and imaginary animals, birds and insects (even grasshoppers jumping about in the grass) and scenes from Scythian nomad life.

In one of the compositions, two Scythians are sewing a shirt of goatskin. Next to them is another, milking a sheep (the same way it is done today in the Caucasus). Further off is a Scythian measuring the milk yield. You can see the smallest details of the Scythians' features and the floral ornaments. It is fascinating to note that none of the details of the pectoral is repeated. There is no piece of jewelry to compare with this one. It has enriched the study of Scythia with newly discovered samples of workmanship by the Scythians themselves: shepherds, warriors and artisans. The golden pectoral, evidently made by a resident of one of the Greek colonies living in the northern part of the Black Sea coast (Panticapaeum) richly deserves the description "archeological sensation."

See also story on page 52.

IRRIGATING THE STEPPES

By Ivan Didenko

The steppe zone of the Ukraine covers 40 per cent of the republic's land area, or about 60 million acres. But this is drought-afflicted country; droughts occur with calamitous regularity. The only way to guarantee harvests is through irrigation. The Ukrainian Republic has drawn up a long-term plan. Several large-capacity irrigation systems are being built in the reconstructed basin of the Dnieper River.

THE DNIEPER cascade consists of five large reservoirs formed by the dams of functioning waterworks.* They are like huge, elongated lakes linked by the river, from Kiev in the North to Kakhovka in the South. The Kakhovka reservoir is the southernmost one. It is only 50 miles from the mouth of the Dnieper. Here the waters accumulate after passing the crests of four dams situated higher up the river. In the lower reaches lies the area of the Ukrainian steppe zone that suffers most from drought.

That is why the Dnieper is being used for another big job, irrigation. The Kakhovka reservoir, large enough to be called a sea, can keep several large irrigation systems supplied. Some of them have been completed and are working at full capacity; others are not fully operable because they are still under construction.

When the *Zarya* drew alongside at Novaya Kakhovka, which is south of the dam, I decided to get a closer look at the irrigation system in the Dnieper region.

On the bank of the Kakhovka reservoir I saw a white two-story building surrounded by young trees. The sign on it read: "The North Crimean Canal Authority."

I was welcomed by Raissa Belenko, chief of the water supply section, a beautiful Ukrainian woman of about 35. She explained that both the director and the chief engineer had left for consultations on the canal and said she would try to answer my questions.

"Why, first of all," I asked, "is it called the North Crimean Canal? The Crimean Peninsula is quite a distance from here."

"Though the canal starts here, at Kakhovka, not far from this building we are talking in, it stretches across the steppes to the Crimea—to the town of Kerch," she explained.

"How many miles is that?"

"Two hundred and fifty. Two hundred and fifty-two, to be exact."

"Is the canal finished?"

"Not yet. Only 190 miles have been built. There are about 60 more to go."

"Has it reached the Crimea?"

"Yes, it has; recently a reservoir near the Crimean city of Feodosiya was filled. At Kerch it will end up in a big reservoir. Kerch has suffered from a shortage of fresh water; it will have an ample supply now."

"How wide and how deep is the canal?"

"The capacity is not measured in those terms. Hydraulic engineers estimate the capacity by the volume of water that passes through a canal per minute. The North Crimean Canal will pass 3.6 million gallons per minute."

"Is that a lot?"

"Quite a lot. During one watering season we use up six-tenths of a cubic mile of water."

"At such a rate of consumption, won't the Kakhovka reservoir run dry?"

"By no means. The variance in the water level of this huge reservoir is only four to six inches. It is constantly replenished with an inflow from reservoirs higher up the river. This was the idea behind controlling the runoff of the Dnieper."

"Is a canal that long and with that capacity considered a complicated engineering complex?"

"Yes. The canal is made up of a system of gates, intermediate dams, powerful pumping stations and zonal canals that are supply arteries for the irrigation network in the districts. The whole complex is automatically controlled from a central desk right here in this very building."

"How many acres can you take care of?"

"At present we irrigate 500,000 acres in 14 districts of Kherson Region and the Crimea. We service 52 collective farms and 88 state farms. The canal has 10,000 customers. We call them sputniks. These are in addition to our regular customers—the collective and state farms. Among them there are villages, factories, and individual plots of collective farmers. When the canal is completed in the near future and the local systems are further extended, the canal system will water 1.1 million acres of irrigated fields."

"Irrigation on such a large scale is a rather new undertaking in the Ukraine, isn't it? What was the reaction of the farmers here? What progress has irrigated farming made in the Ukraine?"

"Water is a great blessing here. Given water, the poor soils in this hot, sunny region become fertile. You've already seen Kakhovka. Today it's a garden city full of flowers. Do you realize that it was built on dry sand? But every bit of land is blooming. Why? Because there's water here. You can imagine the yields from the black soils of the steppes. Given water, they'll grow rich grain harvests. On irrigated fields the farmers are growing, on the average, from 1.5 to 1.7 tons of winter wheat per acre and from 2.4 to 2.7 tons of rice, which is a totally new crop for the Ukraine. They are also growing big harvests of corn, sunflowers and melons. It took our farmers very little time to learn irrigated farming."

"I have heard that in addition to your irrigation system, another—the Kakhovka system—is being built. Can you tell me something about it?"

"The new system will also get its water from the Kakhovka reservoir. The trunk canal, now under construction, will extend 80 miles into the steppes. An irrigation network will branch out from it: The total length of the canals is 7,500 miles. The system will water about 1.5 million acres of fields in neighboring Zaporozhye Region; about 370,000 of them wil be growing rice.

"The country's current five-year economic development plan (1971-1975) provides for extensive land improvement and irrigation. A sizable share of it will be done in the Ukraine. In this five-year period we will take a long step toward a big goal: extending irrigation to the entire southern part of the Ukraine. As a result the generous Ukrainian soil will become even more so."

South of Kherson Region, near the estuary of the Dnieper, we visited several villages and collective farms and saw irrigated fields. The once drought-afflicted semidesert areas are flourishing oases. We saw many acres of orchard, huge square fields—bordered by afforestation belts—under tall emerald corn or huge-headed sunflowers (the wheat had already been harvested). In the August heat huge watermelons were ripening in rows. The sun was scorching hot, with not a single cloud in the sky. But the blue Dnieper water was running with a vigorous song through the concrete ditches. The heat was no longer a threat to the plants—trees, melons or other crops—because the roots get the water of life. I could hear a tractor engine chugging somewhere. A motorcycle was speeding along a path parallel to the irrigation ditch. But the machine sounds, though alien to nature, did not trouble the royal steppe eagles. They hovered smoothly above the fields of crops and the geometrical lines of afforestation belts.

* The sixth and last reservoir of the cascade will soon be added.

TRAVELS AND THOUGHTS

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taken over by schoolchildren in the village of Petrikovka. Their work was very well received at the USSR Exhibition of Children's Creative Endeavor in Moscow.

The world of folk poetry and mythology nourishes the art of such well-known Ukrainian masters as ceramist and sculptor Ivan Gonchar, artists Maria Primachenko and her son Fyodor, and the young and very talented painter and sculptor Galina Sevruk.

Prior to my trip on the Dnieper I had read two very interesting books:* Days and Months of a Ukrainian Villager*—an ethnographic study by Mikhail Maximovich, first rector of Kiev University—and a collection of digests on the application of electronic computer technology at the Zaporozhstal metallurgy plant. Two books—two epochs in the life of the Ukraine.

Maximovich's book is about the old days. The once naïve beliefs and superstitions of our villagers today evoke a kindly, slightly condescending smile. Such as, for instance, if a melon field is planted under a full moon, the watermelons and cantaloupes will grow as big as the moon. Or that in planting cabbage seedlings, the farmer's wife should knot her kerchief tight around her head so that the cabbage heads will grow tight and compact. And so on and so forth. A distant fairy tale world that has disappeared into the past.

The Ukraine today is like a giant computer controlling the sophisticated technological processes of an entire large-scale industrial plant. Also a

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METALLURGY RESEARCH CENTER

BY GRIGORI ALEXEYEV

THE USSR has a network of research centers which are not affiliates of the academies of sciences or other research agencies. These centers work directly for the various industries. The Institute of Metallurgy in Dnepropetrovsk is an example. Originally it was under the Ukrainian Academy of Sciences. Later, to establish an organic relationship with the industry, the institute was transferred to the USSR Ministry of Ferrous Metallurgy.

"Why USSR and not Ukrainian?" I asked.

"Simply because the institute, by reason of its scope, equipment and staff, is capable of solving scientific and technological problems in metallurgy for all the 15 republics of the Union," Zot I. Nekrasov, member of the USSR Academy of Sciences and director of the institute, explained.

"One could say that science is precisely the sphere for which the principle of centralization might have been evolved," he continued. "Since our industries belong to society as a whole and not to private owners, we have no competitive interests or any wish to keep a discovery a closely guarded secret. Every discovery, regardless of the republic in which it was made, is systematically introduced into all the republics. Though the scope of work of our institute is large, it does not mean that we have a monopoly on research in metallurgy. The Ukraine and some of the other union republics have allied research centers which independently select their own subjects and methods of scientific work."

Zot I. Nekrasov, 63, a typical Ukrainian, is also typically representative of the generation of scientists who developed in Soviet times. The son of a locomotive engineer from the Donbas (coal-mining and steelmaking center in the Ukraine), he graduated from the Dnepropetrovsk Mining Institute in 1930 and went directly into research. The author of more than 100 papers, his main field is increasing the productivity of pig-iron founding. For several years he was chairman of the Ferrous Metallurgy Committee of the United Nations Economic Commission for Europe. He keeps in touch with metallurgy scientists in the United States, Canada, France, Japan and the socialist countries of Europe.

I had heard a lot about Zot Nekrasov in Kiev before the *Zarya* sailed. When I visited the editorial office of the magazine *Ukraina* I was told:

"You will meet many interesting people on your cruise down the Dnieper. But we would suggest that you talk to Academician Zot Nekrasov, a really outstanding person."

As I approached the Institute of Metallurgy in Dnepropetrovsk, I visualized someone tall, spare, reserved. In the entrance hall of the institute, I met a short solid man with a big head and wide forehead. He was wearing a sky-blue sleeveless summer shirt and a light gray blazer, and since he was the first man I saw, I asked him:

"Where would I find the director?"

"Right here," he replied with a charming smile. I had taken him for a laboratory assistant. "I suppose you want to see Nekrasov, don't you? Well, that's me. How d'you do? Let's go to my office."

His office was not large. Though the furnishings were modern and there were no typically Ukrainian decorations, it had the look of a *gornitsa*—the best room of a Ukrainian peasant house—perhaps because it was so immaculately clean. Through the wide curtained windows I saw the laboratory buildings in a big park, and the pilot plant.

"Ours is the leading institute for metallurgy research," the director said. "We are working to improve the blast furnace, steelmaking and steel-rolling techniques. We have a few achievements to our credit. Take the blast-furnace process, for instance. It was our scientists who developed the theory and technique of combined blowing—natural gas blown in combination with oxygen. It intensifies the smelting process. The technique has been introduced at all of our plants. In the last five years alone, the country has saved 500 million rubles by using this method. A concomitant saving is in coke consumption, which has dropped by 20 million tons.

"Here is an example from our steelmaking research. In cooperation with other research groups, we developed a method for intensive oxygen blowing of baths in open-hearth furnaces. That also accelerates metallurgical processes. More than 100 open-hearth furnaces in the country have been refitted for this highly productive technique; these furnaces account for more than 30 million tons of steel a year. The institute has also devised more efficient methods for making certain grades of steel, methods which have increased the yield and at the same time improved its quality. Industry saves more than 20 million rubles a year by applying these new techniques.

"Working in conjunction with steel mills, the institute developed a technique for the simultaneous rolling in blooming mills of two steel ingot blanks instead of one. The method has raised the capacity of rolling mills by 20 to 25 per cent and saved considerable sums.

"In thermal treatment we worked out several methods to improve the strength characteristics of rolled-steel products: for instance, reinforcement for ferroconcrete and all-rolled wheels for railroad rolling stock."

"I understand that your institute projects have had considerable economic effect," I said to the director. "What were the major factors responsible, would you say?"

"There are many contributing factors. The first is an adequate number of capable researchers who like the work they do. We have gifted scientists, of broad age range, including young researchers who only recently joined the laboratory staffs. Another factor is the excellent experimental facilities. Each laboratory has a real shop, where an idea can be tried out under industrial conditions. Besides, the industries, the Ukrainian plants above all, cooperate with us in trying out and introducing new techniques and methods. The Ukraine is iron-and-steel-making country, in 1970 producing a total of 50 million tons, more than 40 per cent of the country's total output. The Ukrainian iron and steel mills are therefore the first to apply the new techniques we develop."

After a moment's thought the scientist went on to say:

"A highly important factor—I would like to make a point of this—which contributes to the success of our research effort is our planned socialist economy. Under socialism there are no serious barriers to block the application of new production techniques and equipment. They are introduced on a wide scale. In a manner of speaking, our USSR Ministry of Ferrous Metallurgy is a good, solid firm which can introduce promising innovations into all industries simultaneously. The speed and efficiency with which new techniques and equipment are introduced encourage researchers.

"Finally, there is another important factor: adequate appropriations and experimental facilities. The technical solutions produced by the institute yield considerable savings, which is why the state readily appropriates funds. That gives us confidence in our creative work. For instance, right now our preliminary plans schedule projects for many years ahead. Our basic research is primarily concentrated on fundamentally new solutions in ferrous metallurgy. Even though they are hypothetical today, we are already doing exploratory research along these lines. We can proceed with these projects because we have the personnel and the money."

As I left the campus of the research center, I reflected on the institute's plans and projects. From this hilltop in Dnepropetrovsk broad horizons open up. Fresh winds blow.



Nikolai Gladkov (left), deputy director of the Institute of Metallurgy, and Georgi Drozdov, chief of the X-ray microanalysis laboratory. Top left: On this occasion photographers Selyuchenko (left) and Gradov rented a boat to get their picture. Bottom left: Selyuchenko talks with resident of a Ukrainian town.



ENCOUNTER WITH THE CITY OF MY CHILDHOOD

BY LEONID GLAZOVSKY

EVERY CITY, like every human being, has its own physiognomy and character. But unlike a human, a city gets younger with age. At least that is the impression I got when I returned to the city of my childhood after an interval of many years. Though in a decade and a half Dnepropetrovsk will be celebrating its 200th anniversary.

Long before our motorship approached the double-deck bridge that joins the left and right banks of the city, an impressive panorama of new housing projects and factory buildings unfolded along both sides. On the right bank, spread over the high hills, is the historically established industrial and administrative center. Following the bends of the river for 12 miles is the broad riverside drive along which new houses, offices, institutes and hospitals have sprung up. And farther off, climbing the steep hills, is the greenery of Taras Shevchenko Park. At the very top, near the campus and buildings of the Railroad Engineering Institute, is the openwork of the television tower, which seems drawn in black ink against the blue of the sky.

Plying up and down the Dnieper are tugs, barges, launches; snow-white passenger motorships float majestically by, while Raketa and Meteor hydrofoils rush back and forth. At Komsomolsky Island, where the sports clubs are located, the white sails of graceful yachts gleam in the distance.

Does the city look different? Yes, of course. None of this was here in my childhood. Suffice it to say that there are six new residential districts, each with a population of around 40,000 to 50,000. The number of people living in the city has nearly doubled and is approaching the million mark. I am no sociologist or city planner, so that I can't say whether that much expansion is good or bad. I do know that the reason for the growth was the developed industrial base, which stimulated new types of production: cast iron, steel and rolled steel stock, machines and lathes, electric power and automobile tires, footwear and clothing. The list of goods produced by the more than 200 enterprises of Dnepropetrovsk is quite long. They are familiar items all over our country and abroad.

The appearance of the city has changed noticeably. Its avenues have become straighter, there are new houses everywhere, new squares and parks. But the character of the city has not changed. Perhaps its tempo has speeded up. It is a major industrial center not only of the Ukraine but of the whole country.

As before, the beginning of a new day is announced by the whistle of the old Petrovsky Iron and Steel Plant. The whistle has been retained as a tradition, a tribute to the glorious history of the city's working class. On Mikhail Kalinin Avenue, next to the Palace of Metallurgists, a workers club, there is an obelisk: On a slab of white marble is the inscription that it was erected in memory of those who fought in the 1905 Revolution. One of the streets was named in honor of the worker and revolutionary Babushkin. The city itself was named after Grigori Petrovsky, a worker in a local factory, an active fighter for the liberation of the working people from the oppression of the autocracy and a pupil of Lenin. After the October 1917 Revolution, Petrovsky was one of the leaders of the Ukrainian Soviet Republic.

The more remote history of the city is told by the exhibits in the Historical Museum founded by Ukrainian historian, ethnographer, archeologist and writer Academician Dmitri Yavornitsky. On display are rare specimens of the culture in the Dnieper lands since ancient times and illustrative material on the heroic history of the city in Soviet times. Dnepropetrovsk also has a fine arts museum. Arranged chronologically, its exhibits unfold the history of Russian and Ukrainian art.

Memorials remind the younger generation of the heroic struggle of the citizens of Dnepropetrovsk against the fascist invaders in the Great Patriotic War (1941-1945). The Monument of Glory on the bank of the Dnieper honors the memory of the soldiers, partisans and members of the underground who lost their lives in the war. At the base of the 300-foot-high monument burns an eternal flame. On one of the granite steles are inscribed the words: "People! While the heart beats, remember the price paid for happiness . . . Remember!"

I think this heroic revolutionary and wartime past of the city as well as its working spirit is reflected in the character of the present generation of the city's people.

This generation is new and different. If you walk along the central thoroughfare, Marx Avenue, which stretches for many miles, up to the Mount, as that part of town is called, you will see groups of lively boys and girls. They are students. Practically all the institutions of higher education are located here. There are eight of them in the city, including the university and the Mining Institute. Add all the technical schools and you will see that it is not only the new houses that make the city younger.

The Shevchenko Ukrainian Theater, the Russian Drama Theater, the Young Spectators and Puppet theaters, as well as the Philharmonic Society, the factory palaces of culture and the numerous clubs all shape the cultural life of Dnepropetrovsk.

The city is continuing to build. It struck me, when I was driving through with Oleg Tkachenko, deputy chairman of the City Soviet, how impressive the scale of this building was.

"Is there any limit to the growth of the city?" I asked.

"It's hard to answer that precisely," he said. "In our day life rushes on, making significant corrections in our plans. For example, we were working on a long-range city development plan in terms of a population of 1.1 million by the year 2000. Well, we are approaching that figure today. On the whole, our calculations were correct, but the rapid development of science and technology has brought new industrial enterprises and, consequently, an influx of manpower."

"But that poses additional problems. You have to provide more housing, community services, facilities for recreation, amusement and all the rest."

"That's right. Take housing. In the 1966-1970 five-year plan we built 49,000 apartments. This means that every seventh family moved to new quarters. The new residential areas are connected to the city center by streetcar, trolley bus and bus lines. The capacity of the water supply system increased 1.5 times during this period. Consumption per person is 76 gallons a day. We've begun building a student city to accommodate 10,000. A new university complex is under construction over an area of 24 acres."

"But this takes a lot of money."

"Yes, in the last five-year period alone we spent 890 million rubles on the municipal economy. That was 67 per cent above the figure for the previous five-year period."

"The increase in the number of industrial plants and their concentration creates a danger of air and water pollution. What are you doing about that?"

"That is one of our big problems. Now, for example, we are working on a promising method—recirculating the water supply: A factory uses the same water over and over again, replenishing it only occasionally. None of it drains off into the river. We have strict penalties for those who violate our sanitation regulations and drain off polluted industrial water into the Dnieper. The same rules hold for the discharge of industrial waste into the atmosphere. You've probably noticed that there is much more greenery in the city than when you were here last. It's a good sign."

TRAVELS AND THOUGHTS

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fairy tale, but one which has come to life.

The first place I visit at Zaporozhstal is its open-hearth shop. Such splendid people here! They have that quiet confidence and amazing childlike benevolence so characteristic of really strong people.

The city of Zaporozhye is not just the Zaporozhstal plant and scores of other large enterprises, including the country's first hydroelectric power station on the Dnieper, the world-renowned Dneproges. Zaporozhye is also Khortitsa Island, the site of a free Cossack community in the old days, known as the Zaporozhye Sech. Khortitsa is a very old place; the new thing about it is that the island has been declared a state preserve.

The Khortitsa Preserve is being set up by decision of the Ukrainian government. The activists in this undertaking, which brought together a large body of historians, artists and builders, are Nikolai Kitsenko, deputy chairman of the Executive Committee of the Zaporozhstal Regional Soviet of Working People's Deputies, and Leonid Sokulsky, a young scientist. They speak with great enthusiasm of the beautiful chaikas, old Cossack boats that will be built again; of the majestic sculptural group Cossack Patrol, and of the picturesque kurens—the peculiar dwellings of ancient Khortitsa's bellicose inhabitants.

I was thinking of those enthusiasts, working hard to preserve the history of their native people, as our Zarya moved close to the banks near Chigirin. A green wall of forest, like a mighty barrier, hid the ancient site of Kholodny Yar. Here, in these impenetrable thickets, detachments came together to spearhead the peasant uprising in 1768 against feudal oppression. To this day kobzars sing songs about Gonta and Zaliznyak, the leaders of that revolt.

Taras Shevchenko also visited Kholodny Yar in his day. His grandfather Ivan, an eyewitness to the uprising, brought his eight-year-old grandson there and told him all about that formidable wave of popular wrath. The poet later visited the place three more times. The impressions he brought away were reflected in his writing.

Here in Kholodny Yar a partisan detachment under Pyotr Dubovoi operated during the war against the nazi invaders. Fleeing fascist repression, many inhabitants of the surrounding villages sought the protection of the partisans. Kholodny Yar became an area of partisan-won freedom, with a population of 50,000.

A museum, product of the effort and money of local

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The ropeway links the right-bank area of Dnepropetrovsk with Komsomolsky Island on the Dnieper River, where the city's best beaches are located. Top left: The busy waterfront of Dnepropetrovsk. Bottom right: On board the "Zarya" and all ready to start.

ZAPOROZHSTAL



These open-hearth furnace workers initiated the emulation movement to meet the targets of the new five-year plan.

ZAPOROZHSTAL—or, in English, Zaporozhye Steel—is one of the largest Soviet steel mills. It started operating in 1933, a project of the First Five-Year Plan. Blast and open-hearth furnace and rolling-mill production are integrated at this big complex.

Zaporozhye is famous, historically, for Khortitsa Island and the Dnieper Cossacks who lived there. Its present fame derives from the Zaporozhstal steelmakers, among whom there are certainly descendants of the Dnieper Cossacks of the past.

Zaporozhstal, always noted for its shock work, is ahead of scheduled quotas for the Ninth Five-Year Plan (1971-75). It is leading the socialist emulation movement in the industry, applying technical innovations and the most modern production processes.

Lev Yupko, 60, the director of Zaporozhstal, looks more like a schoolteacher. With a charming smile and an easy manner, he told us journalists from the *Zarya*:

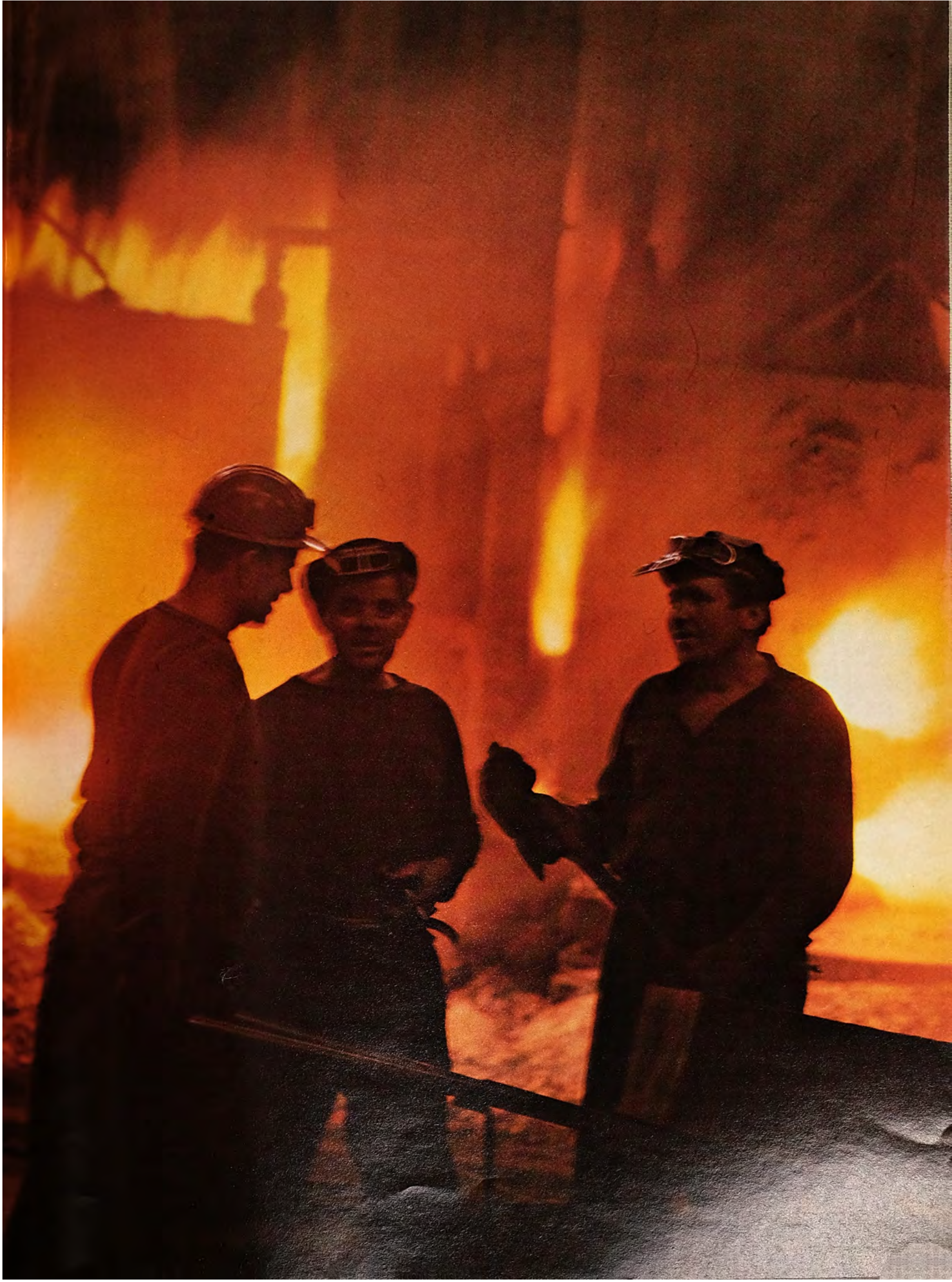
"Things are going well at the mill. We have a backlog of orders it will take us several years to fill. A short while ago new, rich iron-ore deposits were found near here. So we also have plenty of raw material. Our people are both enthusiasts and experts in their trades."

There are 9,000 Shock Workers of Communist Labor at Zaporozhstal, that is, people who are routinely high producers. Mill traditions honor the best operatives, technicians and engineers with the title of laureate, a considerable distinction—the laureate gets a diploma and a sizable sum of money. Eligible for the title are inventors, rationalizers, initiators of new forms of socialist emulation, and the like. In 1970 the title of laureate was conferred on 23 individuals; in 1971 26 received the award.

Zaporozhstal personnel are education-minded. These figures were given us by the trade union committee: In 1965 the educational level of the workers under 30 was, on the average, 8.8 years of school; by 1970 the figure had jumped to 9.9 years. In the same period, that is, during the Eighth Five-Year Plan, the number of Zaporozhstal workers with a full secondary (10-year) education rose by 2700, and the number of workers with an education below eight years was significantly reduced. The individual development plan of the mill for 1971-75 looks forward to a further rise in educational level.

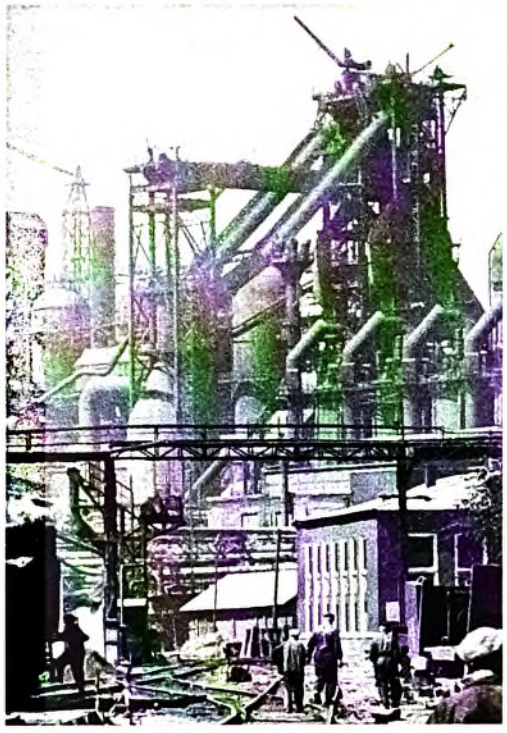
Zaporozhstal is also famous in the Ukraine for its sports teams—the mill has a large stadium, a gymnasium and other facilities—and its amateur arts activities. Health and vacation resorts and tourist camps have been built at the seaside with the larger fraction of the profits that the mill now keeps as a result of the current economic reforms.

An academy of metallurgy—this is what Zaporozhstal is called in other Soviet republics. As a matter of fact, such republics as Georgia and Kazakhstan built their iron and steel mills much later than the Ukraine did; still, their people came to Zaporozhye to learn their trades. In recent years, more and more engineers from developing countries have been getting their practical training here.





One of Zaporozhye's main streets. This steel city celebrated its 200th birthday last year. Below: Zaporozhstal is among the largest metallurgy plants in the country. Its courses for steelmakers are sponsored by the United Nations. Bottom: Khortitsa Island, near Zaporozhye, is a historical Cossack landmark.

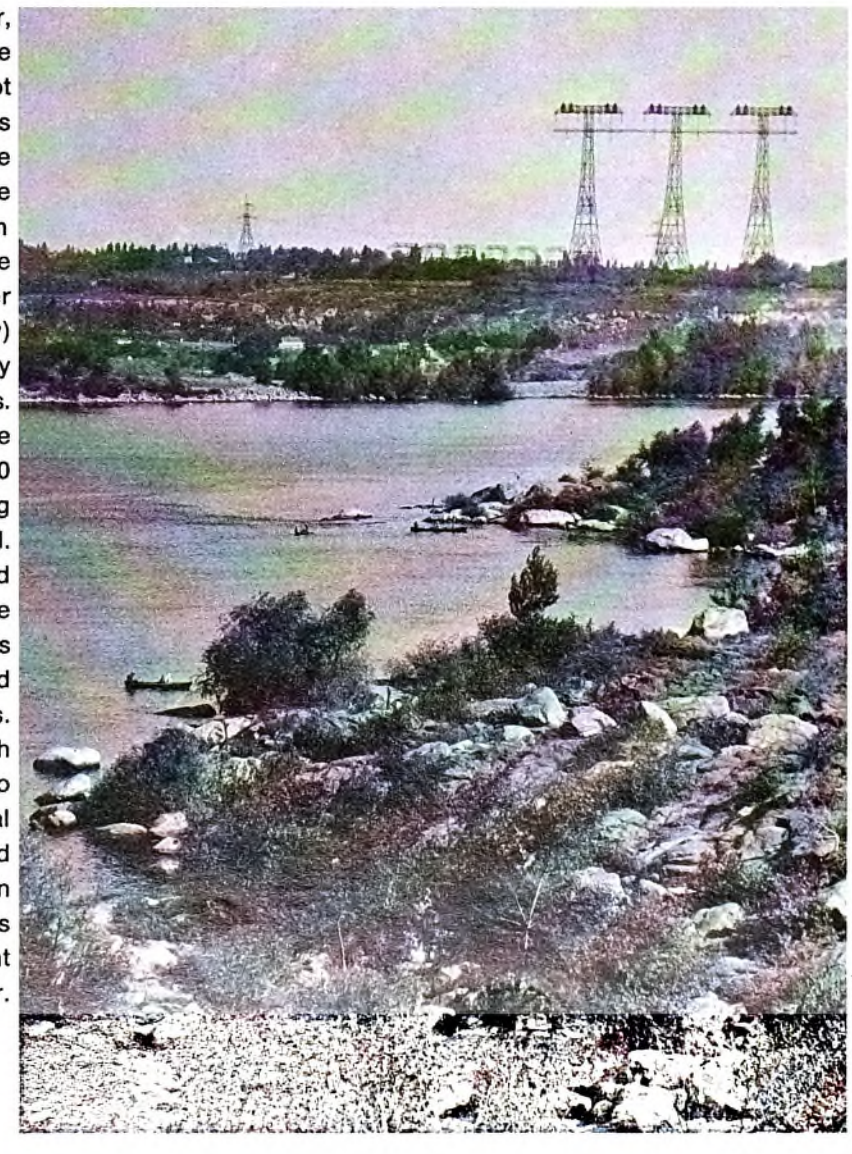




ZAPOROZHYE DNIEPER STEEL TOWN

Site of the Dneproges Power Plant

SITUATED on the lower Dnieper, Zaporozhye is the most mature of the young cities of the Ukraine. It got its impetus from the famous Dneproges electric power station—the first to be built in the Dnieper chain. The Dneproges station began operation in the early 30s, and in the 40 years since then a major heavy industry center (iron and steel, engineering, chemistry) has developed around it. The city now has over 100 industrial plants. Goods from Zaporozhye go to all the republics of the Union and to 70 foreign countries. The most fascinating part of Zaporozhye is Khortitsa Island. You can see part of it in the background of the photograph at right, where the power line masts stand. The island is fairly large—12 square miles—and has been famous since ancient times. During the fifteenth and sixteenth centuries it sheltered peasants who fled from the oppression of the feudal lords. Recently Khortitsa was declared a nature preserve by the Union government. When the city becomes still larger, this preserve will be right in its center.



NOVAYA KAKHOVKA AND ITS CITIZENS

BY LEV ALEXANDROV

OUR BOAT stopped for several days at Novaya Kakhovka. We found it hard to leave this most hospitable, young and very green town on the shore of a great river. We also found it hard to believe that barely two decades ago there was nothing here but quicksand and a few clumps of feathergrass on the dune tops.

Alexander Grishko, chairman of the Executive Committee of the City Soviet, otherwise known as the mayor, told us:

"Our city began to take shape in the early fifties. It was built out of necessity. A big hydroelectric power station was being completed then, and several thousand construction workers would soon be out of jobs. Everybody was asking himself: 'What shall I do next? Where shall I work?' Large-scale construction was going on everywhere, with factories and power stations being built all over the country. Construction agencies were inviting people with experience to work on projects in various places, particularly on the Volga. Some took jobs and left. But not all. There were many young people on the site, quite a few of them married, with families they did not want to leave behind. The local trade union asked the authorities to find an answer. The decision was to build a new town. There were jobs for everybody. That was how Novaya Kakhovka got on the map."

"But when the town was finished, you had to find new jobs for the builders, didn't you?"

"That was planned in advance, when the city layout was drafted. Factories with a certain number of jobs were built simultaneously with residential blocks for that many people. These problems were tackled by the planning bodies of the republic and the Regional Soviet. Ours being a planned economy, we can always calculate the available manpower in advance and with considerable precision and build factories to provide full employment. We even took account of such factors as the spontaneous drift of people from the nearby villages, young people especially. Electric power was no problem for our factories: The Kakhovskaya Hydroelectric Power Station had already begun to generate electricity.

"Our town, we think, should be

especially interesting to sociologists and demographers. Here life has provided many concrete facts characteristic of new towns in the Soviet Union. As distinguished from the older towns and cities of the Ukraine with their nationally homogeneous population, Novaya Kakhovka is a multinational town. Take the City Soviet. It has 114 Ukrainians and 49 Russians, as well as Byelorussians, Georgians and Bashkirs. This is because the power station was built by young people from every corner of the country, from all the different union republics. And many decided to build homes and stay."

The population of Novaya Kakhovka is 41,000. The town has a specialized secondary school with 2000 students, two vocational technical schools and two boarding schools. Though Ukrainians make up the bulk of the population, you will hear Russian spoken in most of the shops and other public places. People think that is perfectly reasonable since Russian is the international language for many of those who came here from the other union republics.

We did not notice in Novaya Kakhovka any trace of that exaggerated local pride so often seen in people who live in especially newsworthy places. What we did notice was that people were proud of such things as the fact that they had planted so many flowers in the town and that each resident was expected to plant at least one tree. They were trying to earn for Novaya Kakhovka the title "Highly Cultural Town," for which all Ukrainian towns and cities were informally competing.

Residents have proposed that the City Soviet set up a commission to plan events. Tatyana Yerutenko, Secretary of the Executive Committee of the City Soviet and chairman of the commission, told us:

"Our commission consists of 11 members. We think we have an important job to do. Our citizens want their town to be beautiful, with lots of flowers and festivals.

"We have been celebrating the spring festival for 10 years now with songs, dances and sports events. It lasts a whole day; everybody is there and we have guests from other cities, towns, collective and state farms. The festival is opened at the stadium by a mixed choir. This is followed by performances put on by amateur theater and music groups and sports events. There is always a lot of music and fun. The day ends with fireworks. The Neptune festival, which opens the bathing season, has become a tradition on the Dnieper River. It's for the kids, who love it. Registration of marriages at the palace of culture is another festive event. Couples are married by deputies to the Soviet. Last year there were 525 marriages here.

"The people are sociable; they like to keep in touch with other cities and towns. They have made friends with the town of Zakataly in Azerbaijan and Nebit-Dag in Turkmenia and have exchanged delegations. Novaya Kakhovka has ties of friendship with Saint-Etienne-du-Rouvray in France and has exchanged delegations with Cwmbran in England. The people here believe such visits help international understanding and friendship."

I had a chance to meet Yevgeni Menzhinsky, head physician of the town hospital, and Victor Mikhov, his assistant. The two have worked here for some time. They say that the public health service of Novaya Kakhovka meets the highest standards.

Yevgeni Menzhinsky told me:

"Judge for yourself. In our town we have one doctor per 400 inhabitants. The clinic has organized its work so that the patients do not have to wait for a doctor. The doctors work in three shifts. Our obstetrics and gynecological service is well organized; so is our pediatric service. We have doctors coming from many places in the Soviet Union, including Kamchatka, to study our organization of medical services."

Cities and towns are like living organisms: Each has its own personality, its customs and its problems. Novaya Kakhovka has just been born, but already it has a decided personality and a body of traditions. It has the vigor of youth and the perspective of maturity. The city has drawn up a general plan for its development extending to the year 1980. As the *Zarya* left the hospitable port I wished the young town the very best.

Three Workers

VICTOR BOGATYRYOV

The electrical engineering plant began operations at Novaya Kakhovka in 1956. I had been here before, when the plant was still under construction. The site and the surrounding area were all sand with a few patches of puny bushes. The construction workers were still at it, but the engineers and plant employees had already taken over the buildings that were finished and were adjusting the equipment and getting things started. They had either moved here from other plants or had come directly, upon graduation, from colleges and vocational schools. Several young workers I interviewed said to me:

"Come back in five years and see what we have done. It will be a fine job."

It was more than five years since that visit. The grounds of the plant were full of flower beds. Trees and shrubs were growing all over. There were several new factory buildings, and the equipment was also new. The plant is now training skilled personnel, and people are coming here from other enterprises to learn various trades.

I was taken to the department where explosion-proof motors are built. Here equipment is made for the ore- and coal-mining industries. Most of the 850 people who work in this department are young; 770 have at least a secondary education. There are 330 members of the Young Communist League and 80 members of the Communist Party among them.

Victor Bogatyryov is a first class lathe operator. He is entitled to put his personal stamp on everything he turns out, which means that he guarantees the high quality of the product.

Victor comes from Perm, a city in the Urals region. I asked him why he came to the Ukraine.

"I moved to Novaya Kakhovka in 1964. I was born in the Urals and grew up there. I completed a course at the vocational school in my native city and worked as a roller at the local metal plant. I had no intention of leaving my home town, but my little daughter suffers from asthma and the doctors recommended that we move to a place with a milder climate. I learned from friends that a plant was going up in Novaya Kakhovka and that they needed skilled workers. So I came.

"I like it here: the town, the plant and the people. Of course, the natural surroundings are different. No comparison. In the Urals you have dense impassable forest, with a lot of snow and heavy frost in winter. Here you have plains, estuaries, sand and hardly any snow in winter. But there is beauty in this too. I enjoy these surroundings. The people working at the plant and living in the town are a mixed crowd, not like the people living in the Urals region. Here you have Ukrainians, Russians, Byelorussians, Jews and Georgians. But we are all friends. At the plant and in town, Ukrainian is the accepted language, but if you don't know Ukrainian, you speak Russian—Novaya Kakhovka has been an international town from the day it was founded. It was built by the men and women who worked on the hydroelectric power stations. And a common language was needed. Here we don't ask what your nationality is."

His buddies like Victor. They say: "Victor has golden hands." Like the other specialists, he has no trade secrets and he is glad to pass his skills on to others. He is a member of the Permanent Production Conference, an elected body of benchworkers who submit recommendations on production to the plant executives. Victor is a member of the Communist Party.

TAMARA SIMUTENKO

Tamara is a Ukrainian, born in a village not far from Novaya Kakhovka. She is a slim, beautiful girl who works with feminine grace, her movements efficient and confident.

Tamara completed the eight-year school. She has been working at the plant for two years as a driller. I asked her if she liked her job.

"I do," she said. "There are many young people here. We make a good team. We are all friends and have an active social life."

Many of the young workers go in for sports. Tamara sings in the amateur choir. Like most people her age, she is a student, in her first year at the Odessa Specialized Secondary School of Electrical Communications. She studies by correspondence and twice a year gets paid leave to go to Odessa for exams. This is in addition to her regular paid vacation.

One out of six people in Tamara's department is a student as well as a worker. Mikhail Chmyr, secretary of the party bureau of the department, told me:

"Of course this creates difficulties for us. We're shorthanded, particularly during the exam period. But this is taking the short view, and we prefer the long view. It means that we will have more workers with a secondary technical education—worker-intellectuals we call them. They will be equipped not only with a knowledge of their trade but also with theory. This helps erase the distinction between manual and mental labor. In our case the desire of the workers to get a secondary technical or even a higher education stems not from the wish to switch to another job but rather from a thirst for knowledge.

"We are in a period of rapid cultural growth, a period of scientific and technological revolution, when the knowledge he acquired at a school of general education or a vocational technical school no longer satisfies the worker. His re-

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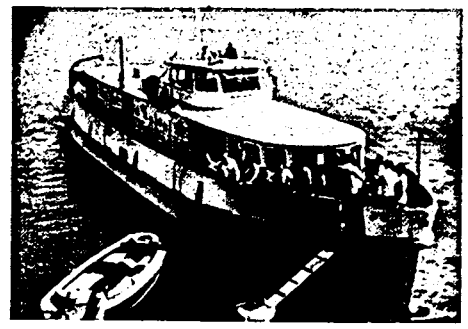



TRAVELS AND THOUGHTS

Continued from page 27

people, tells all about Kholodny Yar's distant and more recent glory. The initiator of this undertaking was a certain Alexander Naida, a forester and, as rumored, a descendant of a leader of the 1768 uprising. He was supported by the local collective-farm board, the collective farmers, the Regional Soviet and the local scholarly organizations. It was decided to restore the Motroninsky Monastery, an ancient architectural monument and a stronghold of the uprising. Today the Kholodny Yar preserve and museum are visited by thousands of tourists.

Our route through the industrialized region along the Dnieper, past mammoth metallurgy plants, mines, concentration mills and power centers, also runs through ancient lands which the Greeks and Romans considered the end of the world. Our Dnieper was then called Borysthenes, and we can read descriptions by Herodotus of the peoples who inhabited these steppes.

The reading public, and its number has swelled immensely in our day, this summer became very much interested in things Scythian, especially the ancient burial mounds. Why? An expedition headed by a young scholar, Boris Mozolevsky, unearthed some unique Scythian jewelry of wonderful workmanship in a burial mound not far from the man-made Kakhovka Sea, which was created as a result of a huge hydroelectric project. Mozolevsky, a good friend of mine from back in our student days, was a worker, a stoker, an aviator, and finally a university student. Now he is an archeologist, and also the author of three collections of poetry.

In this same district of Kakhovka we visited another burial mound, this one associated with the Ukraine's and the Soviet Union's new history—the legendary struggle of our people during the Civil War and foreign intervention in 1918-1920. I refer to the impressive monument* Machine-Gun Cart, *mounted in the steppe at the place where Red Army divisions started a smashing offensive against the interventionists. An amazing monument, it seems to embody the full might, the irrepressible surge of the Revolution.

Not all my Dnieper impressions are radiant and cloudless. The shallow portions of man-made seas created by the

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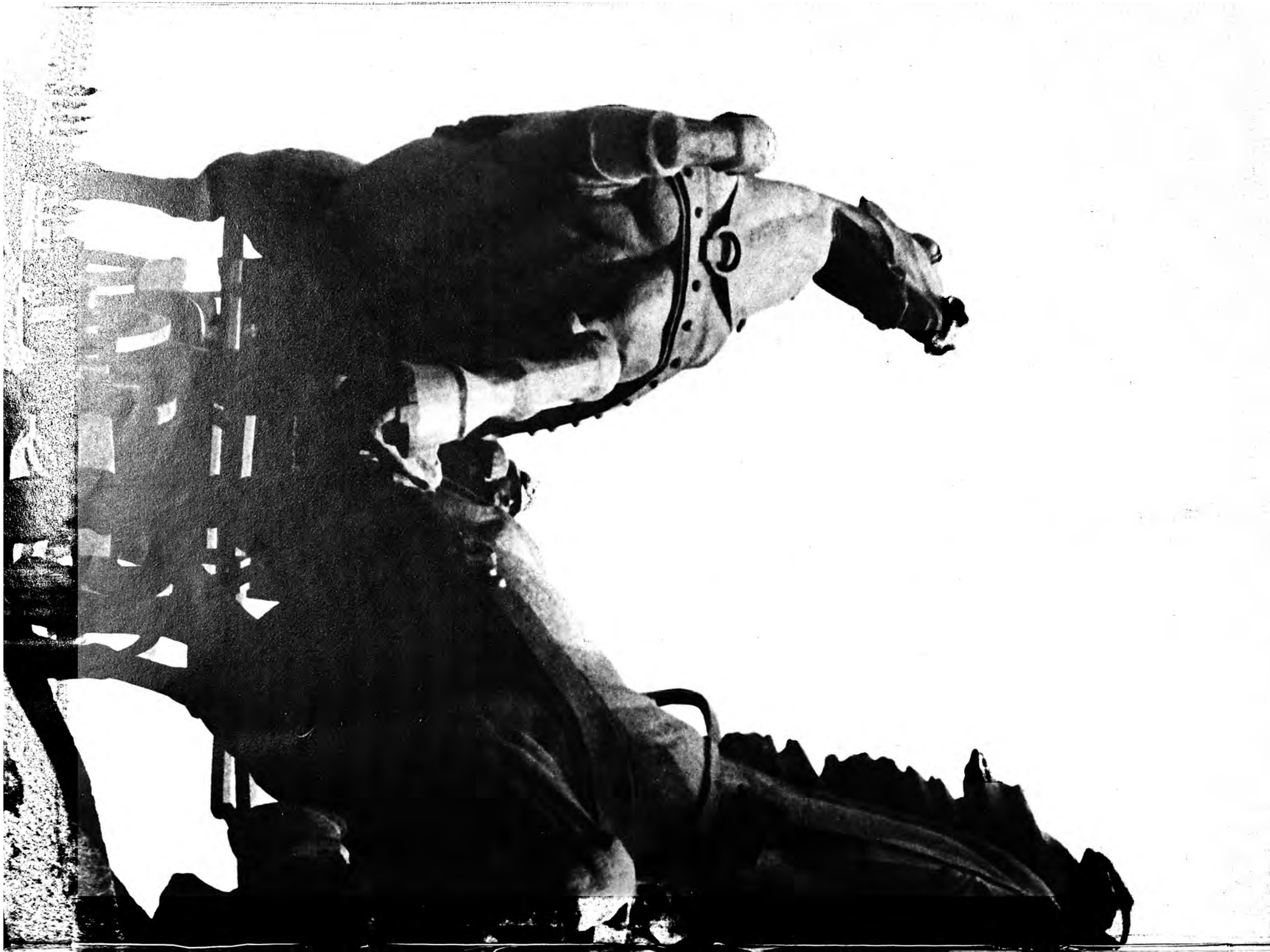
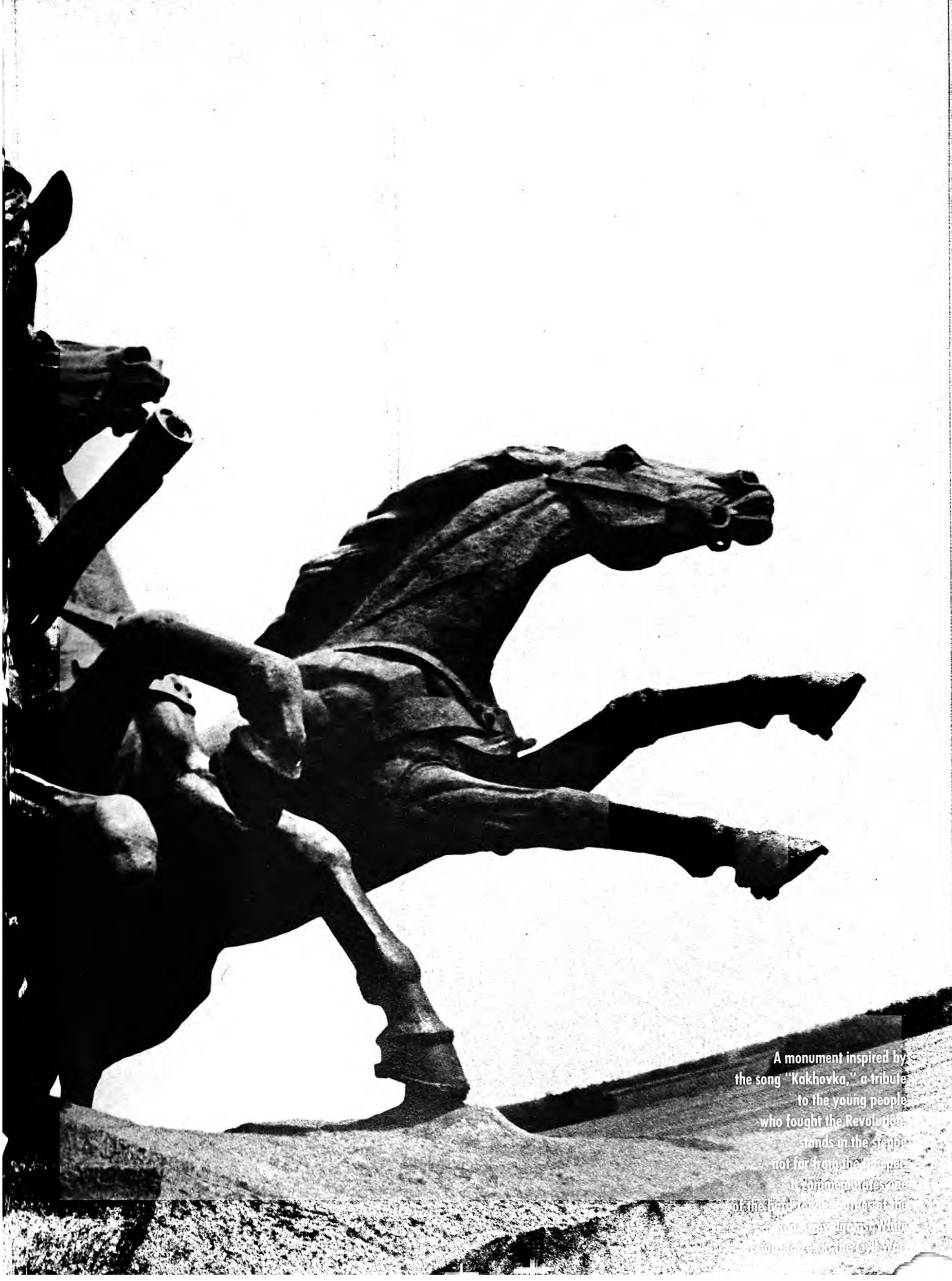




A monument inspired by
the song "Kakhovka," a tribute
to the young people
who fought the Revolution
stands in the steppe
not far from the

TRAVELS AND THOUGHTS

Continued from page 31

Dnieper's hydroelectric stations have flooded certain agricultural areas. The smoke of industrial centers is still polluting the atmosphere. With inordinate presumption, man imagines himself lord of the universe. He has invaded nature and done violence to its laws of balance. It is time we gave particular consideration to the restoration of nature. The large water reservoirs, without which both power generation and irrigated farming in the South are impossible, must somehow be improved. There are projects afoot to dam the shallow portions of these seas so that the collective farms can retrieve their meadows and arable lands.

Engineers are working on ways of purifying the air in industrial areas. The means now employed, particularly moist filtration, are not good enough. Perhaps a more efficient solution will come out of studies being done by engineer Nagorny and his team in Zaporozhye. They are proposing force-piping all gaseous emissions from metallurgical and other "smoky" processes to special underground mines. There the waste gases will be processed by chemicals and turned into valuable raw materials for products of the construction industries. What the mines will emit into the atmosphere will then be truly purified.

This project of Nagorny's team calls for considerable funds and building materials. But the idea is gradually forcing its way through and acquiring more and more supporters.

Our trip comes to an end at the Dnieper's Black Sea estuary below Kherson.

Summer comes to an end too.

Harvesting is over on the collective farms, and the season is crowned by a harvest fete, here called obzhinki, a festival as ancient as the nation itself.

The hero of the day is a red-ribboned sheaf of wheat and a round crispy loaf made of flour from the new crop. Songs of praise are sung to those who grew and harvested the wheat. Every detail of the ritual has a profound meaning.

From here, from the Dnieper's lower reaches, I try, in my mind, to look back over the whole river. I bend over the palpitating spring in Mshary. It is like the pulse of the earth, right here in Smolensk Region, on Russian soil. To think that this spring is the beginning of the river! From here this great artery flows through three republics—Russia, Byelorussia and the Ukraine.

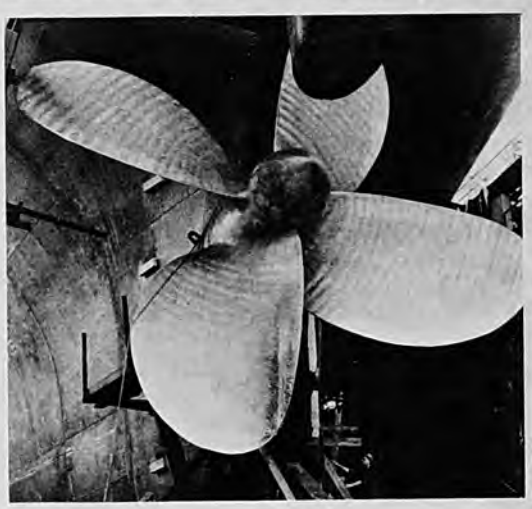




Kherson is a river port and shipbuilding center. Big seagoing ships load and unload at its busy docks.







Past Kherson, the last city before the sea, the Dnieper flows southward to a lagoon named after it. But here it already feels more like sea than river: ocean-going foreign ships at the docks and ocean-going vessels on the slips of the city's shipyards.

One of these yards specializes in building seagoing dry-cargo and combination-cargo ships of 20,000 tons and more. Its deputy director, Valentin Trubach, is the son of a collective farmer and an alumnus of the shipbuilding institute in the Black Sea city of Nikolayev. "Who places orders with the yards?" we asked him.

"We get orders from our country and others. Recently we built ships for Greece, Pakistan, Kuwait, the Federal Republic of Germany and Iraq."

"Are foreign consignees eager to deal with you?"

"Yes, our ships have a good reputation, and we get more orders from abroad than our production capacities can handle. However, in this five-year period we'll substantially enlarge our facilities and should be able to take many more orders."

Besides shipbuilding, Kherson is known for its corn-harvesting machinery, textiles, canned food (82 kinds) and, last but not least, grape wines. The most popular varieties are *Perlina Stepu, Naddnepryanskoye, Lydia, Oksamit Ukrainy, Berislavskoye, Shipucheye, Solntsedar, Rubin* and *Mitsne*.

THE SUCCESSION OF GENERATIONS

The following are excerpts from a round-table discussion at the editorial office of the magazine "Molodoy Kommunist" ("Young Communist"). The participants were leading Soviet philosophers and sociologists—Professors Grigori Glezerman, Felix Momjan, Yevgeni Sitkovsky, Yuri Volkov and Edward Arab-Ogly, of the Academy of Social Sciences, and young postgraduate students from the academy—Vitali Volovik, Yevgeni Komarov, Evelina Mozgovaya and Tamara Ishchenko.

Grigori Glezerman: The question of the succession of generations is inseparable from the youth problem, which is more serious today than it has ever been. It has its own objective origins, stemming from the nature of our times, an age of social and scientific-technical revolutions.

The latter revolution has its impact on the makeup of the younger generation in both socialist and capitalist countries. In the first place, it leads to a sharp increase in the number of young people who get an education, including those in higher schools of learning. But that is not the only point. Education itself is assuming ever greater importance, its level and depth determining the role and place of man. If the educational system is not up to the demands of the times, its shortcomings are felt most acutely by young people. Moreover, the training of the young man or woman takes longer, which delays entry into independent adult life. That has its effect on their psychology and world outlook.

Society in our time is developing at an accelerated pace and dynamically, so that the conditions in which young men and women are living and getting an education change fast, much faster than when their parents grew up.

At the same time, man's span of life is increasing, people live longer, slowing down the change of generations. The well-known French demographer Alfred Sauvy cites data showing that toward the end of the eighteenth century, the average age of a young man at the time of his father's death used to be 20. In our day not only the parents of 20-year-olds but grandparents as well are very much alive. According to Sauvy, the young man today feels the weight and power of two generations standing above him, hands on the main levers of society.

Since our society no longer has a private property problem, gaining an independent status in no way is dependent upon the inheritance of property and capital. But in our country, too, demographic changes can cause, and do cause, certain social and psychological shifts that should be studied broadly and realistically.

A New Independence

Edward Arab-Ogly: I would like to continue the discussion of the objective reasons that today change the nature of relations between generations.

To start with, let's talk about the impact of the scientific and technical revolution, and some of its consequences, on these relations. We have here, indeed, an objective mechanism that operates in countries with different socioeconomic systems. It is true, though, that it does not operate in the same way and has different social consequences.

Some five or six decades ago, the socialization of the young person and his initiation into the system of social relations was no problem at all. The child was taught by the parents and the primary school; they taught him the little they themselves knew and could do. His schooling came to an end at the age of 10-15; every young man knew that soon he would inherit something—if not wealth, then at least the trade of his father. His destiny was predetermined so that usually no contradictions arose between him and his parents.

But modern society is different. Now, as a rule, children do not take up the trade or profession of their parents. The young man's choice of career has broadened considerably. He is fairly well informed on the current needs of the labor market; he knows the prestige enjoyed by one or another trade or profession, and he is capable of using this knowledge to weigh his abilities and interests. As a result, the peasant's son does not inevitably become a peasant, nor the son of a lawyer, a lawyer, nor the son of a physician, a physician.

We can see all around us how workers' children in our country are musicians or journalists, how the children of peasants become professors or statesmen. This is unquestionably a progressive development. But it has a counterproductive effect on the relations between the generations, involving certain psychological changes. Formerly, for instance, the son's esteem for his father was predetermined, in particular, by the fact that the latter possessed much greater experience in the trade or profession inherited by the son. Which also means that the father's social status was always higher. Now, however, the father may be a worker of minimal qualifications and his son an engineer or a scientist, with a social role much more significant than that of his parents.

It also happens that children become more educated than their fathers, but they do not have the requisite experience. After all, knowledge alone cannot substitute for experience: Knowledge has to be applied, and one has to learn to make use of it. So time is required. The role of experience does not diminish but increases because in our times it is not a question only of experience that compensates for insufficient knowledge but also of experience that implements knowledge.

There is no doubt that an adolescent at 15 knows more today in terms of volume of knowledge, although not in a practical sense, than people in their sixties some 20 or 30 years ago. In the course of a year he can see, hear and meet more people—and travel more—than a man could in a whole lifetime not so long ago. But while in scope of knowledge man matures today much faster than he did then, so far as his status in society is concerned, that is, the possibility of having his opinion carry weight, that maturity is farther off than it used to be. It is not some whim of society that is responsible, nor is young people's self-reliance being cut down. The fact is that, because of the objective conditions of contemporary development, greater demands are made on each of us. Today it is becoming increasingly difficult not to make a mistake, while the cost of a mistake is much higher. The 16-year-old who could head a regiment during the Civil War (though it was not the rule then either) now would not be trusted with even a platoon. Socially he matures not as early as his earlier counterpart. Moreover, his courage and devotion to the cause now must be expressed in very practical ways. He must be able, armed with special knowledge, to make independent and responsible decisions in difficult, contradictory situations. All this is provided only by experience, and to some extent it makes the problem of the succession of generations more difficult. Optimal decisions affecting our youth can be adopted only after a comprehensive study of the young people themselves and their relationships with other age brackets.

Traditions and Innovations

Yuri Volkov: I would like to quote from an item that appeared in a Western newspaper: "Representatives of the younger generation in the Soviet Union, drawing away from the ideology of the older generation, from the ideas of communism, are turning toward everything new—from new hairdos to faith in democratic freedom."

Many such statements can be quoted. What is typical of them all? That attention is being paid to something that has really

taken place, such as changes in hairdos, fashions and dance rhythms. In this respect the youth are different from the older folks.

But different things should not be mixed. There are two types of social institutions, relations, standards and values—two spheres of social life. The character of the first is specific for a given socioeconomic system. The second consists of elements of social life that are not bound up directly with the particular features of a definite social system. What are they? Forms of communion, fashions and conduct.

Now in this second sphere of life of our society (though this division is quite conventional) changes are undoubtedly taking place. And they are brought about by the younger generation. It goes without saying that new fashions, hairdos, manners and forms of communion may be to the taste of some people and not suit others. But let us not identify them with class and political positions.

As for the allegations of Western ideologists that the Soviet younger generation has rejected their fathers' ideals along with the foxtrot and bell-bottom trousers—they have nothing to back this up. The data of sociological investigations show that nothing of the kind has happened. The young folks appreciate and hold dear the ideals of communism. There are some things in our life they do not like. But those are precisely the things that are against our ideals, those against which the Communist Party is waging a most determined struggle.

Yevgeni Sitkovsky: It has been the custom since olden times to point out, in scientific writings and in fiction, that youth strives to exceed the limits of the old, settled forms of life and to create new ones; that it is impetuous, radical, intolerant of tutelage and any manifestations of conservatism and dogmatism. To put it in philosophical parlance, youth personifies the negating side of social development—if, of course, negation is understood the way Marx meant it: a negation of the old that leads to the progressive new, that is, a constructive critical approach.

All these are good—not bad at all—characteristics demonstrated by the young people. In his address to the Sixteenth Congress of the Young Communist League of the USSR, Leonid Brezhnev said: "Improvement of production, of living conditions and of conditions for rest; intolerance of shortcomings, of all backwardness and red tape—here is where both enthusiasm and a healthy critical attitude, inherent in young people and which needs to be supported, must find their application."

Yuri Volkov asserted here that young men and women are dissatisfied with the same things the older generations are and against which we are waging a struggle. But the older people have more experience, they have a more realistic approach and are more careful. They know that there is a long struggle ahead, and they are not inclined to be in too much of a hurry. The young, however, try at times to get rid of the negative aspects at once through radical action which frequently ignores the objective conditions of our society. That is one of the psychological distinctions between the old and new generations. This contradiction comes out of the same interests, the same goals, which is why it can be solved. It is simply necessary to provide an outlet in action for the energy of the young.

Vitali Volovik: As I understand it, we are talking about young people who have already been included in the system of social relations. I agree that they bring into these relations both a fresh view of things and new experience that is not weighed down with the burden of habit. However, the young people's psychology impels them toward a break with the traditional but not toward innovation.

Tradition and innovation are not mutually exclusive. I will try to explain this. Tradition is a stable, repeated social relation, a definite total sum of social experience. The new, however, arising from what actually exists, comes forth as the negation of the tradition that had formed. But the thing is that one may talk about the victory of the new only when it itself turns into a tradition, that is, strengthens and repeats itself many times. The struggle against old traditions that hamper the development of new traditions is exactly what innovation is.

Whereas in the presocialist systems traditions were formed, as a rule, spontaneously, socialism creates real possibilities for controlling this process. But in the conditions of our society, making tradition absolute is fraught with the danger of losing the sense of the new. That is why young people have to be properly oriented so that they are able to distinguish between the tradition that serves social development and that which hampers it, in other words, to distinguish the really new from what only seems to be.

Yevgeni Komarov: The qualitative changes in the nature of sociopolitical activity and the ways it manifests itself are also very important. In the initial years of Soviet power, the sociopolitical activity of young people frequently took the form of meetings, and with good reason. Meetings reflected both the sense of pride of the young in the victory that had been scored and the fact that for the first time its activity, which was manifested at the time mainly in the political sphere, was not suppressed but, on the contrary, encouraged. It also reflected the concrete situation in those years, that of acute class struggle. Meetings were a necessary stage in the development of activity. "The endless discussions and endless holding of meetings are a necessary transition . . . from historical somnolence to new historical creativeness," Lenin wrote. It goes without saying that he also saw the limited character of these forms of initiative. "The chief and urgent requirement now is precisely the slogan of practical ability and businesslike methods," Lenin stressed.

I believe that greater practicability and a businesslike approach characterize the social activity of today's younger generation. These attitudinal changes have spread into the sphere of production and the economy and have taken new forms.

Far from diminishing, the social activity of youth has actually increased. If this is not so clearly noticeable, it is because we are dealing with qualitative changes.

Moreover, the demands made on the youth's social activity today have changed. The ability of young men and women in sociopolitical creative activity has unquestionably grown (in proportion to the growth in education and culture). Sociological studies reveal that the more educated a person is, the more time and effort he devotes to social activities. According to data of Sverdlovsk sociologists, today's worker spends six hours a month on sociopolitical activities (as against a mere 0.27 of an hour of a workingman and 0.3 of an hour of a workingwoman in the early twenties). The ranks of the activists have also broadened: In 1929, a study shows, only 20-22 per cent of the YCL members in the Urals took sociopolitical assignments. By 1966 the percentage had increased to 56.4. On the other hand, the demands made today on people by the scientific and technical revolution lead to a situation where young men and women, especially college-trained specialists, must devote their time first and foremost to their professional activities. Thus, in comparing the needs of the different generations of the youth for sociopolitical activities, we must compare their respective motivations.

Mutual Responsibility

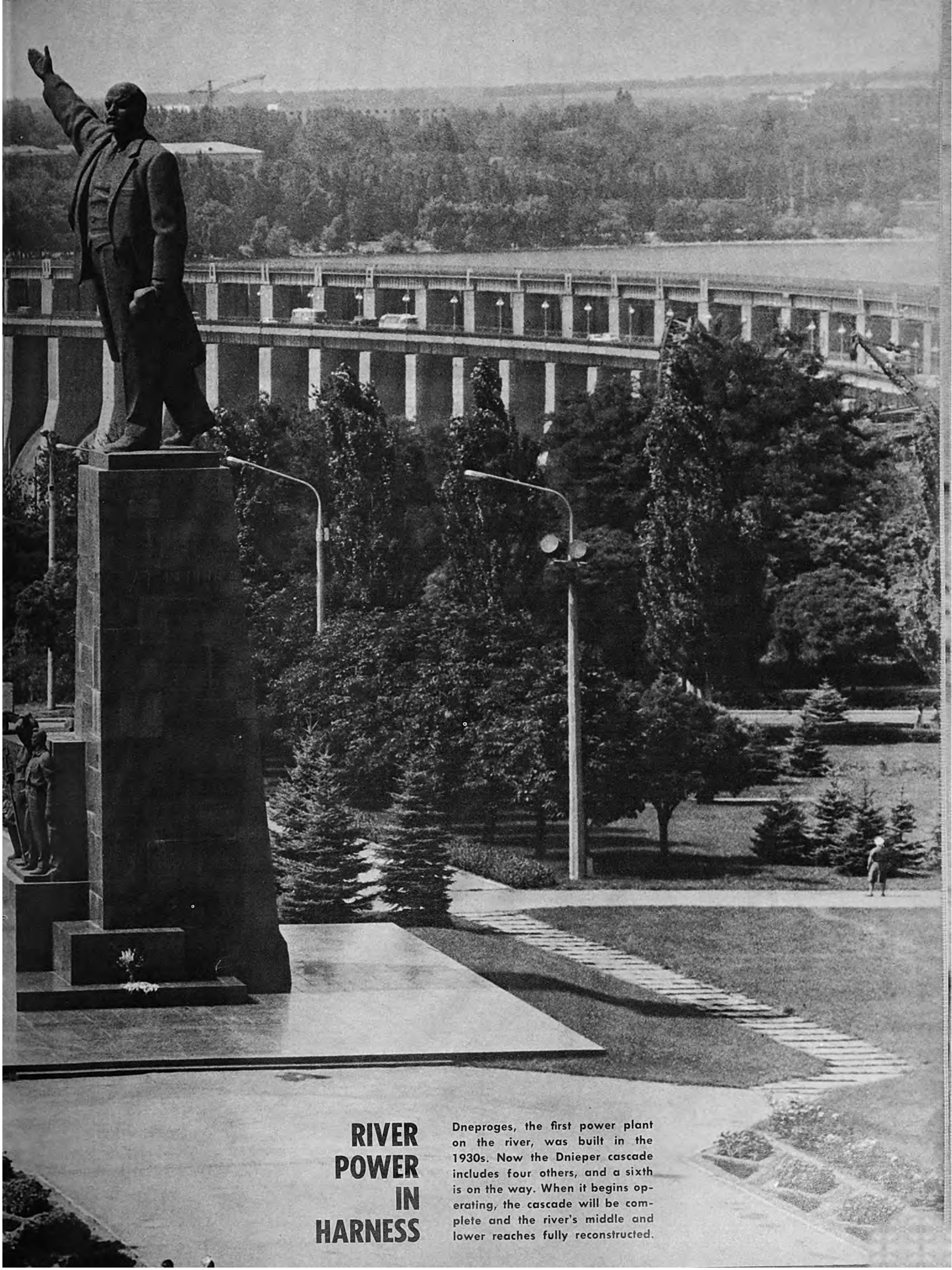
Evelina Mozgovaya: We are justified in saying that the ideals of the socialist system are attractive to all of its generations. But it does happen that, in accepting and inheriting ideals, young people's attitude to some phenomena in life, their evaluation of the complexities and contradictions of social development, is different from that of older people.

Tamara Ishchenko: That's correct. Nonantagonistic contradictions between generations are possible. After all, every new generation has, in comparison with its predecessors, a broader social basis for instruction and upbringing and meets with greater difficulties in acquiring knowledge, especially today. The fact that the youth is not a mirrorlike reflection of the older people is quite normal and natural. But there is the reverse side of the coin. The image of the new generation is not molded by that generation itself. Marx gave a precise formula for that: The essence of man is the sum total of social relations. Each of us is surrounded from very infancy not only by peers but also older people: parents, then teachers and coworkers. Thus, the features of the existing social relations may always be found in the portrait of the younger generation. It is understood that these relations differ from those inherited by our fathers in their time. Hence comes, possibly, the traditional reproach of some parents to their growing children: "We weren't that way at your age." But older people more frequently approach young men and women not from the position of their own youthful days but from the viewpoint of the wisdom of life, solid work and political experience acquired with the years. That requires a long life. But from what source does one who is just crossing the threshold of life derive this wisdom, experience and maturity?

Evelina Mozgovaya: Social experience is obtained through struggle with complications and contradictions. The consciousness of man is to a great extent his self-awareness. Not only the society's educational institutions but, first and foremost, the personal experience of each generation is a school of life.

Felix Momjan: It goes without saying that there are distinctive differences between generations under socialism also. We won't bother mentioning again the problem of hairdos, clothes, musical and other fashions—that is not the main thing. Of chief importance is the attitude toward our economic and political system, social relations and values. The main mass of our youth has stood and stands for socialism, for the ideals of their fathers. This is quite clear. And it is also clear that, if the young people reject moribund methods and means of work, this rejection should be applauded, for it reflects a revolutionary attitude toward reality in the conditions of socialism.





RIVER POWER IN HARNESS

Dneproges, the first power plant on the river, was built in the 1930s. Now the Dnieper cascade includes four others, and a sixth is on the way. When it begins operating, the cascade will be complete and the river's middle and lower reaches fully reconstructed.

More than 300 terrestrial days, or 11 lunar days, in operation; 6½ miles covered; 860,000 square feet explored; 220 panoramic shots and some 20,000 other photographs made of the lunar surface; physical and mechanical properties of the lunar rock measured at 500 points and its chemical composition sampled at 25 points; tens of thousands of TV pictures, reports on the radiation level and cosmic radiation measurements transmitted to Earth; hundreds of communications sessions, thousands of commands sent and executed, many hundreds of maneuvers, parameters of Moon rover systems and mechanisms transmitted to Earth—these figures give some idea of the scale of the research done on the Moon by the Lunokhod 1 traveling laboratory.

Information regularly radioed to Earth also concerned lunar topography; lunar rock, its chemical composition and physical properties; low-energy cosmic rays; diffuse X-ray background and weak sources of X-ray radiation. Furthermore, laser signals were transmitted from the Earth and sent back from the Moon with the aid of a French reflector mounted on the rover.

All previous investigations of the Moon were made with stationary automatic probes and were therefore strictly local. Their data-gathering capacity rapidly diminished from the landing spot toward the periphery of the observation area. This hampered the study of objects that were not close enough to the automatic station, preventing scientists from tracing the interdependence of the lunar relief and the properties of rock at different areas of the surface.

Lunokhod 1 enabled scientists not only to explore large areas but to do it purposefully, that is, to select objects of special interest. Since these explorations approach in scale the long-distance studies made by lunar orbiters, their results can be collated. Thus, the use of this vehicle opens the way to a new method for the study of the Moon and the planets, supplementing the explorations made from spacecraft and stationary Moon-based probes.

The northwestern part of the Sea of Rains, where the influence of big craters is not so strong, was selected as a landing site for Luna 17, which delivered Lunokhod 1 to the Moon. Several Moon vehicle systems were used to study the lunar surface—a TV system, a system to measure the distance covered, direction, roll and trim of the Moon rover. The physical and mechanical characteristics of the lunar rock were investigated with a penetrometer, and its chemical composition with a spectrometric device known as the Rifma, designed and built by the Institute of Engineering Physics of the USSR Academy of Sciences.

The main purpose of such spectrometric equipment is to determine rock changes along the route and establish the concentration of different elements.

The Rifma carries a radioactive source that irradiates the path covered by the rover. The rock atoms modify their electrons under the effect of radiation and emit their own X-ray radiation. By measuring this response, we can determine which chemical element emits the radiation and what its concentration is.

The Rifma equipment aboard Lunokhod 1 enabled scientists to analyze the chemical composition of the lunar rock along the entire route. After processing the data, they concluded that the surface layers in the area of the Sea of Rains are made up of rocks resembling terrestrial basalt. Preliminary decoding of X-ray spectrograms pointed to the presence in lunar rocks of magnesium, aluminum, silicon, calcium, titanium, iron and other elements. The concentration of elements in the lunar rock varies from place to place, but not much. At the moment scientists are trying to establish a relationship between variations in the concentration of elements and the peculiarities of the lunar relief. This will shed light on the history of the Moon, the origin of the craters and rocks,



DIPLOMATIC RELATIONS

BY LUDMILA NIKOLSKAYA

Candidate of Science (History)

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What has been happening in that mysterious country, the one-time Russian Empire? What changes has the October Revolution brought? Such questions were being asked more and more by progressive Americans. In 1927 the Society for Cultural Relations with the USSR was founded. It included about 300 prominent scientists, public figures, writers, composers and artists. The society was headed by William A. Naylson of the Smithsonian Institution. Conductor Leopold Stokowski and Professor Jerome Davis of Yale were its vice presidents. By 1931 the membership had grown to 1200.

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The society helped bring to American audiences such prominent figures in Soviet science and literature as Academician Abram Ioffe and Vladimir Mayakovsky, to arrange Soviet exhibitions and the exchange of information and books. Dr. James Childs, chief of the document division of the Library of Congress, came to the USSR in the winter of 1926 to sign an exchange agreement with the USSR Society for Cultural Relations. As a result of the agreement, by 1927 the Library of Congress had sent 12,321 copies of scientific literature and fiction to the USSR and had received in exchange 3,057 Soviet books. By then also, about 6,000 books had been sent to the USSR by the New York Public Library and 4,387 by the Department of Agriculture library in Washington, D. C. University and research-center libraries, like those of the Smithsonian Institution and Carnegie Institute, were also contributors. By 1933 almost all the universities and major research centers in the USSR and the USA were exchanging books. In the absence of diplomatic relations, this exchange was a major source of information on research work in progress.

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ALEXANDER FADEYEV,

WRITER-REVOLUTIONARY

ALEXANDER FADEYEV was born into a peasant family in the town of Kimry, Tver guberniya (now Kalinin Region). In 1908 the family moved to the Far East, where Alexander spent his childhood and youth.

The mass movement against czarism that swept the whole of Russia had a marked influence on the boy. Both his mother and stepfather—he lost his father in early childhood—took part in the revolutionary movement.

It is not surprising, therefore, that 16-year-old Alexander welcomed the October Revolution of 1917 without reservation.

When he was 17, he joined the Communist Party. During the Civil War and the foreign intervention in the Far East (1918-1922) he worked in the revolutionary underground movement, fought in a guerrilla detachment and was twice wounded in action against the White Guards.

In 1921 he entered the Moscow Mining Institute, then switched over to full-time party work, first in Moscow and then in the Northern Caucasus. Recalling his early efforts at writing, he used to say:

"First I became a revolutionary and then a writer. When I picked up my pen, I was already a confirmed Bolshevik. Naturally I wrote about the revolution."

In the early twenties Fadeyev published his first articles and stories. Though written with an uncertain hand, they were nevertheless well received by the critics. Real success came in 1927 with the publication of his first novel *The Nineteen*. After that Fadeyev devoted himself entirely to writing.

The Nineteen is about a miners' guerrilla detachment that was active in the Maritime Territory (Soviet Far East) during the Civil War and the period of foreign intervention. The detachment was routed in unequal battle, only 19 of the fighters surviving.

The writer drew the characters in vivid, evocative colors. The image of the Communist Levinson, the detachment commander, is particularly interesting. The man is short and homely, with all the usual human weaknesses. But he is a person of unshakable conviction: He knows that the cause he is fighting for is just. In the beginning practically all of Levinson's energy is concentrated on "hiding from the men the inexperience and fear that he felt in battle." But eventually he learns to overcome his fears and lack of self-confidence. The decisions he makes are objective and sound when he comes to comprehend the balance of forces. It is not his fault that the detachment is defeated: It had to fight against much larger numbers. But the 19 who break out of the encirclement do not lay down their arms. They know that fresh reinforcements will join the detachment for future and more decisive battles.

Alexander Fadeyev's *The Nineteen* is one of the first books to bring to the reader not only the vast scope of the revolution, its passionate spirit and its enthusiasm, but also the character of the people who made it, people of flesh and blood.

The author himself pointed out that this novel was intended to show "how human material underwent the process of selection in the Civil War, how the revolution swept away its enemies, all those who were incapable of carrying on real revolutionary struggle, who joined the camp of revolution by accident; to show that all those who rose from the revolutionary roots, from the million-strong mass of people, grew and matured in this struggle; to show that people were remolded in the most fundamental sense."

After the publication of *The Nineteen* Fadeyev began work on another novel, *The Last of the Udes.* Unfortunately, he never finished it. The two parts of the novel he did write appeared in the periodical press in separate installments between 1929 and 1941.

The novel concerns a small nationality known as the Udes living in the Far Eastern taiga forests. Fadeyev was interested in the peoples of the Maritime Territory. He was familiar with their way of life and psychology, he had had frequent contacts with the Udes, Nenets and Nivkhi during the Civil War. They gladly helped the Russian guerrillas—served as guides through the taiga forests, provided food and clothing and took care of the wounded.

The Last of the Udes is a work on many levels. The novel does much more than tell what happened to these minority groups; it gives a broad picture of the political life of the entire Maritime Territory between 1917 and 1920: the birth of Soviet power in the Far East, the Civil War and foreign military intervention, the origin and growth of the guerrilla movement under the guidance of the Communist Party.

On June 22, 1941, nazi Germany attacked the Soviet Union. Fadeyev went to the front as a *Pravda* correspondent to write about the officers and men of the Red Army. In 1941-1942 he published *Leningrad in the Siege,* a documentary report on the courage of the city's defenders during its two-year encirclement.

When Soviet troops liberated the small Ukrainian town of Krasnodon in February 1943, it became known that a youth underground organization had been active there during the nazi occupation.

Fadeyev went to the town, spent some weeks there, visited the families of the youthful fighters and interviewed their schoolmates and comrades in arms.

The facts added up to a heroic picture of the town's Young Communist League.

During the trying days of Soviet retreat early in the war, many of the teenage schoolboys and schoolgirls of Krasnodon could not, for a variety of reasons, leave the town and move east with the army. In 1942 members of the Young Communist League formed an underground organization they called the Young Guard. The boys and girls in the group inflicted serious damage on nazi occupation units. They circulated leaflets and reports from the battlefronts, prevented the forced deportation of several hundred Soviet citizens to Germany, executed several traitors and prepared for an armed rising.

In January 1943—only a month before the town was liberated—the Nazis managed to track down the Young Guard. Many were captured. But torture could not break the will of the Komsomols or force them to betray the ideals they had fought for.

The Nazis butchered the underground fighters. Some were shot, others thrown into the deep pits of the coal mines.

The Komsomols remained true to the pledge they had made when they joined the Young Guard. This was the oath:

"To my comrades in arms, to our long-suffering land, to the whole of our people, I solemnly pledge to fulfill without questioning any assignment of the organization, to keep in deep secret everything bearing on my work in the Young Guard. I swear to avenge without mercy the burned-down and ruined towns and villages, the blood of our people and the martyr death of the heroic miners. And if I have to sacrifice my life for this revenge, I shall give it up without a moment's hesitation. If I am guilty of violating this solemn oath under torture or through cowardice, may my own name and my relatives' be damned for ages to come and may I myself be punished by the avenging hand of my comrades. Blood for blood, death for death!"

The writer went to work on this wealth of material. He had long wanted to do a large-scale portrait of the younger generation and the revolutionary enthusiasm that he felt to be its salient characteristic. The novel *The Young Guard* appeared in 1946 and immediately won acclaim. The reader was captivated by the authenticity of the documentary story and by the skillful depiction of its underlying psychology. But Fadeyev himself felt he had not given enough space to the people of the older generation—to the Communists who worked underground and guided the activities of the Young Guard. Subsequently he rewrote the novel, giving it broader scope but retaining its fresh, romantic spirit.

The Young Guard is a favorite of Soviet and many foreign readers. It has been published in 153 editions and translated into 39 languages—of the peoples of the USSR and of the world.

During the 1950s Fadeyev began work on a new novel on the peacetime period. He collected a lot of material, but his untimely death ended the project.

Alexander Fadeyev was not only a writer, he was also a statesman. He served as deputy to the USSR Supreme Soviet and member of the CPSU Central Committee. He was a very active secretary of the Union of Soviet Writers, and many young authors looked to him as their mentor. Active in international affairs, he headed several Soviet delegations to international peace congresses and was vice president of the World Peace Council Bureau.

Always during difficult periods in the life of a nation or a state the anxiety of even the most ordinary people about their own lives is bound up with their concern for the whole nation.

The first days after their recent experiences, both adults and children were dejected and hardly spoke to each other. Their minds were not only troubled by thoughts of their own immediate future; it seemed to them that the fate of their Soviet land was in the balance. And each one brooded over these problems in his own particular way.

Yet among all these people engrossed in their various thoughts about their own fate and that of all the people, there were two who, although very different in age and temperament, were surprisingly alike; both were in an extraordinary state of mind, full of enthusiasm and in high spirits. One of these was Valko,[1] the other Oleg.

Valko was a man of few words. No one could ever tell what went on behind his gypsy appearance. Everything had gone wrong for him, yet never had he seemed so lively and gay. He made the whole journey on foot, did what he could to take care of everybody, chatted eagerly with the boys, each of them in turn, as though sounding them out, kept joking with them all the time.

And Oleg too could not stay quiet in the carriage. He showed his impatience, wanting to know how long it would be before he finally saw his mother and grandmother. He would rub his fingertips with pleasure listening to Zhora Arutyunyants, then suddenly start jeering at Vanya and Klava, or, stuttering timidly, would try to comfort Ulya, or take care of his little cousin, or be affectionate with Aunt Marina, or get into long political discussions with the old man. Sometimes he would walk by the side of the britska silently, with deep furrows on his brow, his stubborn, full lips, still like a child's, touched by a smile, his eyes staring into the distance with a pensive expression, now stern, now tender.

. . . They reached the outskirts of Krasnodon after dark, and since Valko assumed that all movement by night was prohibited, they did not enter the town but camped in a ravine nearby. It was a bright moonlit night. They were excited, and no one fell asleep for a long time.

Valko went off by himself to explore the ravine. Suddenly he heard footsteps following. He stopped abruptly, turned and, by the light of the moon shining on the dew, recognized Oleg.

"Comrade Valko! I have to talk to you on a very urgent matter. Very urgent," Oleg said, stuttering slightly, his voice very soft.

"All right. Only we'll have to do it standing. It's very damp," Valko said and laughed.

"Help me find one of our underground people in town," Oleg said, looking searchingly into Valko's downcast eyes beneath their heavy brows.

Valko looked up quickly and for some moments studied Oleg closely.

Before him stood a representative of the new, the very young generation.

What, on the surface, seemed quite irreconcilable—dreaminess and the urge for action, flights of fancy and sound common sense, ruthlessness and a love of everything good, generosity and sober calculation, self-control and delight in earthly pleasures—all these seeming contradictions together made up the unique mold of this new generation.

And Valko knew it well, this new generation, for to a great extent it was a chip off his own block.

"I'd say you've already found one," he said and smiled. "We can go on now to discuss what's next."

Oleg waited silently.

"You've been thinking about this for some time, I can see that," Valko said.

He was right. For the first time, without telling his mother what he intended to do, Oleg had gone to the district Komsomol committee as soon as the immediate threat to Voroshilovgrad had become apparent and asked that they use him to help organize underground groups.

He had been very hurt when, without explanation of any sort, he had been told something like this:

"Look here, young fellow, get your things together and clear out of town if you know what's good for you! And be sharp about it!"

He didn't know that the district Komsomol committee was not setting up its own independent groups and that those members who were to remain behind at the disposal of the underground network had been chosen much earlier. Therefore the reply he got, far from being unkind, was even in a certain sense an expression of solicitude for a comrade. And so he had no choice but to leave.

The moment he was over the initial shock of the events at the bridge [2] and realized that he had not been able to get out, the thought actually cheered him, for now his dream would come true. All the hardships of the flight, the parting from his mother, the uncertainty of his future simply slipped from his mind. All his mental powers, all his passions, dreams and hopes, all the ardor and urgency of youth rushed to the surface.

"You're so calm because your mind is made up," Valko continued. "I'm just like that myself. Only yesterday I was marching along there and I couldn't get it all out of my mind: how we blew up the pits and the way the Red Army is retreating, the tragedy of the children and the refugees. My thoughts were so black," he said with unusual candor. "I should have been happy because I would soon be with my family again; I haven't seen any of them since the war started. Yet deep inside something kept saying, 'And then what?' That was yesterday. And what about today? Our army has pulled back. The Germans have us in their clutches. I won't see my family, maybe I'll never see them again. But my mind is easy. Why? Because now the road before me is clear. And that's the most important thing for people like us."

Oleg felt that now, in this ravine outside Krasnodon, here in the moonlight shining beautifully in the dew, this stern, reticent man with the eyebrows that met in the middle had spoken to him, Oleg, with greater frankness than he ever had to anyone before.

"Now listen! Don't you lose contact with the other boys, they're good fellows," Valko said. "Don't give yourself away, but keep in touch with them. And hunt out some more, study them to see if they'll do. They must be solid as rock. But don't you do anything without my knowledge—you'll only make a mess of it. I'll tell you what to do and when."

"Do you know who stayed behind in town?" Oleg asked.

"I don't," Valko admitted. "I don't, but I'll find out."

"And how will I find you?"

"You won't have to find me. And if I had a home, I wouldn't tell you where it was. But so far I haven't got one, to tell the truth. Better let me have your address so I can find you."

Valko repeated Oleg's address several times to commit it to memory.

"Don't worry, I'll look you up," he said quietly. "And if you don't hear from me soon, just sit tight. Better go now." His big hand gently pressed Oleg's shoulder.

"Thank you." Oleg's voice was barely audible.

With unaccountable elation, which seemed to carry him along over the dewy grass, he walked back to the camp. The horses were still grazing, but everyone was asleep except Vanya Zemnukhov, who was sitting by the heads of Klava and her mother, hands clasped around his bony knee.

"Good old Vanya," thought Oleg with a tenderness that he now felt for all the people. He walked up to his comrade and sat down beside him on the damp grass, his heart racing with excitement.

Vanya raised his face, pale in the light of the moon.

"Well? What did he say?" he asked briskly in his deep voice.

"What are you talking about?" Oleg asked, very much disturbed.

"What did Valko say? Does he know anything?"

Oleg hesitated.

Vanya was annoyed. "Look, let's not play hide-and-seek.

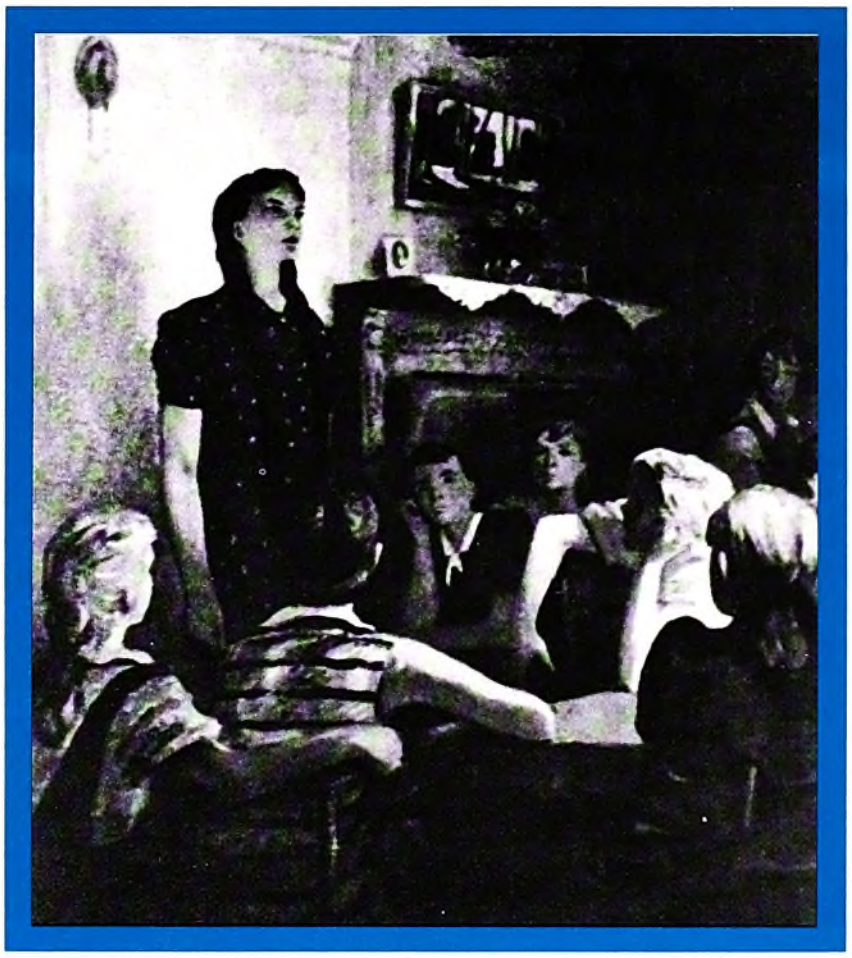

Illustration for Fadeyev's The Young Guard *by Orest Vereisky.*

[1] Valko was a Communist, director of a coal mine in Krasnodon—Ed.

[2] At the Donets River crossing some of the refugees, including Oleg and his comrades, were cut off by the Nazis from retreating Red Army units —Ed.

Like-Minded People

FROM THE NOVEL *THE YOUNG GUARD*

BY ALEXANDER FADEYEV

These excerpts describe the beginnings of a group of Komsomol members from Krasnodon (Donbas, the Ukraine) called the Young Guard, who could not leave with the retreating Red Army in the grim days of 1942 and had to come back to the nazi-occupied city. They formed a fighting unit and under the leadership of underground Communists harassed the fascist invaders. Oleg Koshevoi is one of the central figures in the novel.

We're not children any more!"

Oleg looked at him in growing bewilderment. "How d-d-did you know?" he whispered, wide-eyed.

"There's nothing clever about recognizing your underground contacts," Vanya smiled. "They're the same as mine! Did you imagine I hadn't figured it all out?"

"Vanya!" Oleg's large hand firmly gripped Zemnukhov's slim one and received an energetic handshake in return. "Then we're together!"

"Of course."

"Always?"

"Yes, always!" Vanya said very softly and seriously. "As long as the blood flows in my veins."

They looked at each other, their eyes shining.

"See here, he knows nothing at all yet. But he says he'll find out. And he will, too!" There was a ring of pride in Oleg's voice. "You see to it that you don't get stuck in Nizhny Alexandrovsky."

"I won't, don't worry," Vanya said with a determined shake of the head. He looked a little embarrassed. "I just want to see them settled in there."

"Do you love her?" Oleg asked in a whisper and bent close to Vanya's face.

"You don't talk about that sort of thing."

"Oh, don't be shy about it. It's good, it's a very good thing! She's such a w-w-wonderful person and y-y-you are too!" Oleg said with childlike happiness in his face and his voice.

"Yes, considering everything we and all the rest have to go through, life is still wonderful," Vanya said.

"That's t-t-true," Oleg said, and tears came to his eyes.

Little more than a week had passed since fate had led all these different people, adults and children, out onto the steppe. And now the sun rose and shone on all of them together for the last time. It was as though a lifetime lay behind them, so warm and sad and moving were their farewells when it was time to part.

Valko, in breeches and slippers, stood by himself in the middle of the ravine. "Well then . . ." He made a helpless gesture with his swarthy hand and fell silent.

The boys exchanged addresses, promised to keep in touch and said good-by. A long time after they had separated and gone off in different directions, they could still see each other. Someone waved a handkerchief here, an arm there. Then the first disappeared over a hill, then a second, just as though they had never made the journey together through those frightful days under the blazing sun.

Thus Oleg crossed the threshold of his own dear home, which the Germans had now taken over.

Oleg never saw Valko again. Seized during one of the numerous roundups by the Nazis in the town, Valko was tortured and buried alive. But Oleg managed to contact another man—Filipp Lyutikov, secretary of the underground organization of the Communist Party of Krasnodon —Ed.

As subterranean waters, unseen by the human eye, silently and unceasingly seep in every direction under the roots of trees and grasses, through cracks and along capillaries, so, under German rule, millions of men, women, children, and the aged of all the nationalities to be found in our land moved across the steppe, along forest tracks, mountain paths, gullies, by the steep cliffs overhanging rivers, along streets and lanes in towns and villages, through populous marketplaces and lonely, dark ravines.

On and on they trekked, countless as the sands—the partisans, underground fighters, saboteurs, agitators, scouts in the enemy rear, scouts of the great retreating army of a great people driven from their homes, returning to them again, seeking places where they would be unknown, breaking through front-line positions to get to free, Soviet soil, fighting their way out of encirclement, fleeing from German captivity and concentration camps, forced by necessity into the search for food and clothing, raising their weapons against the oppressors.

A short, ruddy-complexioned fellow was making his way from the Donets River along a steppe road. He had a soft, light brown peasant beard and wore simple peasant clothing; a rough linen sack was slung across his shoulder. Thousands upon thousands like him were on the move. Who could tell who he was? He had blue eyes, but can one peer into the eyes of all these people? And do eyes reveal all that is going on in people's hearts?

The man in simple peasant clothing entered the town of Voroshilovgrad and was soon lost among the crowds in the streets. But why had he come? Was it to take his linen bag to market with butter in it or curds or a duck and to trade them for nails or salt or a piece of coarse calico? Or maybe this man was Protsenko,[3] that dangerous fellow who was capable of undermining the power even of Dr. Schultz, counselor of Department 7 of the *Feldkommandantur*?

In a little wooden house, on the outskirts of a small mining town at the upper end of a dark narrow valley that runs away into the steppe, in a tiny room with only one window, blacked out with a blanket, a flickering candle shed its dim light on two people seated at the table: an elderly man with a grave, drooping expression on his face, and a well-built youth with large round eyes and light brown lashes.

A youth and an elderly man, yet they had something very much in common, for even at an hour as late as this, during the grim days of German occupation, both were almost conspicuously attired in clean, neat clothing and both were wearing collar and tie.

"Learn to take pride in our native Donbas," the elderly man was saying, and his stern eyes seemed to reflect not the dim light of the candle but the glory of battles long ago. "You've heard of the struggles of our old comrades—Artyom,[4] Klim Voroshilov, Parkhomenko?[5] I'm sure you've heard of them, but will you be able to tell the other boys all about them?"

The youth was sitting with his head inclined attentively toward his left shoulder, which was slightly higher than the right.

"Yes, I've h-heard, I'll know h-how to tell them," he replied.

"What is it that makes our Donbas glorious?" the elderly man continued. "However great our difficulties, in the years of Civil War and afterward, during the first five-year plan and the second, and now in these days of war, we have always done our duty honorably. Mind you bring that home to them. . . ."

The elderly man paused. The youth looked at him respectfully and said nothing, waiting for him to go on.

"And remember," the man warned, "vigilance is the guardian of underground work. Did you ever see the film *Chapayev?*"[6] he asked solemnly.

"Yes."

"Then why was Vasili Ivanovich Chapayev killed? He was killed because his sentries fell asleep and let the enemy get close. Always be on the alert, day and night, and always be cautious. Do you know Polina Sokolova?"

"Yes."

"How do you happen to know her?"

"She used to work among the women with Mother. They still see a l-lot of each other, even now."

"Right. Now, everything that only you and I know about you'll pass on to Polina Sokolova. The usual contact will be through Osmukhin, as it was today. You and I must not meet again," and as if wanting to forestall any feeling of hurt or regret, Lyutikov gave the youth a cheerful smile.

But there was no sign of either on Oleg's face. The fact that he had been trusted to the point where he was allowed to come to Lyutikov's house, during curfew hours at that, filled his heart with pride and boundless devotion. A wide boyish grin spread over his face.

"Thank you," he said gaily, very happy.

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[3] Ivan Protsenko, one of the leaders of the Voroshilovgrad regional underground organization of the Communist Party, commander of a large partisan detachment—Ed.

[4] Fyodor Sergeyev-Artyom (1883-1921), active in the revolutionary movement —Ed.

[5] Kliment Voroshilov (1881-1969) and Alexander Parkhomenko (1886-1921), Soviet military leaders—Ed.

[6] Vasili Chapayev (1887-1919), a gifted army commander killed during the Civil War—Ed.

BASHKIRIAN HONEY

By Lif Khairetdinov

Photographs by Georgi Zelma

BASHKIRIAN HONEY—tasty, aromatic and nutritious—is in great demand in the USSR and in many foreign countries.

Bashkiria, in the Southern Urals, is one of the autonomous republics of the Russian Federation. Its climate and rich vegetation are especially good for beekeeping. Forests cover a third of the republic's 56,000 square miles. The most abundant honey-yielding tree is the lime, spreading over 1.5 million acres. Each acre of limes yields about half a ton of honey annually. Next comes the acutifoliate maple—650,000 acres. There are some 380 species of other honey-yielding plants, including mustard, sweet clover, sainfoin and phacelia, which grow on 4.9 million acres of meadow and pasture.

The Bashkirian honeybees are the frost-resistant Central Russian variety. They fly out early and return to their hives late during the nectar-collecting period.

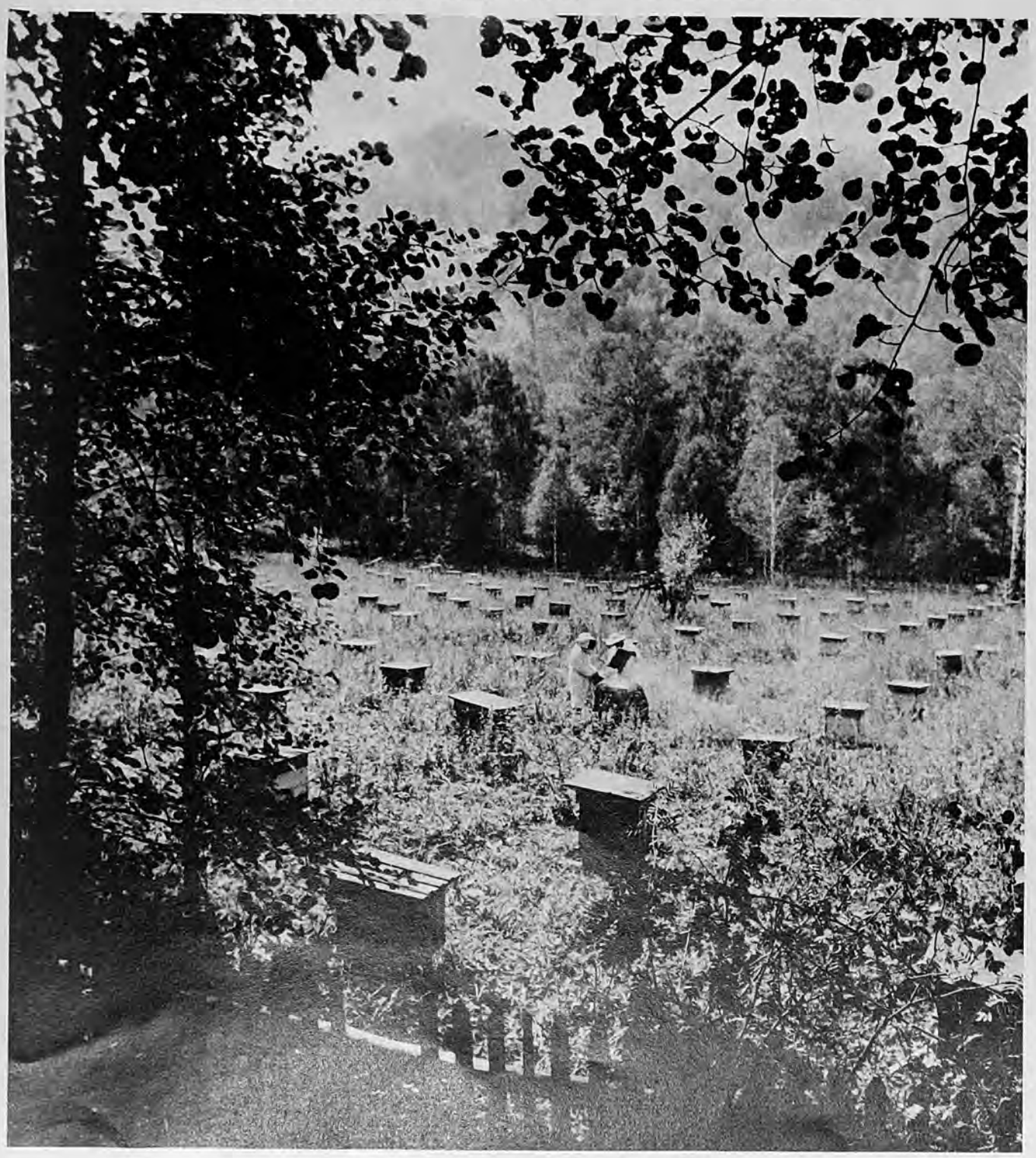
All the collective farms and 80 per cent of the state farms of Bashkiria have apiaries, many of them with 500 and more hives. The Ural Collective Farm of Narimanovsky District has almost 1500.

Apiarists of Bashkiria harvest up to 3300 tons of honey annually, bringing in as much as four million rubles.

Scientific beekeepers are trained at the Bashkirian Agricultural Institute, which has a beekeeping department.

In 1961 the republic's honey received the highest rating—a gold medal—at the International Fair in Erfurt, German Democratic Republic. At the Twentieth International Beekeeping Congress the Bashkirian honeybee was awarded a silver medal.

Meteorological post of the bee garden in the Bashkir experimental apiary. Center: Rafik Murzagulov, beekeeper at the Ural Collective Farm, gets an average 130 pounds of honey annually from each of the 150 colonies in his care. Bottom: Experimenters in Bashkiria are transplanting bees from hollows to ordinary frame hives. The bees rapidly acclimate to such "civilized" living and give 130 to 150 pounds of honey per colony yearly. Right: Beekeeper looking after a bee hollow. He is protecting the wild hive from bears and martens, which eat the honey and smash the combs. Far right: Log hive.











High-Yield Bees

NEW FIVE-YEAR PLAN: FOREIGN TRADE

The Soviet Union's new five-year plan (1971-1975) foresees a considerable expansion of foreign trade. This is an interview with Deputy Foreign Trade Minister Vladimir Alkhimov by a correspondent for the Moscow periodical New Times.

Would you outline our foreign trade performance for the past five years (1966-1970)?

The volume of our foreign trade increased by about half. The figure for the five years was better than 91 billion rubles, compared with 64 billion in 1961-65. Our 1970 turnover reached 22 billion.

Exports of machinery and equipment rose from 1.5 billion rubles in 1965 to 2.5 billion in 1970. There were also large increases in exports of items like natural gas, electricity, copper, nickel. And the sale of licenses became an established export item.

We do business with over a hundred countries, but nearly two-thirds of it is with the socialist states. Turnover with them in these five years amounted to 60.6 billion rubles, an increase of more than 43 per cent over the previous five-year period. Trade with the member countries of the Council for Mutual Economic Assistance (CMEA)[1] is growing especially fast: 51.6 billion rubles for the five years and over 12 billion for 1970. Business with the German Democratic Republic last year accounted for 15 per cent of our trade, with Poland 11 per cent, Czechoslovakia 10, Bulgaria 8 and Hungary 7.

Trade with the developing countries of Asia, Africa and Latin America also continued to expand, and long-term agreements were signed with many of them. The 1966-70 turnover was over 11 billion rubles—4 billion more than in 1961-65. Last year 13.5 per cent of our foreign trade was with this group. Trade with India, Iran, Algeria, the Arab Republic of Egypt, Iraq, Syria and Afghanistan has been developing particularly well.

Following the Leninist principle of peaceful coexistence, the Soviet Union consistently supports the development of trade with the industrially developed capitalist states. In the past five years, turnover with this group again increased markedly, from 2.8 billion rubles in 1965 to 4.7 billion in 1970. We are building up our trade relations with Finland, France, Britain, Japan, Italy, West Germany, Sweden, Austria and other countries.

The directives for the new five-year plan call for an increase of 33 to 35 per cent in foreign trade turnover. Would you elaborate on that?

The scheduled increase means that by 1975 our annual foreign trade turnover will reach about 30 billion rubles, primarily through further expansion of trade with the socialist countries. Last year integration of the economic plans of the USSR and the other CMEA countries was completed, the items and amounts of reciprocal deliveries in 1971-75 agreed on and long-term trade agreements concluded.

Aggregate turnover with the CMEA countries in 1971-75 is planned at over 76 billion rubles. That means an increase of more than half compared with the agreements for 1966-70.

The directives also call for mutually advantageous pooling of the socialist countries' resources for development of the fuel and primary-product industries. Could you give some details?

Some of the European socialist countries have limited raw material resources, and as a result, oil, coal, iron and manganese ore, steel, nonferrous metals, timber, pulp and paper, and textile raw materials figure prominently in their imports from the Soviet Union. In recent years the fraternal countries have been meeting practically the whole of their import requirements in oil and pig iron with our deliveries, and for other items the proportions are: petroleum products and phosphate fertilizers 75 per cent, cotton, steel, coal and manganese ore more than 60 per cent, iron ore nearly 85 per cent, coke and timber 50 per cent.

Further development of the Soviet Union's extractive industries, with a view to meeting the constantly growing requirements of the socialist countries, has made of first importance the question of pooling the efforts of the countries interested in financing these industries. This is in the interest of all CMEA countries.

In the process of coordinating the economic plans for 1971-75, agreements were concluded with Czechoslovakia on cooperation in expanding oil and natural gas production and in building a gas pipeline. Similar agreements have been made with the GDR. With Hungary there are agreements on cooperation in the asbestos and cardboard industries and the mining of phosphorites. Several countries will be joining to build the next stage of the Druzhba (Friendship) oil pipeline, running from the middle reaches of the Volga to the European socialist countries. Agreement has also been reached with various socialist countries on cooperation in expanding certain other intensive-capital primary-product industries in the Soviet Union with a view to increasing deliveries of these products to the countries concerned.

What about trade with the developing countries and the capitalist states?

The Soviet Union will work consistently to extend trade and scientific and technical cooperation with the developing countries. The value of this effort is not confined to the large contribution our country is making and will continue to make toward the economic growth of these countries. Ties with many of them are assuming the character of a stable division of labor in contrast with still remaining survivals of colonial and neocolonial structure in international economic relations.

The new five-year period will also see the further development of economically justified business ties with the industrially developed capitalist states. We think there is still a great deal of room for building up mutually beneficial economic relations. Growth of trade could be furthered by wider exchange of finished goods, particularly machinery and equipment. Creation of the right conditions would also be helped if the still persisting discriminatory restrictions on trade with the Soviet Union were dropped. Such restrictions are anachronistic today and only harm the businessmen of the countries that impose them.

These days, a growing international exchange of goods and services will result from an intricate complex of long-term industrial, scientific and technical cooperation. And it is in line with this perspective that the directives call for furthering our country's successful participation in the international division of labor.[2]

[1] The Council for Mutual Economic Assistance includes Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, the Mongolian People's Republic, Poland, Rumania and the Soviet Union. See article on page 60.

[2] Concerning business relations of the Soviet Union with the USA, Alexei Kosygin, Chairman of the USSR Council of Ministers, said in his report to the Twenty-fourth CPSU Congress (April 1971): "Nor do we rule out developing economic relations with the United States of America to a point where their extent would be more consistent with the economic potential of the two countries. That kind of cooperation would be a firm foundation for consolidating peace and mutual understanding on the basis of the principles of peaceful coexistence." For a summary of this report see the June 1971 issue of **SOVIET LIFE.**

CMEA: INTEGRATED ECONOMIES

Interview with Mikhail Senin,
Director of the International Institute of Economic Problems of the World Socialist System

The economic, scientific and technological cooperation of the socialist countries tends increasingly to move toward integration. The need for accelerating this process was noted at the Twenty-fourth Congress of the Communist Party of the Soviet Union and at Communist Party plenary meetings and congresses in the other socialist countries. Integration is one of the chief goals of the Comprehensive Program adopted by the Twenty-fifth Session of the Council for Mutual Economic Assistance (CMEA).

QUESTION: Before dealing with the specific features of such a complicated theoretical and practical problem, we should define socialist economic integration.

ANSWER: In general terms, it's the process of economic rapprochement of the CMEA member states, the fusing of their efforts, resources, material and cultural capacities for the benefit of the national economy of each country and the socialist community as a whole. The underlying purpose is to boost the rates of growth in the living standards of the socialist countries.

In the course of economic integration, a modern, highly efficient economic structure emerges in each country. Each country finds its place in the system of international socialist division of labor, a place that most suits its economic capacities. This process is aimed at gradually bringing closer or, as economists put it, equalizing the standards of economic development in CMEA countries, at establishing deep-rooted and stable ties in the basic branches of the economy, of science and technology. It is intended to extend and strengthen the market of these countries, and to streamline their money-commodity relations.

The very process of socialist integration is largely conditioned by the present world scientific and technological revolution. To rapidly develop the new branches of production created by this revolution requires the joint efforts of a number of countries. It is precisely the achievements of the scientific and technological revolution, when applied in production, that boost output. But research, experimental design, and the practical implementation of various processes become increasingly more expensive, and therefore beyond the reach of a single, especially a small, country. Hence the desire to join efforts.

QUESTION: Economic integration is characteristic not only of the socialist system. You find it in the capitalist system as well. Are there similarities and differences between capitalist and socialist integration?

ANSWER: There are both. Socialist and capitalist economic integration processes both reflect a general and objective tendency toward internationalization of economic life. The tendency was seen by Lenin over half a century ago. For maximum efficiency, modern production calls for mass organization of markets and for their specialization. The purpose of integration in both the socialist and capitalist systems is to solve these problems. However, this is where the similarity ends.

First, the two types of integration have different goals by reason of the difference between the sociopolitical systems. Socialist integration steps up the efficiency of the economy of the state so as to level out the economic development of different countries and make their mutual cooperation more productive, thereby raising living standards generally.

Capitalist integration works to strengthen the competitive position of the biggest corporations so they can beat down weaker companies and monopolize this or that branch (or group of branches) of production. Thus they have unlimited opportunities to control the market within the boundaries of several states and can rob the masses of the population in these countries as well, thereby raking in superprofits and still further augmenting the strength of monopoly. In other words, the purpose here is to strengthen the power and extend the capacities of the biggest corporations.

Second, there is a difference in ways and means. Socialist integration intentionally concentrates the efforts of a number of countries on the basic trend of economic development, eliminates duplication, specializes production, and fuses the resources of several countries to solve various complicated problems.

Capitalist integration is a spontaneous process through which the big monopolies beat down their weaker competitors and bankrupt medium-sized and small companies in other countries. It forces hundreds of thousands of industrial, professional and office workers to leave their homes and follow the flow of capital from one state to another.

Socialist integration fuses the national interests of each country with the international interests of all CMEA member states; the principle of voluntary participation is adhered to strictly.

Capitalist integration sacrifices the national interests of countries for the benefit of international monopolies. This produces contradictions within capitalist economic associations. The various conflicts within the associations consisting of several capitalist countries are evident enough.

Last but not least, capitalist integration creates closed economic groupings, setting up high tax barriers to protect the privileges of their monopolies. The economic community of socialist countries is open to other states that subscribe to its principles. There are states that do not belong to CMEA but nevertheless participate in the work of the community: Yugoslavia, Cuba, the Korean People's Democratic Republic and the Democratic Republic of Vietnam. CMEA works for economic ties with all the countries of the world.

QUESTION: Socialist integration is certainly a new stage in the cooperation of CMEA countries. Does this mean that they have completed one stage of their cooperation and have entered another, which will be characterized by new approaches, new principles and methods?

ANSWER: Yes and no. Integration is a process, a development, a deepening and extension of CMEA activities. With the joint efforts of several countries, the Druzhba (Friendship) oil pipeline was built. The pipeline made it possible for more states to set up new branches of industry, in particular petrochemistry. That is socialist integration. Among integration processes we might mention the establishment and operation of the Mir (Peace) power grid, which ensures a systematic supply of electricity to each of the seven countries, and the Intermetal

Continued on page 60

SCYTHIAN GOLD

BY TATYANA KRAVCHENKO

EARLY LAST SPRING Ukrainian archeologists Boris Mozolevsky (chief of the expedition) and Yevgeni Chernenko began exploring a huge 30-foot burial mound—the Tolstaya Mogila (Thick Grave)—in the steppe on the outskirts of the small Ukrainian town of Ordzhonikidze.

It was here, near Nikopol, Dnepropetrovsk and Zaporozhye, that the most interesting and richest Scythian burial mounds—the Chertomlyk, Solokha, Alexandropol and others—were first discovered and explored back in prerevolutionary days. The articles unearthed then, especially the jewelry made by the Scythians and other master craftsmen of antiquity, are the pride of the Hermitage Museum's famous gold collection.

But it needed the planned and detailed field explorations and studies of our day to give us a meaningful picture of Scythian life.

More than 2500 years ago, in the eighth to third centuries B.C., the South Russian steppes, from the Don to the Danube, were populated by Scythian tribes, nomad herdsmen and settled tillers of the soil. The supreme power was the king of the most powerful tribe—the Royal Scythians.

The king and his retinue, with their household members and servants, followed the great royal herds as they grazed the vast steppelands of Scythia. Not until the close of the fifth century B.C. was the large Kamenskoye settlement founded on the left bank of the Dnieper, opposite present-day Nikopol. It may have been a king's residence.

After several weeks of excavation, the archeologists found the dark patches of two large graves, a central and side grave, under a huge earth embankment. The outlines of a thieves' passage, leading to the central grave, were clearly visible. The archeologists therefore decided to excavate the side tumulus first; to all appearances, it had been built somewhat later than the main one. Two long corridors led to the grave and the remains of five bodies. The obviously more important ones were a Scythian noblewoman and her young son, both covered head to foot with gold ornaments. Close by lay their servants, a cook, a warrior and a driver, who had been killed. Their social status was indicated by the articles placed near them: a bronze vessel next to the cook, a bow and quiver with sharp-pointed arrows next to the warrior, and the remnants of the funeral cart next to the driver.

Alongside the Scythian woman lay a two- or three-year-old boy in an alabaster-decorated wooden sarcophagus. Evidences of his royal origin were a big gold bracelet like his mother's, a gold ring, a heavy gold neckband, gold earrings, and a suit richly decorated with little gold ornamental plates. Sacred Scythian silver vessels had been placed at their heads.

The central tomb had been rifled, and little gold plates and pieces of iron scale armor lay trodden into the viscous soil of the thieves' passage. The bones of an adult man were strewn about in a small vault about four feet high and with an area of about 45 square feet. Many articles were scattered nearby: a war belt made of bronze plates, a gold-handled whip, two knives, a two-pronged fork, part of a mace and the fragments of two iron dart points. There were also four quivers full of arrows, some bronze cauldrons and a triple-handled clay amphora. This was the initial find.

In a short hall connecting the burial chamber with the entrance pit, someone had placed or purposely hidden during the Scythian king's funeral two very valuable objects: a heavy gold breastplate, or pectoral, with scenes from Scythian life and depictions of animals, and an iron sword in a magnificent gold scabbard decorated with figures of imaginary animals. The articles, made to order for Scythians by Greek craftsmen, were executed in a highly realistic manner.

The remains of six sacrificed steeds, the king's favorites most likely, lay with their rich silver- and gold-decorated harness in two pits not far from the central tomb. Alongside them in separate graves lay servants, probably stablemen, who had been murdered. One of them, clearly the senior stableman, was armed with two knives and a bow and arrows. He also wore a gold neckband.

This was the grim ritual of a royal Scythian funeral.

Courtesy of *Nauka i Zhizn*

NOVAYA KAKHOVKA AND ITS CITIZENS

Continued from page 31

quirements are much higher and broader. He is interested in music, political economy, philosophy and literature, and our society offers him every opportunity to pursue his interests. We Communists welcome this desire for knowledge. We foresaw many years ago that this harmonious and all-round development of the individual would be characteristic of the builders of a new society. These are not mere words. This is life. Not only in Novaya Kakhovka but all over the country young workers are making further education a part of their daily lives."

ILYA GAIKEVICH

Ilya belongs to the older generation. He will soon be due for a pension. But the prospect of retiring does not bother him. He said to me:

"In the beginning it will be strange without a job. I won't have to rush to work in the mornings. But I think I'll get used to it in time. As long as I am full of pep, I'll find something to do. I intend to work in my garden, to grow apples and flowers. I like to be with my grandchildren too. It's high time I went on pension, I've been working for 50 years now."

Ilya was born in Byelorussia, not far from Minsk. He began working as a marker. Then he went to school. After that he was appointed foreman and subsequently production technician. He has worked at the plant in Novaya Kakhovka for 10 years in the quality-control department.

I asked him if he wanted to go back to Byelorussia.

"I often visit my native place. It's good to meet old comrades who survived the war. But only a few are left now. I think I'll stay here in Novaya Kakhovka. The Ukraine is just as dear to me as Byelorussia. The Ukrainians are a friendly, cheerful people. We understand each other.

"As you get older, you want to be closer to nature, to find pleasure in life. I have something here I wanted for a long time. More than 600 families of factory workers have gone in for flower and fruit growing. The City Soviet has given us plots of land, and we have formed an association of horticulturists. When we need help, the plant administration and the trade union are there. Every family has a little house on the plot. We spend all summer there, and the rest of the year we go there weekends. I get tremendous pleasure from it. We have grown fine apples this year—it's been a good year for apples. Apples this size." Beaming, Ilya showed me with his hands apples the size of watermelons.

He has two daughters and a son, all grown up. The older daughter and son are working, and the younger daughter is a student at the institute.

"I love it out there in the country," Ilya said. "Sometimes my grandchildren come to spend the summer with me. That is when I enjoy it most."

QUERIES FROM READERS

QUESTION: I would like to see more articles dealing with the Soviet Far North, Arkhangelsk, for instance. (C. E. Reese, Los Angeles, California)

ANSWER: Strictly speaking, Arkhangelsk is not in the Far North: Unlike Murmansk or Norilsk, it is not inside the Arctic Circle. Arkhangelsk is an old city, Russia's first, and for some time chief, seaport; that leadership went to St. Petersburg in the eighteenth century. It lies on the Northern Dvina, 30 miles upstream from the White Sea.

Arkhangelsk was founded in 1584 by settlers from ancient Novgorod, daring and skillful seafarers. From there they would set out to explore and claim new lands. After the city was visited by Czar Peter I, the organizer of the Russian Navy, Russia's first shipyards were built there.

At the end of the nineteenth century Arkhangelsk became the timber-exporting center of Russia. Enormous quantities of local timber were shipped to West European countries.

Shortly after the October Revolution Lenin sent specialists to Arkhangelsk to reorganize the economy along socialist lines and to begin tapping the natural wealth of the region.

During the Civil War the city was occupied by White Guards and foreign invaders, who instituted a reign of terror and plunder in the North. In 18 months they shipped out colossal amounts of goods, the equipment of industrial plants, the seaport and the railroad, and seized about 50 sea- and river-going vessels.

Thirty years ago the German fascists tried, unsuccessfully, to paralyze navigation on the Northern Sea Route. Arkhangelsk, like the other cities of the North, repelled the threat.

Today Arkhangelsk is considered the capital of the North. For one thing, it is the principal timber port of the Soviet Union. It has 29 lumber mills, two large pulp and paper mills, and a big hydrolysis plant. These enterprises process the wood rafted down the many Northern rivers. Every year 700 million cubic feet of wood arrive at Arkhangelsk.

The port, with 40 miles of dock, services hundreds of foreign timber carriers annually. Sawn timber, pulpwood, prefabricated houses, pulp and other items are exported to dozens of European, Asian, African and Latin American countries.

In addition, Arkhangelsk is a major fishing port. It was the base for the first Soviet trawler fleet.

The port is sometimes called the door to the Arctic. There begin the routes to Murmansk, Dickson Island, Tiksi, Dudinka, Spitsbergen, Novaya Zemlya, and the mouths of the Ob and Yenisei rivers in Siberia. The young Arctic city of Norilsk gets its supplies from Arkhangelsk, whose ships deliver everything from fruit to TV sets and electronic computers. According to a local journalist, about 2,000 items are shipped from Arkhangelsk.

The port is now being reconstructed. Its harbor and floating cranes are being replaced by more modern varieties. A joint seaside and riverside station is being built.

Arkhangelsk is also the scientific and cultural center of the North. About 1500 scientists work in its colleges, research institutes and design bureaus. It has a book-publishing house and issues two magazines and 17 newspapers. Available to its residents are more than 50 clubhouses, about 150 public libraries, a drama theater, a puppet theater, a philharmonic society, a circus and many movie houses. Its Northern Russia Folk Choir has won international fame. It has forestry, engineering, teacher-training and medical institutes. Schoolchildren and students make up one-fourth of the population.

The old part of the city is being renovated. New residential communities are springing up on the outskirts, although the soft peat ground gives builders a lot of trouble.

Yachting, fishing and boat trips are, naturally, among the favorite local pastimes.

On the whole, Arkhangelsk is a happy combination of the old Russian North and a modern industrial city.

QUESTION: Is there encouragement from the government to go into the field of teaching? (Milford Loeb, San Diego, California)

ANSWER: Teaching is a demanding and honorable profession in the Soviet Union, as it is in all countries.

During this five-year-plan period, the transition to universal and compulsory high-school education is to be completed. This means an increased demand for qualified teachers. Seventy-five per cent of our 2.7 million teachers have a higher education and the rest (mostly junior-grade teachers) a specialized secondary education.

Current scientific and technical progress demands that a teacher keep up with the latest advances in his field. Every year 500,000 to 600,000 teachers attend the 172 advanced-training institutes.

A continuing concern of the government is teachers' working and living conditions. Not long ago their salaries were raised; another increase (of 20 per cent) is slated for the current five-year period.

In Moscow and other cities teachers have priority in the allocation of housing. Village teachers pay no rent and get free electricity and heat. Collective farms build houses especially for them.

In recognition of their services, 82 teachers have been awarded the highest civic honor in the Soviet Union: the title of Hero of Socialist Labor; 300,000 teachers have been decorated with orders and medals; over 30,000 bear the title Merited Teacher.

Testifying to the great esteem in which teachers are held is the fact that 22 teachers have been elected to the highest legislative body in the country, the USSR Supreme Soviet, and 129 to the Supreme Soviets of the union and autonomous republics. More than 155,000 teachers are deputies to local Soviets.

QUESTION: Are foreign students encouraged to study in the USSR? (Milford Loeb)

ANSWER: Of course they are. Most of them come from socialist and developing countries.

As a rule, foreign students come to the Soviet Union under the provisions of intergovernmental scientific and cultural exchange agreements or in response to requests of government agencies.

Scholarships are granted by the USSR Central Council of Trade Unions, the USSR Committee of Youth Organizations, the Soviet Women's Committee and other organizations. A certain number of scholarships are also granted by the Soviet Union to UNESCO, the World Health Organization and the International Atomic Energy Agency.

Tuition for students from Asia, Africa and the Latin American countries, as for Soviet students, is free. They are given monthly stipends also.

All foreign students have free use of scientific equipment, textbooks and study aids. They do their practical work at enterprises and research establishments alongside their Soviet colleagues, attend lectures together, live in the same dorms and participate actively in the same student scientific societies, amateur art activities and sports competitions. And during winter and summer vacations, they go to the same holiday resorts and work on collective-farm and student-construction projects, for which, of course, they are paid. In short, foreign students enjoy the same rights as Soviet students.

QUESTION: How does the Soviet Union stand on the birth-control pill? (Ida Honorof, California; Jerome Nicholson, Richmond, Virginia)

ANSWER: Soviet women are free to use whatever contraceptive method they choose, the pill included, of both domestic and foreign make. But it is the doctor who decides, as a rule, which method will best prevent unwanted pregnancy (although abortions are not prohibited) without injury to the woman's health.

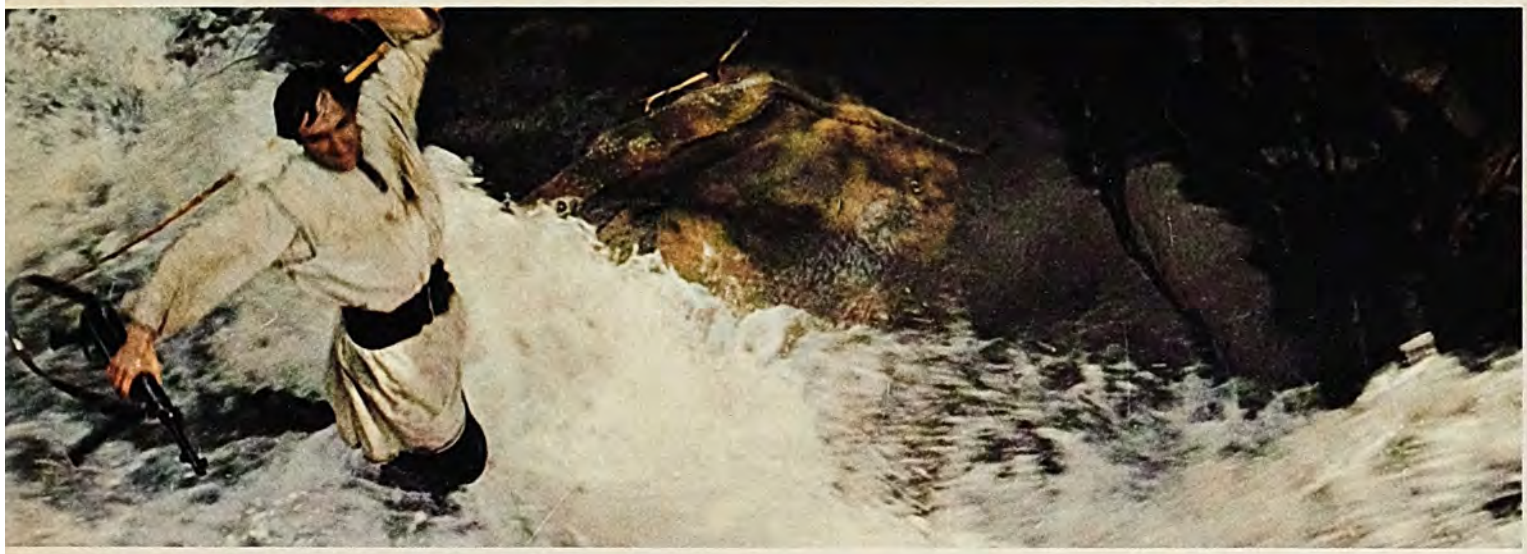
Frankly, the pill is not popular in our country. Most women do not want to take the risks involved—with the exception of cases where pregnancy is undesirable for medical reasons.

Most contraceptives are sold freely in drugstores. Some, such as hormone preparations, are available only on prescription. Throughout the period of their use, women are required to have regular medical checkups. All preparations, naturally, are put on sale only after very thorough tests.

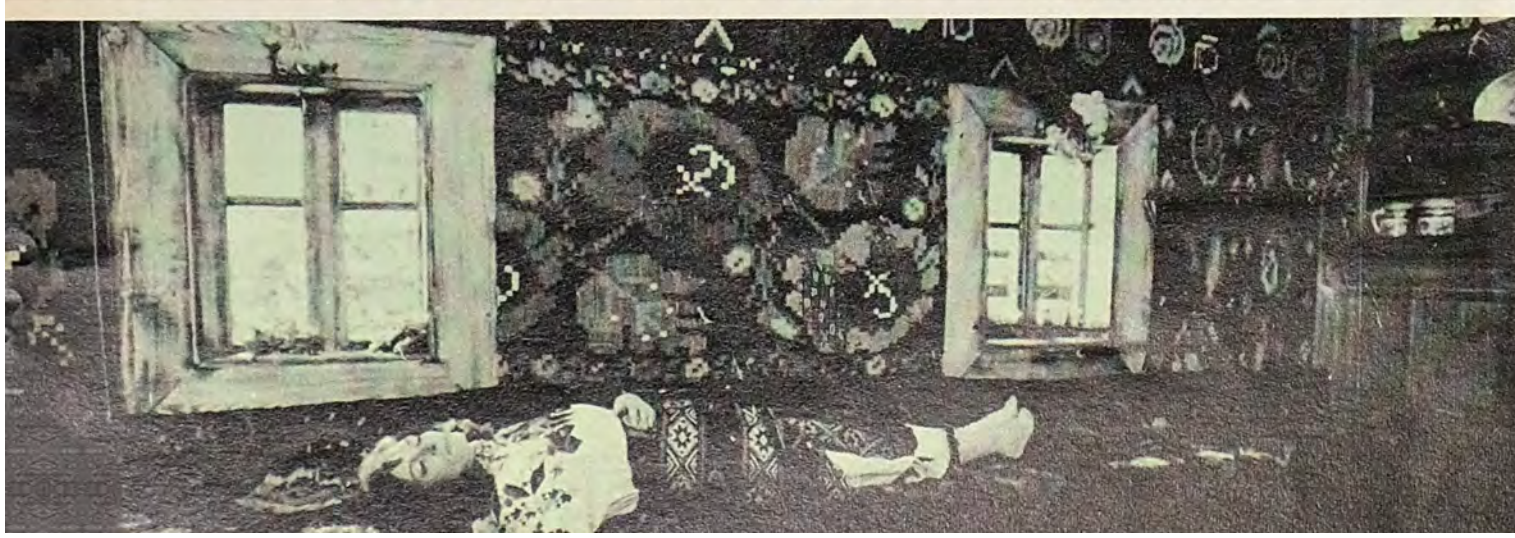
The popular science monthly *Zdorovye (Health)* regularly publishes opinions by eminent specialists on various











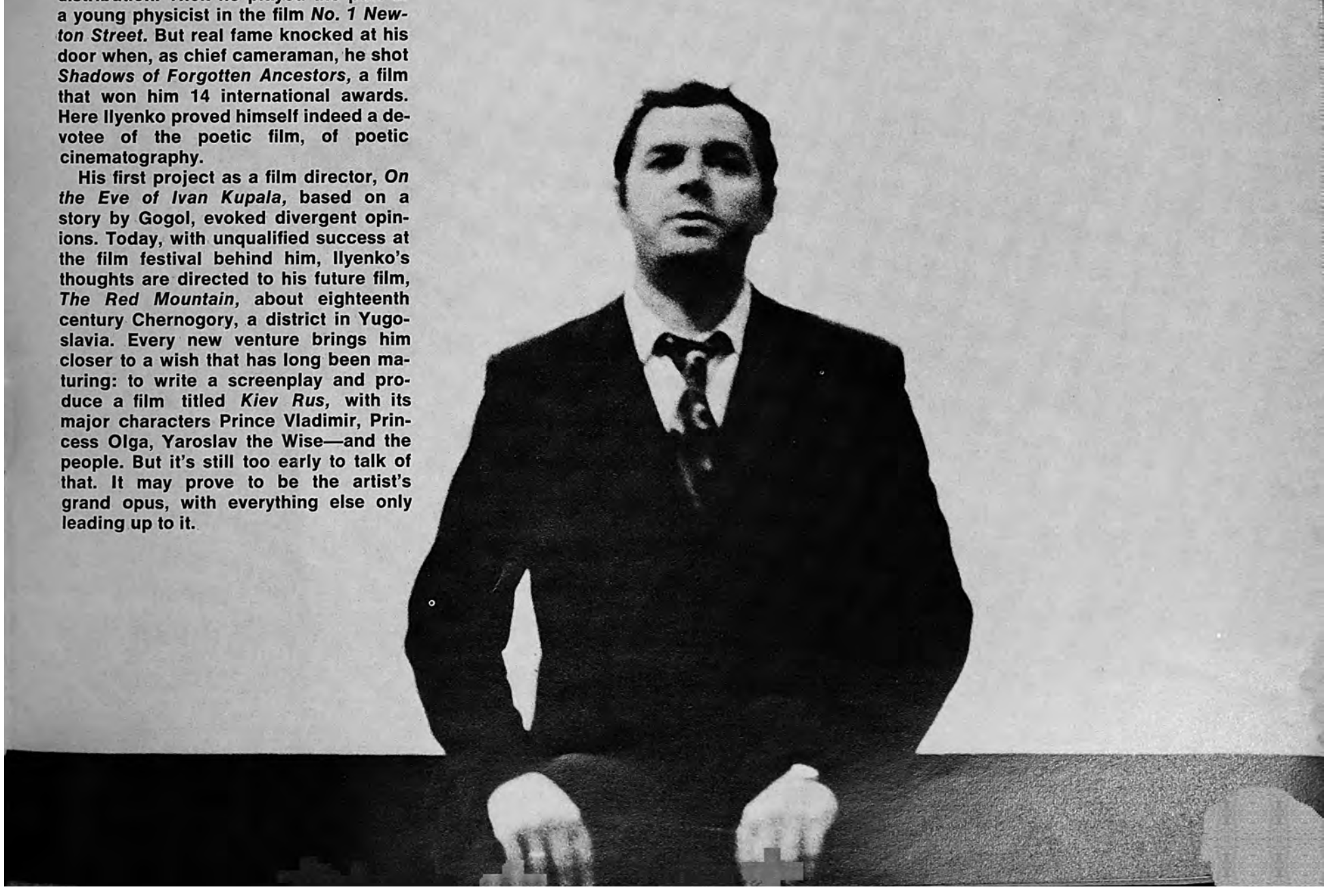
Yuri Ilyenko's film White Bird with a Black Mark *is set in a small mountain village. Only yesterday its inhabitants were peaceful farmers. Today they are soldiers facing a brutal enemy. Larissa Kadochnikova is the tragic heroine Dana in love with Orest, played by Bogdan Stupka.*

A DIRECTOR'S CREDO

By Yuri Ilyenko
Photographs by Lev Ustinov

Ukrainian director Yuri Ilyenko's *White Bird with a Black Mark* won a Gold Prize at the Seventh Moscow International Film Festival last year. This was no accident. Ilyenko's career has been a happy one from its very start. His diploma project at the USSR State Institute of Cinematography, *Good-by to Pigeon Time!* was released for general distribution. Then he played the part of a young physicist in the film *No. 1 Newton Street.* But real fame knocked at his door when, as chief cameraman, he shot *Shadows of Forgotten Ancestors,* a film that won him 14 international awards. Here Ilyenko proved himself indeed a devotee of the poetic film, of poetic cinematography.

His first project as a film director, *On the Eve of Ivan Kupala,* based on a story by Gogol, evoked divergent opinions. Today, with unqualified success at the film festival behind him, Ilyenko's thoughts are directed to his future film, *The Red Mountain,* about eighteenth century Chernogory, a district in Yugoslavia. Every new venture brings him closer to a wish that has long been maturing: to write a screenplay and produce a film titled *Kiev Rus,* with its major characters Prince Vladimir, Princess Olga, Yaroslav the Wise—and the people. But it's still too early to talk of that. It may prove to be the artist's grand opus, with everything else only leading up to it.



IN MY LAST FILM, *White Bird with a Black Mark,* a mother tells her little son this parable: "The stork was once a human. God gave him a heavy sack and told him: 'Take the sack to the edge of the precipice and fling it to the bottom, but don't you dare look into it.' But the human was curious—he looked into the sack. It was full of crawling and flying reptiles—evil spirits. He dropped it and ran off, letting that scum spread all over the Earth. Said God in anger: 'You will become a white bird with a black mark and stay that way until you have destroyed all the evil you let loose.' Since then storks have been roaming the swamps, collecting the world's evil."

The boy took the legend to heart and, when he grew up, began to fight evil so that people could live a better life.

The idea is not an original one, but it calls for daily confirmation from every one of us. That was the belief that gave birth to our film.

Preparing for *Shadows of Forgotten Ancestors,* I became very much attached to the Carpathians, the mountainous region of the Western Ukraine. My wife and I—she is the actress Larissa Kadochnikova—would frequently go off to the mountains, stay with shepherds, spend nights in cabins above the clouds, wander through the valleys and come down fast streams on rafts. The film matured as my love for the Carpathian Mountains grew. It was making itself felt vaguely in the deep recesses of my heart, though still formless.

The screenplay was done in a month. Before the viewers, pictures of Transcarpathian countryside life unfold. The action embraces the years 1937-1945, a short but significant stretch of history: the reunification of Transcarpathia with the Soviet Ukraine and the war against nazi Germany that soon followed. It is the story of a poverty-stricken family of rural musicians, their grim tragedy; the story of events in their lives covering a quarter of a century. But such a turbulent quarter! These events could have sufficed for 200 years in other lands.

Ten children in the family. The older brothers form a band that plays simple folk melodies at weddings and funerals. The war scatters them to different countries, never to be together again. They become enemies. The story is about the entire family: the father and mother, hard-working people, and each of the sons—each treading a path of his own. One accepted the new life with heart and soul; another fought furiously on the side

Life was difficult in those years, often beyond human endurance. It took real love of country and unshakable faith in the people to endure it. Enemy occupation was a double-edged weapon slashing out in every direction. It was not only that the land was ravaged, the human spirit was being destroyed as well. The bell ringer's family is ordered to play merry tunes as their house is being burned to the ground. Vivdya is driven from the village by her neighbors and is alone even at her death. But the war finally ends, and the rejoicing people turn to rebuilding their lives.































of the Ukrainian bourgeois nationalists; a third tilled the soil in response to the call of his peasant heart; a fourth went off to seek the truth. . . .

I teach the art of the camera at the Kiev Film Institute. I pondered a long time over the problem of how to explain to the young the cinema's great power, its latent possibilities. And finally I hit upon the following: "Just imagine," I say to the students, "that certain circumstances deprived you of almost all means of communication with other people, took from you the power of speech and hearing and the sense of smell and touch, leaving you only your eyes, heart and a movie camera. Now communicate with the world, tell it about love and grief, about joy, passion and sorrow."

When two images clashed in the film —a flame-enveloped tractor on which two heroes are dying, dying for others, and a shot of a sapling radiating a warm, yellowish fall light—there were no words spoken. But those who saw it understood much more than I could have explained if I had used all the words of all the languages in the world.

All the members of our film crew love the cinema in its fullest expression, for it is the medium that can evoke in the viewer the most subtle thoughts and the profoundest emotions.

We searched for every shot, every sequence. Together with our cameraman Vilen Kalyuta and artist Anatoli Mamontov, we traveled a good many roads and pathways in the Carpathians, looking into thousands of homes, drinking from hundreds of springs and streams. Our costume designer Lydia Baikova probably did not miss a single clothes chest when she was buying Gutsul apparel (Ukrainians living in the Carpathian Mountains are called Gutsuls). Our actors—we have both Ukrainians and Russians—boarded with local old-timers and spent all their free hours at market places and teahouses, mingling with the local lumberjacks and raftsmen, studying and amassing material, impressions, color. They collected everything—gestures, characteristic turns of speech, the music of the local language, the temperament of the people, the history of their lives and deaths—collected it all until it became a natural part of them.

I produce poetic films not because I want to but because I can't do otherwise. It's in my very blood; it has become part and parcel of me, a form of self-expression, my conception of and attitude toward the world.

Top to bottom:
Yuri Ilyenko gets to know what his fans want via these spectators conferences, at which he is asked innumerable questions that he does his best to answer.
He is shown here discussing the scenario of his forthcoming film, The Red Mountain, *with his very good friend Vilen Kalyuta.*
From early morning until late at night he is taken up with a million details for the new film. The load is eased considerably by the talented costume designer Lydia Baikova, one of his closest associates. Boris Khmelnitsky (center) has a leading role.



Husband and wife Yuri Ilyenko and Larissa Kadochnikova both studied at the Moscow Film Institute. When they're not working, they like to walk in the woods or on the banks of the Dnieper. Besides directing, Ilyenko lectures at the Kiev Film Institute. He is shown here with some students.











CMEA: INTEGRATED ECONOMIES

Continued from page 51

Association, which coordinates iron and steel output in six countries.

All this is integration, but formerly it dealt with individual branches of production and was aimed primarily at opening up bottlenecks in the economy of this or that country.

Now the job is to extend the process to all the major branches of production—make it a basic way to raise the efficiency of the economy of each socialist country and of the entire CMEA community. Formerly, the level of integration influenced the situation in some economic branches, now it must have an effect on the entire economy.

The same can be said about the integration methods used, those that proved effective in the previous period and remain effective now. One is the coordination of economic development plans of the CMEA countries. Thus, the socialist states belonging to CMEA have already coordinated their plans for 1971-1975. A second is specialization, leading to a further mutually profitable division of labor among states. A third is greater cooperation, not simply in production but in research.

QUESTION: What measures are planned to stimulate the development of socialist integration?

ANSWER: A comprehensive program of integration was adopted at the Twenty-fifth Session.

To begin with, it provides for cooperation in forecasting and long-term planning. The usual coordination of economic development plans was for a five-year period. But many projects need more time. The job of establishing the most effective economic structure for CMEA countries will take more than one five-year period. Orientation with regard to this or that structure should be based on possible changes in the requirements of every country in the community, of CMEA, and of the world economy. The point is that the decisions we adopt today will certainly affect the future of every country of the community and of CMEA.

Proper consideration for all this calls for scientific forecasting. Therefore the efforts of specialists in CMEA countries are now being joined to evolve a forecast and long-range plan for a period of 10 to 15 years.

Another new CMEA activity is joint planning of the development of the most important economic branches. Why? The joint efforts of CMEA countries make for the quickest possible solution of complicated and expensive scientific and technological problems, the early application of the achievements of the scientific and technological revolution, higher labor productivity and the consolidation of competitive positions in the world market.

The Comprehensive Program contemplates an extension of direct contacts between various branches, or ministries, in CMEA countries, as well as between their research organizations and enterprises. Personal contacts, setting up joint research, design and other teams will help to fuse know-how and the intellectual capacities of separate countries, and will certainly enhance production efficiency in CMEA member states. Gradually the systematized contacts will spread to all branches of the national economy.

Last but not least, the Comprehensive Program foresees joint all-round geological prospecting, ore production, specialization and cooperation in engineering, development of the radio engineering, electronics and chemical industries, food and other light industries, agriculture, transport facilities, communications; and the establishment of a better legal base for the cooperation of CMEA countries.

For socialist integration the principle of mutual profit of all member states must be fundamental.

At the present stage, the application of the principle of mutual profit calls for a well-geared money and commodity mechanism so that the collective currency of CMEA countries (the transferable ruble) will serve the several functions of a standard of value, a means of payment and a means of accumulation. In 1970, CMEA established the International Investment Bank, whose primary purpose is to finance the measures promoting integration.

In conclusion I would like to point out that the joint work that will have to be done by CMEA member states to implement the Comprehensive Program and reach its focal target—boosting the living standards of the working people—will enormously strengthen the friendship of the peoples of the socialist countries and increase the influence of socialism the world over.

NEXT ISSUE

Democracy is a frequently used word that means different things to different people, as well as different things in different periods of history. The author of our lead article postulates that there is no such thing as democracy in general and proves that the word must always be qualified by the questions: For whom? For what purpose? Articles dealing with democratic rights of Soviet citizens make up the bulk of the March issue.



From machinist to Moscow City Soviet deputy—that is the life story of auto plant worker Anatoli Lesin. Moscow is divided into 1,160 election districts each with a population of 6,000. Candidates are nominated by citizens at election meetings held at their places of work—factories, schools, hospitals, collective farms—where they are most likely to be known intimately by the electorate. The entire election campaign for all nominees is paid for by the state. Lesin's nomination, his duties as City Soviet deputy and his work among his constituents are described in an article illustrated with many pictures in the March issue.



Duke Ellington and his orchestra swept audiences off their feet at every one of the 22 concerts they gave during their month's stay in the Soviet Union. They visited five cities—Leningrad, Minsk, Kiev, Rostov-on-Don and Moscow—as part of the USA-USSR cultural exchange agreement. Though this was Ellington's first trip to the Soviet Union, everyone knew about the composer and most people had heard his music. At some performances the encores lasted an hour or more. Lots of pictures and an interview by Maya Gordeyeva tell about the jazzman's tour.

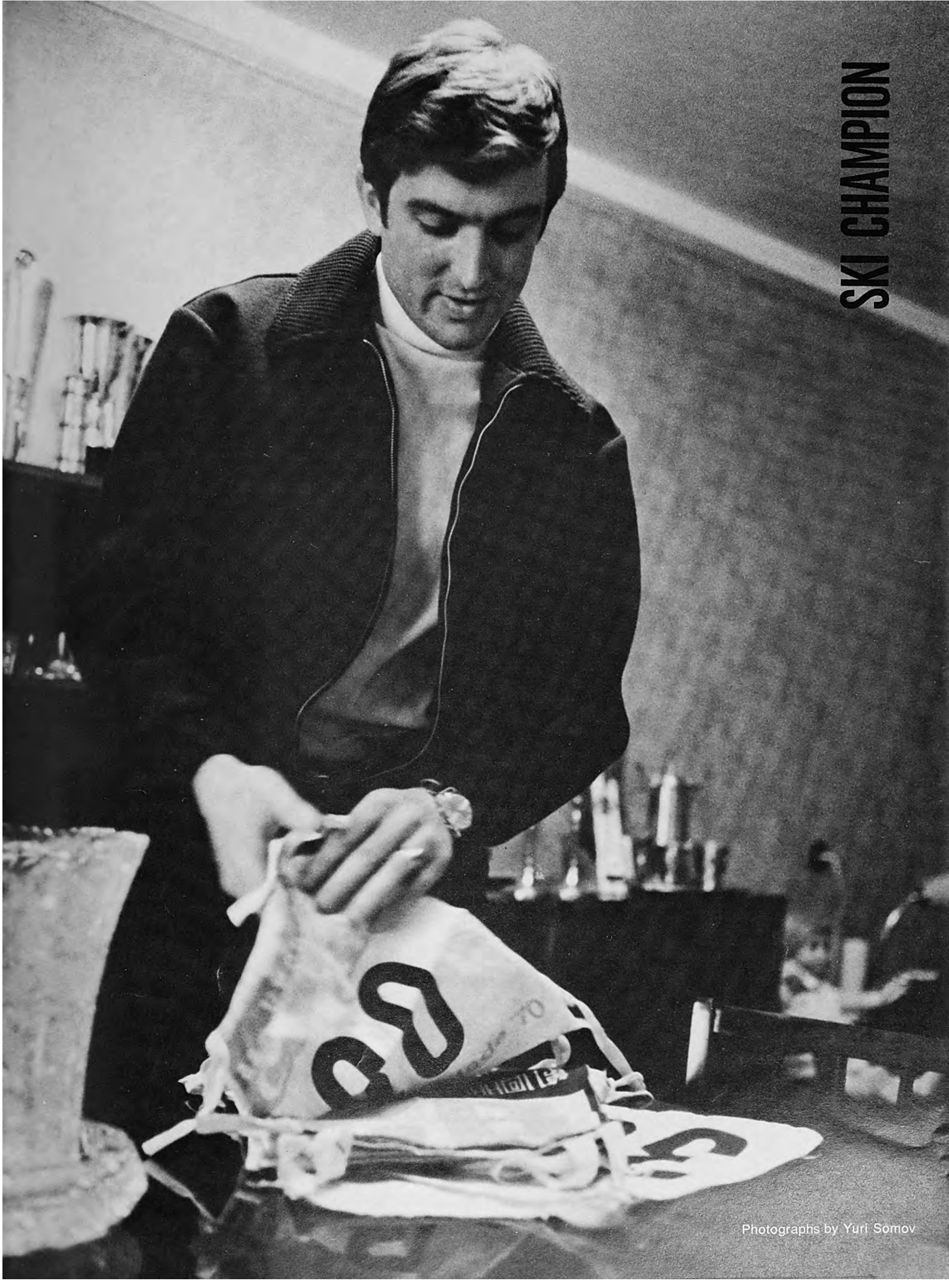


Everywhere the old with honor go" is a line from a famous Soviet song. An article about a retired locomotive driver tells how this line finds application in life. What do old people in the Soviet Union do after they retire? What provision is made for their housing, health, recreation, frame of mind? It is beginning to be universally recognized that a very important element in the aging process is psychological, the feeling of not being needed. Does socialism eliminate this? Facts, figures and photographs in March about growing old.

Buryatia, in the Russian Federation, is the autonomous republic of the largest national group in Siberia. Nomads not so long ago, the Buryats are now scientists, teachers, writers, engineers, living in modern communities. Buryat women, once bought and sold like cattle, are full-fledged citizens participating in every area of the country's life. Several articles tell how a small people in a vast multinational country can enjoy the advantages of modern technology without losing its identity.

An article by critic Boris Gilenson about contemporary American writers read in the Soviet Union and one about the Foreign Literature Library.

SKI CHAMPION



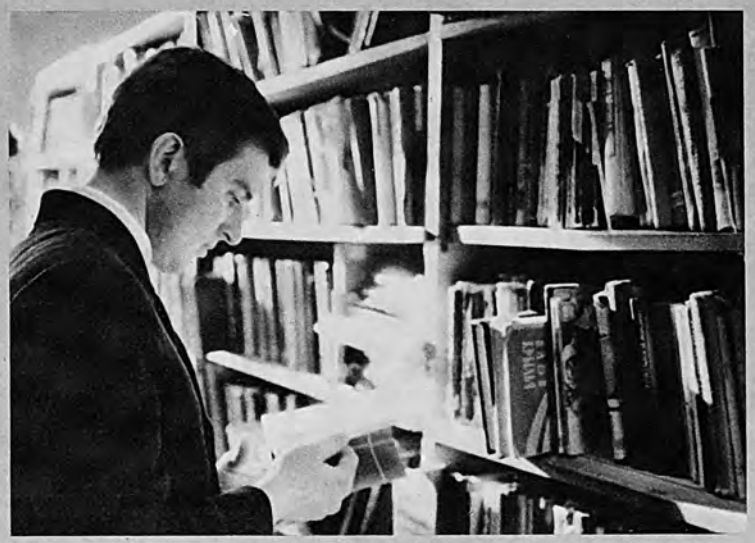
Photographs by Yuri Somov

SKI CHAMPION





Skiing is the winter sport in the city of Gorky, as it is in practically every other place in the USSR where snow falls. In the 1970 Nordic Winter Ski Championships Gorky resident Harry Napalkov was the winner of two gold medals. Napalkov placed first in both the 70- and 90-meter jumps.







The champion is an avid reader, and one of the more faithful patrons of the district library. Top: When he skis at home, Napalkov is usually surrounded by Gorky boys looking for pointers. Right: The champion and his trainer have a talk with the mayor.

TALLINN 71

By Yuri Karzhavin

CHESS DEVOTEES still remember the home stretch of the challengers tournament in Yugoslavia in the autumn of 1959. With several rounds to go, the battle for top place was reduced to two men: Paul Keres and Mikhail Tahl. Winning game after game, they broke away from the rest of the field. The fast pace they set was too much even for such excellent chessboard warriors as Tigran Petrosyan, Vasili Smyslov and Robert Fischer. Last-minute luck was on the side of Tahl, the Riga virtuoso whose style is famous for its blinding glamour. He crossed the finish line first, with Keres right on his heel.

Last spring the two contenders found themselves side by side: They shared the top prize at the major international tournament Tallinn 71. Both did very well, but Keres' performance was especially noteworthy. The Estonian chess veteran, who in his long career had met all the world champions with the exception of Wilhelm Steinitz, played with elegance and audacity, providing his admirers with many a pleasant moment. Keres' versatile style proved, as before, a formidable weapon; he skillfully combined well-thought-out strategy with open combinational play. Former world champion Tahl had plenty of reason to say in an interview that he believed Keres was the best man in the tournament.

"I think the coefficient table was right in giving preference to Keres," he remarked. "His play deserves the highest praise."

The Tallinn grandmaster went through the tournament unscathed, picking up 11.5 points out of 15 (8 wins and 7 draws). Tahl scored as much, but in a different combination, with 9 victories, 5 draws and 1 defeat.

Here is how the Tallinn winners played.

ALEKHINE DEFENSE

White—	Black—
P. Keres	**H. Westerinen**

The Finnish master's opening experiment (5. . . . P-KN3) was refuted by Keres through the elegant tactical blow 14. BxP!, which enabled White to win a Pawn. Westerinen tried to recoup in the end game, but the White Bishops provided him only with illusionary chances. Black proved incapable of thwarting White's precise plan: to set up a passed Pawn on the K-side and break through with the King on the other flank. Keres played the entire game in a clear, classic style, so that it is easy to grasp it without a commentary:

1. P-K4, N-KB3; 2. P-K5, N-Q4; 3. N-QB3, NxN; 4. QPxN, P-Q3; 5. N-B3, P-KN3; 6. B-QB4, N-B3; 7. B-B4, P-K3; 8. PxP, PxP; 9. Q-K2, B-K2; 10. 0-0-0, P-QR3; 11. P-KR4, P-QN4; 12. B-QN3, P-Q4; 13. KR-K1, B-Q2; 14. BxP! PxB; 15. N-K5! NxN; 16. QxN, 0-0; 17. QxB, QxQ; 18. RxQ, B-K3; 19. B-K5, KR-K1; 20. RxRch, RxR; 21. B-B6, P-KR4; 22. P-B3, R-QB1; 23. K-Q2, K-B1; 24. R-K1, K-K1; 25. P-KN4, PxP; 26. PxP, K-B1; 27. R-KN1, K-N1; 28. P-R5, PxP; 29.PxP dis. ch., K-R2; 30. B-Q4, R-KN1; 31. RxR, KxR; 32. P-N4, B-B4; 33. B-K5, K-R2; 34. B-B4, B-N5; 35. P-R6, B-B4; 36. K-K3, BxP; 37. K-Q4, B-N8; 38. P-R3, B-R7; 39. K-B5, K-N3; 40. K-N6, B-B5; 41. KxP, B-Q6; 42. K-R5, K-B3; 43. P-R4, PxP; 44.KxP, K-K3; 45. K-R5. Black resigns.

The encounter between Tahl and the young Estonian master A. Vooremaa created a good deal of excitement among Estonian chess lovers. Vooremaa, by no means timid, chose a sharp variant of the Sicilian Defense against his famed adversary and was the first to launch an energetic campaign in the center. The spectacular refutation by Tahl, playing White, was quite unexpected. Sacrificing a piece, White mounted a formidable attack against the weakened position of the enemy King.

The former champion carried out the finale in typical Tahl style, with a colorful show of fireworks on the board. On the nineteenth move White was ready to cede even the Queen to his opponent! Vooremaa sensibly rejected the gift, but Black's position was pretty bad just the same. The winner's own description best tells the story.

SICILIAN DEFENSE

White—	Black—
M. Tahl	**A. Vooremaa**

1. P-K4, P-QB4; 2. N-KB3, P-K3; 3. P-Q4, PxP; 4. NxP, P-QR3; 5. B-Q3, N-QB3; 6. B-K3, N-B3; 7. 0-0, Q-B2; 8. N-QB3, B-Q3; 9. K-R1, P-KR4; 10. P-B4, Nt-KN5. In case of 10. . . . NxN, I would have chosen between the sacrifice of one Pawn by 11. BxN or two Pawns by 11. P-K5. Deep down, I was more inclined to the latter course.

11. Q-B3. I can't preserve the Bishop since 11. B-N1 would be followed by 11. . . . NxN; 12. BxN, BxP; 13. Q-B3, B-K6!

11. . . . NxB; 12. QxN, Q-N3; 13. N(B)-K2. The possession of two Bishops cannot compensate Black for his lag in development and weakened Pawn structure.

13. . . . P-K4; 14. Q-N3! PxN; 15. QxP, R-B1; 16. P-K5, B-K2; 17. P-B5, P-B3; 18. N-B4, R-B2; 19. PxP! N-K4; 20. B-B4. Here I had expected to continue 20. Q-R8ch, B-B1; 21. QR-K1, P-Q3; 22. B-B4, which leads to victory, but through inertia I made the wrong move. Now the game takes another sharp turn.

20. . . . NxB; 21. Q-N8ch, B-B1; 22. NxP; Kt-Q3; 23. QRK1ch, K-Q1; 24. R-K7, Q-N4; 25. R(B)-K1, Q-Q4; 26. N-B4, QxRP; 27. N-K6ch, QxN. And in case of 27. . . . PxN; 28. RxR, NxR; 29. QxBch, K-B2; 30. QxNch, B-Q2; 31. PxP, R-Q1; 32. Q-K7, White wins easily.

28. PxQ, RxP; 29. R-B7. Black resigns.

Tallinn 71 attracted quite a powerful and dramatic field: eight grandmasters and eight masters. It was a three-continent affair, with entrants from Britain, the United States, Bulgaria, Hungary, Czechoslovakia, Finland and Mongolia as well as the Soviet Union. The U.S. Chess Federation sent as representatives Grandmaster Arthur Bisguier and International Master Anthony Saidy.

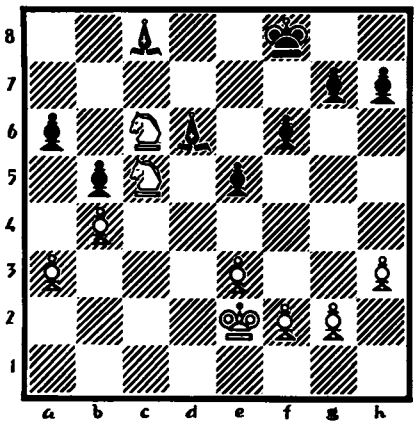
Muscovite David Bronstein, who held on to his chances for top place for quite a long time, was only half a point behind the two winners. He was followed by Leonid Stein of Kiev, winner of the preceding Tallinn tournament. Fifth spot fell to Grandmaster Alexander Zaitsev of the Far East, who made a special hit with the public by his fast play and his willingness to take risks.

The best results among the guests were achieved by a young Czech master, Jan Smejkal, who placed sixth, and Hungary's veteran grandmaster Gideon Barcza, who tied for seventh place with Grandmaster Semyon Furman of the Soviet Union. Though the Americans didn't do as well, in some games they played extremely well.

"Often the score card doesn't give a true picture," Tahl pointed out in an article on the first half of the tournament. "When you scan the results of America's grandmaster Arthur Bisguier, the string of draws doesn't make much of an impression. Actually he is one of the most interesting participants in the tournament, playing every game with freshness and originality."

The former world champion suffered some alarming moments when, during mutual time trouble in his encounter with Bisguier, he set a trap and found to his surprise that Bisguier "fell for it." Tahl, it turned out, missed the clever tactical reply that enabled his adversary to gain a Pawn. However, Bisguier did not manage to bring home his advantage, and the game ended in a draw.

This amusing fragment from the Bisguier-Tahl encounter is worth showing.



White: K.KN2; Q.BQ5; B.Q5; N.KB3; Pawns: QR3, KB2. KN4, KR2 (9);
Black: K.KR2; Q.QN1; R.Q2; B.Q6; N.KN2; Pawns: QR2, QB5, KN3, KR3 (9)

With his last move, 32. . . . Q-N1 (from N7), Tahl defended himself against the threat Q-KB8, simultaneously "offering" his opponent the chance to win the B-Pawn, preparing in case of 33. BxP, R-QB2; 34. Q-N5 the minicombination 34. . . . Q-QB1 with a double attack: 35. . . .BxB and 35. . . .QxPch. The American grandmaster, however, figured out the consequences of the capture of the B-Pawn a bit more deeply.

33. BxP! R-QB2; 34. B-N8ch!!

In his annotations to this game in the chess weekly *64*, Tahl put two exclamation points after this spectacular move. If Black's King retreats now to R1, there follows 35. Q-Q4 and there is nothing left of the minicombination. Only one possibility remains—to capture the Bishop with the King—and White, of course, has already taken this into account.

34. . . . KxB; 25. Q-Q5ch.

The Q5-square proves a very lucky one for White: He recovers a piece and still has an extra Pawn. Bisguier manages to avoid the submerged reefs thanks to a brilliant variant he discovers here: 35. . . .R-B2; 36. R-K7! (36. QxB?, then 36. . . .RxN!) 36. . . .Q-B5; 37. QxRch! (37. RxR cannot be played in view of 37. . . . QxNPch; 38. K-R1, B-K5) 37. . . .QxQ; 38. RxQ, KxR; 39. N-K5ch.

While Bisguier was hurt by a weak finishing effort, the second American entrant, Saidy, got into stride only at the end. His game with Keres had a record number of moves. The American master skillfully defended his position in a different ending, but on the eighty-ninth move made a fatal blunder that allowed White to queen a Pawn.

"The lack of tournament practice told on my performance," Saidy stated. "I'm a doctor specializing in preventive medicine, and I don't have much time left for chess."

This was Saidy's first visit to the Soviet Union, and he made the best of the opportunity to get acquainted with our country. On his way back home after the tournament, he stopped over in Moscow for a couple of days, visiting the Kremlin, the Tretyakov Art Gallery and the Bolshoi Theater. He also dropped in at the office of *64*, to which he is a steady subscriber.

"The circulation of your chess publications simply amazes me," Saidy said when the talk touched on the popularity of chess in the Soviet Union. He hopes that as a result of the spectacular victories scored by Robert Fischer, the game will become equally popular in the United States.

Saidy found the Tallinn international tournament one of the most interesting of the year. The American master was especially impressed by former world champion Tahl.

"He's not only a wonderful chess player, but an unusually charming person," Saidy said. "I'm looking forward to meeting him in future tournaments."

It is altogether possible that such an opportunity will arise, because it has been decided to make the Tallinn international tournament a regular event.

WHAT DO YOU KNOW ABOUT THE SOVIET UNION?

QUIZ CONTEST WINNERS

H. C. Steinmetz scored highest in the Quiz Contest published in the August 1971 issue of SOVIET LIFE and is the winner of a free 10-day trip to the Soviet Union. We hope that everybody who entered the contest enjoyed tracking down the answers and that those of you who did not win will have better luck next time.

First Prize

H.C. Steinmetz
San Diego, California

Second Prize

Carlton H. Nadolney
Wading River, New York

Kathleen Wade
Austin, Texas

Third Prize

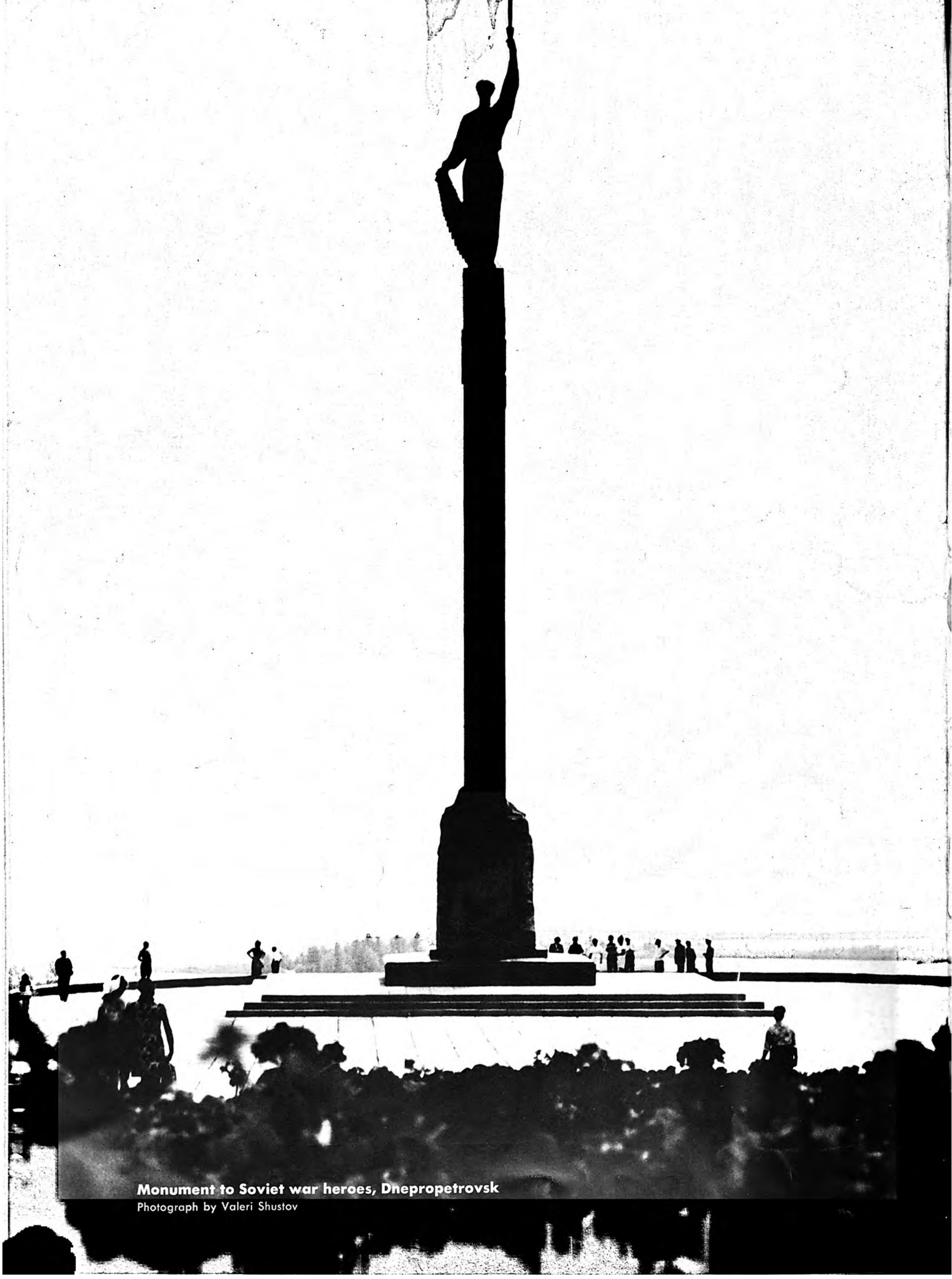
Mrs. Barbara H. Erkkila
Gloucester, Massachusetts

Mrs. Werner J. Fries
Indiana, Pennsylvania

Joseph M. Moran
Chicago, Illinois

Fourth Prize

Twenty-five winners will receive a three-year subscription to SOVIET LIFE and all have been notified personally by mail.



Monument to Soviet war heroes, Dnepropetrovsk
Photograph by Valeri Shustov

SOVIET LIFE

APR 1 1972

SOCIALIST DEMOCRACY

BURYATIA—50 YEARS LATER

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March 1972 • 50 cents



REPRESENTING THE PEOPLE

A deputy is responsible for everything and everybody in his constituency, including teenage soccer. This is Anatoli Lesin, deputy to the Moscow City Soviet, with some of his constituents. For the story see page 4.



March 1972, No. 3 (186)

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BY PIATRAS P. SHILEIKIS
House Painter, Deputy to the USSR Supreme Soviet

AS AN ORDINARY WORKER—I'm a team leader at the Second Building Trust in Vilnius, Lithuania—I had no idea of the scope of activity or the responsibility of a member of the country's parliament until I myself helped make decisions which became law for the whole country.

The duties of a deputy are many-sided. Participating in the parliamentary sessions means more than listening to reports and discussions, evaluating proposals and drafts, and voting. One must prepare for every session thoroughly. All the material is sent to me from Moscow in plenty of time so that I can study the questions to be considered at the upcoming session, with special attention to those that affect our republic.

But the legislative sessions, important as they are, are only part of the job. A deputy functions between sessions as well, throughout his four-year term. This permanent activity of his takes two main directions: work on the Supreme Soviet's standing committees and contact with his constituents.

I am a member of the Committee for Legislative Proposals of the Soviet of the Union, one of the two chambers of the USSR Supreme Soviet. This is a comparatively small committee—32 deputies.

Committee work takes a great deal of time and effort. Last summer our committee discussed motor traffic safety legislation. New legislation in this field was adopted by the union republics three or four years ago. But the recent development of motor transport in our country has been so intensive that it became necessary to return to the question. We decided to examine current practice and see what amendments were needed. The committee went over a good deal of informational material it had asked the republics and localities to submit, and the executive of various ministries and boards made reports.

We considered a wide range of proposals, from such details as better road signs, to such relatively major problems as building highways and lowering the pension age for bus drivers. After a careful study of all questions, our committee, together with a similar committee from the Soviet of Nationalities, the other chamber of the Supreme Soviet, adopted a comprehensive decision. The stipulations in this document are a must for all boards and agencies connected with motor transport.

Recently our committee also went over a bill on the fundamental principles of state planning. This is a complicated problem, and we are not rushing our final recommendations. We mean to submit a well-prepared and well-grounded draft to the parliamentary session that will make the final decision. Our committee's projects for this year include framing a bill on forestry and checking up on certain laws that were adopted earlier.

ELECTED BY THE PEOPLE, RESPONSIBLE TO THEM

Last November, I took part in the session of the USSR Supreme Soviet, held, as always, in the Moscow Kremlin. The agenda included an item of major importance—the five-year plan for 1971-1975, an all-embracing program for the economic, social and cultural development of the Union of Soviet Socialist Republics. Following a discussion, the session adopted the plan unanimously and it became law.

A very important part of my activity as deputy is direct contact with my constituents. The first Wednesday of every month is my open office day at the Oktyabrsky District Soviet of Lithuania's capital, Vilnius. The people in my district know me personally, and anyone who wants to can come in for a talk. I usually see 15 to 17 people in the course of a reception day.

What do they come to see me about? All kinds of public and private matters. Take a recent reception day. An elderly architect wanted to know whether there was any point in submitting his personal views on the preservation of some old spots in Vilnius not yet included in the city's restoration plan. A group of parents complained that one of the city's district Soviets kept putting off allocating a plot for a sports ground for the school their children attended. People come to ask me to help them get a new apartment.

But reception day does not account for all my contact with constituents. They call on me at home and at my place of work, and approach me with questions and requests when I visit various places and institutions in the capital on business connected with my duties as a deputy. I also get about 20 proposals, requests and complaints every month by mail.

I make it my business to take action on every request or complaint through the City Soviet, the District Soviet, ministries and other official agencies. The people responsible are obliged to react to my mediation within two weeks at the most.

Some people hold that a deputy of the supreme organ of power should not get involved with private requests of constituents, that he should devote himself exclusively to big-time politics. I consider that a one-sided approach. Take housing. Some 48,000 to 50,000 apartments are being built annually in our republic. How they are distributed is a matter of great importance. The determining factor is who needs them most—people living in substandard housing and too many people in too small a space get priority. Law-established procedure must be observed meticulously. Now, I believe it is important for everyone to know that any elector can approach a deputy of the supreme body of power—or, as some say, a Kremlin man—on a personal housing matter. This helps prevent wrong practices and decisions, which sometimes do, of course, occur in individual cases and which it is our business to rectify immediately.

In general, I would say that a deputy's closeness to his electors, to people's needs and requirements, is one of the essential elements of our socialist democracy.

Deputy business takes an average of three or four working days a month and as many Saturdays and Sundays. My forced absences do not affect my work on the job; with my considerable experience at the trade, I usually overfulfill my monthly quota. My team also gets along when I'm absent. It is generally my own weekends that suffer. But nothing can be done about that. Deputy business comes first.

Members of parliament in our country are not paid for their legislative services. This is a peculiar feature of our parliament, we have no professional politicians. Every deputy holds a job elsewhere and lives on his wages.

However, expenses incurred in performing the duties of a deputy are refunded by the state. As a deputy, I can use any kind of domestic transport free of charge.

Like other deputies to the Supreme Soviet, I get 100 rubles a month for current expenses related to my legislative duties. This money goes for postage, stationery and other petty expenses.

Deputies who are very busy at their own jobs may hire a secretary. I have no secretary. I prefer to do everything myself—write the necessary letters and check on whether executives keep the promises they have made to my constituents. This is a habit I acquired during my many years of trade union work.

A few words about myself. I'm Lithuanian by nationality and was born in 1925 in the village of Kemenis, Zarasai District (Eastern Lithuania). I come of peasant stock. I have two sisters. The elder, Yelena, is a collective farmer and lives with our parents. The younger, Genya, works in a factory in Vilnius.

My wife Antonina is a seamstress at the Ramune dress factory. We have three daughters. The eldest, Birute, is 17 and is graduating from high school this year. Regina, 14, is in the seventh grade, and Rita, 11, is in the fourth grade.

I graduated from a seven-year school before the war interrupted my education. Hiding from the Hitlerites, I helped my relatives, and in 1945 was called up for service in the Soviet Army. The fascists were routed a few months later, and I continued serving with a construction battalion where I learned the trade of house painter. I was demobilized in 1950 and have since been working at various construction sites in Vilnius.

There are 42 members on my team, and I have been working with most of them for over 15 years. We comprise a close-knit family and have lately been finishing interiors of secondary school buildings, an aquarium for the republic's Academy of Sciences, and the shops of a toy factory and computer plant. We have a lot to do. We not only paint walls but install windowpanes, tile floors, do whatever is necessary to finish up the inside.

At the beginning of this piece I mentioned the Five-Year Plan for 1971-1975. This is a development program for the country as a whole, and for each of the constituent republics. According to that plan, the industry of our republic will increase by 46 to 49 per cent as compared with 1970. This is a higher rate of development than that stipulated for the Russian Federation, the biggest republic in the Union. Lithuania's interests are taken into account in other indexes of the plan, such as improving our industry's branch structure and land reclamation. Lithuania has large tracts of wetlands.

We Lithuanians appreciate this fraternal magnanimity and in return do what we can to meet the specific needs of other Soviet republics. We know that the entire Union, all Soviet people, will benefit from an upward leveling of the economic development of the constituent republics.

The close collaboration of republics is the basis of the entire Union's welfare and progress. Lithuania, little though it is, is making its contribution to the common cause. Accounting for 0.3 per cent of the country's territory and 1.3 per cent of its population, Lithuania fills 90 per cent of the demand for home electric meters and accounts for up to 40 per cent of the electric welding equipment manufactured. More than 80 per cent of the refrigerators and 50 per cent of the washing machines made in the Soviet Union have electric motors made in Lithuania. The manufacture of installations for the production of vitamin-enriched grass meal, automated compressors and junior bicycles is also concentrated in our republic.

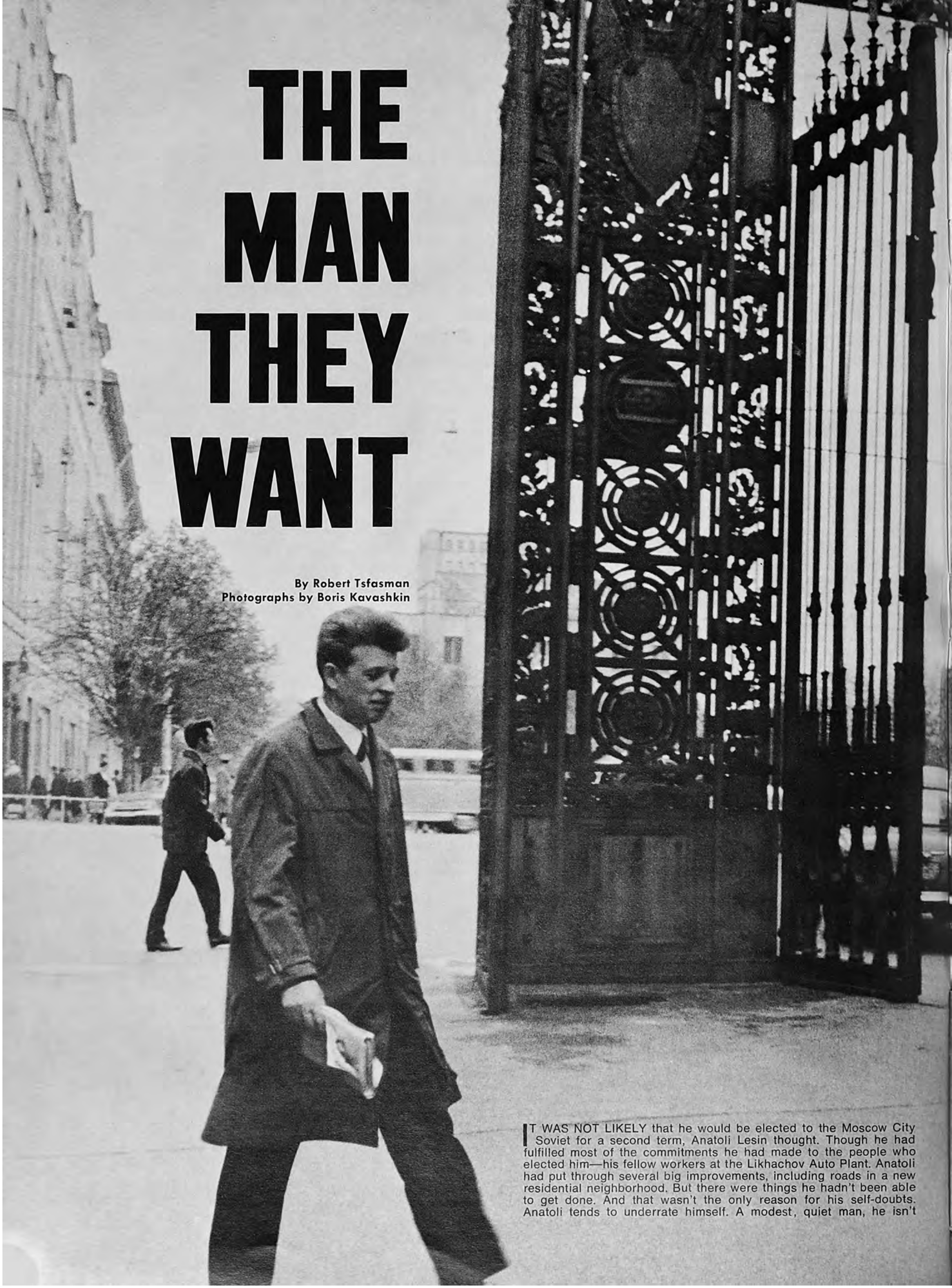
Lithuania, of course, gets other items—raw material, machinery, equipment—from the different fraternal republics. Collaboration also includes the exchange of specialists and the findings of science and engineering. At the same time Lithuania enjoys complete sovereignty. It has its own Supreme Soviet—the highest legislative body in the republic—and its own government. The republic's Supreme Soviet numbers 300 deputies, 151 of whom are workers and farmers. The proportion is the same in the local organs of power and in the district, city and rural Soviets.

My responsibilities as deputy are demanding but gratifying. I am not only a house painter, I am a citizen who helps govern the country.

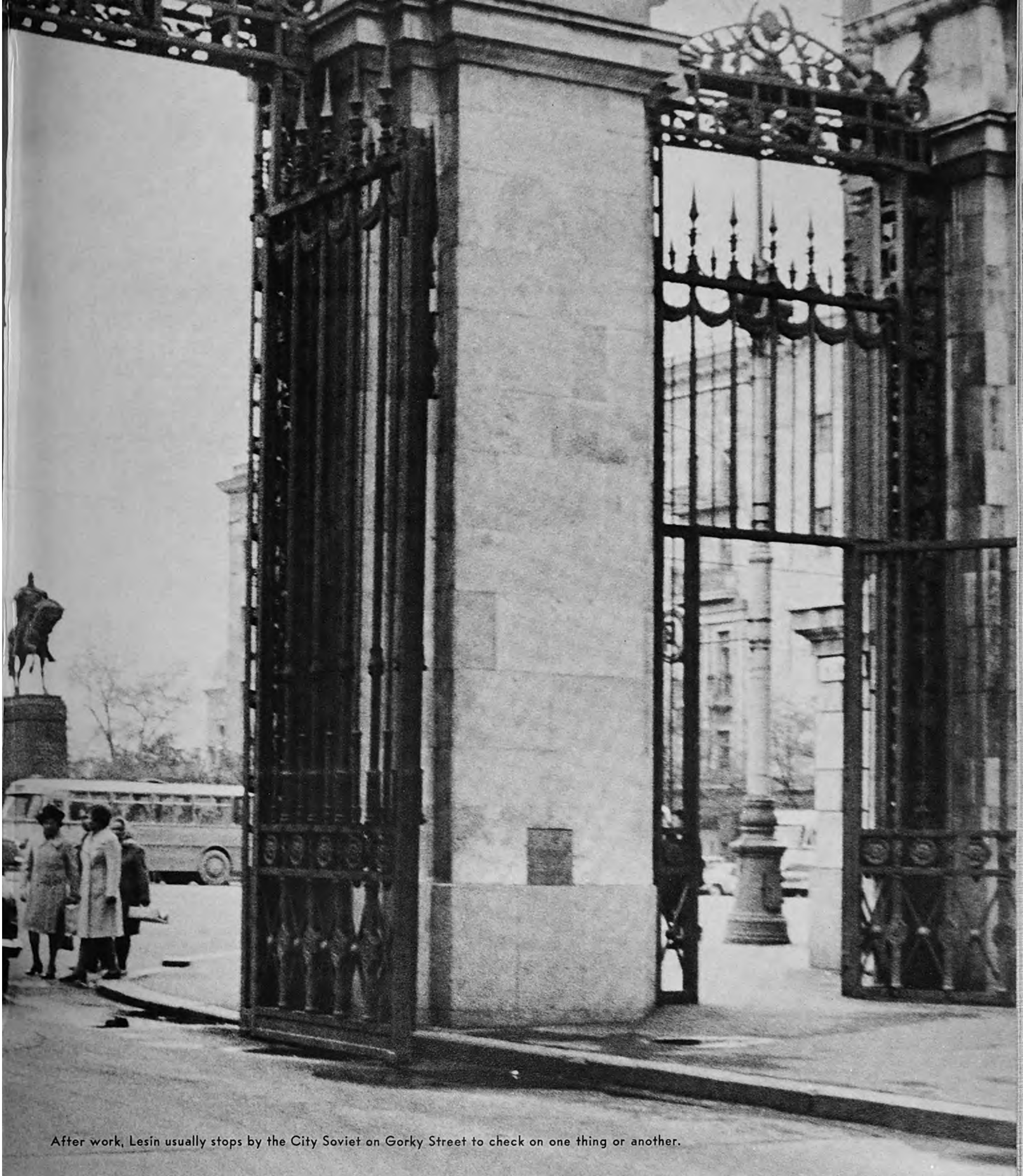
We deputies to the USSR Supreme Soviet from Lithuania know each other well. Among my closest friends are deputies Algis Tamosauskas, a fitter at the Machine-Tool Building Plant in Kaunas, Jonas Kazokevičius, a tractor driver at the Dotnuva Collective Farm; and Jonas Vaikšnoras, a state farm worker from Taurage. I know that they see their deputy's duty as I do and work at it. And so, when I write these lines, I am speaking not only for myself but for our other deputies as well.

THE MAN THEY WANT

By Robert Tsfasman
Photographs by Boris Kavashkin



IT WAS NOT LIKELY that he would be elected to the Moscow City Soviet for a second term, Anatoli Lesin thought. Though he had fulfilled most of the commitments he had made to the people who elected him—his fellow workers at the Likhachov Auto Plant. Anatoli had put through several big improvements, including roads in a new residential neighborhood. But there were things he hadn't been able to get done. And that wasn't the only reason for his self-doubts. Anatoli tends to underrate himself. A modest, quiet man, he isn't



After work, Lesin usually stops by the City Soviet on Gorky Street to check on one thing or another.

used to the limelight. He started working at the plant in 1948, and when he was first nominated to the Moscow City Soviet many people wondered:

"Why Lesin? A skilled worker? But that isn't enough. He's active in the shop trade union committee? So are a lot of other people."

The same points were made at a meeting in the parts department when Anatoli's candidacy was discussed. His supporters argued:

"He's a very principled person. He never goes against his conscience. And he's got brains, too. He may be an ordinary worker, but he's smarter than many an engineer."

Most of the voters must have agreed, because Anatoli was elected with a large majority. But that was two years ago. What would happen this time? Would he even be nominated?

It is customary to replace a considerable number of the deputies to the local Soviets at every election—the idea is to get new blood. (In 1969 more than half the deputies elected were new.)

Early in May—election day was June 13, 1971—Vladimir Korneyev, the Communist Party branch organizer of the parts department, said to Anatoli:

"There's talk about nominating you again. The trade union and party committee are for you. How do you feel about it?" Anatoli answered that he would certainly like to follow through on certain projects he had started.

"You won't be able to," the party organizer said. "You see, they want to nominate you for another district. It's in our plant area too, and they need a good man. To tell you the truth, things haven't been going too well there. They know what you've done here and want you as their deputy."

We should perhaps explain that elections to local Soviets are on the basis of election districts. For elections to the Moscow City Soviet the capital is subdivided into 1,160 districts—each with a population of 6,000. Candidates are nominated by the public at factory, office and collective farm meetings. The election campaign is financed by the state.

A meeting of the parts department was held about a month before the election. And unlike the meeting two years earlier, Lesin's candidacy was not even argued. As a matter of fact, his former constituents were sorry that he was being nominated by another district. The meeting approved his nomination, and his name was registered with the district election commission the following day. Next came a meeting with his future constituents.

One evening early in June, the residents of the blocks that make up election district No. 832 gathered in front of an open-air stage in the local park to meet their candidate. On the way to the park Anatoli could have seen posters on house walls with his picture and a short biography: 40 years old, nonparty man, foundry team leader at the Likhachov Auto Plant, nominated by a general meeting of the parts department, etc.

With Lesin was another Likhachov worker, Darya Papeyentseva, who had been sent by the nominating meeting. Her job was to introduce him to the voters. Darya is an elderly woman who fought in the last war. She has known Anatoli since he first came to the plant after he graduated from secondary school.

While Darya was telling the audience about Anatoli, the candidate himself—somewhat embarrassed by the several hundred curious pairs of eyes—took a good look at his future voters. Working people, including some familiar faces. This was not a new district. Most of the blocks of houses were built some time ago, but built to last. On the one hand, that was an advantage—fewer problems with public utilities. On the other hand, in an established district the deputy could do little in the way of major projects, new construction, for instance.

Yekaterina Varvarina, a pensioner and chairman of the house committee (a volunteer post), informed Anatoli of his constituents' mandate. The electors wanted a housewares store opened in the neighborhood, an additional bus route, and other such things. In general, relatively simple communal matters.

Taking the floor, Anatoli promised that he would make it his business to see to these things. But, he added, he would need more than their moral support, he would need their active efforts to get anything done.

On the way home Anatoli shared his thoughts with Darya. The district didn't look very promising to him. Darya objected:

"Nonsense. These may seem small matters to you, but they're important to the people living here. Incidentally, they took a liking to you. After the meeting I spoke to some people I knew, and they thought you were intelligent and friendly. They're counting on you."









ТОВАРИЩИ ИЗБИРАТЕЛИ!



ИЗБИРАТЕЛЬНЫЙ БЮЛЕТЕНЬ

№ 832

ЛЕСИН Анатолий Кузьмич



Election campaign. Above: The district and municipal candidates addressing a gathering of their prospective constituents. At the microphone in photograph at the right is Anatoli Lesin. Right: A polling place. The people who cast their ballots here work at a ball-bearing plant in the vicinity. Anatoli got 99 per cent of their votes. Left: Poster with a photo and some biographical data on Lesin put out and paid for by the City Election Commission. Below that is a sample ballot with Lesin's name.

On election day, June 13, Anatoli woke up in high spirits. It felt good to know that people were voting for him. He had to cast his own ballot for the candidate in his own residential district; in the Soviet Union citizens vote at their place of residence. He went to the polling place with his wife. His daughter Galya is 15 and won't be voting for another three years.

By noon the electors in the district he was running in had almost all cast their votes for Anatoli. The Sunday turned out to be hot, and most of them voted early so they could get out to the country. The electoral committee had to sit around with nothing to do, but the law says that on election day the polling place must be open from 6 A.M. to midnight. The returns showed that 99.95 per cent of the electors in district No. 832 had voted for Lesin. A couple of days later he was called before the district election commission, where he was officially handed a card certifying that he was elected deputy to the Moscow City Soviet.

The morning of June 22 Anatoli set out for the Hall of Columns of the Trade Union House, where the first session of the Moscow Soviet, Thirteenth Convocation, was opening. In the hall with him were 1,159 deputies—533 workers like himself and 545 nonparty people, again like himself.

The session formed the 18 standing committees of the Moscow Soviet: budget, housing, municipal improvement and so on. In his previous term Anatoli had served on the Committee for Physical Culture and Sports. Later, in the lobby, Lesin was greeted by Nina Lastochkina, a staff member of the Moscow Soviet who had often helped him with his projects.

"I'm glad you're back. You did a good job and now, with your experience, you'll find things easier and can get started on something bigger."

Worker–legislators are the rule, not the exception.

Lawmaking Is Everybody's Business



Deputy at Work

Lesin was responsible to the City Council for the construction of the new buildings of the Physical Culture Institute. They're finished now except for landscaping. Top: Open house for constituents. A pensioner sees her deputy. She wants to know if she is eligible for free accommodations at a health resort. Right: A weekend at home with the family.







At their first session, the new members of the Moscow Soviet disposed of organizational details and outlined basic tasks. Briefly, these tasks were part of one major problem. The Twenty-fourth Congress of the party had called on Muscovites to make theirs a model communist city. And it was up to the deputies of the Moscow Soviet, Thirteenth Convocation, to organize a mass campaign for the purpose. There was plenty of room here for initiative, for a creative approach.

Anatoli liked the way the campaign assignment was phrased. In general, he doesn't like the stereotyped, he prefers to use his imagination. That is why he is so good at his plant job, where he frequently finds unexpected ways to handle a tricky problem. The assignment made him rethink the approach he'd used in his first term. Gaining experience, he had usually followed conventional methods; now he meant to work more actively and imaginatively.

Lesin's work, like that of any other deputy to a local Soviet, runs along two lines: the election district and the standing committee.

His success in the election district depends on his links with the voters, on how well and how quickly he carries out their mandate. Apart from his general mandate, which expresses the interests of the whole body, he is also expected to handle individual requests: helping someone who has lost the necessary papers to apply for a pension, finding a more suitable and interesting job for a constituent, and so on.

The scope of Anatoli's activities in this second term has broadened considerably. And not entirely because of his own initiative. The role of the Soviets in the economic and cultural development of the cities has grown, and the funds they have to work with are larger; the Presidium of the USSR Supreme Soviet recently passed a decree to that effect. For instance, part of the profits of factories and other enterprises goes into the city and district coffers. Which means that Lesin's projects will be getting more financial support from the city and district authorities.

Dealing with voters' requests and complaints, Anatoli came to the conclusion that the usual monthly open house for constituents was insufficient. He supplemented this with visits to the enterprises and institutions where his constituents worked, and met with activists from house committees. Gradually he began to overcome his natural shyness.

He initiated some fresh and interesting changes in the work of the Deputy Council (a group of District and City Soviet deputies who work jointly with volunteer activists from one or several housing projects). After attending a couple of council meetings, Anatoli commented that the group was devoting almost all its attention to apartment maintenance and ignoring other important things, for instance, educational work with troubled youngsters and teenagers. At first, the response of the older, more experienced, members of the council to this newcomer's pronouncement was a little sarcastic. But he soon proved the validity of his views with action.

As we said earlier, besides his work in the election district Anatoli serves on the Soviet's Standing Committee for Physical Culture and Sports. It may seem a strange assignment for someone who is not an outstanding athlete. But he does represent people at the huge auto plant, where sports are a big thing. Incidentally, Anatoli was a fairly good soccer player at one time and still likes the game. He chose the committee himself, when he was doing his first stint in the Moscow Soviet. At first his assignments were relatively simple: for example, checking on the construction of a gymnasium, seeing whether the help of the Soviet was needed. Then they became more complicated. He was made responsible for the construction of a new physical culture institute. And he looked into sports at the plants in Moscow's Proletarsky District, submitting a number of detailed and sensible proposals.

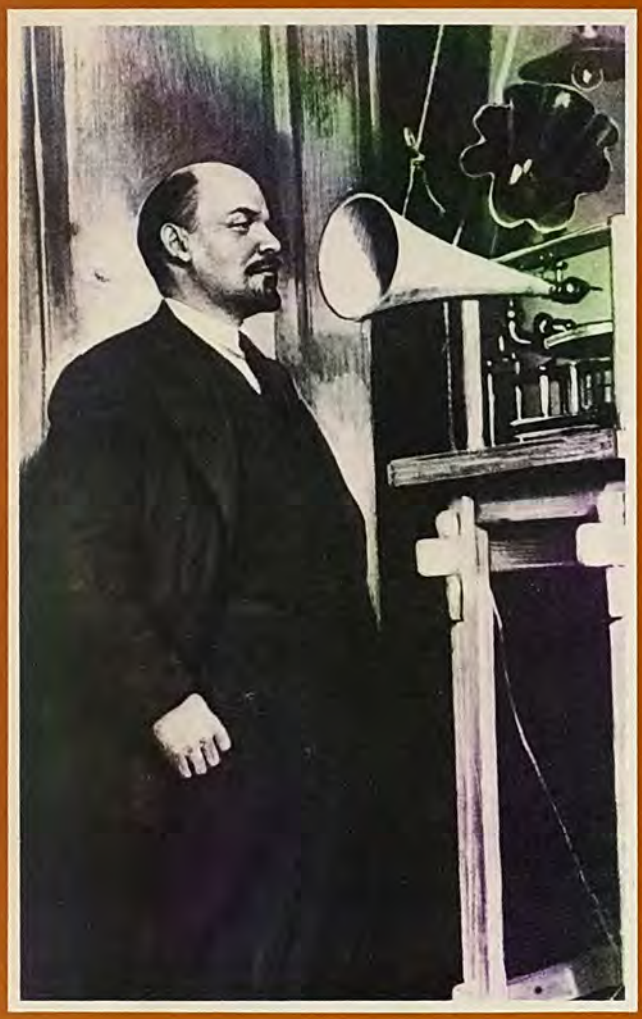
The Committee for Physical Culture, like other standing committees of the Moscow Soviet, concerns itself with practical matters. It works out urgent and necessary projects in detail and submits them for approval to the City Soviet or the Soviet's Executive Committee. In other words, the standing committees have local legislative initiative. They also check on whether decisions of government bodies are carried through.

Not long ago, for example, the Physical Culture Committee, with Lesin's active participation, made a thorough analysis of college sports in Moscow and submitted appropriate recommendations. Another example: A plan for the construction of sports facilities in the capital in 1972 was substantially revised on the committee's initiative. A major overhaul of the Dynamo Stadium and a further expansion of the Central Stadium in Luzhniki were included.

Lesin stands out among the committee's 15 members. His painstaking investigations and concern for detail help him understand the Soviet's involved problems. He does not like to quarrel with people, but conflicts are sometimes unavoidable. Another person might try to break right through, regardless. But Lesin's approach is different. He thinks it better to keep cool and, together with his opponent, look for a sensible solution.

And what has Anatoli's work as deputy given him personally?

"You see," he says, "before I became a deputy, I was often dissatisfied with myself. I felt I was capable of more than simply working for a living. Perhaps it was because I missed the chance to continue my education—my formal schooling ended with the tenth grade. Though my father, for instance, started studying again at a rather advanced age. After a good many years as an ordinary building worker, he retired on a chief engineer's pension. But with me it worked out differently: I got used to my shop, to a certain way of life. I'm an avid reader and everything interests me, so that I can't say I'm isolated in a small world of my own. But with the years I came to realize I was living a kind of passive life, with no broad meaning to it. Now there is such a meaning."



Lenin recording one of his three-minute series of speeches in the Kremlin. March 29, 1919.

Lenin on new form of democratic organization

WHAT IS SOVIET POWER?

WHAT IS SOVIET POWER? What is the essence of this new power, which people in most countries still will not, or cannot, understand? The nature of this power, which is attracting larger and larger numbers of workers in every country, is the following: In the past the country was, in one way or another, governed by the rich or by the capitalists, but now, for the first time, the country is being governed by the classes, and moreover, by the masses of those classes, which capitalism formerly oppressed. Even in the most democratic and freest republics, as long as capital rules and the land remains private property, the government will always be in the hands of a small minority, nine-tenths of which consist of capitalists or rich men.

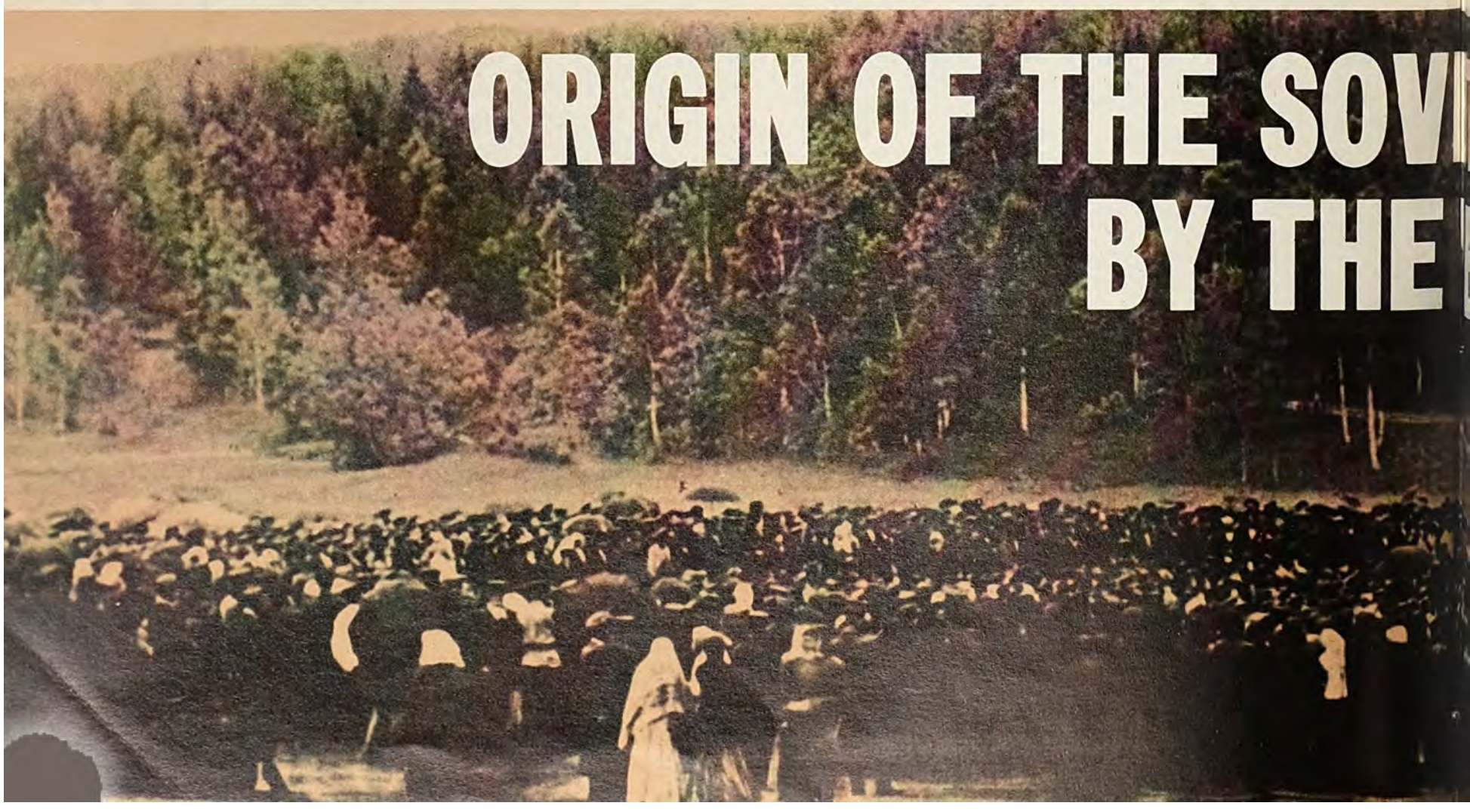
In this country, in Russia, for the first time in world history, the government of the country is so organized that only the workers and the working peasants, to the exclusion of the exploiters, constitute those mass organizations known as Soviets, and these Soviets wield all state power. That is why, in spite of the slander that the representatives of the bourgeoisie in all countries spread about Russia, the word "Soviet" has now become not only intelligible but popular all over the world, has become the favorite word of all working people. And that is why, notwithstanding all the persecution to which the adherents of communism in the different countries are subjected, Soviet power must necessarily, inevitably, and in the not-distant future, triumph all over the world.

We know very well that there are still many defects in the organization of Soviet power in this country. Soviet power is not a miracle-working talisman. It does not, overnight, heal all the evils of the past—illiteracy, lack of culture, the consequences of a barbarous war, the aftermath of predatory capitalism. But it does pave the way to socialism. It gives those who were formerly oppressed the chance to straighten their backs and to an ever-increasing degree to take the whole government of the country, the whole administration of the economy, the whole management of production into their own hands.

Soviet power is the road to socialism that was discovered by the masses of the working people, and that is why it is the true road, that is why it is invincible.

Vladimir Lenin
March 1919

The new state power "was an authority open to all, it carried out all its functions before the eyes of the masses, was accessible to the masses, sprang directly from the masses, and was a direct and immediate instrument of the popular masses, of their will."



SOVIETS—GOVERNMENT OF THE PEOPLE

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RUSSIA approached the bourgeois-democratic revolution of 1905-1907 torn by internal social contradictions which the Russo-Japanese war aggravated. Ten years before the outbreak of that revolution Nicholas II, the last of the Romanovs and the last of the czars, had ascended the throne. The domestic and foreign policy of the czarist government favored the nobility and big bourgeoisie and forcibly suppressed any manifestation of discontent within the other social strata. The life of the peasant, who made up most of the population, was very hard indeed. Suffice it to say that Russia's 30,000 big landowners held as much land as 10.5 million peasant families.

The other large class, the proletariat, numbered about 10 million at the turn of the century, when capitalist development was in full swing. Almost three million worked in industry, the rest in building, transport, forestry and agriculture. Living and working conditions were unbearable. The working day in industry, by a law adopted in 1897, was 11½ hours, longer than in any other European country. Often it was arbitrarily extended by employers. There was no provision for old age or injury. Job security was nonexistent. There was an elaborate system of heavy fines for the slightest offense.

Czarist Russia of the early twentieth century did not have the most elementary democratic freedoms: speech, press, assembly. It did have a thriving system of police surveillance. The Police Department and the Ministry of the Interior constituted a state within a state. The absence of democratic freedoms and the persecution of progressives also affected the Russian bourgeoisie, which was beginning to play an increasingly important role in the country's economic development. Seeking a larger share of political rights, the bourgeoisie was forced into opposition, but it stopped with the demand for a constitutional monarchy, that is, a government restricting the power of the czar by elected parliamentary bodies.

On the eve of and during the first Russian revolution of 1905-1907, political parties sprang up and rushed into action. The largest parties of the bourgeoisie were the Constitutional-Democratic Party (Cadets) and the League of October Seventeenth (Octobrists), founded in 1905. After the publication of the Manifesto of October 17, 1905, in which the czar "granted" some democratic freedoms to the people and promised to convene, on the basis of restricted suffrage, a representative institution with limited democratic functions—the State Duma—these bourgeois parties, to all intents and purposes, shifted over to the support of czarism in order to prevent the further development of the revolution.

The interests of the broad masses, including the peasantry, were articulated by the Russian Social-Democratic Labor Party (RSDLP). Shortly before the revolution it split into Mensheviks and Bolsheviks. The Bolsheviks held to a consistent line aimed at eradicating all vestiges of feudalism in agriculture, eliminating autocracy, installing a provisional revolutionary government of the people and convening a constituent assembly to frame a constitution.

The first Russian revolution broke out on January 9, 1905, in St. Petersburg, capital of the Russian Empire. On that day a peaceful demonstration of workers, marching to the Winter Palace to present Czar Nicholas II with a petition of their grievances, was brutally shot down. That Bloody Sunday moved the workers throughout the country to action. The spring of the same year witnessed their initial efforts to unite in trade unions and to form Soviets (councils, assemblies), which came into being first as strike organizations.

First Soviet

It was May 13, 1905, the second day of the strike of the Ivanovo-Voznesensk textile workers. On the edge of the forest sloping gently toward the bank of the small Talka River, the workers of Ivanovo-Voznesensk, the center of one of Russia's most important industrial regions—it was also known as the "kingdom of calico and consumption"—met to elect the first Soviet. The Soviet of Deputies was to lead the fight of the textile workers against the inhuman living conditions, the miserable wages, the exhausting 12- to 13-hour working day, the frequent overtime. A green lawn served as the assembly hall and a bench as the rostrum, from which passionate speeches poured out calling for struggle to win a new, happy life, for workers who would be free.

The strike was started by the textile workers, and at first it was purely economic. But gradually workers of other industries in the city and nearby communities joined the struggle. Before long the number of strikers had risen to nearly 70,000.

That day, on the bank of the Talka, they elected 151 people, among them 23 women, to a *Sobraniye (Soviet) upolnomochennikh deputatov*—Assembly (Council) of Authorized Deputies. At a session of the Soviet two days later, the workers voted to entrust the permanent chairmanship to a nonparty man, Avenir Nozdrin, an engraver by trade and an active revolutionary. It was the first City Soviet of Workers' Deputies in Russia.

The strike was headed by the local organization of Bolsheviks, led by Fyodor Afanasyev and Mikhail Frunze. At meetings and assemblies the Bolsheviks explained the tasks of the labor movement. Political consciousness grew rapidly and, with it, efforts at self-government. Aided by the workers' militia it had organized, the Soviet of Workers' Deputies kept order in Ivanovo-Voznesensk. It formed a "combat squad," a food committee to check on shopkeepers and ensure a supply of foodstuffs, and a finance committee to raise funds and help the needy. Without asking anyone's permission, the workers established freedom of assembly, of speech and the press. The economic strike took on a pronounced political character; demands were voiced for a constituent assembly, an eight-hour day. Efforts to crush the strikers by force of arms were of no avail. Seventy-two days after they had downed tools, a number of their demands were met. Wages, for example, were raised 10 to 15 per cent and the working day was shortened to 10 hours.

The Soviet of Workers' Deputies, founded as a strike committee, grew into a political force, the beginnings of revolutionary power.



Ivanovo-Voznesensk workers meet at the edge of town to elect their first Soviet. 1905.

All Over the Country

As the revolution developed, Soviets of Workers' Deputies were formed in St. Petersburg, Moscow, Kiev, Tver (now Kalinin), Baku, Odessa, Rostov and in other cities and workers' settlements—more than 50 in all. The basis of representation varied: In large cities such as St. Petersburg and Moscow, one deputy was elected per 500 voters; in Ivanovo-Voznesensk, one per 250; in Kostroma and Tver, one per 50. But everywhere the elections were direct, equal and universal, with no distinction of sex, age, religion or nationality. The Bolsheviks played a very important part in the Soviets of Workers' Deputies, being largely responsible for the vigor of their activity in the 1905 Revolution. For example, the Bolshevik-led Moscow Soviet became the organ of the revolutionary struggle and headed the December armed uprising. Aware of the danger the new form of labor organization presented, the czar's government tried to prevent open armed action of the proletariat by an attack on the Soviets. On December 3 it arrested the executive committee and all the deputies to the St. Petersburg Soviet assembled for a session. Despite that, the uprising began with the all-Russia political strike called by the Moscow Soviet on December 7, 1905.

In some localities, alongside the Soviets of Workers' Deputies, Soviets of Soldiers' and Peasants' Deputies were formed. But they did not become widespread then, and those that were formed quickly disintegrated since the level of understanding and organization of the peasants and soldiers was much lower than that of the urban workers.

Among the most active Soviets with representatives from the Army and Navy was the Sevastopol Soviet of Sailors', Workers' and Soldiers' Deputies. It was formed in November 1905 and played an important part in the armed mutiny of the Black Sea Fleet. That Soviet organized revolutionary order in the city and formulated the basic demands of the soldiers, workers and sailors: convocation of a constituent assembly, an eight-hour day, release of all military political prisoners, immunity for deputies to the Soviet, abolition of capital punishment and withdrawal of counterrevolutionary Cossacks from the city.

Acting as organs of revolutionary power, the Soviets disregarded the czarist authorities and their laws and made their own. They introduced an eight-hour day, took over the hiring and firing of workers and the payment of wages and set up commissions to deal with such pressing matters as unemployment, lockouts and wage setting.

Along with this the Soviets did a great deal to improve living conditions of workers and their families, set up free lunchrooms in Moscow, Ekaterinburg (now Sverdlovsk) and other cities and fought down attempts to raise the prices of necessities. Here, for example, is what the newspaper *Libavsky Vestnik* reported on the session of the Libava Workers' Soviet of Courland Guberniya [1] on December 14, 1905:

> In the matter of the rise in prices of essential commodities, it has been decided to instruct the Joint Committee to issue the following binding ordinance: Many tradesmen and shopkeepers have been raising the prices of consumer goods. Concerned only with their self-seeking, egotistical interests, they will exploit even these great days of popular wrath to line their pockets. The Joint Committee forbids tradesmen and shopkeepers to raise prices of foodstuffs and prime necessities, and invites the population to pay the old, normal prices for essential goods.[2]

A number of Soviets made decisions forbidding landlords to demand rent from workers during a strike.

The Soviets played an important part in the fight for political freedoms, in preventing Black Hundred pogroms, in keeping revolutionary order.

The leaflet issued by the Executive Committee of the Odessa Soviet of Workers' Deputies on December 5, 1905, reads:

> In view of alarming rumors circulating in the city about a pogrom being prepared for December 6 and in view of the Executive Committee's knowledge . . . of facts pointing to the provocative activities of some members of the police, the Executive Committee . . . has resolved: At the very first attempt on the part of the police and hooligans to effect a pogrom, the proletariat of the city of Odessa shall come out in defense of the population." [3]

The Soviets fought hard for the freedom of the press. Almost all the Soviets of Workers' Deputies of large cities and industrial districts published their own printed organs: *Izvestia Sovetov rabochikh deputatov (News of the Soviets of Workers' Deputies)* in St. Petersburg, Moscow, Vyatka, Baku, Odessa, Nikolayev, Novorossisk, Taganrog, Yuzovka (now Donetsk), Mariupol and other cities; *Krasnoyarsky Rabochi (Krasnoyarsk Worker)* in Krasnoyarsk; *Zabaikalsky Rabochi (Transbaikal Worker)* in Chita; *Bulletin of the Combat Strike Committee,* which was much like *Izvestia*, in Ekaterinoslav (Dnepropetrovsk).

Many Soviets organized their armed detachments, militia, new, revolutionary courts. In place of the czarist judiciary that had ceased functioning in many cities (Riga, Sormovo, Novosibirsk, Yuryev, Krasnoyarsk and elsewhere), the Soviets established, under different names, new judicial bodies which operated by democratic principles (people's courts, comrades' courts, judicial commissions, tribunals, legal aid offices) and which made an important contribution to the struggle of the Russian proletariat for the development of the democratic revolution.

The Soviets embodied a new form of organization of the working class. The Bolsheviks saw them as organs of struggle for the revolution. Lenin declared that the emergence of the Soviets in 1905 was a dramatic manifestation of the revolutionary creativity of Russia's toiling masses.

> These bodies were set up exclusively by the *revolutionary* sections of the people; they were formed irrespective of all laws and regulations, entirely in a revolutionary way, as a product of the native genius of the people, as a manifestation of the independent activity of the people. . . .[4]

These new organs of insurrection and revolutionary power acted like a government and were, in fact, the seeds of a new, popular government.

> In their social and political character, they were the rudiments of the dictatorship of the revolutionary elements of the people.[5]

Lenin then went on to define the distinguishing features of the new state power, of which the Soviets of 1905 came to be the prototype:

> It was an authority open to all, it carried out all its functions before the eyes of the masses, was accessible to the masses, sprang directly from the masses, and was a direct and immediate instrument of the popular masses, of their will.[6]

Lenin spoke out strongly against attempts to supplant the Soviets of Workers' Deputies with the Bolshevik Party:

> . . . to lead the political struggle, *both* the Soviet . . . *and* the Party are to an equal degree, absolutely necessary.[7]

As noted earlier, the Bolsheviks were not the only political party to lead the masses, and Lenin believed that the Soviets should unite all the revolutionary forces of the country.

The large-scale, multifaceted activity of the Soviets born of the 1905 Revolution showed that they were beginning to develop from organs of revolutionary power into organs of state power. This important point was noted by Lenin in his "Lecture on the 1905 Revolution," delivered at a meeting of young workers in the Zurich People's House in January 1917.

> For a time several cities in Russia became something in the nature of small local "republics." The government authorities were deposed and the Soviet of Workers' Deputies actually functioned as the new government.[8]

However, the revolution of 1905-1907 was defeated, and the Soviets did not continue as organs of state power on a national scale, although they certainly took a step in that direction.

The Second Russian Revolution

The revolutionary creativity of the masses of Russia developed on a still greater scale during the February 1917 Revolution. Accomplished by the soldiers of the garrison and the workers of Petrograd, as St. Petersburg was called, that revolution led to the overthrow of the autocracy and the abdication of Nicholas II. The Petrograd Soviet of Workers' and Soldiers' Deputies, established on February 27, at first wielded virtually absolute power in the country. Under the pressure of the revolutionary masses the Soviet adopted a decision which later formed the basis of its Order No. I. That order subordinated the Petrograd garrison to the political leadership of the Soviet, provided, among other things, for the election of officers and the establishment of soldiers' committees. So control of the armed forces went to the Soviet and not the bourgeoisie. The Petrograd Soviet instituted such other revolutionary measures as requisitioning flour to keep the bakeries working, appointing commissars to establish people's power in the various districts of the city, banning ultrareactionary newspapers and publishing its own newspaper, *Izvestia.* The Soviet then controlled the railroad terminals, the telegraph office and printing houses.

On the whole, however, the position of the Petrograd Soviet was untenable. The February Revolution signaled a sharp turn from czarist lawlessness and terror to broad political freedom. Tens of millions of people

[1] Courland is the old name of a region in the Baltic, now part of the Latvian SSR.

[2] *Vysshy podyom revolutsli 1905-1907 gg (The Peak of the Revolution of 1905-1907).* (Publishing House of the USSR Academy of Sciences,1957), Part IV.M., No. 325.

[3] *Ibid,* Part III, Book I, 1956, No. 336.

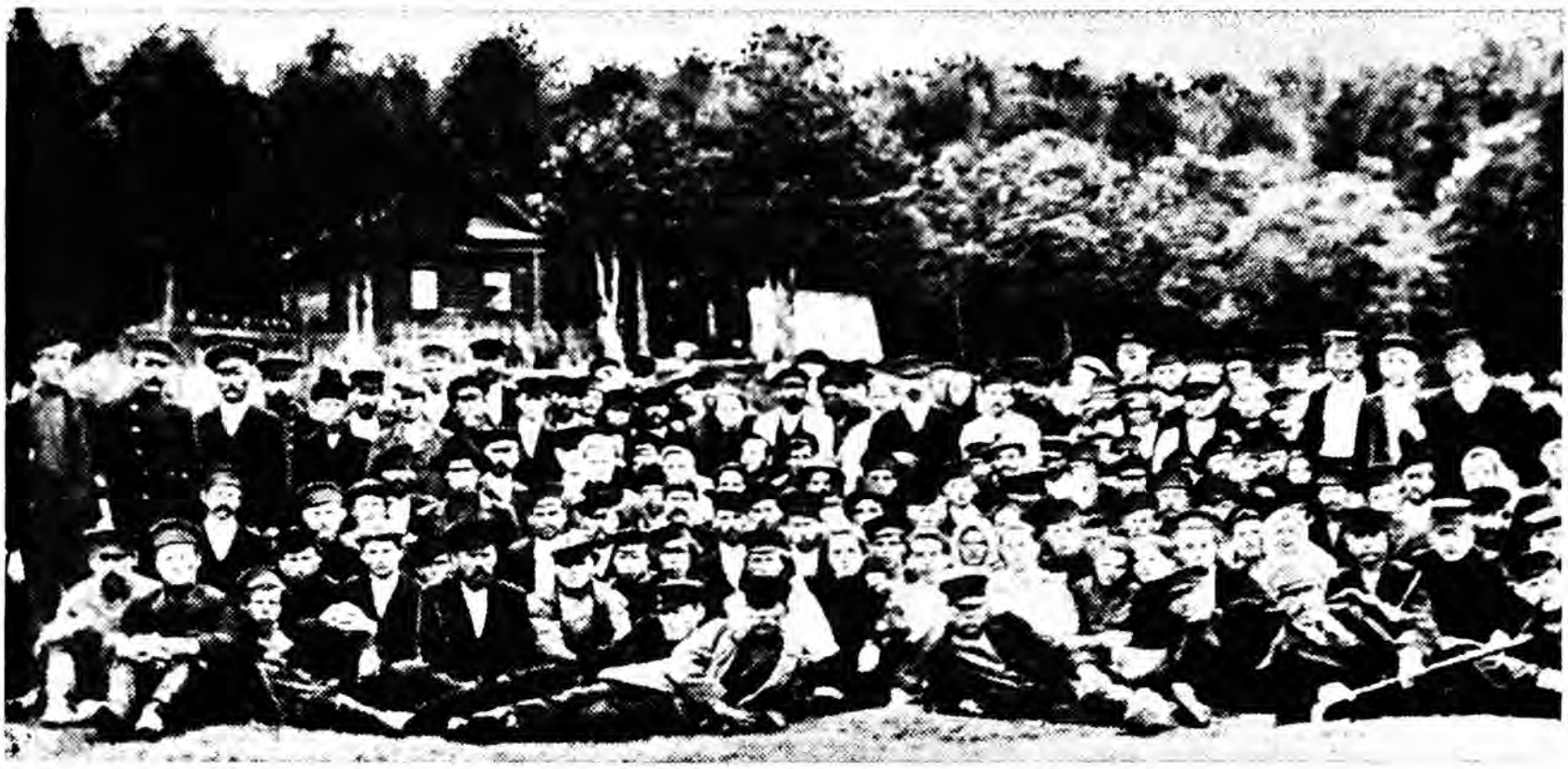
[4] V.I. Lenin, *Collected Works,* English edition (Moscow: Foreign Languages Publishing House, 1962), vol. 10, p. 243.

[5] *Ibid.*

[6] *Ibid.,* p. 245.

[7] *Ibid.,* p. 21.

[8] *Ibid.,* vol. 23, p. 248.



An old photo of the deputies elected by the people of Ivanovo-Voznesensk.

were swept into politics. And since the petty bourgeoisie made up a sizable part of the population of Russia, it decisively influenced the composition of the Soviets. Leadership of the Petrograd and Moscow Soviets went to the Socialist-Revolutionaries and the Mensheviks, who vacillated between the bourgeoisie and the proletariat.

Following Petrograd, Soviets of Workers' and Soldiers' Deputies rapidly sprang up throughout Russia, uniting broad worker and peasant masses. In the spring and summer of 1917 many local Soviets went much farther than the Socialist-Revolutionary and Menshevik leadership of Petrograd and Moscow and became a real people's government. For instance, in Orekhovo-Zuyevo, Serpukhov, Nizhni Novgorod and some other cities the Soviets declared an eight-hour working day and placed production under their own control.

The Soviets of that period differed considerably from their predecessors of the 1905 Revolution. In the first place, their social base was considerably wider. In the first Russian revolution the overwhelming majority of the Soviets were Workers' Soviets. In the second Russian revolution a very active part was also taken by soldiers and peasants. Millions of peasants had been called to the colors and sent to the fronts of World War I. Their participation in bloody battles for the interests of czarism and the Russian bourgeoisie, which were alien to them, had given added impetus to the growth of antiwar and revolutionary sentiments among the soldiers and the peasantry as a whole. The actions of the Russian proletariat against czarism were vigorously supported by the soldiers and peasants. In addition to Soviets of Workers' Deputies, Soviets of Soldiers' and Peasants' Deputies were set up in all the regions of the country.

There was another highly important feature of the new Soviets. Unlike the first ones, which were merely embryonic organs of the dictatorship of the revolutionary strata, not of the whole people, as a result of the February bourgeois-democratic revolution they immediately began to develop into organs of new state power, which, in effect, constituted the revolutionary-democratic dictatorship of the proletariat and the peasantry.

Fearing the transfer of all state power to the Soviets after the overthrow of czarism, the Russian bourgeoisie formed a bourgeois Provisional Government. The Socialist-Revolutionary-Menshevik leadership of the Petrograd Soviet, which was equally fearful of the further development of the revolution, decided to give its support to the Provisional Government. There developed a peculiar symbiosis, about which Lenin wrote:

> The highly remarkable feature of our revolution is that it has brought about a *dual power*. . . .
>
> What is this dual power? Alongside the Provisional Government, the government of the *bourgeoisie*, another *government* has arisen, so far weak and incipient, but undoubtedly a government that actually exists and is growing—the Soviets of Workers' and Soldiers' Deputies.[9]

Lenin noted on many occasions that, despite the conciliatory policies of the Socialist-Revolutionary-Menshevik Soviets in that period, the Soviets remained, in principle, an instrument of power of the people.

In his April Thesis, Lenin proceeded precisely from that fact in formulating the conclusion: "Not a parliamentary republic . . . but a republic of Soviets of Workers', Agricultural Laborers' and Peasants' Deputies throughout the country from top to bottom," [10] should be the political form of the dictatorship of the proletariat in Russia.

The period from February to October 1917 abounded in stormy political events. There was a moment in July when the Soviets sided with the counterrevolution, but as early as August 31, after the workers had crushed a counterrevolutionary armed rebellion, the Petrograd Soviet and then the Moscow Soviet called for an end to the dual power and for all power to the Soviets.

[9] *Ibid.*, vol. 24, p. 38.

[10] *Ibid.*, p. 23.

Subsequently, throughout the period immediately preceding the Great October Socialist Revolution, Lenin pointed repeatedly to the overwhelming historical importance of the revolutionary creativity of the masses in the first two Russian revolutions. In the autumn of 1917 he wrote:

> If the creative enthusiasm of the revolutionary classes had not given rise to the Soviets, the proletarian revolution in Russia would have been a hopeless cause, for the proletariat could certainly not retain power with the old state apparatus, and it is impossible to create a new apparatus immediately.[11]

All Power to the Soviets!

Subsequent historical developments bore out Lenin's foresight. A few months later, in October, an armed uprising triumphed in Petrograd, and Lunacharsky [12] mounted the rostrum of the Second All-Russia Congress of Soviets at Smolny Institute to read, in a voice trembling with emotion, the first decree of the congress, the appeal "To Workers, Soldiers and Peasants!" written by Lenin. "Backed by the will of the vast majority of the workers, soldiers and peasants, backed by the victorious uprising of the workers and the garrison which has taken place in Petrograd, the Congress takes power into its own hands," resounded in a hushed hall. ". . . The Congress decrees: All power in the localities shall pass to the Soviets of Workers', Soldiers' and Peasants' Deputies. . . ." This historic document was adopted after 5 A.M. on October 26, 1917, before the first session of the congress closed. On the same day, at its second session, the congress formed the first Soviet Government—the Council of People's Commissars—headed by Lenin. Thus was born a state of a fundamentally new, socialist type, the world's first state of workers and peasants.

[11] *Ibid.* vol. 26, p. 104.

[12] Anatoli V. Lunacharsky (1875-1933), Soviet public leader and statesman, the first Peoples' Commissar of Education of the Russian Federation.

"SOVIET UNION: Arts and Crafts Exhibit starts its tour of the United States

TEXT OF ALEXEI KOSYGIN'S ADDRESS TO VISITORS OF THE EXHIBIT

Ladies and Gentlemen:

It gives me pleasure, on behalf of the Soviet Government, to welcome you to the exhibition "Soviet Union: Arts and Crafts in Ancient Times and Today."

This exhibit is being held under the Soviet-American cultural exchange agreement. For the first time the American people will have an opportunity to get acquainted with the diversity of arts and crafts of the peoples of all 15 Soviet Socialist Republics. I would like to emphasize that this exhibit is being held during the year of the fiftieth anniversary of the creation of the Soviet Union, a voluntary alliance of national republics united into one socialist state.

The fraternal family of the peoples of our country comprises over 100 nationalities. The policy of the Soviet Government on the question of nationalities, which brought to life the ideas of Vladimir Lenin, founder of the Soviet state, has provided for the complete equality of the peoples of the Soviet Union in all aspects of life. That is one of the most remarkable results of the Great October Socialist Revolution in 1917, which freed man from social and national oppression. The victory of the Revolution has created conditions for the genuine blossoming of all the Soviet peoples' talents and the flourishing of their creative arts.

The exhibit will show how different national cultures develop and enrich each other in our country, how carefully artistic traditions are preserved and promoted, how the present-day arts are encouraged and how all this makes for a still greater and stronger friendship among the peoples of the Soviet Union.

Art serves the noble goal of bringing people closer together. It reflects the world of thoughts and emotions which inspire man's life. This is particularly true of folk arts and crafts, in which the character of the people, their poetic outlook and the richness of their artistic imagination manifest themselves most fully. This exhibit will give you a better understanding of the life and aspirations of the Soviet people.

We hope that this exhibit will contribute to better understanding between the American and Soviet peoples and will serve the strengthening of peace.

With best wishes,

Alexei Kosygin
Chairman of the USSR Council of Ministers



USSR Minister of Culture Yekaterina Furtseva and U.S. Secretary of State William P. Rogers officially open the Soviet exhibition at the Corcoran Gallery of Art in Washington, D.C., on January 12, 1972.

THE SOVIET ARTS AND CRAFTS EXHIBIT was opened in Washington, D.C., in January by Madame Yekaterina Furtseva, USSR Minister of Culture, and Yuli Vorontsov, Chargé d'Affaires of the Soviet Embassy in Washington. The American side was represented by Secretary of State William P. Rogers and Walter E. Washington, Mayor of Washington. Madame Furtseva had come to the United States especially for the opening ceremony.

Madame Furtseva and Mr. Rogers exchanged speeches, emphasizing the importance of cultural ties between the United States and the Soviet Union for better understanding and world peace. Madame Furtseva also read an address to the visitors of the exhibit from Alexei Kosygin, Chairman of the USSR Council of Ministers. Earlier at a press preview of the exhibit Madame Furtseva said:

"This evening we are opening an exhibition which will give you an idea of the beauty and variety of the creative arts of the peoples in our country. It displays the works of craftsmen as well as professional artists involved in different fields of decorative arts. . . .

"In our country today there are dozens of specialized institutions



The works of modern handicraftsmen continue the old traditions. The styles and media are as varied as the people of the vast multinational country.

of higher education which train highly qualified people in the fields of literature, music, theater and art. Thousands upon thousands of music schools and art schools contribute to developing the talents of millions of children and teenagers in houses of culture and clubs in cities and rural communities throughout the Soviet Union. Over 15 million Soviet people devote their leisure time to art, acting in amateur plays, giving concerts and painting. . . .

"Soviet cultural workers still have many tasks to fulfill. We have great plans, we have a lot to accomplish. All we need to succeed with these plans, to create outstanding works of art, to improve the art education of the Soviet people, is peaceful conditions, less international tension and good-neighborly relations with all countries, including the United States."

The contemporary decorative art in the exhibition is one of the embodiments of the ideas of the Great October Socialist Revolution —to release the creative energy of the people and to create all conditions for its fullest artistic expression in serving socialist society.

Besides its purely esthetic value, the exhibition is significant in that it opened in 1972, the year of the fiftieth anniversary of the Union of Soviet Socialist Republics.

The art of such a vast country as the Soviet Union, comprised of 15 republics and more than 130 nationalities, cannot, of course, be homogeneous. A general panorama of Soviet decorative art is made up of separate pictures and phenomena. Individual national cultures that draw on local customs and languages do not weaken when they flow into the huge multinational fund of Soviet culture as a whole.

Despite its size—some 1500 pieces—the exhibition cannot encompass all the spheres of art associated with the term decorative art. Fine art and design require separate treatment.

The purpose of the exhibition is to show American visitors the past and the present of a part of decorative art which has had and now has a bearing on public and private life.

The culture of the peoples inhabiting the Soviet Union dates back thousands of years. Among the exhibits are 2500-year-old



Secretary of State Rogers and Mayor Walter Washington sign the Visitors Book.

Yekaterina Furtseva, Henry Kissinger and Chargé d'Affaires Yuli Vorontsov.



in Ancient Times and Today"





Woodcarving made by Nelly Sazhina, Kishinev, Moldavia, 1968. Top: Contemporary clay toys made in Dymkovo village, Kirov Region, Russian Federation.

Scythian gold pieces from the famed Gold Room of the Hermitage in Leningrad. Equally valuable, though not so old, are exhibits lent by Moscow's leading museums—the Kremlin Museum (the former Armory), the Tretyakov Gallery and the State Historical Museum. The museums take exceptional care of these national treasures. They are prized by the Soviet people not so much for their material value as for their historical and cultural value.

Tradition cannot be separated from decorative art. Methods of fashioning metal, clay and wood were passed from generation to generation along with popular ideas of nature and the world. As a result, only those especially understandable to the people were accepted. In tiles, wood carvings, majolica, copper vessels, distaffs, dippers, architectural components and weaving, folk fantasy was closely interwoven with reality, tales and legends with what artisans observed in life. Even icons showed truly folk conceptions of beauty and happiness.

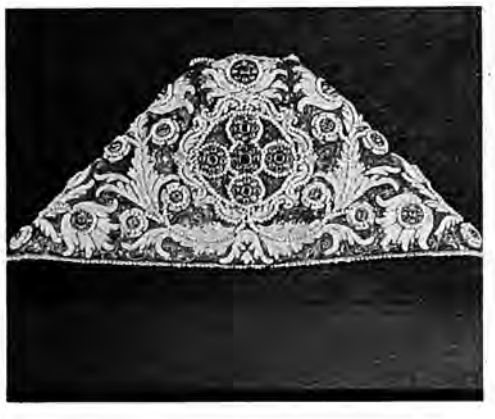
The centers of ancient arts and handicrafts that survived until the October Revolution were placed under state protection. Special support is given to such traditional forms of art as Russian wood painting, lacquer miniatures that originated from icon painting; ceramics of the Russian North, Daghestan, Central Asia and the Carpathians; lace and rugs of the country's northern and southern areas. They show the strong links with the traditional forms of decorative art, and they are distinguished by local techniques not to be found elsewhere.

Contemporary artists are represented by members of large industrial collectives—porcelain and glass factories—and by individual masters of ceramics, tapestry and metal. Decorative art offers every opportunity for the free expression of a creative personality. And the exhibition will certainly draw attention to this circumstance so important for our artistic life: a combination of traditions and innovations, a combination of historically evolved ideals arrived at by a large national collective and brilliantly expressed talents.

Hand-woven Georgian tapestry with national dance motif, made by Gaiko and Anri Gakharia in 1967.



Woman's headgear in Old Russia. Each region had its own style and distinguishing features.



These are the most general traits of Soviet decorative art. A familiarization with its history, represented at the exhibition by collections from museums of international fame, will help to gain insight into its earliest stages and into its evolution from the past to the present.

Today decorative art in the Soviet Union is an example of how Soviet culture, while sharing the progressive trends of world art, purposefully proceeds from its national traditions, choosing the most viable and healthy.

Because the productive development of art requires continuity in national traditions, the Soviet Union does its best to expand cultural horizons, to exchange and assimilate progressive features of other cultures.

The main idea of the exhibition is to show the American people one of the significant aspects of cultural life in the Soviet Union and confirm that the ways of cooperation are many, that broader contacts will benefit both our peoples.

The exhibit in Washington, D.C., drew considerable public attention. More than 100,000 visitors enjoyed the displays and wrote many enthusiastic comments in the visitors book. Here are some examples:

"The beauty of your country and grace of your people are brought out in this display. Thank you for sharing these things with the U.S."
C. Carroll, Washington, D.C.

"A wonderful exhibition of the cultures and talents of the Russian people. Exhibits such as this should help bring us closer together."
T. Mattesno



Top left: Griffin with a stag's head, Scythian-Altai art 500 to 400 B.C. Left: Ivan the Terrible's saddle embroidered in gold and silver thread, pearls and semiprecious stones. Right: Chalice made in the Kremlin shops in the early seventeenth century.





"It is one of the most interesting exhibits ever. Surely it will help to bring the two nations closer."
Barbara W. Feder

"My children and I are grateful for this opportunity to view your magnificent art."
M. Carleton McLean

"Thanks for a fine exhibit. Well displayed. Let's have more of the same going both ways."
R. Lauck

"I think it is a very unusual event for this country. If more attention and time and devotion were put toward cultural exchange, the world would be happier. A magnificent display."
Kathryn Gaceman

SCHEDULE OF CITIES AND MUSEUMS

Los Angeles, California, Municipal Gallery of Art, March 5 to April 1
Minneapolis, Minnesota, Minnesota Museum of Art, April 26 to May 23
Chicago, Illinois, Field Museum of Natural History, June 16 to July 13
Boston, Massachusetts, Boston Museum of Fine Arts, August 6 to September 2
New York, New York, The Metropolitan Museum of Art, September 26 to October 23

The author of this article is Grigori Anashkin. Professor Anashkin, who has a Doctor of Science degree in law, is a member of the Supreme Court of the USSR and the author of more than 100 published works.



DEMOCRACY IN THE SOVIET UNION:

WHAT IT MEANS AND HOW IT WORKS

DEMOCRACY comes from the ancient Greek *demos* (people) and *kratos* (strength, power). The word has long meant a specific political institution.

Yet there is, perhaps, no other concept in the world that has had so many different interpretations.

Pure Democracy?

In Western political literature, the word democracy is usually not accompanied by modifiers, as though democracy exists in a pure and refined form. This concept is inaccurate, historically and scientifically.

An inquiry into democracy, its forms and its development, like an examination of liberty or humanism, must include an analysis of various economic, political and social factors. It must be approached from a class point of view: Democracy for whom, for what purpose, in what area, in relation to whom?

Democracy can be genuine or spurious, all-embracing or very narrow, formal or real, democracy for the majority or for the minority. Its disparate character is confirmed by history.

In ancient Greece and Rome, for example, there were periods of democracy. But for whom? We know that it was for the slave owners, for the free citizens. They made up the popular assemblies, passed the laws and managed the affairs of the state. No one will argue the fact—history shows it very clearly—that the slaves, though they constituted a majority of the population and were the direct producers of material values, had no power, were deprived of the most basic political and human rights. This kind of democracy history describes as limited democracy, *slave-owning* democracy.

Next came *feudal* democracy. Medieval town communes were self-governing town communities free of subordination to feudal lords and run by elective organs of power (for instance, burgomasters, mayors, the council of boyars in the Novgorod Republic). Here, too, the democracy was for the minority, sometimes no more than a handful of families of the nobility and the rich, who ruled under the motto of Louis XIV: "I am the state."

Feudal democracy was replaced by *bourgeois* or *capitalist* democracy. Based on the capitalist ownership of the means of production, it gave a certain number of citizens the right to participate in the administration of state affairs. Parliaments appeared. Part of the population was able to vote for legislative bodies. Principles of formal equality under law for everyone were proclaimed, along with some freedoms.

Bourgeois democracy, according to Lenin, was a "great historical advance in comparison with medievalism." These days, by comparison with the socialist democracy in many countries, bourgeois democracy is a backward form of political life, and we must measure it by the same standards that we measured slave-owning and feudal democracies. Bourgeois democracy does, in some measure, protect the rights of the entire population of the country, but ultimately, like its predecessors, it does not extend to the majority of the population. Most of the legislators in many countries are not workers and farmers but representatives of those who constitute even less than a minority, numerically an insignificant part of the population. Moreover, the parliaments of many countries do not include a single industrial worker or farmer.

" . . . 'Pure democracy,' " Lenin wrote, "is not only an *ignorant* phrase, revealing a lack of understanding both of the class struggle and of the nature of the state, but also a thrice-empty phrase. . . . If we are not to mock at common sense and history, it is obvious that we cannot speak of 'pure democracy' as long as different *classes* exist; we can only speak of *class democracy.*"*

The essence of democracy is determined by concrete factors in the society: Who holds state power? Who owns the plants and factories, the land and minerals? Where does the national income go and how is it distributed? How is the right to work ensured, along with the right to rest and leisure, education and medical aid?

Who Holds Power in the Soviet Union?

In the Soviet Union, state power is held by the people through

* V. I. Lenin, *Collected Works,* English edition (Moscow: Progress Publishers, 1965), vol. 28, p. 242.

the Soviets of Working People's Deputies. There are about 50,000 of these bodies in the country, from the rural Soviets in villages to the USSR Supreme Soviet in the capital. All are elected by universal suffrage. The Soviets are a fusion of democratic state principles and the individual features of public mass organizations. They are not bodies of professional parliamentarians. They are composed of deputies elected by their colleagues and fellow workers in the various trades or professions. These representative bodies have both legislative and executive functions.

The history of the Soviet state is a chronicle of the massive participation of the working people in running the country. Since 1936, when the present Constitution was adopted, about 20 million people have learned, as deputies to the Soviets, how to conduct the country's affairs. Serving in the current Soviets are some two million elected representatives of the people. Through them the Soviets can feel the pulse beat of every section of the country.

A high percentage of the deputies are direct producers, working in factories or on farms. In the last elections to the Supreme Soviets of the 15 union republics, held in June 1970, 1,742 workers (29.6 per cent of the total) and 1,221 collective farmers (20.8 per cent) were elected deputies. About 800,000 workers (36.5 per cent of the total) and over 600,000 collective farmers (28.8 per cent) were elected to the local Soviets. There are, in addition, more than 25 million activists (workers, farmers and intellectuals) who do volunteer work in the Soviets.

This means that one voter in every six is active in some legislative body.

The laws adopted by the Soviets and the decisions they make are the best possible illustrations of the nature of these bodies. All the Soviets, for example, union and local alike, annually discuss and adopt economic-development plans.

The Soviets and their various subordinate bodies also act on such matters as raising wages, improving working conditions, increasing pensions, expanding public education and the health services, strengthening the socialist legal system and law and order.

Only the USSR Supreme Soviet and its Presidium (which is the collective president of the country) have the right to declare war. In March 1951, the USSR Supreme Soviet adopted the Law in Defense of Peace, invoking severe penalties against war propaganda in any form.

The Soviets play an important part in guarding the country's Constitution and laws.

The USSR Supreme Soviet appoints the country's Procurator General and elects the Supreme Court. It also rules on constitutional questions. The Presidium can, for instance, override decisions and actions of the Government of the USSR and the governments of the union republics. The Constitution of the USSR can be changed only by a two-thirds vote of both chambers of the Supreme Soviet.

Perhaps the most graphic evidence of Soviet democracy are the guarantees of the right to work and of freedom from exploitation and unemployment. Without these guarantees, which are bedrock to all other democratic rights and freedoms, all the other freedoms are emasculated.

The right to work, to a job, the freedom to choose from a wide range of trades and professions; work not for the capitalist but for oneself and for society; payment for work based on its quantity and quality, without regard to sex, age, and nationality; full employment; the right to rest and leisure; the right to free education, medical service and pensions—all these rights constitute the foundation of economic security and personal freedom. And all this is guaranteed not just by law but by the very economic system of our country, whose means of production, as well as land and mineral wealth, belong to all the people, not to individuals or corporations.

Political Freedoms

The USSR guarantees every citizen such vital political rights as freedom of speech, press, assembly (including holding mass meetings, street processions and demonstrations) and the right to form public organizations.

What makes these freedoms real is that the concrete means essential for implementing them—stocks of paper and printing presses, for example—are at the disposal of the working people.

In the USSR, every person can air his opinion and views on public-development problems, can give his version of events, can expose shortcomings in the work of state bodies, can criticize departures from social and ethical standards and the socialist way of life, can participate in the discussion of any problem and issue.

The right to speak out is exercised by the Soviet people in many ways. For example, during the nationwide discussion of the Draft Directives of the Twenty-fourth CPSU Congress on the Ninth Five-Year Plan of Economic Development about three million statements of citizens were taken down in verbatim reports. These statements, presented at open meetings, summed up working experience and offered concrete, businesslike proposals. Before the congress, *Pravda* alone received over 6,000 letters of comments and suggestions from readers. More than 500 were published, and many of the proposals were considered by the congress.

No Soviet citizen can be brought to court for criticizing what he thinks are deficiencies, for his thoughts and convictions. Only particularly dangerous acts are considered violations of the law. These include instigation to terrorist acts and murder on national grounds; violation of the currency laws; dissemination of slander; illegal contact with representatives of foreign White Guard émigré organizations serving foreign secret services, and the like.

As regards the political rights of citizens, we subscribe to the principles of the UN Universal Declaration of Human Rights, which says, among other things, that in the exercise of his rights and freedoms, everyone "shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society."

In the USSR, with its 120 nations and nationalities, the Constitution and actual practice ensure all citizens full equality in every area of life.

Violation of national and racial equality, in any form, direct or indirect, is a serious crime in our country, punishable, according to Article 11 of the Law on Crime against the State, by confinement for a term of from two to five years.

The Judiciary

The major rights of citizens—these include the right to work, a place to live, participation in elections, to human dignity, family and property rights, copyright and inheritance—are protected by a democratic judicial system, structured to suit the federal arrangement of the country and its administrative-territorial division.

Each of the 15 union republics is a sovereign socialist state, with its own constitution that reflects the distinguishing features of the republic, with its own criminal, civil, labor, family and other codes. The foundation of the Soviet judicial system is 3,905 district people's courts, which hear about 98 per cent of all criminal and civil cases. Regional and territorial courts, the courts of the national areas and national regions, 20 supreme courts in the autonomous republics, 15 supreme courts in the union republics function primarily as appeals courts.

The highest judicial body in the country is the USSR Supreme Court, consisting of 20 judges, who sit permanently in Moscow; the 15 chairmen of the supreme courts of the union republics, who participate in the plenary sessions of the USSR Supreme Court hearing appeals cases presented by the Procurator General and the Chairman of the Supreme Court of the USSR. They also discuss matters of judicial practice and adopt guidance instructions for lower courts.

The USSR Supreme Court supervises the activities of judicial bodies, ensures identical practice by all courts and rules on the application of federal laws.

In order to involve the broadest possible representation of the population, alternate temporary judges—people's assessors—serve on the benches of all courts of first instance. People's assessors are elected at general meetings of industrial, office and professional workers and collective farmers at their place of work or residence. Unlike jurymen, they not only rule on the

guilt or innocence of the accused but define the measure of punishment.

The judicial system is uncomplicated and competely accessible to the population. Costs are very low—30 kopecks for an ordinary civil suit—and cases are heard, as a rule, in the shortest possible period, over 90 per cent within 30 days.

People's judges of district and city—the main component of the Soviet judiciary—are elected by secret ballot cast by all citizens aged 18 and over who live in the area within the jurisdiction of the court. They are lawyers with a higher education and relevant experience. Currently, 15 per cent of them are former workers or farmers and 85 per cent are children of workers and farmers. Women comprise more than 30 per cent of the district judges and over 40 per cent of the people's assessors.

The independence of the judge is spelled out in the Constitution. He is guided solely by the law and the evidence and his own inner convictions. Judges or people's assessors can be dismissed only by a decision of the voters or by a court sentence, in the case of a judge.

All cases are heard in open court unless otherwise provided for by law. Moreover, almost one case in four is heard with the court sitting where the crime was committed, in the presence of those citizens who know the defendant, and with lawyers and often voluntary counsel—chosen by the collectives at the place of work or residence of the defendant—pleading for the accused.

The new criminal codes of the union republics provide substantially improved procedural guarantees for citizens, preventing their being charged without reasonable cause. Lawyers are now permitted to participate in the case even in the preliminary investigation stage.

Soviet citizens are guaranteed against illegal arrest. Inviolability of the person is guaranteed by the Constitution (Article 127), which says: "No person shall be placed under arrest except by decision of a court of law or with the sanction of a procurator." The reasons for detention and arrest are strictly defined by law, and such actions are supervised by procurator and court.

Advancement of Socialist Democracy

Socialist democracy is a dynamic institution, always in development, always searching for new standards and forms.

The Twenty-fourth Congress of the Communist Party of the Soviet Union once again expressed the need for showing constant concern for a continuous development of socialist democracy. That socialist democracy does broaden and that its institutions do mature are evident in certain fundamental developments. There is, first of all, *the enhancement of the activities of the Soviets.* Recently adopted legislation on village, township, town and district Soviets gives much wider rights to these local bodies of power. A new law is being drafted on the status of deputies to the Soviets on all levels. It will define the rights of deputies, as well as the responsibilities of government agencies and officials, to these representatives of the people.

Also important in the development of socialist democracy is the *greater participation of public organizations in political and economic life.*

In recent years, for instance, greater rights were extended to the trade unions. They can now initiate legislation and participate in decisions on problems of production and on matters that affect living and working conditions. The law says, for example, that without the consent of the local trade union committee, no Soviet industrial, professional or office worker can be fired. Not long ago, a plenary session of the USSR Supreme Court ruled on judicial practice in this connection. It said that in cases where management violates this stipulation of the law, the worker must be reinstated immediately and paid for the entire period of his forced absence.

A *sine qua non* of socialist democracy is the *observance and further strengthening of socialist legality.*

A good deal of work is being done in this area. Federal and union republic laws are being codified, and the entire system of law is being renovated from top to bottom. This immense legislative project bears comparison with the historically important legal activity in Lenin's day, when the groundwork for Soviet law was being laid. Recent years saw the adoption, among other things, of the new Fundamentals of Criminal and Civil Legislation of the USSR and the Union Republics, new Fundamentals of Labor Legislation, new Legislation on Marriage and the Family, the Fundamentals of Court Procedure, the Fundamentals of Legislation on the Structure of the Judiciary, new Laws on Liability for Military Crimes and Crimes Against the State, the Fundamentals of Public Health of the USSR. New codes were worked out and adopted in the union republics.

This new legislation is aimed at the better protection and the further extension of the rights and freedoms of Soviet citizens, as well as the greater democratization of many criminal law and civil law institutions.

In recent years there has been substantial improvement in the operation of the militia, which locally is a department of, and is responsible to, the Soviets. There was an extension and enlargement of the procurator's powers where the legality of actions by government officials is concerned. The Ministry of Justice was formed. A research institute was organized to study the causes of crime and to work out measures to fight it. Similar work is being done now by many law colleges. Steps were taken to make better use of legal services in the national economy. This is only a partial list of what has been effected in recent years.

It is common knowledge that crime in the capitalist countries has increased by some 65 per cent in the past decade, endangering many human values and life itself. Fear is pervasive: People in some countries hide behind locked doors, invest in all kinds of home-protection devices, hire private police and take other measures.

In our country man is free of the fear of crime. The socialist system has eliminated the basic causes of crime characteristic of capitalism. It did away with organized crime and provided conditions to reduce and eventually eradicate criminal acts.

In the past decade the number of criminal cases heard in Soviet courts fell by 28 per cent. The number of criminal cases heard in our courts (per 100,000 of the population) is much smaller than in Britain, Italy, France and other countries, including such crimes as robbery, bodily injury and all types of theft. We are doing a great deal of crime prevention work. Our goal is to eliminate crime completely.

Here are a few of the legislative proposals currently being debated in the public press: that the section of the Soviet Constitution on the fundamental rights and duties of citizens be expanded; that a separate law be enacted for the state protection of maternity; that the Constitution contain clauses stipulating modern housing for every family; that the right of citizens to protect their interests in court procedure be expanded; that society demand more responsibility from its citizens.

All the many proposals of citizens, even though they are covered in some measure by present laws, will be subjected to public discussion and will be carefully considered. Those that win the support of the majority of the population will be duly incorporated in the laws.

I have considered only some of the aspects of socialist democracy. The topic is inexhaustible. I would like to say, in conclusion, that since time immemorial, man's idea of democracy and a just society has revolved around his general well-being, liberty and happiness.

Spinoza, the seventeenth century philosopher, dreamed of the best possible way to extend liberty to citizens. Goethe devoted many years to writing on the creative activities of the free personality. "Being a free man, surrounded only by equals—that is real life, man's natural life," maintained Voltaire. Thomas Jefferson said that the giant concentration of property in the hands of a few brought ruin and impoverishment to the many, undermining the institutions of democracy.

The nineteenth century, which produced a well-rounded scientific theory, turned socialism from a utopia into a science. The twentieth century has shown, by practical proof, that the communist society, which will provide not only enough bread but roses too, is not a visionary dream.

For the first time in history, we have in the Soviet Union a genuinely democratic society, true rule of the people, social justice.

The essence of socialist democracy and of the Soviet way of life is to provide conditions that will guarantee to all citizens a voice in society's affairs, a normal, productive life and a secure and happy future.

"The rapid growth of science and technology has given the eternal problem of man's relationship with nature new importance. Even the first socialists held that the bringing of man and nature closer together would be a characteristic of the future society. That was centuries ago. Having built a new society, we translated into reality many of the things that the predecessors of scientific socialism could only dream of. But nature has not lost for us its tremendous value both as the primary source of material wealth and as an inexhaustible wellspring of health, happiness, love of life and spiritual wealth for everyone. . . . Economical, efficient use of natural resources, concern for the land, the forests and rivers, flora and fauna, and the purity of the air—all this is our vital Communist cause. We must preserve and beautify our land for present and future generations of Soviet people."

From the speech "Fifty Years of Great Achievements of Socialism" by Leonid I. Brezhnev, General Secretary, Central Committee of the Communist Party of the Soviet Union



FOREST PRESERVES NEAR MOSCOW

By Sergei Oshanin
Biologist

MOSCOW and the area around it—Serpukhov, Ryazan, Kalinin, Voronezh, Cherepovets—comprise a dense network of cities and towns. This is an old and well-developed industrial zone, as any map of the region will show. But it is also in the heart of the country, with virgin forests, broad meadows, clear rivers and lakes. These are Moscow's lungs—they supply the city and the suburbs with the air we breathe.

Some of the surrounding areas are closed off as nature preserves and are permanently staffed for research. No houses can be built there, and no hunting, fishing, berrying or mushroom gathering is permitted. Some preserves are closed even to hikers.

There are 86 preserves in the Soviet Union, and seven of them are in the mixed pine and deciduous forests near Moscow.

These preserves have many features in common. They are all situated on the Russian plain. They all have practically the same plant and animal species. The research done is also similar.

The northernmost is the Darwin Preserve on the border of the taiga and mixed forest.

As far back as the 1930s a large reservoir was planned near Moscow to meet the needs of the capital for water.

The dam, near Perebory harbor, was finished in the spring of 1941 and the waters of the Volga flooded a valley along several smaller rivers—the Mologa, Sheksna, Suda and Zvana among them—to create the Rybinsk reservoir. As a result, the topography and climate of the region changed noticeably.

To study the consequences of this far-reaching interference with nature, the Darwin State Preserve was established in 1945.

The preserve occupies an area of more than 385 square miles, with 175 square miles of it water. Practically all the spawning grounds of the man-made Rybinsk Sea are here.

The prevailing forests are pine. They are relatively young, not more than 80 years old, as a rule. Trees more than 100 or 150 years old are rare. The woods are full of berries: cranberry, bog bilberry and cloudberry.

Animal life in the preserve is increasing. There are approximately 40 bears, a good many otters, badgers and raccoons, and some 300 moose.

The preserve swarms with feathered game—about 2,000 wood grouse, 8,000 black grouse, 5,000 willow ptarmigans and 3,000 hazel grouse. The bays are brimful of geese and ducks.

Another preserve near Moscow, the Central Forest, lies southwest of the Darwin Preserve in the watershed of Europe's two biggest rivers, the Volga and the Western Dvina. It is a very hard-to-get-to place, deep in the forest. Here research is done on forest productivity under an international biological program.

This is fir country. Only the glades and burned-out clearings are now overgrown with silver birch and aspen, and the damp spots with alder. Cranberry, bilberry, bog bilberry, cowberry, raspberry, cloudberry, strawberry and stone bramble form a thick carpet in some spots.

The preserve is inhabited by animals that normally populate the mixed forest zone—bear, lynx, wolf, marten, fox, polecat, mink, ermine, weasel, moose, boar, otter, hare and squirrel. Of feathered game, there are about 100 species, including wood grouse, black grouse, hazel grouse, willow ptarmigan, woodcock and curlew.

The Oka Terrace Preserve is 60 miles south of Moscow. This small preserve is unusual. It has 800 of the 1100 plant species registered in Moscow Region. Here you find a typical Northern sphagnum bog overgrown with cranberry, sundew and reindeer lichen and, on its very border, regular Southern steppeland covered with spear grass, sheep's fescue and wild tulip of the plains.

Botanists have long tried to solve the mystery of the virgin Oka meadows and steppes. But they still do not know how typical Southern plants came to grow here. Some researchers say that the steppe grasses here are remnants of the preglacial era, that the glacier did not cover the entire valley of the Oka. Other researchers hypothesize, more romantically, that the seeds of Southern grasses and herbs were brought by horses' hooves when Russian warriors returned home from the wars in the South.

The third hypothesis is the most prosaic and the most probable—that the seeds of Southern plants were brought by the Oka from its upper reaches in the South. The steppes bordering on the river are the mecca of Russian botanists. There is hardly a generation of Moscow biology students that did not do its practical work in these northernmost patches of steppe in Moscow Region.

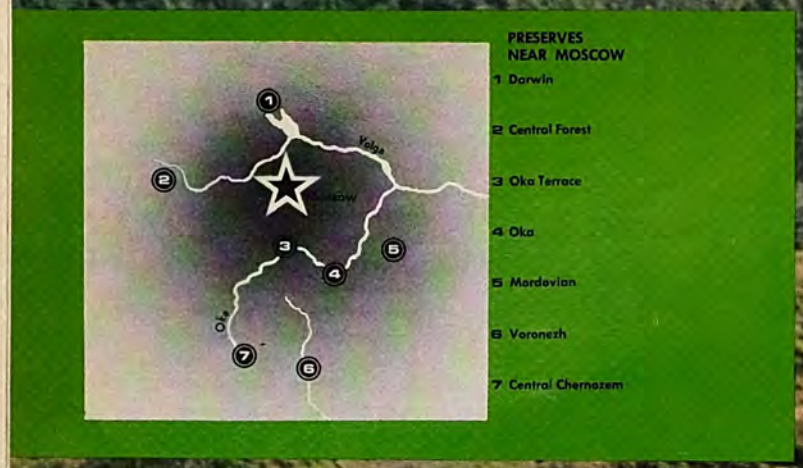
The best known of the central preserves is the Voronezh. Although it is surrounded by steppe, it is nevertheless a forest preserve by reason of the prevailing plants, wildlife and scientific problems.

The Voronezh Preserve is located in the northern part of the huge Usman pine forest. This is a legendary place in the country's history. Here Russians used to hide from the Tatar yoke. Fortified cities were built along the perimeter of the forest, including Ramon, Usman and Peskovatka. They formed part of the defense line that stopped the Tatar invasion.

When Peter I tried to win back for Russia an outlet to the sea, it was here, in the forests of the Voronezh region, that he built a fleet. Sailing down the Voronezh River and the Don, it suddenly appeared in the Sea of Azov. Russia had become a sea power.

During the Great Patriotic War Soviet units




PRESERVES
NEAR MOSCOW
1 Darwin
2 Central Forest
3 Oka Terrace
4 Oka
5 Mordovian
6 Voronezh
7 Central Chernozem
Volga
Moscow
Oka





were formed in the Usman forest for the decisive counteroffensive at the Kursk Bulge.

The story of the Usman pine forest as a preserve is interesting too. Peter I prohibited unwarranted felling of trees as far back as the end of the seventeenth century. The forest warden system was established then.

Today a major part of the preserve is pine woods. Wildlife is practically the same as in the mixed forest zone.

The staffs of the preserves keep a log of when the leaves sprout, the trees blossom, the grasses flower. They also record data on the seed harvests, the icing and thawing of rivers, the arrival of birds in spring and hibernation of the animals in winter. The number of animals is registered. One important study is forest productivity and the possibilities for reforestation.

Single trees are studied too. Examples are the so-called perfect trees—those with the thickest, straightest trunks and the most regular foliage. If the seeds from these trees also produce perfect specimens, the trees are classed as elite. Their seeds are carefully collected for reforestation.

Another unique group is known as unusual trees. Silviculturist Victor Iyevlev, who works at the Voronezh Preserve, found an oak tree with drooping boughs, a pine whose whole trunk is covered with burls and an oak with spoon-shaped leaves. He also found a perfect pine with two vascular bundles in each needle.

Silviculturists have a host of problems, including the very acute one of protecting the forests against insects and other pests. The regulations for protected areas forbid the use of both weed killers and pesticides. Birds that feed on pests are used instead. Thousands of artificial nests are put up for these birds.

All the forest preserves do research on the biology of ants—the scavengers of the forests—and on encouraging the spread of anthills.

In the course of history man has tamed approximately 60 animal species, and the process is continuing. Successful experiments have been done to domesticate the moose in the Pechora-Ilych Preserve. The scientists of the Darwin Preserve have made attempts to breed grouse in captivity: wood grouse, black grouse and willow ptarmigans.

This is by no means a new undertaking. It was tried as far back as 1860 by Russian, Polish, Finnish and Swedish researchers. Most of the attempts proved futile—the birds died of unknown causes.

In this preserve domestication experiments started anew in 1964, when five captured capercaillie hens laid 40 eggs. Eight chicks were hatched. Only open-air cages were used then.

Now the hatchery occupies an area of 48,500 square feet and has heated buildings where the birds are kept in winter. There are also open-air cages with roofs, and ranges with natural meadow growth.

Artificial brooding is also being tried. In this case the young are completely separated from the natural environment in order to guard them from contamination by wild birds. But here feeding is the big difficulty.

Black grouse are the most difficult to domesticate. Wood grouse and willow ptarmigans are easier to handle. Observations have shown that wood grouse adapt well—approximately one out of three is relatively quiet once it is caught. These birds form the breeding stock.

The staff is still experimenting with the domestication of grouse. A monograph is being prepared for publication, generalizing the results of observations over a number of years.

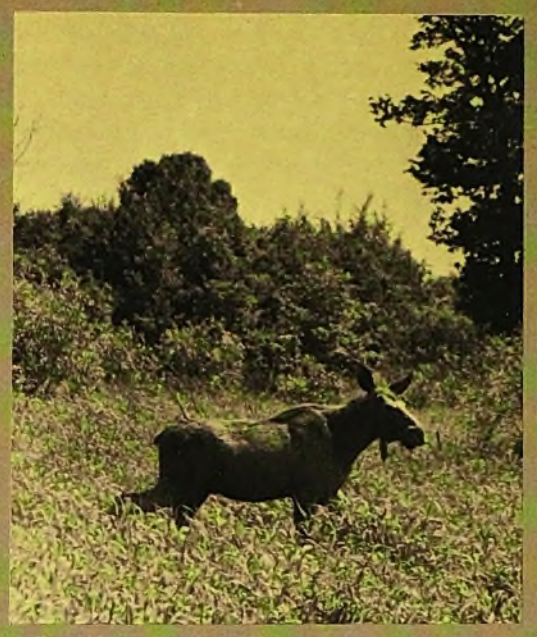
Several preserves are trying to restore the aurochs as a species. By 1927 there were only 48 of these rare mammals in the world. In 1948 four pure-blooded aurochs bulls were brought to the Oka Terrace Preserve, where they were crossbred with bison cows. (The aurochs and bison belong to the same genus.)

The first generation offspring showed both aurochs and bison characteristics. Only the heifer-calves were kept at the preserve; the bull-calves were distributed to zoos. The heifers of the first generation were crossed with pure-blooded aurochs. Again, only the heifer-calves of the second generation were left at the preserve. By the fourth generation, the calves were no different in appearance from their ancestors that once inhabited the Russian forests. Today we can say that the aurochs as a biological species has been restored.

Hoofed animals—moose, deer, boars—have perhaps the most contradictory relations with the forest. In search of acorns and insects the boar digs up the forest floor. A boar will also destroy an anthill to the last ant. Moose and deer eat the tops of young pines or aspens. A young grove of such trees looks as if it had been trimmed by huge shears. The result is a weak or a dead forest.

In the Voronezh Preserve there are about 1,000 head of deer, close to 300 moose and about the same number of boars. Their numbers are increasing annually.

A QUIET HAVEN



The Usman pine forest cannot stand this punishment. To save the forest, deer and moose are caught each year and moved elsewhere.

Formerly nets were used in the roundups. But this was a tiring job for the men and sometimes hurt the animals.

For the last several years a simpler method has been followed. A team can now catch up to 300 deer in a winter season. The animals are harmlessly immobilized with the Komarov bullet. It is a very reliable method, so much so that boxcars are ordered for the deer while they are still roaming the forests.

We watched the deer being caught. A very small bullet packed with chemicals immobilizes the animal in just 15 minutes. Many countries of the world have shown an interest in the bullet, which has certain advantages over its foreign counterparts. For instance, it can be stored for a whole year instead of a few days and can be fired at a range of 400 feet instead of 100-130 feet. The bullet is manufactured by a laboratory of the Voronezh Preserve in several versions, depending on the sex of the animal, its age and temperament. This method has been patented in the United States, England, France and Canada.

Soviet forest preserves are still very young. Many aspects of the work are just beginning. But the number of preserves will grow, and they will remain places where nature can be enjoyed and studied in its virgin state.



READERS FEEDBACK

TRUD gets more than 1,000 letters a day. In a year the number runs to almost half a million. Many of the paper's columns and departments were started in response to requests from readers.



ПРОЛЕТАРИИ ВСЕХ СТРАН, СОЕДИНЯЙТЕСЬ!

Труд

Орган Всесоюзного Центрального Совета Профессиональных Союзов

BY VITALI MALKOV
Managing Editor, *Trud*

LABOR

National Trade Union Paper

TO BEGIN with, some biographical particulars.

The paper's date of birth was February 19, 1921.

Its present circulation is five million copies.

It is reprinted in 39 cities in the Soviet Union.

It maintains editorial offices in 35 of the cities and has its own correspondents in 11 foreign countries—Czechoslovakia, the German Democratic Republic, the United States, France, Britain, the Federal Republic of Germany, Japan, the Arab Republic of Egypt, India, Algeria and Finland.

Trud is the organ of the All-Union Central Council of Trade Unions, the Soviet Union's principal trade union newspaper.

Our paper began publication in the early, difficult years of the young Soviet state. Its first issue was read by Petrograd metalworkers who had made the October Revolution, by members of agricultural communes, who had taken up the struggle against rural backwardness, by rank-and-file intellectuals who had sided with the people's power.

Trud declared itself a paper of and for the working class. Here is an excerpt from the editorial in the first issue.

"The aim of the All-Russia Central Council of Trade Unions is to create a newspaper which will be the workers' own voice; which will arouse the interest

of the bulk of the proletariat, its broadest masses, in the work of the trade unions; which will stimulate the production activities of trade union members and will support and expand these activities from day to day.

"*Trud* should and will become the newspaper of the working masses, a newspaper for education, involvement and instruction. In its pages the worker will find the answers to all questions that relate to his everyday life, his part in the economy, his activities in and outside of his place of work. It will serve him as a school of communism and creative labor."

In the half-century since, we can say that *Trud* has been just that kind of paper. Here workers discuss proposed laws and the new ideas of individual enterprises and workers, the problems that mechanization and automation bring, efficient management, working conditions and the current economic reform.

The real master of production in the Soviet Union is the workingman. Which is why he discussed with such proprietary interest the draft directives of the Twenty-fourth CPSU Congress for the Ninth Five-Year Plan. Every reader was able to offer suggestions and criticisms, and a great many did. Hundreds of practical, serious proposals were carried by the paper and given consideration by the congress.

Prior to the congress sessions, *Trud* arranged a countrywide public review of the use of production reserves. Extensive coverage was given to Zaporozhstal's metalworkers, Leningrad's footwear workers and Norilsk's copper smelters for their initiative in effecting production economies and improving quality.

The trade unions are supervising construction of new facilities for the textile, food, timber, paper, woodworking, and light industries, as well as for some machine-building plants, those that make consumer goods. Why that concentration? Because the current five-year plan devotes so much attention to those particular branches of industry.

Trud makes its pages available to workers and entire collectives for discussion of major national economic problems. It feels that every worker should not only regard himself as a master of production but should have the opportunity to comment publicly on matters that affect him. It follows that, as the paper's most important reader, he also influences its contents, its subject matter, even the kind of material it carries.

For example, *Trud* recently came out with a sharply critical piece entitled "A Secondary Matter." It pointed out that new production capacities were in operation at gas fields in the Komi ASSR without the O.K. of the trade union technical inspector. Further, it went on to say, the country's gas-industry executives were not sufficiently concerned with labor protection and safety engineering and were not paying enough attention to the construction of housing and cultural facilities in those distant areas.

After the article appeared, a team of investigators, headed by Alexei Kortunov, Minister of the Gas Industry of the USSR, made a trip to the city of Vuktyl for an on-the-spot check. Then the article was discussed by the Central Committee of the Oil and Chemical Workers Union (the union membership includes extraction workers), where steps were worked out to remedy the situation and punish those responsible. Today the settlements of gas workers have new housing, kindergartens and other such facilities; production units go into operation only after careful inspection; and safety-engineering rules are strictly observed.

Trud gets more than 1,000 letters a day. In a year the number runs to almost half a million. Many of the paper's columns and departments were started in response to requests from readers.

Every Tuesday the second page is given over to mail. Readers' letters are carried under such headings as "About My Comrade," "Brief Notifications" and "Lines from Letters." "Brief Notifications" are items critical of all kinds of things. An editorial countercolumn entitled "Here Is Your Answer" is satirical comment based on letters from readers that criticize executives and officials who are not doing their jobs.

Enterprises, agencies and individuals criticized, either in editorials or readers' letters, are required to make their explanations in the paper and to take remedial action.

However, there are problems which cannot be solved by administrative action, the moral and ethical questions.

For instance, not long ago the paper published a letter by a certain Boris Kotlyarevsky, a grinder in an Odessa plant. He wrote that the city's trade organizations put up with negligent and unscrupulous employees. Subsequent issues of the paper carried other letters citing similar unethical practices.

We believe, when we publish such letters, that the prestige and authority of our paper will move not only those directly concerned to lend an ear to our moral judgments but also a much larger circle of readers.

Popular with everyone is a "Labor Consultation" column dealing with legal matters. The editorial board includes a group of lawyers who explain Soviet labor legislation, answer questions on pensions, maternity benefits, vacations, temporary disability payments, and the like. The column appears twice a week.

Our paper not long ago discussed a draft of the fundamental legislation on public health and labor, subsequently adopted by the USSR Supreme Soviet. Vladimir Terebilov, Minister of Justice of the USSR, clarified and interpreted this bill at the request of our readers.

Trud runs a weekly page entitled "Workers' Life," with material on advanced production techniques and developments in the socialist emulation movement.

A once-a-month page entitled "Interlocutor" debates questions of ethics. One recent page carried an article by Academician Nikolai Amosov, a surgeon and Lenin Prize winner, on the influence of scientific and technological progress on man's mentality and health. Here readers also discuss family problems, argue about art, social values and a host of related matters.

The paper carries a regular column entitled "Medicine and Life," in which the reader is kept informed of the latest findings in occupational and cardiovascular diseases and measures that help to prevent them.

Not a single letter to *Trud,* no matter what it deals with, goes unanswered. Something, by the way, which holds for every Soviet newspaper. This is not merely tradition; it is an obligation required by law.

Every letter writer gets a written answer from the paper. If the letter asks for help, the editorial board writes not only to its author but to the organization or individual with whom the final decision lies and follows it through. When a reader calls attention to deficiencies or injustices, the letter frequently sparks a special article.

Not long ago, for instance, a certain Irina Sukhonina, a worker at the Krasnaya Talka factory in Ivanovo, wrote us a letter in which she complained of the negligence and carelessness of the doctor at her enterprise. The paper came out with an editorial headed "A Doctor's Noble Duty," in which Sukhonina's letter was quoted at length and the necessary conclusions drawn.

Very recently a disturbing letter came in from a miner by the name of Nikolai Tararin from Krasnodon. He had left his job at one mine and wanted to be taken on at another. But the management of the latter, giving no reason, refused to hire him. This was definitely a violation of the labor law. The paper interceded, and the man got his job.

Many of the other columns and departments were started at readers' requests, among them "Trade Union Life," in which trade union functionaries and the paper's correspondents exchange experience, and "Home Shop," where readers learn to knit a sweater, make minor TV repairs and do a good many other things.

A final word. *Trud,* like other Soviet newspapers, is largely the creation of the readers themselves, who constitute a large body of worker-correspondents. For half a century now, it has championed the interests of the workingman.

SOME 41 MILLION PEOPLE in the Soviet Union now draw old age pensions. There is no deduction from the worker's pay envelope for social security, it is covered entirely by government and collective farm funds.

Men are eligible for retirement at 60, women at 55. People who work under intense heat, underground, or at other hazardous jobs are entitled to retire at an earlier age. Pensions are paid to the disabled and to families without a breadwinner.

The trade unions have a large voice in the allotment of pensions, since they control the social insurance funds.

But it is not the pension alone that determines the living standard of the old and the disabled. Medical care, education and many other welfare benefits are free to all citizens, including pensioners.

Although his financial security is taken care of, the pensioner often has psychological problems. He may find it hard to adjust to idleness, may miss his colleagues and the regular rhythm of a working life. This is especially true of retirees who are still in excellent health.

Pensioners are encouraged to go on working either at their old jobs, or some other if they prefer. Many categories of industrial and office workers are entitled to full pay along with full pension. Since there is no unemployment in the country, and the progressive development of industry, construction and services keeps increasing the demand for manpower, the employment of pensioners does not take other people's jobs.

Meet one of our working pensioners: Alexei Stepanov is 59, married, the father of three, and a grandfather to boot. All his life he was a locomotive engineer at the Ramenskoye depot near Moscow. He retired four years ago, at the age of 55, as do all Soviet railroaders. But after going through the formalities and hanging around the house on pension for a while, he applied for his old job at the depot. Management was glad to have him back; a medical examination showed that he was in fine shape for a man his age.

At Alexei's invitation, we climb up into his cab in the electric locomotive. In half an hour telephone poles and houses, woodlands and small railroad stations, Moscow Region's fields and rivers will begin flashing by. In the meantime Alexei checks the instruments and brakes.

He doesn't look like a man close to 60. Getting back to work, he says, makes him feel even younger. Easy and precise



PENSION PLUS

By Alexander Najarov
Photographs by Igor Zotin



Like many other people in the Soviet Union who have retired on pension, locomotive driver Alexei Stepanov went back to work after a couple of months of sitting around. His pension was enough to get along on, but he found that he could take only so much leisure. Stepanov missed the daily rhythm, the people he worked with and even the passengers. He also missed his organizational activities. Below: Stepanov visits the local trade union committee office. The railroad was glad to have him back—experienced engineers are much in demand, and pensioners are encouraged to stay on the job.



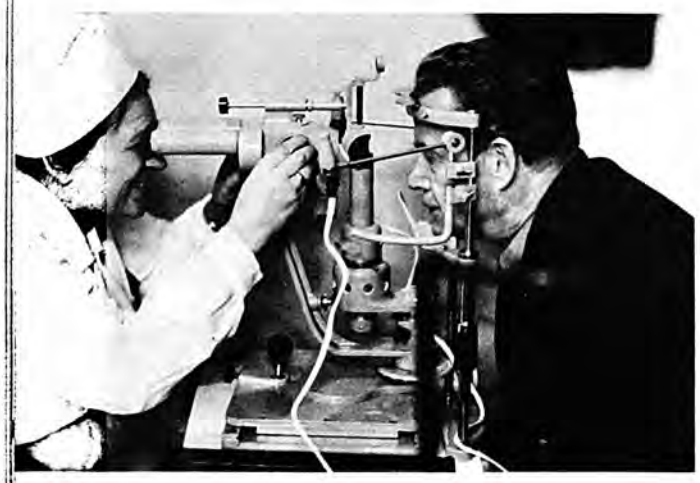


movements, a smile, clear speech and an open handsome face. Twenty pupils of his are presently driving trains on all the country's railroads. Thousands of Moscow railroaders know him as a Communist Party activist: He is a member of the party city committee.

Three consecutive generations of Stepanovs have worked on the railroad. Alexei's father, however, did not drive an engine—he was a painter in the same depot. Daughter Tatyana is an engineer at the Ministry of Railways.

Alexei has two other children, a daughter and a son. Yevgeni became interested in radioelectronics and entered an institute last year, and Yelena is an aircraft engineer. Alexei and his wife Anna (also an old railroader and now on pension) have a grandson, eight-year-old Andrei. Alexei shows us a snapshot of the youngster.

Pension Plus



Stepanov has the use of the depot's medical services, all free, of course.



With his grandson, he shifts from locomotive to park merry-go-round.

The train starts smoothly. This top-notch engineer drives with care but doesn't waste any time. His 35-year record is unblemished.

The train passes the station switches, the clackety-clack of the wheels becomes more rhythmic. We begin picking up speed. Alexei passes the controls over to his assistant and lights a cigarette.

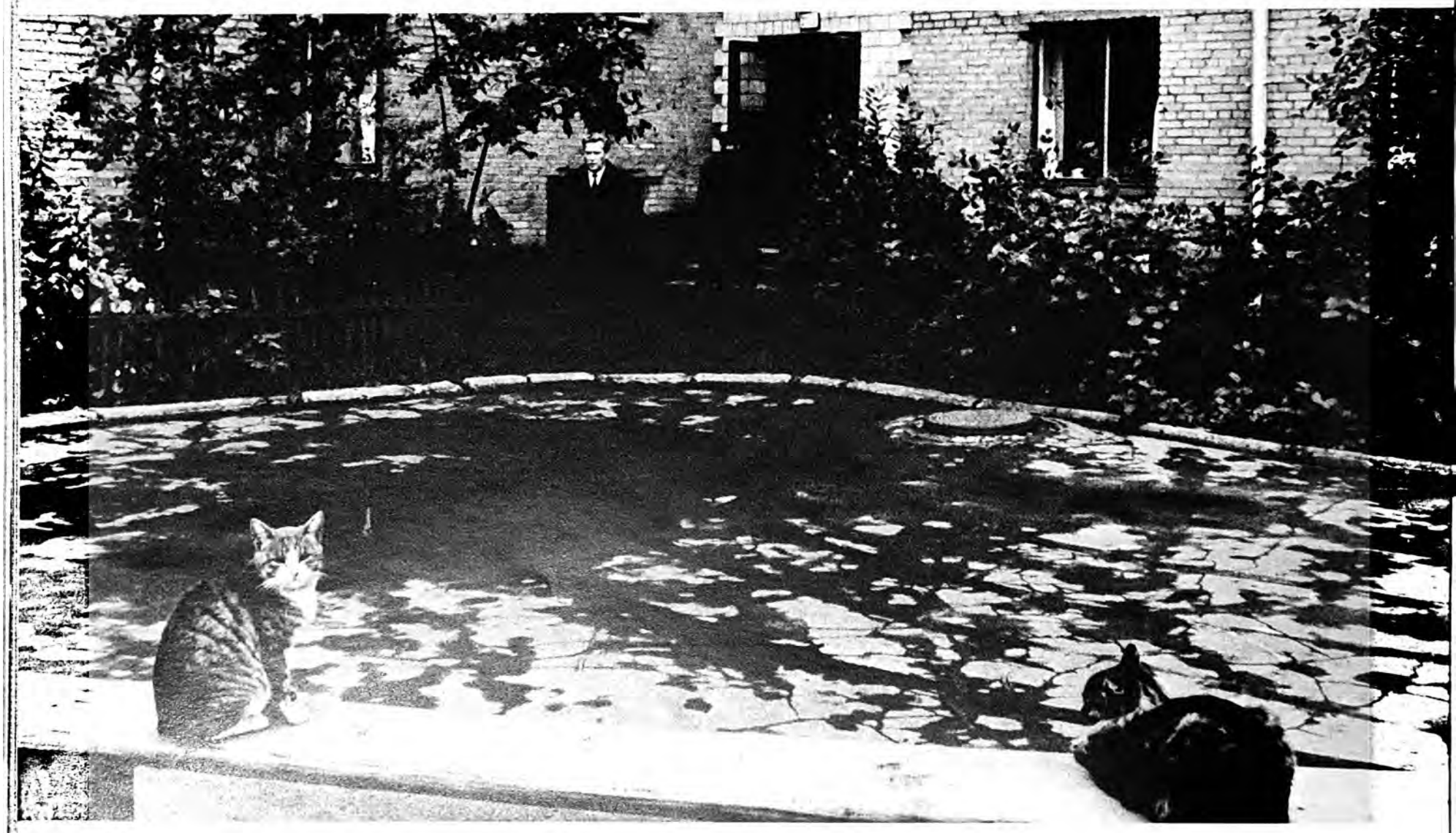
"Wouldn't you like to take it easy, go fishing, mushroom gathering?"

"Thanks. I tried it," Stepanov says with a smile. "I had three months of it and I was bored stiff. I like my job and the people I've worked with for so many years.

"Money isn't a problem. Anna and I live with our younger son and daughter. We pool my pension of 120 rubles a month, my wife's, and Yevgeni's and Tatyana's earnings. Rent and utilities run to about 10 rubles a month. Approximately 150 rubles goes for food, and the rest we spend on clothing and entertainment—movies, theater, concerts. There are really no other major expenses. Vacation accommodations at health resorts or rest homes don't cost a pensioner anything. So it wasn't money that made me decide to go back to work. Though my present pay is a sizable contribution to the family budget, and it's appreciated."

"You sound as if you like being a working pensioner."

"I certainly do."



He's not ready for the courtyard bench and memories, says Stepanov.

In order to ensure to citizens freedom of conscience, the church in the USSR is separated from the state, and the school from the church. Freedom of religious worship and freedom of antireligious propaganda is recognized for all citizens.

Constitution of the USSR. Article 124.

FREEDOM OF WORSHIP

Readers often ask us about freedom of worship in the USSR. On this question correspondent Ariadna Nikolenko interviews Alexei Barmenkov, vice chairman of the Council for Religious Affairs under the USSR Council of Ministers.



Patriarch Pimen

Below: Patriarch Piman is enthroned as the new head of the Orthodox Church at Boygoyavlensky Cathedral in Moscow. Left: He leads his first public service as the Patriarch.



QUESTION: Both the decree signed by Lenin and the Soviet Constitution separate the church from the state. What does this "freedom of religious worship" mean?

ANSWER: The Soviet Union applies in practice the profoundly democratic idea of freedom of conscience. The essence of the official policy is briefly as follows: The church is separated from the state, the state does not interfere in the internal affairs of the church. Each Soviet citizen is free to observe any religion or none at all.

The school in the Soviet Union is separated from the church. The teaching of religious dogma in all secondary and higher schools is not permitted. Citizens can instruct and be instructed in religion privately.

Soviet law guarantees believers the right to satisfy their religious needs together in temples, churches, synagogues and mosques. The state has, without cost, transferred to religious congregations churches, ritual articles, church literature and other property. Performance of religious rites and preaching are not subject to censorship if they are purely religious. The executive bodies of the religious congregations in charge of their property and finances are elected by the believers themselves from their own members.

QUESTION: Does not separation of church from state in effect bar believers from political activity?

ANSWER: Religion in the USSR is a private affair. No citizen is deprived of his civil rights on the ground of profession or nonprofession of any religious faith. All Soviet citizens, irrespective of their nationality, sex, religious beliefs and social origin, have equal rights. Believers may make their religious beliefs public or keep them secret, as they choose. There is no statement of a Soviet citizen's religious or nonreligious belief or affiliation in any official record. Soviet citizens, believers and nonbelievers, all work for the good of Soviet society. No citizen may, pleading religious views, avoid his civic obligations or observance of the laws.

QUESTION: By what practical measures, other than laws, is freedom of conscience in the USSR guaranteed?

ANSWER: Under Soviet law a citizen cannot be denied his rights because he is a believer. It is a crime, also, to persecute anyone for his religious beliefs. It is even illegal to insult a citizen because of his religious convictions. Under the Constitution, believers are free to observe their religious rites, to gather for services in Orthodox or Roman Catholic churches, mosques and synagogues.

Religious organizations have the right to publish religious literature, to make the articles required for their religious observances, to train clergymen and theologians, to convene congresses and conferences of religious leaders and to maintain contact with their coreligionists in foreign countries.

Soviet religious leaders took part in the conference of progressive Buddhists held in Ulan-Bator in June 1970, in the world religious conference in Japan and in the recent Fourth All-Christian Conference in Prague. In accordance with church regulations, in the past two years alone, congresses of Lutherans, Old-Believers, Moslems and Evangelical Christian Baptists have been held in the Soviet Union. A conference of Moslem leaders of the Soviet Union was convened in the Soviet Union in October 1970 around the slogan: "For the Unity and Cooperation of Moslems in the Struggle for Peace."

Upon the death of Patriarch Alexei, the General Council of the Russian Orthodox Church met in June 1971 to elect Metropolitan Pimen his successor.

In March 1971 there was a conference of churchmen and representatives of the Jewish religious societies of the USSR.

The following books have been published recently to meet the needs of believers: Bibles for the Evangelical Christian Baptists and for the Orthodox Church, a Catholic prayer book, a hymnal for Evangelical Christian Baptists, a Koran for Moslems and a prayer book for the followers of Judaism. Church calendars for the Russian Orthodox Church, the Old-Believers Church, Lutherans, Seventh-Day Adventists, Jews, Moslems and Buddhists are issued annually. The religious centers of the Russian Orthodox Church, of the Armenian and Moslem religions and of the Evangelical Christian Baptists issue their monthlies in a mass edition.

QUESTION: Is preference given in the Soviet Union to any religion?

ANSWER: Soviet law prohibits categorizing citizens according to their beliefs. In czarist Russia exclusive privileges and special rights were given to the Orthodox Church. It owned millions of acres of the best land, engaged in trade and received enormous annual subsidies from the government. In 1912 alone, the Orthodox Church received 46 million gold rubles as a gift from the czarist treasury, considerably more than was allocated for public education. The Orthodox Church persecuted people of other religions and atheists. That was why the principle of equality of all religions was so welcomed by the non-Orthodox. We believe that the very existence of an official religion is discriminatory and infringes freedom of conscience.

QUESTION: Does the church pay taxes to the state? Does the state give any material assistance to religious congregations?

ANSWER: All expenses of a church are covered by the voluntary donations of its parishioners. And since living standards generally keep rising, these voluntary donations add up to quite impressive sums. The church pays no taxes to the state. The church buildings, prayer houses, religious articles and rare church books of artistic or historical value have been given to the various congregations for their use. If the church building and its rare icons, paintings or frescoes are of architectural or artistic value, they are preserved by the state. For the maintenance of church buildings and religious articles, as well as for the production of such articles, the local civil authorities supply the religious societies with the necessary building materials, wax, incense, gold and precious stones. On order from religious centers, church literature is printed at state printing houses and is distributed to believers.

"How do you visualize communism?"

THE FUTU



Konstantin Ostroukh, 35, miner, Byelorussia

I was a deputy to the last two sessions of the City Soviet. As I see it, by the beginning of the next century the city population will reach 100,000—it's now 45,000.

I also expect changes in my working conditions. I work underground, and while it's not the usual thing for miners to complain, still, it's not easy. But science and technology are making real changes—ten, or even five years ago it was much harder. In the future an automated system will replace miners, and it may be that people will not work underground at all.

Please don't get the idea that I'm just sitting back waiting for good things to come my way. I'm well aware that building communism, the creation of abundance, is our job, mine also. After all, we workers are the main productive force of society.

The working class has always been known for its awareness and involvement. I think in the future these characteristics will become even more pronounced. Nowadays a man who just stands at his machine and limits himself to his own personal interests—even though he may work faster and better than others—doesn't earn real respect.This is one more piece of evidence that we think and act like Communists.

And now I'll try to visualize what is in store for my family. There are four of us: my wife, who's an obstetrician, two sons and myself. When communism arrives, I probably will have been retired a long time. But I believe that medicine will continue to progress and keep people active longer, and I expect to go on working to keep myself busy. Not necessarily in a mine; I'll probably be teaching my trade to young people.

What about my sons? It's too early to tell; it depends on their ability and how hard they are willing to work. And, of course, the very atmosphere of our changing human relations will help them. I would like to believe that our children will be spared the unpleasantness of callous, coarse and indifferent people.



Dmitri Spivak, 17, student, Leningrad

My friends and I often wonder what our life will be like 20 to 40 years from now. Most of us teenagers believe that we should choose a profession because it interests us—not for what it offers in money.

First of all, security isn't the only thing, by far. Also, if you look ahead, many problems of today—especially those concerning money—will disappear as we draw nearer to a communist society.

The maximum development of the individual is already becoming the main concern. Everyone has a gift for something though it isn't always easily discerned. I believe this problem of work will eventually be solved and everyone will have an occupation that he likes and is good at.

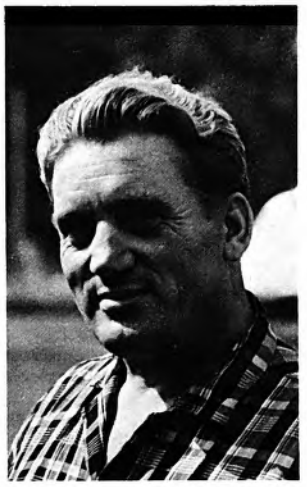
Of course, communism will not free people from personal setbacks and crises. Besides, that kind of comfortable future would make life lots less interesting. We seek the harmonious development of the individual, not idyls.

Relations between people will unquestionably change; they will rise to a higher level. Self-seeking will pass into oblivion.

I'm afraid that I've stuck to theory so far. What about practical ambitions? I've already mentioned that I'm on the threshold of making my own choice.

My father is a doctor. My mother was a ballet dancer at one time—she's now in charge of a children's choreography group at the Leningrad Pioneer Palace. They think I ought to follow in my father's footsteps. I don't want to disappoint them, but I've decided differently. I'm going to enroll in the local university, for two reasons: First, I'm very interested in economics, and, secondly, our country needs skilled workers in this area so a wide field lies ahead of me.

I think that "I want" and "I must" combine nicely in my choice. I must be useful, and I really want to be useful.



Yuri Kalko, 40, bus driver, Minsk

Naturally, because I'm a driver, I'm most interested in vehicles and roads.

Let's suppose that in the future everyone owns a car. Will that make us happy? That's something worth thinking about. In the first place, an abundance of cars may drastically increase the number of accidents. Secondly, there's the problem of air pollution. And, in addition, many of us will get so unused to walking that we'll invite a host of diseases.

Without a planned economy—the goal is maximum concern for the welfare of man—we just won't be able to cope with cars. That's why I think our society will find the solution to this problem also.

If man can move into space, he can certainly invent a car that won't pollute the air and build roads where traffic jams and collisions will be impossible. I also hope that communism will produce drivers who don't all see themselves as racing car operators. Of course, I'm only kidding, but self-discipline is one of the characteristics of a real citizen.

As for becoming so crazy about a car that you forget how to walk—here, too, I believe good sense will prevail.

As for public transportation, I don't believe it will disappear, no matter how many cars there are. Why? Because no matter how technically perfect a car is, driving still takes attention and is a nervous strain, whatever you say. With the subway or buses, you get on and have nothing to worry about. And we don't know what technological sophistication may be achieved by public transport. Suppose it's so convenient that you don't even want a car of your own? Anyway, I think that the vogue for cars will die out with time. I think that people of the communist society won't have the same feeling of personal ownership. In fact, they may find too many personal belongings a nuisance.



Sergei Kirkhoglani, 23, student, Leningrad

Discussing this question with my friends or taking part in student debates, I listen to many fascinating descriptions of the future. Some talk about new, inexhaustible power sources, others, of automated appliances, still others, of interplanetary travel. But almost everyone talks of man since communism's aim is to make man happy, to create the conditions in which he can fully develop his abilities and potential.

That, primarily, is what we're all looking forward to. Every successive five-year period brings us closer to the social situation that will allow everyone full rein to develop his creative potential.

Will my generation be able to take on the important role it is to play in this process? I think it will.

But if they are to prepare us, the universities and institutes must reorganize their programs. This is an undertaking not only for the teachers but for the students as well.

My fellow students are active and energetic, and many of them are involved in various aspects of student self-government. I'm chairman of the public committee on admissions, founded on the initiative of the university Young Communist League. To tell the whole story of this body would take a whole article, but its purpose is to help young people from the countryside and industrial plants — especially those out of school for a long time—to enroll at the university.

This example is just one of many, but it reflects a general state of affairs, a general tendency. Students are learning to manage the system of higher education. Perhaps universities and institutes will eventually be run by the students themselves.

The social and civic activity of the student population is also a valuable preparation for their later participation in the social process.



Rafail Ganelin , 45, historian, Leningrad

Communism as a concept is nothing new. It was old long before Karl Marx: The dream of social justice has always been inherent in the makeup of man. It is an indispensable element in the history of the social thought of all peoples. What Marx did was to provide the scientific foundation for their utopian dreams. Indeed, the very fact that Marxist-Leninist teaching assimilated the cherished dreams of mankind makes it so strong and so popular.

I would like to make the point that I see the future from a historian's perspective and that I look forward to the fulfillment of all of mankind's questing, social and spiritual. My belief that this is possible is based on the lessons of the past, a comparatively recent past—on the analysis of the giant progress our country has made. In the early part of this century social inequality was the general rule in all countries, without exception. But in czarist Russia the gap between those at the top and those at the bottom was much wider than in the advanced countries of Europe and America. And isn't it a miracle of history that the younger generation in the Soviet Union is hard put to even imagine the political realities of old Russia? If we were able to develop at such a rate, there is no reason to doubt that we can continue to maintain the tempo until we reach our ultimate goal.

When I try to picture the future in some concrete way, I see it, of course, as more complicated than did the great utopians. Of course there will continue to be problems and contradictions —progress is impossible without them.

We see how our socialist state, born as a dictatorship of the proletariat, became a state of the entire people. In time, that state will wither away completely, handing over its functions to bodies of communist self-government. And these, in their turn, will develop to meet the actual needs of our future.

RE WE SEE

Soviet citizens answer a questionnaire



Gennadi Chimansky, 25, engineer, Minsk

I graduated recently from an institute so I've only been working at my factory for a little over a year, but I'm already used to it here. I've seen how a typical large plant functions, and I think I can visualize its future.

As I see it, the number of workers at our factory, as in other factories in the country, will go down with time because of automation. There will be a redistribution of manpower, people will acquire new skills. Automation will make my work unnecessary too. And I won't be offended with the computer when it takes over the spadework part of my job. It will give me more time for experimenting, for creative work.

What I expect of communism, in short, is rational automation. I'm not making an idol of technology. Machines, even the most perfect and "intelligent," can't replace men. The people of the future will only strengthen their power over machines.

In connection with this general subject of automation and technical progress, there was a discussion in the newspapers recently on whether our emotions are becoming impoverished in this age of omnipotent technology. Some of those taking part, young engineers and scientists, said that now, in this age of logical thinking, it's not so terrible if the emotional side of life recedes into the background. I think these people are badly mistaken. The future will only prove them wrong: An all-round man can't become just a machine.

There is another, purely material aspect of the future. Of course, the creation of abundance and the principle of communist distribution—"To each according to his needs"—are important. All the same, we're not building communism just to wallow in this abundance but to free man of material worries and concerns so that he will be able to devote himself fully to his spiritual interests.



Vladimir Lisovsky, 42, sociologist, Leningrad

Our young people, like their peers abroad, enjoy giving play to their imaginations and arguing about what the future has in store for them. In the last few years I've participated in a good number of debates on subjects like "The Ideal and Reality," "The Individual and the Society of the Future" and "What Will Mankind's Future Be Like?" The meetings were arranged by young people at clubs, factory rooming houses, institutes and universities.

I noticed that questions relating to the new man were the most popular, because the main goal of communist construction and communist education is the molding of the individual.

Many of the speakers —and I support their point of view—associate the image of the man of the future with great intellectual power and broad perspective. For one thing, the cultural level of the masses of people has much to do with their political activity. An uneducated person is, as a rule, divorced from political life.

Young people frequently discuss the so-called moral ideal, which is associated with the communist future. Some believe that society's moral oneness, based on the high moral qualities of its individuals, will foster a kind of dull monotony. That is an unrealistic conclusion, because a morally and spiritually rich person develops both sophistication and individuality.

In one of our sociological questionnaires we included the query: "What do you personally need to be happy?" Some people mentioned one factor, others several. Of 2,035 persons polled, 1,558, or 76.5 per cent, said: "To have an absorbing job." There were also such replies as: "To have the regard of people around me," 58 per cent; "To help other people," 48.8 per cent. So you see, work is becoming a vital necessity for the youth, as evidenced by their striving to affirm themselves and be useful.

These characteristics of the new generation give us confidence that the communist future is not far away.



Maria Gladkaya, 40, deputy, USSR Supreme Soviet, Minsk Region

As a dairy farm manager, I associate the communist future primarily with the future of the collective farms and the countryside. Farmers, probably better than anyone else, know what painstaking labor means and how anxiously you watch for the returns from day to day. Though it is still a long way to the harvest, the sprouts give you an idea of what the crop will be like. The same goes for the society of the future. Its sprouts are visible already, proving the truth of the statement in the Party Program that the collective farm is a school of communism for the peasantry.

Many of the changes that have taken place in the village link yesterday and today with tomorrow. Within my own memory modern machinery, comfort and culture were all brought to the poor Byelorussian village. The people have also changed. Before, the thoughts and cares of a peasant, even if he was literate, centered on his own plot of land. Now he takes part in a socialist economy, and his awareness has risen to a totally new level. For instance, I was elected a deputy to the USSR Supreme Soviet. This is nothing unusual. On our collective farm it's hard to find anyone who in one way or another isn't active in running the farm, the village, the district and the region. This very feature of our life—an ordinary man in the role of statesman—will be developed still more under communism.

We still have two very important problems to solve. The first is to produce an abundance of farm products and raw materials. The second is to do away completely with the difference between town and countryside. Here I am talking about such things as the mechanization of labor, and about community and cultural services. I believe this will all be achieved in my own lifetime. In recent years our agriculture has scored very specific gains. Still greater progress is expected via the present five-year plan. In short, everything depends on us.



Nina Suslova, 43, housewife, Leningrad

When talk switches to the future, people inevitably recall the past. I'm one of the Leningraders who survived the nazi siege. Memories of those years are terrifying: a tiny piece of bread for two, for my mother and me; the burial of my brother, who died of starvation evacuation across the ice of Lake Ladoga, breaking up under the impact of nazi bombs; and, finally, the news of my father's death on the battlefield.

Life gradually returned to normal after the war. I went back to Leningrad and got work in a factory as a milling machine operator, at the same time finishing an evening school for working youth. I married a young soldier, who had just been demobilized and dreamed of becoming a writer. He was accepted at the university and is now the author of a dozen books for children. He's really been very lucky.

I can't complain about my own life after marriage, either. Our family gets along very well. My older daughter and son are college students, and my younger daughter is in grade school.

Still, the traces of war don't disappear. My older daughter was sickly as a child, probably because her mother was emaciated in the siege. I wanted to go on with my studies, but those early postwar years weren't easy. I sacrified my own interests for the sake of my husband. I'm lucky to be alive; hundreds of thousands of other Leningraders died in that 900-day ordeal. And not a single family, even the happiest, can ever forget this.

So, it's only natural that when I think of my future, my first thought and hope is that our children will never have to go through the same horrible experience of war my husband and I did.

I'm deeply convinced that communism is the only system fully guaranteeing us peace—a peaceful world and healthy children.



Georgi Denisovsky, 42, physician, Minsk

As a physician, I expect medicine to progress considerably. The best general index of this progress is the average life span. At present the figure for the Soviet Union is 73 years. By the beginning of the twenty-first century it will be 100, which means that most people born after the year 2000 will live to the beginning of the twenty-second century.

Such progress depends not on medical science alone, but on the proper social climate. What I have in mind is communist society as a whole, all of its elements. And, primarily, the health service. Its basic principles—free medical aid and availability of treatment for all—will remain the same, but it will function with maximum efficiency.

The keynote in the development of our medicine will still be prevention. It's much easier to prevent a disease than to cure it. Extension of the hospital network, which is proceeding at a rapid rate today, will permit us to hospitalize promptly even healthy people who have a predisposition to some illness. This will be a long step toward increasing longevity. Up to now the average life span has increased largely because child mortality has dropped, but that statistic is rapidly approaching zero.

Of course, we must not forget that other factors, apart from the health services and medical progress, are involved in longevity. First, occupational diseases are being eliminated. Secondly, living conditions—food, housing and so on—are improving. Thirdly, ecological problems are on the way to being solved as we improve the relationships between civilization and the environment.

And, finally, I'd like to believe that in the communist society man will return to nature. What I mean is that he'll remember the importance of physical development, of the physical activity his cardiovascular system requires. I wouldn't like to see the man of the future with a brain that's oversized and a body that's underdeveloped because life has become too comfortable.

1. Where does profit go in the USSR?
2. What do workers do with it?
3. Can workers invest it to make more profit?
4. Can they will it to their heirs?

PROFIT IN THE USSR

By Yevgeni Bolotin
Economics Commentator for the newspaper **Izvestia**

TO ANSWER these questions, we must touch briefly on the economic foundations of our society.

The difference between a socialist and a capitalist society is that the basic means of production are the property of the whole society under socialism; they are not owned privately by an individual or group of individuals. Cooperative ownership under socialism requires a special discussion, and we are purposely omitting it in this article. The socialist and capitalist systems function by different economic principles.

Surplus value is the operating principle of capitalism, with the surplus products and the profit being appropriated by individuals or groups. An employer is interested in production only as a source of profit. He tries to produce his item cheaper and sell it for less than his competitors. He is motivated by commercial self-interest.

The operating principle of socialism is basically different—it is "securing for every member of society, by means of socialized production, an existence not only fully sufficient materially, and becoming day by day more full, but an existence guaranteeing to all the free development and exercise of their physical and mental faculties."*

This basic difference between the primary economic principles of capitalism and socialism does not mean that under socialism profit is no longer an economic category. So long as commodity–money relations still operate, and they do under socialism, profit is a factor. A society will develop normally only if its productive forces are capable of extended reproduction, improving its standard of living and meeting the growing needs of its members. Back in 1921 Lenin insisted that state-owned enterprises operate without loss, that they bring in a profit.

The way that profit is made is quite another matter. Soviet power exercised by the working people themselves in their own interests will not permit profit to be made through speed-up or price-rigging. The only permissible methods of increasing profits are the application of advanced technology, automation and the rational organization of labor.

Since the Soviet economy is centrally planned, profit is also planned. Of course, the overfulfillment of plan targets, including the profit target, is encouraged.

Until January 1966 almost all of industry's profit went to the state to be centrally distributed for all kinds of social needs. The economic reform that began in 1966 changed this. Now part of the factory's profit stays right there and goes into three funds: one for bonuses for workers, another for social and cultural projects and housing construction, and the third for production expansion. This procedure has made both worker and management more interested in improving the factory's performance and profitability.

The State Budget has not suffered by the reform. Quite the contrary, revenues have gone up. This has made possible considerable increases over the past five years in central allocations for more industrial construction and expansion, city building, old age and disability pensions, medical services, education and many other such purposes.

The money for free social services is called the public consumption fund. In 1970 about 64 billion rubles out of the total budget expenditure of 144.5 billion were spent for these purposes. Taking shape in this form of collective consumption are the beginnings of the communist distribution of society's wealth not according to ability, but according to needs. Thanks to the stable advance of the Soviet economy, both personal income and the public consumption fund are steadily increasing year by year.

That is where industry's profits go in the Soviet Union.

What do Soviet workers do with profit? What our reader was probably referring to is the part of profit that is distributed to workers in the shape of bonuses. We can answer this briefly: It goes to meet the needs of the worker and his family.

In a society where private ownership of the means of production is prohibited by law, none of its members, including workers, may invest money in production. For personal use one may buy a house, a car, a refrigerator, a work of art or, say, jewelry, deposit money in a state savings bank or buy state bonds. But profit distributed in payment for work may not be used to make more profit.

This also answers the last question. Movable and stationary property, cash savings and valuables may be willed in the Soviet Union, but not sources of profit.

Our answer would not be complete if we left out one important aspect of life in socialist society: workers' participation in distributing the national income. From the highest body of state power—the USSR Supreme Soviet, which approves national economic development plans and budgets—down to the factory trade union, which has decisive powers in distributing the incentive funds, at all levels of national income distribution, representatives of the Soviet working class have a say. The working class is the leading force of Soviet society. Together with the collective farmers and the intelligentsia, it is the owner of all the country's wealth.

*Friederich Engels, *Anti-Duhring* (Moscow: Foreign Languages Publishing House, 1959), p. 390.

CONTEMPORARY AMERICAN LITERATURE IN THE USSR

BY BORIS GILENSON

Literary Critic

Candidate of Science (Philology)

STENDHAL once called the novel a mirror which is carried along the great road of life.

The Soviet reader sees present-day America through the mirror of contemporary American literature. How broad is his view? Is the circle of authors—novelists, playwrights and poets—truly representative? How important are these writers?

The Russian reader has always been interested in the literature of the United States. Leo Tolstoy, for instance, admired Henry Thoreau, and Ivan Turgenev translated Walt Whitman. American authors like Mark Twain, Jack London and Theodore Dreiser have found a second home in Russia.

In later years the Soviet reader discovered the great masters of the 1920s and 1930s, the golden age of American literature, who were the direct predecessors of contemporary writers: Ernest Hemingway, whose work, in a four-volume edition, is a best seller in the Soviet Union; William Faulkner, whose Snopes trilogy is much admired in spite of its unusual and complicated form; Robert Penn Warren, whose novel *All the King's Men* was a great success. It was produced on our stage and has even been filmed.

I would also include F. Scott Fitzgerald and Thomas Wolfe. American critics have recently pointed out that there is a revival of interest in these two writers in both the United States and Europe. The Soviet reader, too, has been giving attention to these masters of American prose. Two theses on F. Scott Fitzgerald have been published. Several articles on him have also appeared. His novel *The Great Gatsby* has been translated into Russian, as have several short stories. The novel evoked favorable response from both readers and critics. Publication of another Fitzgerald novel, *Tender Is the Night,* is in the offing.

The magazine *Inostrannaya Literatura (Foreign Literature)* has printed two of



The new building of the Foreign Literature Library in the capital. One statistical-minded bibliophile figured that its four million books in 128 languages take up 56 miles of shelving.

Thomas Wolfe's short novels: *The Web of Earth* and *Death the Proud Brother.* In the near future his novel *Look Homeward, Angel* is to come out in Russian translation. So some of the empty spaces on the Russian map of American classical literature of the twentieth century have been filled in during the last few years.

Fiction

If you go to a readers' conference on American literature and ask the audience what contemporary authors they know, they will generally name J. D. Salinger and John Updike, then Norman Mailer, John Hersey, Carson McCullers, Bernard Malamud and Truman Capote. The books by Salinger and Updike seem to have made a particularly strong impression. Perhaps because these authors reflect certain trends typical of contemporary American prose—psychological exploration, multilevel narration and stylistically complex structure.

The publication of *The Catcher in the Rye,* first in the magazine *Inostrannaya Literatura* and then as a separate book, was a noteworthy literary event here. Readers argued a good deal about the characters in Salinger's novel. For us, Holden Caulfield is a classic image of an adolescent boy; he took his place alongside Huckleberry Finn. The novel called forth a stream of critical reaction. Reviewers differed. The minority pointed to conformist and conservative elements in the book; the majority thought it was a critical and humanist work. Critic Raissa Orlova, who recently taught a special course on Salinger at Novosibirsk University, warned

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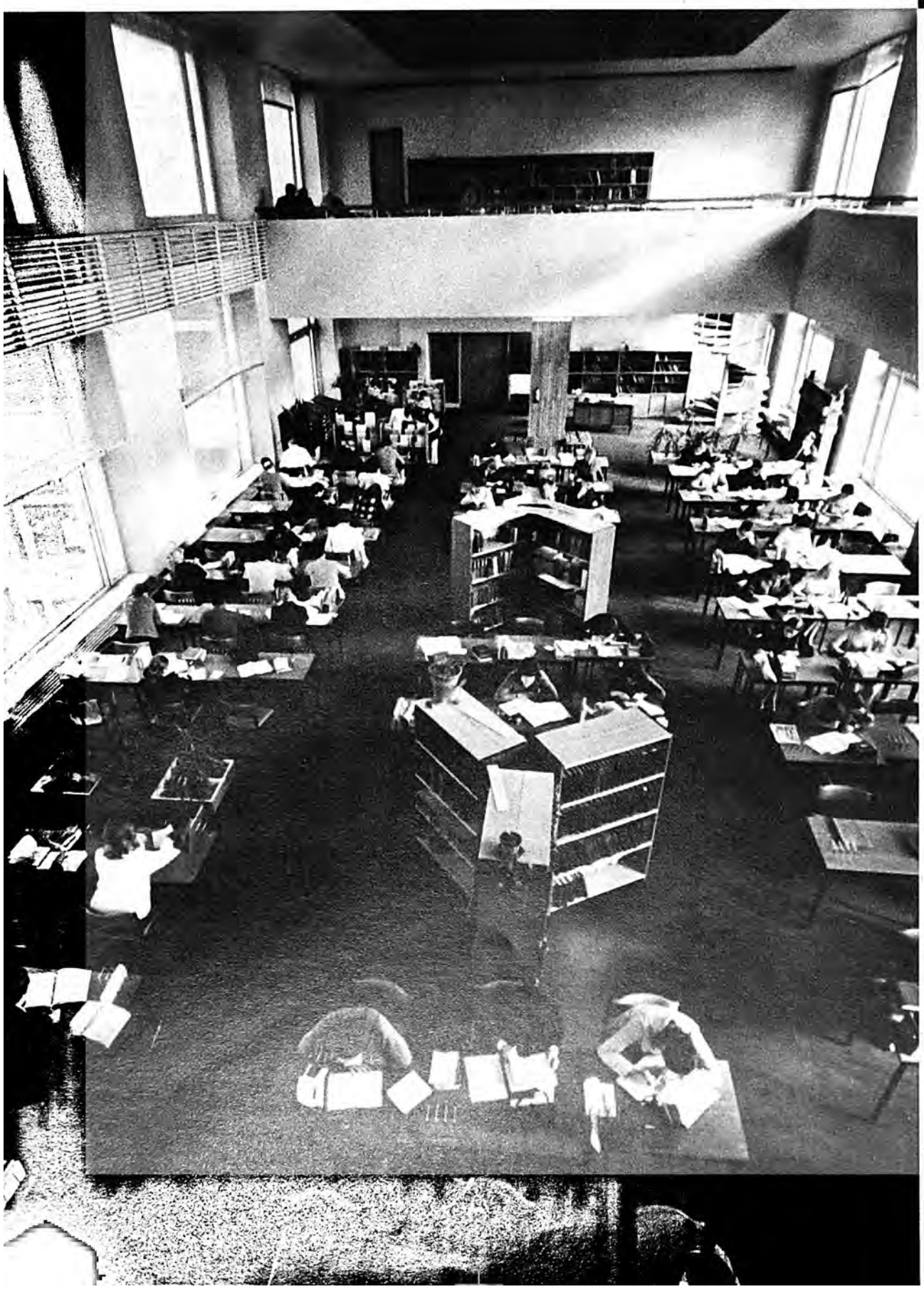

Photographs by Sergei Solovyov

IT ALL BEGAN WITH A SINGLE BOOKCASE

MORE READING is done in Moscow than probably in any city its size anywhere. It has some 5,000 libraries, more than 350 of them great repositories which serve readers all over the country. Some are among the best in the world—the Lenin, the Historical and the Foreign Literature libraries, to mention only three.

Books in foreign languages are to be found not only in these large repositories but in many of the district libraries. Only the Foreign Literature Library, however, shelves books in many of the world's languages.

This library was founded in 1921, when its several hundred volumes could easily be stored in a single bookcase.

Today it is housed in an eight-story building. Besides a general reading room, it has 13 specialized rooms—for natural-history and scientific literature, the humanities, the literatures of the countries of Asia and Africa, one for the exclusive use of professors, another for the arts, and others. There is space for 1,050 people to work there at one time.

In its early days the library had only two attendants; now it has 700. They help readers find their way through enormous stocks of books. The philologist; the engineer in search of the latest technical literature; the doctor interested in the findings, say, of an American colleague; the student preparing for an English class; the ordinary reader looking for his favorite author in the original —all will find the book they want and a quiet place to read it. There is no fee for using the library and borrowing books. The reader's request is met in five to 20 minutes.

If the book he wants is not in the stacks, it can be gotten through an interlibrary loan from some other library in the Soviet Union or abroad.

The library has long had loan and exchange arrangements with 2,200 institutions in the Soviet Union and 1,300 institutions in 75 other countries,

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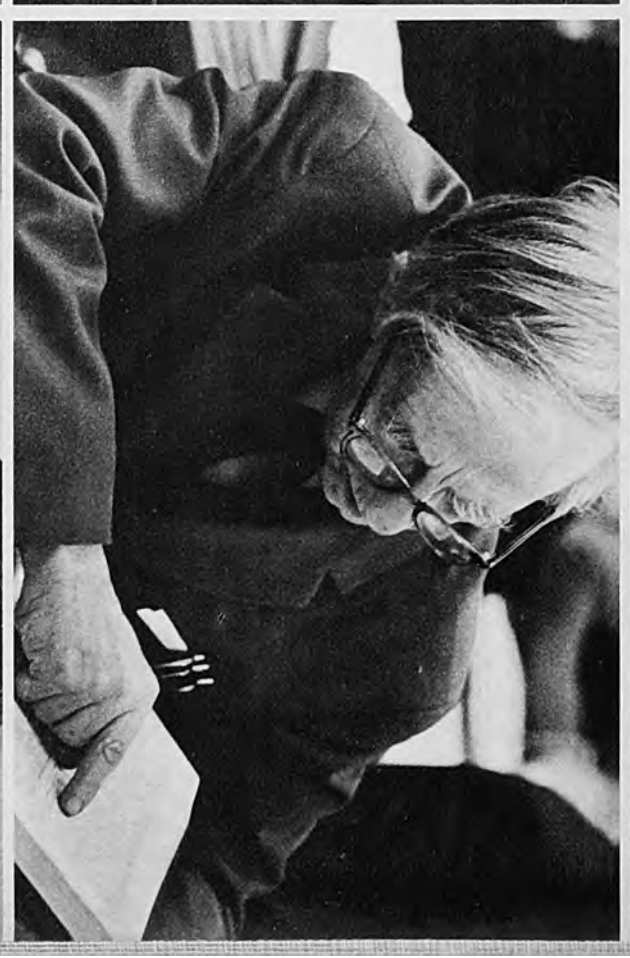


Eight floors of readers





against an oversimplified approach in interpreting the novel's message. She pointed out that the book has "a humanist quality, that it opposes war, greed and atomic hysteria." In 1965 the youth publishing house Molodaya Gvardiya put out a one-volume collection of Salinger's stories in Russian, with a foreword by Rita Wright-Kovalyova. She is a distinguished translator who has brilliantly reproduced the very complex style of William Faulkner's novels.

That contemporary American prose can be profound and original we knew from reading John Updike's *The Centaur.* We thought the novel unusual. It was difficult, but this only added to its attraction. A good deal has been written about *The Centaur* in the Soviet press. Not a single respected paper or literary journal failed to review the novel. The critics unanimously judged it a significant work with a humanist message.

A large part of the book's success was due to the translation by Victor Khinkis. He brought talent and great care to the re-creation of the novel's elaborate texture. Ever since the publication of this novel, the Soviet reader has followed the creative path of John Updike. His stories and the novel *Of the Farm* have also been translated. Still, I agree with Professor Maurice Mendelson, one of our foremost experts on American literature. He says that the rich style, the bold, original form, of John Updike's works is more interesting than their content.

The writers discussed so far have become famous in recent years, but we have not forgotten our old acquaintances who are still in sound health: Our readers and critics have praised Erskine Caldwell's two novels dealing with the racial problem in the South—*Jenny by Nature* and *Close to Home.* Then the writer's travelogue *Around About America* was published. It was followed by one of his latest works—*In Search of Bisco.*

Books by Irving Stone are published fairly regularly. His novel *Sailor on Horseback,* on the life of Jack London, was followed by the publication of two more novels, *Lust for Life,* Vincent Van Gogh's story, and *The Agony and the Ecstasy,* about Michelangelo. Both books are now hard to get.

William Saroyan's works have invariably met with a warm reception in the Soviet Union. In the last few years 30-odd short stories of his have appeared in various newspapers and magazines. As always, they are characterized by a distinctive kind of warm humor which stems from his great love for people. Until recently we knew William Saroyan as a novelist (we published translations of *The Adventures of Wesley Jackson* and *The Human Comedy*) and as a short story writer. However, with the appearance of a collection of eight plays entitled *The Time of Your Life* (1966), we have discovered Saroyan the playwright.

Among short story writers, we have translated many of John Cheever's works. In our view he is an artist of wide scope and keen social vision. Our readers are familiar not only with many of his short stories but also with his novel *The Wapshot Chronicle.*

The collection of Bernard Malamud's short stories, *The Maid's Shoes,* was bought up almost as soon as it appeared in the bookshops.

The prominent Soviet short story writer Yuri Nagibin writes in his foreword to the book:

"Bernard Malamud is a gifted and sensitive artist. At times he is capable of striking revelations. He is often like our Chekhov, sometimes like Babel, but mostly he is like himself."

As far back as 1963 we published a collection entitled *The Modern American Short Story.* It included the works of more than 20 authors, among them James Baldwin, Jean Stafford and Seymour Epstein.



The fourth floor lobby is used for displays. Here library director Margarita Rudomino checks an exhibit of the novels of F. Scott Fitzgerald for the 75th anniversary of his birth.

Modern American science fiction is especially popular. Practically all the best books by Isaac Azimov, Ray Bradbury and Robert Sheckley have been translated into Russian.

Poetry

So far we have dealt only with American prose: novels, short novels and short stories. Modern poetry, like poetry of any period, is harder to translate and, therefore, is not published as frequently as prose. Classic poets like Carl Sandburg, Robert Frost, Edwin Arlington Robinson and Edgar Lee Masters are fairly well known here through the translations of Ivan Kashkin and Mikhail Zenkevich. But the younger American contemporary poets are not familiar enough to the Soviet reader. It is true that in 1966 *Inostrannaya Literatura* published a rather large collection of translations entitled *American Poetry of the Last Decade.* It was the work of the young translator Andrei Sergeyev, who selected poetry by Richard Wilbur, William Snodgrass, John Ciardi, Allen Ginsberg and a few others. Several critical works have appeared on their poetry, a particularly good one by critic and translator Inna Levidova. A little earlier, Mikhail Zenkevich published a collection of his own translations, *From American Poetry.* It included work by such outstanding masters as Edwin Arlington Robinson, Archibald MacLeish and Edna St. Vincent Millay. But the main event lies ahead: Progress Publishers is preparing an anthology of postwar American poetry which will include several dozen writers.

American Panorama

The books we translate are by writers of different views and a variety of literary trends. They give a reasonably broad picture of American life.

Thus, the image of the American South is provided by William Faulkner, Robert Penn Warren and Harper Lee. Several years ago a translation of Harper Lee's novel *To Kill a Mockingbird* appeared. Later an American film of the same name, based on the novel, was shown on the Soviet screen. Other facets of life in the South have been revealed to us through the penetrating psychological novel *Clock Without Hands,* by Carson McCullers. Its subject is essentially human loneliness, but the novel at the same time condemns political conservatism and segregation.

Readers interested in the mechanics of political struggle in the United States have found much that is instructive and dramatic in Norman Mailer's *Miami and the Siege of Chicago,* the book which describes the nomination of presidential candidates at the national conventions of the Democratic and Republican parties. It appeared in *Inostrannaya Literatura.* Fletcher Knebel and

Charles Bailey's best seller *Seven Days in May*, a typical specimen of a modern American political novel, was translated into Russian soon after it was published in America. The stingingly satirical and grotesque novel by John Hersey, *The Child Buyer,* appeared in the Leningrad magazine *Zvezda (Star)* in 1965.

American army life was described for our readers in Irwin Shaw's well-known novel *The Young Lions* and in William Styron's *The Long March.* The latter is on the war in Korea. Mary McCarthy's reportage on the Vietnam war was published in the magazines *Za Rubezhom (Abroad)* and *New Times.* The novel *And Then We Heard the Thunder,* by John Oliver Killens, found an interested

IT ALL BEGAN WITH A SINGLE BOOKCASE
300,000 Books in English

Continued from page 34

including 160 libraries and institutions in the United States—the Library of Congress the Harvard University Library and the New York Public Library, among them.

The Foreign Literature Library issues regular catalogues and bulletins, index records and reference books. It sponsors international meetings, bibliographic conferences, and readers' forums at which poets, writers, translators and literary historians take the floor.

The library also serves as the Russian editorial office for such foreign publications as the* UNESCO Bulletin for Libraries, Bibliography, Documentation Terminology *and the newsletter of the International Federation of Library Associations.



audience. It took us back to the years of the war in the Pacific against Japan.

Ernest Hemingway's *Islands in the Stream* reminded us of the war against fascism. It is most interesting for the distinctive Hemingway style and the ethical problems it poses. Reading it was like meeting an old friend. Retrieved from the writer's archives, it was translated in the Soviet Union soon after it was published in America.

The class struggle of the American working people is reflected by writers of a radical, left-wing orientation who carry on the traditions of the "red thirties." In this category I would like to mention the translations of such books as *Magic Fern,* a novel by Philip Bonosky, the novel *Morning, Noon and Night,* by James Gould Cozzens, Lars Laurence's unfinished work *The Seed* about the coal miners of New Mexico, Albert Maltz's *A Long Day in a Short Life* and Joseph North's autobiographical *No Men Are Strangers,* which re-created a true-to-life picture of literary and organizational activity in America of the thirties.

The documentary has become popular in many countries, including the Soviet Union; that is why Truman Capote's *In Cold Blood* has evoked a good deal of interest. Truman Capote is known in the Soviet Union for his novel *Breakfast at Tiffany's* and a collection of short stories. Soviet readers get another and different image of modern America from James Baldwin's reportage and stories.

On the Soviet Stage

Drama reviews of the last few years show that more and more plays by Americans are being presented in Soviet theaters.

American plays have always been in our repertoires. In the twenties Eugene O'Neill's plays were popular here; some of them were staged by the eminent director Alexander Tairov. In the thirties and forties plays by Clifford Odets and Lillian Hellman were produced. The fifties were marked by successful productions of Arthur Miller's plays, including *Death of a Salesman* by the Pushkin Theater in Leningrad and *A View from the Bridge* by the Moscow Drama Theater. In the recent past there has been a revival of interest in Eugene O'Neill. I saw *A Moon for the Misbegotten* staged by the Gorky Theater in Leningrad, one of the most talented companies in the country, working under director Georgi Tovstonogov. The play is typical O'Neill, a complex psychological drama. In Moscow his *A Touch of the Poet* is still in the Mayakovsky Theater repertoire. Incidentally, Iskusstvo (Arts) Publishing House has put out a two-volume edition of O'Neill's plays, with a foreword by drama critic Alexander Anikst.

Tennessee Williams is famous here. In 1967 a one-volume collection of 10 of his best plays was published. Vladich Nedelin, a Soviet critic specializing in American literature, whose most recent book is on film director Stanley Kramer, wrote a very perceptive foreword for the collection. Several Tennessee Williams plays were translated and staged some years earlier. The first was *Orpheus Descending,* produced in 1962 by the Mossoviet Theater in Moscow. The distinguished actress Vera Maretskaya played the part of Lady Torrance. Thereafter the play was applauded in many cities—including Tallinn, Vilnius, Tbilisi and Gorky, among others. The Gorky Theater production gave it a new interpretation: It was not simply a story about unsuccessful love but a work with a strong humanist message. In his article in the magazine *Teatr (Theater),* critic Yuri Volchek wrote: "It was not two lovers but two human beings who found each other after languishing in solitary confinement, for that was how life, based on wholesale dissociation of people, treated them. The company managed to strike sparks of hope and confidence from Williams' compassion for humanity."

That same year Leningrad TV did another play by Tennessee Williams, *The Glass Menagerie.* Six years later it was produced by the Yermolova Theater in Moscow. The play was very well received by the press. *Pravda* critic Nikolai Abalkin noted that though Williams' drama was about America of the 1930s, it was still topical.

Most recently, in 1971, the Yermolova Theater in Moscow, which, we might note, is completing work on *Golden Boy* by Clifford Odets, staged another of Williams' plays, *A Streetcar Named Desire,* and very successfully. The play has also been presented by the Gorky Theater, which was among the first to introduce Williams with *Orpheus Descending.*

William Gibson's *Two for the Seesaw* has been done by many theaters in Moscow, Vilnius, Tallinn and Baku for several years running, always to critic and audience applause. One of our most popular companies, the Sovremennik (Contemporary) Theater in Moscow, pioneered in staging Gibson.

Another fine drama, *The Miracle Worker,* again placed Gibson in the Soviet spotlight. It was first performed by the Yermolova Theater company in Moscow, then by the Komissarzhevskaya Theater company in Leningrad and by theaters of other towns.

A short while ago the Sovremennik Theater began work on *The Ballad of the Sad Café*—a dramatization of Carson McCullers' novel of the same name. The director is the Icelander Eventur Erlandsson, a student at the Moscow Theater Institute.

Our theaters have shown an interest in American playwrights who represent the newer currents in theater, Edward Albee, for instance. Several of his plays, including *The Death of Bessie Smith* and *Everything in the Garden,* have been translated into Russian. The evolution of Edward Albee has been the subject of comment by Soviet critics. Nikolai Anastasyev is of the opinion that in his latest plays Edward Albee resorts, though not always successfully, "to the realistic method of work since the confines of the Theater of the Absurd are already too narrow for him."

For the Mass Reader

Recently the USSR Academy of Sciences' Institute of World Literature put out another volume of *Problems Confronting U.S. Literature.* In addition to more than a dozen critical articles, it had reference lists of Russian translations of American authors. These lists show clearly that modern American literature has been published on an impressive scale in the recent past. For instance, Irwin Shaw is represented by 23 translated works, John Updike by 13, J. D. Salinger by 13, John Cheever by 19, Truman Capote by 14, Bernard Malamud by 6, Ray Bradbury by 61, Isaac Azimov by 26 and Norman Mailer by 6. But it is not figures alone that count.

The columns of the reference lists also indicate that sketches and short stories by American authors frequently appear in the mass press—in such publications as *Literaturnaya Gazeta, Nedelya, Sovetskaya Kultura* and *Inostrannaya Literatura.*

American authors are not published in only the big city papers and journals. William Saroyan's short stories, for example, have appeared in *Literaturnaya Armenia,* published in Yerevan, in Georgian and Latvian youth papers, in the regional paper *Sovetski Sakhalin* published in the Soviet Far East, in the evening paper *Golos Rigi (Voice of Riga),* in the magazine *Podyom (Ascent),* published in Voronezh, in addition to dozens of national periodicals such as *Ogonyok (Flame), Smena (Relief)* and *Molodaya Gvardiya (Young Guard).*

Poet Robert Lowell became known to Soviet readers after his work appeared in the anthology *Sever (North),* published in Arkhangelsk. Bernard Malamud was discovered by the Uzbek magazine *Zvezda Vostoka (Star of the East).* William Faulkner's early novel *Soldiers' Pay,* with its elaborate stylistic structure, first appeared in Russian in 1967 in the magazine *Don* in Rostov-on-Don.

The scope of selected publications, the trends they represent, their appeal not only to experts but to the mass reader is what characterizes our translations of modern American writers. Need we repeat that such an approach is the most reliable way of developing understanding between our peoples?

Around the Country



TROPICAL ICE RINK

A figure-skating school has been opened at the Yubileiny Sports Palace in Tashkent, capital of Uzbekistan. More than a hundred boys and girls are presently enrolled, and the number will increase to 400 in the near future. Besides the figure-skating school, the rink is used by the local ice hockey team and by students of the children's hockey school.

The sports palace is designed like an open cotton boll with the rink at its center.

STUDENT SCHOLARSHIPS

Beginning September 1, 1972, the scholarships paid by the state to college students will be raised by approximately 25 per cent, and those to students of specialized secondary schools will be raised by 50 per cent. Scholarships to postgraduate students are also going up. These increases will cost the government an additional billion and a half rubles over the period 1971-1975.

The pace of student dormitory construction is being accelerated. In the same period such construction will amount to 18.7 million square feet of floor space.

TEA FROM RUSSIA

Indian, Ceylonese, Georgian and Azerbaijanian teas are familiar to connoisseurs of this refreshing beverage. A new variety—Russian tea—recently joined the well-known brands. It competed at the world tasting exhibition in Brussels and shared first place with Ceylonese tea.

In Russia tea plants grow only on the narrow strip of the subtropics of Krasnodar Territory, on the hills and mountain slopes surrounding Sochi, the Black Sea resort. Specialists have established an interesting regularity: the more northern the plantations, the sharper the aroma of the tea and the better its flavor.

The tea plantations near Sochi, stretching for 5,000 acres, are the world's northernmost. Krasnodar tea is becoming increasingly popular in the Soviet Union and is sold abroad.

AUTOSUGGESTION

A method of treating neuroses by autosuggestion has been developed by doctors in Kislovodsk, the Northern Caucasus. The twice-daily sessions (15 minutes in the morning and in the evening) help patients in cases of headache, insomnia, bronchial asthma and various functional disorders, including heart disease.

The technique has also been successfully used at Sochi on the Black Sea coast and other health resorts.

BIOGRAPHIES

The 500th volume of the Lives of Famous People series—a biography of the famous Soviet intelligence officer Richard Sorge—is coming off the press. The series was launched by writer Maxim Gorky in 1933 with a volume on Heinrich Heine. It includes biographies of the world's scientists, writers, philosophers, politicians, artists and musicians, with a total printing of 80 million copies.

RESIN COVERING

The sandhills were anchored in an unusual way on 1,235 acres along the Bukhara-Urals and Central Asia-Center gas pipelines. At the suggestion of Volgograd scientists, nerozine, the resin of combustible shale, was applied to the surface of the sand, forming a firm and elastic crust even at high temperatures. This anchoring does not stop the growth of desert shrubs.

PALEOBIOLOGICAL FIND

From a study of paleozoological discoveries in Kazakhstan paleobiologists have concluded that the territory of the republic was once inhabited by the mastodon, dinosaur, rhinoceros, elephant, giraffe, tapir and crocodile, and by predatory fish. The natural history museum in Alma-Ata has over 10,000 exhibits. Both the flora and fauna point to repeated changes in the climatic conditions of the region, with a warm wet climate replacing a hot dry one.

DORMANT TREES

Soviet researcher Vladimir Nenyukhin has established that trees "sleep" from one to five hours each night in summer, and when the mercury drops below freezing in spring and autumn. At these times they almost stop growing. Nenyukhin made his observations with the aid of an instrument he invented himself, which can measure plant growth accurately up to hundredths of a millimeter.

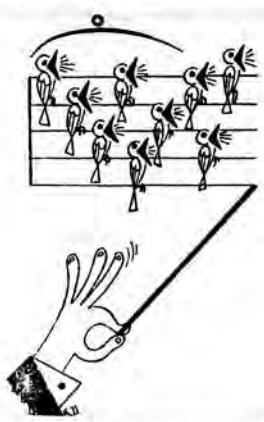
UNION SCHOLARSHIPS

Among the measures taken this year to increase financial aid to students are 150 trade union scholarships in various fields and 80 trade union bonuses for the best student scientific work. These grants, scheduled to begin in September 1972, do not obligate recipients to work in any particular profession after graduation.

The unions will also allocate over 16 million rubles to students this year for vacations at sanatoriums, rest homes, and camps.

BIRD CHOIR

The puppet show in Kharkov, the Ukraine, has an unusual choir —canaries. Yellow, orange and grayish blue birds hop about in small cages. But as soon as they hear the first few chords, they take their appointed places and one of them begins to sing a familiar tune. The first bird is joined by another and then another. The bird singers perform a waltz by Johann Strauss without a single error.



The organizer and leader of this unique ensemble is Fyodor Fomenko, a bird lover and former teacher who is now on pension. When he was first invited to the theater he started with two canaries, now he has a whole chorus. The repertoire includes old waltzes and Russian folk songs.

VACUUM-MADE BUTTER

The Research Institute of Food Engineering has developed an original method for making butter. The technique is very simple. Heated cream is injected into a vacuum chamber. The cream is immediately atomized and cooled to form what is known as butter grain. After mechanical treatment the finished product is packed automatically.

Vacuum-made butter tastes better than the conventional product. It has no aftersmell or aftertaste. And since the air content is negligible, this butter does not melt at room temperature.

The United States Patent Office has registered the invention.



SIBERIAN MAMMOTH

A huge mammoth recently arrived in Yakutsk. It was dug out from under a layer of permafrost by an expedition from the Siberian Branch, USSR Academy of Sciences. The mammoth was placed in a pit hollowed out especially for it at the Institute of Permafrost Studies.

A professional hunter who works for a state farm on the lower Indigirka River stumbled on the prehistoric animal. The mammoth was buried in permafrost approximately 80,000 years ago. This is the first find dating back to such an early period. The skeleton will be exhibited at the Museum of Regional Studies in Yakutsk.

SECOND PROFESSION

Every other book issued by the Donbas Publishing House in the Ukraine in the last few years has been penned by a nonprofessional writer—industrial worker, lawyer, engineer, doctor, and so on. *The Longest Night* by Yevgeni Koptev, a chemist, is a best seller. Leisure-time authors usually get training in special unions for writers; there are more than 30 of them in the Donetsk area.

Some nonprofessional writers are students in the correspondence division of the Literary Institute in Moscow. Veniamin Maltsev, a mining engineer, has already completed his course at this institute, but he is still working in a mine. He is the author of three books of stories. Yevgeni Klimenko, a truck driver with five books to his credit, has also graduated from the Literary Institute. He, too, is holding on to his old job.

CLEAN SKY

About 200 plants that polluted Moscow's air were closed down or moved outside the city limits in the past decade. Those that were left installed purifying devices and filters. As a consequence, the air in Moscow, with its population of seven million, is now much cleaner than that of industrial centers of the same size in Britain and Japan. The City Soviet is taking further steps to keep smoke, dust and soot out of the residential districts. There are plans to expand by 50 per cent the forest belt that now covers 420,000 acres and serves as a natural oxygen producer. New parks and public gardens will connect the city center with the surrounding woods and bring crispness and fragrance to Moscow's busy thoroughfares.



RUSSIAN FAIR LADY

The amateur drama group of the Saturn Palace of Culture in Ramenskoye, a town near Moscow, recently staged the Frederick Loewe musical comedy *My Fair Lady*. Eliza Doolittle was played by Irina Gvozdeva, instrument technician at the local factory. Twenty-four-year-old lathe operator Alexei Artyukhin played Colonel Pickering.

There are now more than 900 amateur theater groups in the Soviet Union—drama, opera, ballet and musical comedy companies, and several youth theaters.

ALPINE TUNNEL

The direct link between the southern and northern districts of Tajikistan, a mountainous Central Asian Republic, is disrupted for six months at a time. Avalanches and snowdrifts at the Anzob Pass not only close down this important transport artery but also break it up, so that large sums have to be spent annually for repair. The roundabout road that trucks travel takes three times as long.

The solution, Tajik transport specialists say, is to build a tunnel, and they have already started a topographical survey of the site. Technical details will be worked out by four national design institutes and the USSR Institute of Transport Construction. The future Anzob tunnel will be unequaled in the country for complexity and length. Construction will start in the current five-year period (1971-1975).

LEMON PERFUME

Kazakhstan chemical researchers have found that the stalk of the Greek laurel, once considered production waste, is a valuable raw material. A study of the volatile oils extracted directly from the laurel leaves and those from the stalks showed their complete identity. The oils are widely used in the food industry.

Alma-Ata chemists have also found uses for other vegetable wastes. For instance, they found that tobacco stalks, which until now were simply burned, could be used as cheap food for microorganisms that synthesize proteins, vitamins and fermenting agents.

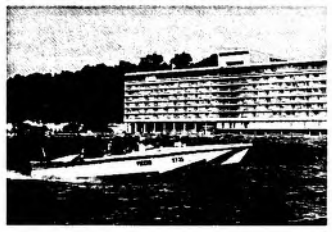
The fruitless blossoms of lemon-orange hybrids are also useful. Their oils have a very complex structure, including 37 rare components. Kazakh specialists recommend that they be used in manufacturing perfume.

HEALTH RESORTS

Last year the facilities of the resort city of Sochi on the Black Sea coast were enlarged to accommodate another 1500 guests. The new Actors Sanatorium was opened; it accommodates 330 theater people. The Rossiya and Golovinka sanatoriums were enlarged with new buildings. Sochi now has more than 200 sanatoriums with space for 70,000 visitors. Each year the city's facilities, including hotels, rest homes and tourist centers, are host to some 2.5 million vacationers, including more than 100,000 from other countries.

Most of the accommodations at sanatoriums and rest homes are provided free or at a reduced rate. The trade unions cover from 30 to 100 per cent of the cost.

Greater Sochi stretches along the Black Sea coast for 90 miles. The development plan provides for the construction of new health and vacation resorts, expansion of the present ones, and improvement of medical facilities.



In the Ninth Five-Year Plan period (1971-1975) the country's network of health resorts will be greatly enlarged. The trade unions alone intend to expand their health resort facilities to accommodate 300,000 more people.

GOLD EMBROIDERY

Skull caps, bags, shoes, ladies' belts, art panels and all kinds of souvenirs decorated in gold are among the items produced by the gold embroidery plant in Bukhara, Uzbekistan. The ancient art, once buried in oblivion, was revived in 1939. A small shop built at that time has now grown into a well-equipped modern enterprise. Its products are bought in Iran, Pakistan and Afghanistan.

ADVANCES IN PHYSICS

Last fall the Committee for Inventions and Discoveries examined and registered two impressive achievements of Soviet physicists.

One relates to the production of antimatter—antihelium nuclei. The study was made by the Institute of High-Energy Physics near Moscow on a 70-Bev accelerator. It provided additional confirmation for the theory that antimatter exists in nature.

The committee also recognized as a major discovery the existence of excitons, which appear when crystals are in a specifically excited state.

Excitons, consisting of an electron and a positive charge, are capable of moving over a crystal lattice and of carrying considerable energy. The structure of the exciton is in many ways similar to that of the hydrogen atom.

The discovery of excitons has helped penetrate the mysteries surrounding many phenomena in the fields of optics, biological chemistry and photosynthesis.

CLAY PORTRAITS

Sculptured portraits created 2,000 years ago have been put on display at the Museum of Uzbek Art in Tashkent. The most striking is the head of a prince of the Gherayev tribe molded out of clay with a small addition of bulrush down. The clay is slightly colored with natural dyes.

ANCIENT SIBERIAN ART

The Sayano-Tuva archeological expedition has gathered a unique collection of southwestern Siberian masterpieces—stone and bronze engravings, wood and bone carvings. The expedition is now excavating a big tomb 25 centuries old. Animals are depicted on clay and bronze vessels, on plates of gold and silver, nephrite and bone. The skill of the ancient artists evokes gasps of admiration.

The most interesting finds are human figurines of silver birch bark, the first such items ever discovered.

WEIGHT OF AIR

The weight of the Earth's atmosphere—5.7 million tons—has been ascertained with the aid of the Minsk-22 computer. Calculations of this kind are essential for research in space navigation, space geodesy and gravimetry.

Computer programming based on recent data of the world hydrometeorological service can now take into account all the distinctive features of the Earth's relief and the distribution of temperatures on its surface.

MUSIC FOR CHILDREN

The State Music Theater for Children will have a new building, to be erected in a Moscow park. Its amphitheater-shaped auditorium will seat 1,250, with the last row 90 feet from the stage. At the entrance the young theatergoers will be welcomed by lively music and a parade of masked performers. The building includes a concert hall for 300 and auditoriums.

ELECTRONIC NURSE

A highly original device for observation of seriously ill patients has been developed by scientists in Kaunas, Lithuania. Without leaving his office, the doctor on duty can watch the condition of a patient in the recovery ward.

Data on blood pressure, respiration, temperature and pulse, as well as electrocardiograms, are recorded simultaneously on the panel in front of him.

The tiny instrument is both more compact and more reliable than other similar devices, which record information just once a minute. It provides a report every two seconds.

MORE IRRIGATION

Last year the Soviet Union built several land reclamation and irrigation systems, increasing the areas under cultivation by 1.2 million acres. All the engineering work was paid for by the government.

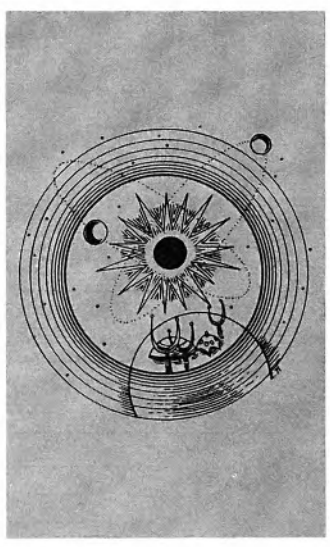
ANCHOR FROM PANTICAPAEUM

Twenty-six centuries ago Panticapaeum, capital of the Greek Kingdom of the Bosporus, stood on the site of the present city of Kerch in the Crimea. Archeologists have been carrying out excavations there for a number of years. Recently their efforts were rewarded with an unusual find: stone bars that turned out to be parts of an anchor.

They are the first such discovery in any of the ancient cities of the Cimmerian Bosporus.

MUSIC SCHOOL

A new 13-floor building of the Gnesin Music School has been completed in Moscow. Founded 80 years ago by the sisters Yevgenia, Yelena and Maria Gnesin, the school has an enrollment of 1200 and is one of the major centers in the country for training music critics, musicians and other performers.



EXTRATERRESTRIAL CIVILIZATIONS

Recently a Soviet-American symposium on Communications with Extraterrestrial Civilizations was held at the Byurakan Astrophysical Observatory in Armenia. The symposium was attended by several Nobel Prize winners: American physicist Charles Townes, English biologist Francis Crick, Soviet astrophysicists Victor Ambartsumyan and Iosif Shklovsky, and physicist Vitali Ginzburg.

The achievements scored by mankind in astronomy, communications and cybernetics in the last few years have created new possibilities for determining which stars and which constellations have planetary systems. These systems can be registered by modern telescopes working in the infrared range. Another approach is to study small shifts in stars occurring as a result of the rotation of planets around them.

One such attempt has already proved successful. In the proximity of the Barnard Star, one of the closest in our galaxy, a system of at least two or three planets has been located.

The scientists who attended the symposium concluded that the search for extraterrestrial civilizations should be concentrated on those whose technical potential is comparable to or higher than that of the Earth.

ANOTHER STUDENT TOWN

Petrodvorets near Leningrad, famous for its eighteenth to nineteenth century palace and park, will soon be a student town as well. Leningrad University is beginning to move there. The Department of Physics was the first to make the shift.

In the next five years buildings will go up for the Department of Chemistry and the Department of Mathematics and Mechanics. Multistory student dormitories will also be built.

BETTER WORKING CONDITIONS

A laboratory of industrial hygiene has been set up at one of the country's largest diesel engine plants in Yaroslavl, Central Russia. Its staff checks the air in the plant shops and conducts a number of other studies aimed at improving working conditions.

SOURCES OF CONFIDENCE

COMMUNIST PARTY PROGRAMS:

Immediate and Long-term Goals. Fulfillment and Continuity.

By Victor Glumakov
Candidate of Science (History)

ELECTIONS were held on June 14, 1970, for deputies to the Eighth USSR Supreme Soviet.

A month earlier, the Central Committee of the Communist Party had called on voters to support the candidates of the bloc of Communists and nonparty people nominated at meetings of constituents.

The slate of deputies for the Soviet of the Union, one of the two chambers of the USSR parliament, received 99.74 per cent, and the slate for the Soviet of Nationalities, 99.96 per cent of the total number of votes.

That was another demonstration of our confidence in the supreme organ of power in the country, in the Communist Party and its electoral program. Lenin used to say that the worker and peasant judge democracy not by what it gives them on paper but by what it gives them in fact. We know from experience that the promises of the Communist Party are not a means for manipulating public opinion but are scientifically based plans which achieve realization at the time specified.

* * *

The Bolshevik Party, at its Second Congress in 1903, adopted its First Program. Its goal was to end czarism in Russia, then the bourgeois system, and to establish a dictatorship of the proletariat.

That program awakened the tremendous energy of the masses. The February Revolution of 1917 ended the autocracy. In October of the same year a proletarian revolution abolished the capitalist order and established the first state of workers and peasants. What the Bolsheviks had promised in their First Program was achieved.

The Communist Party now faced the tasks of building and defending a socialist state.

In the most trying times, with hunger, cold and disease rife in the country, the Eighth Congress of the Party, in 1919, adopted the Second Program, to build socialism. It called for the socialist industrialization of the country, the development of heavy industry, the electrification of the whole economy, the reorganization of agriculture on cooperative, socialist lines, a cultural revolution.

The country was beset by enormous difficulties: economic dislocation, foreign military intervention, counterrevolutionary uprisings, no means with which to rebuild the economy, an overwhelmingly illiterate population, a shortage of skilled personnel. But all these difficulties were overcome. The Second Program of the party was carried out as well.

The Eighteenth Congress of Soviet Communists, held in 1939, mapped out ways to complete socialist construction and make the gradual transition to communism. That program was temporarily interrupted by nazi Germany's attack in 1941. The victory over fascism and formation of a world socialist system changed the international situation and provided the Soviet people with favorable external conditions for restoring the war-ravaged economy, completing the building of socialism and moving on to communist construction.

In 1961 the Twenty-second Congress of the Communist Party of the Soviet Union adopted the Third Program of the Party. This program, which sets the building of a communist society as an immediate and practical task, follows directly on the first two programs. All three rest on a scientific foundation, and their common objective is the good of the working people. At the same time, each of them reflects the peculiarities of a definite historical stage.

The immediate goal of the First Program was proletarian dictatorship, and the ultimate goal the building of socialism. That ultimate goal of the First Program became the practical task of the day in the Second Program. The latter's ultimate goal was the building of a communist society.

Now that socialism has been achieved, this ultimate aim of the Second Program has become the concrete goal of the Third Program of the CPSU.

Supported by the years of accumulated experience, the tasks of this program are amplified and concretized in decisions of party congresses and Central Committee meetings. The election platform submitted to the people by the Communist Party in 1966 was actually a concrete plan for implementing the tasks outlined in the party program for 1966-1970. How were these tasks carried out?

Higher Living Standard

The socialist economy is a complex, dynamic mechanism which is constantly growing and improving. Consequently, the methods for managing it must change as the economy evolves.

When it drafted the program for the 1966-1970 period, the CPSU found a new approach to management necessary: In essence it boiled down to this—a better combination of centralized state planning and more economic independence and initiative for the individual enterprises; a greater emphasis on economic methods of management and more play for incentives of all kinds.

The application of these new principles did much to improve industrial performance.

That, in turn, led to the growth of accumulations in the economy and ultimately to the fulfillment of the party's obligations to the voters.

Industrial production in the five-year period 1966-1970 rose by 50 per cent, as against the planned 47 to 50 per cent. The highest growth was registered in branches decisive for the progress of the economy as a whole, such as machine building, metalworking, oil and gas extraction, chemicals, petrochemistry, electric-power production, the manufacture of automatic installations and computers.

Technical progress, mechanization and automation of production made for a considerable rise in labor productivity. Its average annual growth rate was 6.7 per cent, compared with 5.5 per cent in 1965.

Industrial production in the Eighth Five-Year Plan period had a number of novel features; the most important was that growth rates in the producer goods and consumer goods branches began to approximate each other.

A great deal of work was done in agriculture. After the Twenty-third Congress of the CPSU held in 1966, agriculture was discussed at three meetings of the CPSU Central Committee: in May 1966, in October 1968 and in July 1970. Substantial changes developed in the life of the socialist village. There was a considerable increase in the supply of machines to the farms. In the five years they received 1.1 million tractors and 372,000 grain combine harvesters.

Obviously, all that had its effect on farm production. The average annual output of the collective and state farms went up by 21 per cent, as against 12 per cent in the previous five years. Particular headway was made in the production of grain: The gross harvest rose by 37 million tons, or 30 per cent. There was a considerable increase in the production of meat, milk, eggs and other items.

The principal source for the advance in Soviet living standards is the national income. The Directives of the Twenty-third Congress provided for a 38 to 41 per cent increase in the national income, as against 32 per cent in the previous five years. The actual growth was 41 per cent. That made it possible to raise real income per head of population. It grew by 33 per cent instead of the planned 30 per cent.

The party had promised to raise the wages of factory and office workers 20 per cent in the 1966-1970 period. They actually rose 26 per cent. The average monthly wage increased from 96.5 rubles in 1965 to 122 rubles in 1970. There was a more than 35 per cent increase in the earnings of collective farmers.

The rise in individual income came not only from wages but from bonuses, which were deductions from the profits of enterprises. In 1970, the last year of the Eighth Five-Year Plan period, every worker received, in addition to his wages, a bonus averaging 42 rubles monthly.

Another important element contributing to the growth of living standards is the public consumption fund, that part of the national income which Soviet people receive in the form of free material and cultural benefits. The fund pays for free education and advanced training, free medical care, pensions and sick benefits, allowances to large families and unmarried mothers, stipends to students, free and reduced-rate accommodations at vacation resorts, health centers and children's summer camps. This fund also cuts the cost to parents of child care in nurseries and kindergartens and of children at boarding schools. It covers paid vacations

and a variety of other benefits. In 1966-1970 the annual sum spent per person from the public consumption fund grew from 182 to 262 rubles.

In the past five-year period, pensions to disabled veterans and old age pensions to collective farmers were increased. The total number of pensions rose from 26 million in 1965 to 40.1 million in 1970.

Since January 1, 1968, higher temporary disability benefits have been paid. Factory and office workers who have worked for more than eight years receive disability benefits equal to 100 per cent of their wages, those who have a service record of five to eight years get 80 per cent of their wages.

Large sums were allocated for housing construction. In the five-year period, 55 million people moved to new modern housing or had their housing otherwise improved.

During the same period, educational, cultural and recreational facilities were expanded: 22,000 schools, 46 theaters and 13 permanent circuses were built. Another 15 museums were founded, bringing the total to 1,116. More than 280 new parks were opened. Kiev, Leningrad, Alma-Ata and Tashkent got new combined movies and concert halls; Moscow got a new puppet theater. About 1,800 new movies were built.

The TV and radio network was expanded with a USSR TV center in Moscow—designed to transmit 50 hours of telecasts daily—and 24 new radio centers: in Kiev, Tashkent, Alma-Ata, Frunze and other cities.

The directives of the Twenty-third Congress of the CPSU call for the training of 7 million specialists with a higher or specialized secondary education. That was done. The number of specialists trained per 10,000 of the population rose from 44 in 1965 to 65 in 1969.

Socialist Democracy

Mature socialism presupposes the harmonious development of the sociopolitcal, as well as the economic and cultural, environment.

A developed socialist society, which Soviet society has become with the building of socialism, has an appropriate political superstructure—the state of the whole people, a natural historical successor to the state of proletarian dictatorship. It represents the full development of that vital element which was contained in the dictatorship of the proletariat from the very outset—democracy for the working people. The difference is that the state of the whole people has a wider social base than the state of proletarian dictatorship: It relies, not on the majority of the people any longer but the whole people. And if the state of proletarian dictatorship was a dictatorship over the exploiters, the minority, with democracy for the working people, the majority, the state of the whole people is no longer a vehicle for suppressing any class but one which expresses the will and interests of all the people—the working class, the collective farmer and the intelligentsia.

Political guidance in the Soviet Union is provided by the Communist Party.

The one-party system in our country sometimes perplexes those who are unfamiliar with the social structure and history of Soviet society. A basic sign of democracy, one often reads in the Western press, is the existence of opposition. If we look at democracy from the scientific and historical view, opposition in the form of separate parties with their own platforms existed when and where it had a definite social basis, where there were classes and social groups with different economic and political interests.

There was a time when Soviet Russia had a two-party system: the Bolsheviks and the Left Socialist-Revolutionaries. The latter was the only petty-bourgeois party which, at first, recognized the platform of Soviet power and undertook to represent the interests of the peasantry. But as early as the first months after the October Revolution—December 1917 to February 1918—the Left Socialist-Revolutionaries were vacillating; eventually they launched an open armed struggle against Soviet power. Having discredited itself in the eyes of the peasantry and the entire people, that party vanished from the political scene.

The Communist Party represents the interests of all strata of Soviet society, their common political, economic and cultural interests. Thanks to this socialist democracy, democracy for the whole people can develop to the full. This development takes the form, first and foremost, of enlarging the role of the representative organs, the Soviets of Working People's Deputies.

Between 1966 and 1970 the powers of the local Soviets were much enlarged, particularly in the planning of farm production and the management of the industrial enterprises on their territory, including those responsible to the center.

All Soviets, from top to bottom, have standing committees consisting of deputies. One of the characteristics of the Soviets, unlike the parliamentary institutions of bourgeois states, is that they are both legislative and executive organs. Working on the committees, the deputies draft laws and see to it that they are observed. They rely on a large body of volunteer helpers (almost 25 million).

The growth of democracy in the Soviet Union is also manifest in the expanded role of the public organizations.

Scientific and technical progress in a society where education is open to all leads to rapid growth of skilled personnel in all areas and, eventually, to the more competent participation of the working people in administering the state and the economy. Article 97 of the Fundamentals of Labor Legislation, adopted by the USSR Supreme Soviet in 1970, grants extensive rights to the personnel of enterprises and organizations in managing production.

These rights are exercised through workers' meetings, permanent production conferences, inventors and rationalizers societies, public economic analysis and technical rate-setting centers.

Permanent production conferences, in operation at all enterprises with more than 100 workers, discuss production plans, hear reports by managers, analyze the organization of work, consider working conditions, wages and rates. They discuss plans for plant expansion and the construction of housing and cultural and service facilities. They make recommendations for job safety and the training and placing of personnel.

In 1969 the All-Union Central Council of Trade Unions adopted rules making it binding on enterprise managers to apply the recommendations of permanent production conferences.

A worker makes an interesting suggestion. The production conference discusses it and recommends that it be used. Management issues the appropriate order. This, too, is participation of the working people in managing production.

People's Control organs are one of the organizations through which the Soviet working people exercise their right to govern the state. They have the right of access to the documents of enterprises and departments. They hear reports and explanations of their heads, issue instructions to remedy shortcomings they find, make financial audits when necessary and override obviously unlawful orders and actions of officials.

An important activity of the Communist Party since the 1966 elections is the greater attention paid to cooperatives. There are three main types: collective farms, consumer societies and housing cooperatives.

Especially important are the collective farms—cooperative groups voluntarily united to conduct large-scale socialist farming. The collective farmers have sole control of their cooperatives. They elect their own managerial bodies. The general membership meeting of a collective farm is its highest authority.

A major step forward in collective farm democracy was made with the adoption by the Third USSR Congress of Collective Farmers (1969) of the decision On Establishing Collective Farm Councils. Collective farmers now elect collective farm councils in districts, regions, territories and republics. The 125-member countrywide council elected by the congress makes possible collective discussion and decision on the most important aspects of collective farm activity on a nationwide basis.

Genuine democracy presupposes that all the peoples who live in a country have equal rights and freedoms. But not all the peoples now making up the Soviet Union enjoyed comparable levels of economic and cultural development. As a result, the right to work could not be exercised equally by, let us say, the former nomads in their steppes and the hereditary metalworkers of the Urals.

To ensure equality of all nations and nationalities, the Communist Party has paid special attention to the regions that need accelerated development. Since the Revolution, industrial output in the Russian Federation as a whole has increased 32-fold, while in the Komi, Bashkirian and Kabardinian-Balkar Autonomous Socialist Republics it has grown 223, 477 and 2,435 times respectively.

Education is the key to the progress of nations. Soviet republics on whose territory there was not a single institution of higher learning prior to the Revolution now have the following number of students per 10,000 of the population: Moldavia, 124; Turkmenia, 131; Tajikistan, 149; Kazakhstan, 152; Byelorussia, 154; Kirghizia, 161; Lithuania, 181; Uzbekistan, 189; Azerbaijan, 192; Armenia, 214. The corresponding figure for France is 96, for Britain, 83; for Italy, 70; and for the Federal Republic of Germany, 48.

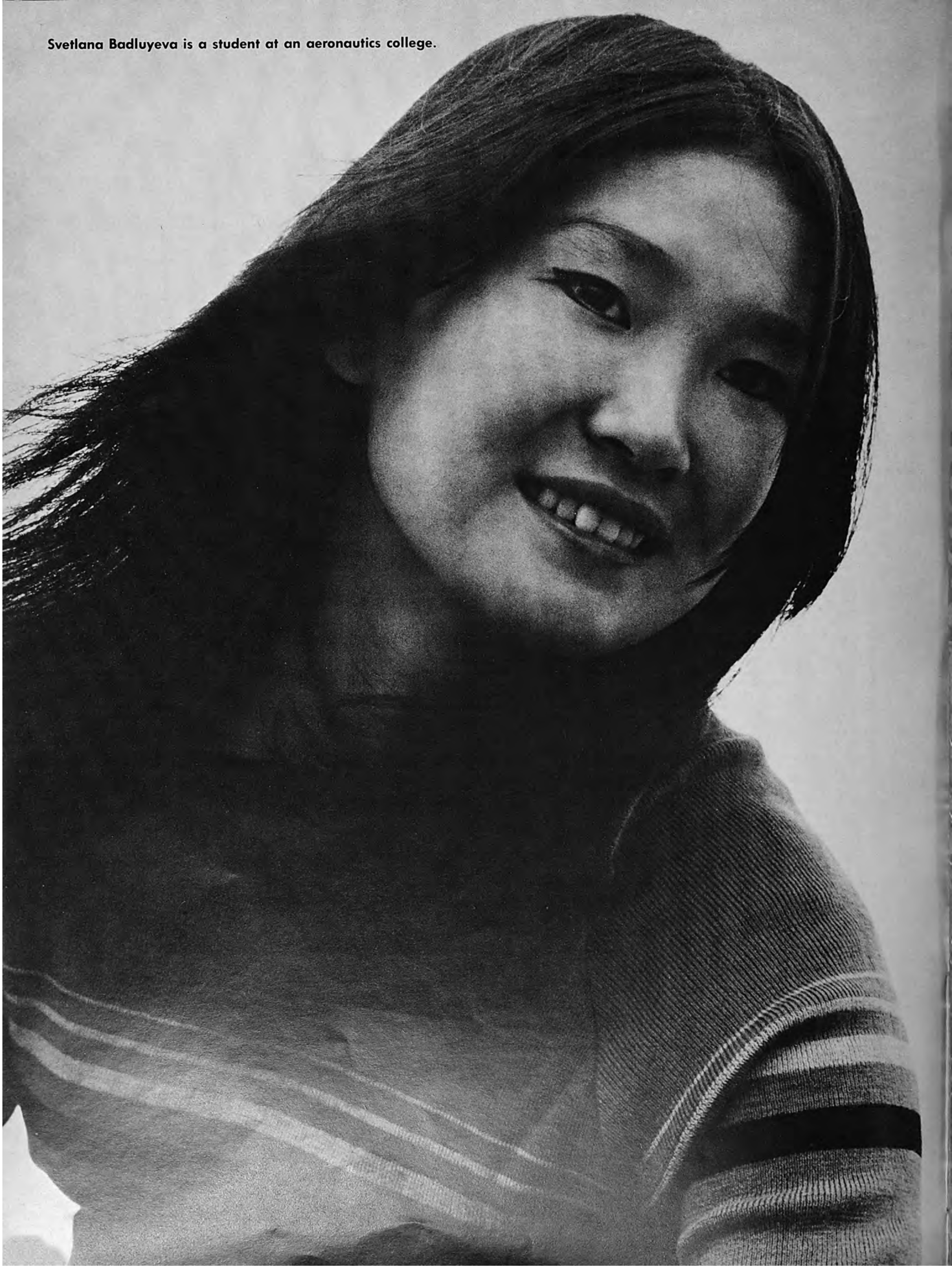
But qualitative indices alone, however impressive, by no means tell the story. More important are the profound social consequences of all these changes—the growing social homogeneity of Soviet society, the drawing together of the socialist nations. This process does not involve any restriction of the rights of the union republics. On the contrary, it develops by enlarging these rights. Every republic independently adopts laws that are specific to its own ways of life. The economic reform introduced in the past five-year period is designed to provide centralized management of the economy and, at the same time, to give the national republics the greatest initiative. Many matters that were previously under the jurisdiction of the USSR Council of Ministers are now decided by the governments of the union republics: for instance, approving the production plans of the enterprises of these republics and setting wage rates for their employees.

Whatever area of the life of the Soviet state we turn to—economics, culture, democracy, national policy—we see the colossal amount of work done by the Communist Party to fulfill its promises to the people. It was to be expected, therefore, that the new election platform which it proposed in May 1970 would be received with complete confidence. The new plans of the party, approved at its Twenty-fourth Congress in March-April 1971, look to further progress in the economy and culture, in democracy and national relations.

Continuity of policy is a distinguishing quality of the election promises of the CPSU. It is evident not only in the content of these promises but in their fulfillment as well.

A preliminary study of the Soviet Union's economic development in 1971 shows that the 1970 election platform of the CPSU is being successfully translated into reality.

Unity of word and deed is the basic principle of the Communist Party of the Soviet Union, a salient feature of socialist democracy.



Svetlana Badluyeva is a student at an aeronautics college.

BURYATIA TODAY

50 YEARS
OF THE USSR
1922-1972

Who are the Buryats? Where did they come from, these people who have been living on the shores of Lake Baikal for 4,000 or 5,000 years? The primitive tribes of Siberia, including the forebears of the present Buryats, wandered all the way from Lake Baikal to the Gobi Desert, leaving behind rock drawings and the tombs of their ancestors. Poems composed in the Middle Ages about the national Buryat hero Geser have come down to us. Initially a god, this legendary giant became a human being in order to perform deeds of kindness. Reborn on Earth in a poor shepherd's hut, he fought against evil and conquered it. His tears became Lake Baikal, say the Buryat legends.

The two Buryat regions in Siberia and the Far East merged on May 30, 1923, to form the Buryat Autonomous Republic. It has its own constitution, legislature, national flag and seal, and covers an area larger than Italy.

Ulan-Ude, the capital of Buryatia, lies in the valley of the mountain river Selenga, which empties into Lake Baikal. Fifty years ago the Buryats were nomads living in collapsible felt tents that were easily carried from place to place. Now 40 per cent of the population lives in towns.



Left: Delegates from Buryatia to the Twenty-fourth Communist Party Congress: Darya Tumurova, weaver; Alexei Bolotov, director of a glass-making factory; Alexei Baranov, locomotive driver. Right: Bato Semyonov, Chairman of the Presidium of the Supreme Soviet of the Buryat Autonomous Republic.



THE BURYATS are an indigenous Siberian people, with a history and culture many centuries old. There are now 315,000 of them, mostly settled in the Buryat Autonomous Soviet Socialist Republic and the two Buryat national areas, Ust-Ordynski and Aginskoye, in Irkutsk and Chita regions, respectively.

Since time immemorial the Buryats have inhabited the great stretch of land around Lake Baikal, living by cattle farming, hunting and fishing. They did not begin to crop-farm until the middle of the sixteenth century.

This was a trying period for the Buryat tribes. Their lands were overrun by invading armies of alien khans and princes and devastated by endless internecine struggle. It was then that progressive-minded leaders from among the people proposed that Buryatia become a part of the Russian state.

That voluntary entry occurred in 1659, putting an end to wars and attacks from outside. But it did not raise the very low economic and cultural standards of the Buryats. It was not until the October 1917 Socialist Revolution that conditions were created for the present flourishing Buryat economy and culture, and the full and unhampered development of the talents and abilities of the Buryat people.

Buryatia is a socialist workers' and farmers' republic, with its own constitution, under which all power resides in the people, represented in the Soviets of Working People's Deputies.

The highest legislative and executive body is the Supreme Soviet,

BY BATO SEMYONOV

with its 137 deputies. It is responsible for implementing the republic's constitution and laws, for framing and adopting new legislation, for approving economic development plans and budgets, and for education, public health and the protection and use of natural resources.

The Supreme Soviet elects the Presidium to act in its behalf between sessions and appoints the Council of Ministers, composed of 27 ministers, a chairman and a vice chairman. The republic is represented by 14 deputies in the USSR Supreme Soviet and by five in the Supreme Soviet of the Russian Federation.

Buryatia has changed profoundly in the years since the Revolution.

No more than 20 to 30 years ago the taiga hemmed in the capital of the republic, Ulan-Ude, on all sides. This area is now dotted with large-scale, modern plants that manufacture airliners, diesel and electric locomotives, river craft, high-capacity truck-mounted cranes, electric motors, precision control instruments, silk and woolen goods, washing machines, furniture, canned meat and fish, ready-made clothing. Electric motors and cranes are exported to France, West Germany and Switzerland, and relays for the iron and steel and chemical industries to Italy, West Germany, France, Canada and Sweden.

In the Eighth Five-Year Plan period (1965-1970) alone, the increase in industrial production came to 64 per cent.

The energy base of Buryatia has been much expanded. Three power plants have been built there in the past few years. In addition, the republic gets electricity from the Siberian power grid, so that it has an adequate supply of power.

Fundamental changes have taken place in Buryat agriculture as well. Petty, individual cattle farmers are now joined in big collective and state farms. The once nomadic and seminomadic herdsmen have taken to a settled way of life, living in large communities with modern facilities.

The Buryat collective and state farms now employ some 13,000 tractors, 3,000 combine harvesters, and other kinds of farm machines, all of which are run by the former nomads.

Machine farming has made it possible to enlarge the sown acreage from 494,000 acres in 1923 to over 2.4 million in 1971. Farm output (the main crop is wheat) has risen accordingly.

The livestock population of Buryatia today exceeds two million head. The collective and state farms raise pedigreed and highly productive cattle.

The collective farm members live in good homes with electricity and other conveniences. They have radio and TV sets, subscribe to papers and magazines and have home libraries. Many of them own automobiles.

Buryatia has teacher training, agricultural, technological and physical culture institutes and 20 specialized secondary schools attended by 35,000 students. The young people also study in the higher educational institutions of Moscow, Leningrad, Tomsk, Novosibirsk, Irkutsk and other cities. But, for the most part, Buryatia trains its own experts.

The republic has an opera and ballet theater with world classics in its repertoire, Buryat and Russian drama theaters, a philharmonic society, and the Baikal Song and Dance Company.

Buryatia has its own writers, composers and artists.

One of the republic's most striking achievements is the emancipation of its women. Buryat women in the old days were deprived of all rights. They could be bought and sold like cattle. Now they are full-fledged citizens. Hundreds and thousands have become teachers, doctors, scientists, government officials and public leaders. For more than 10 years the republic's Ministry of Health was headed by Vera Boyanova. She was elected a member of the Presidium of the USSR Supreme Soviet, and her post in the ministry was taken by a young doctor, Lyubov Madyeva.

Lydia Yegorova served for many years as chairman of the State Planning Committee of Buryatia. Thirty-five per cent of the deputies to the Supreme Soviet and local Soviets are women.

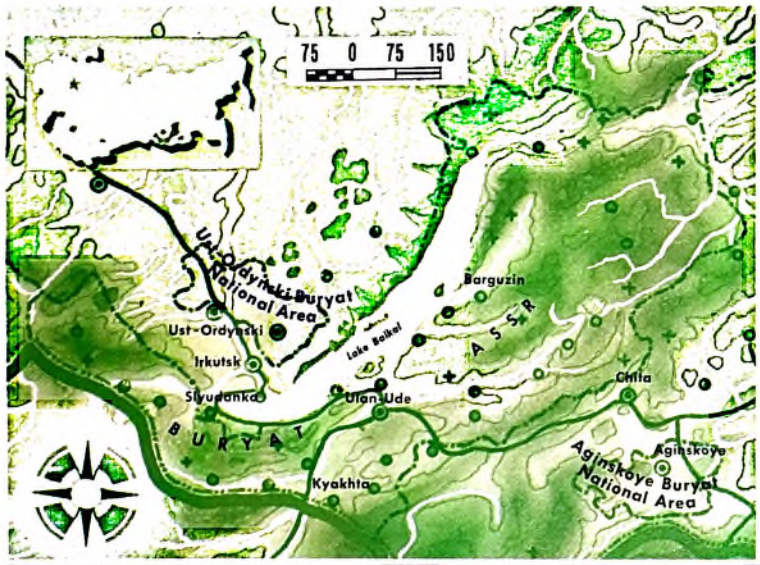
It is noteworthy that old Buryat traditions have been preserved and new ones added. The Buryat language is continuously being enriched. The republic's leading paper, *Unen,* the magazine *Baikal,* and a large number of books are published in the native language. Radio and TV programs are also broadcast in Buryat.

Since the epic poem *Geser* was composed in the distant past, oral sagas have been popular; they still are. *Surkharban,* a national holiday, with horseracing, national wrestling, archery, and *ekhor* dances, is celebrated annually in urban and rural communities. Buryat national dress is still admired and the native cuisine relished; there are some 50 tasty Buryat dishes made from milk, and 25 from mutton. Weddings and other such ceremonials are now modernized.

The great changes in the Buryat way of life are most strikingly evident from its high birth and low mortality rates. The average life span in Buryatia has increased. The population grew from 233,000 in 1939 to 253,000 in 1959; the current total is 315,000.

Finally, a few words on the republic's future.

The Twenty-fourth Congress of the Communist Party of the Soviet Union charted an ambitious program for economic growth and higher living standards in the Ninth Five-Year Plan (1971-1975). Scheduled for Buryatia is over-all development with emphasis on the power, engineering, metal-processing, pulp and paper, chemical and coal industries, as well as on the manufacture of building materials and consumer goods. The volume of industrial production in the period is to increase by 50 per cent, which means a considerable rise in the material and cultural standards of the Buryat people.



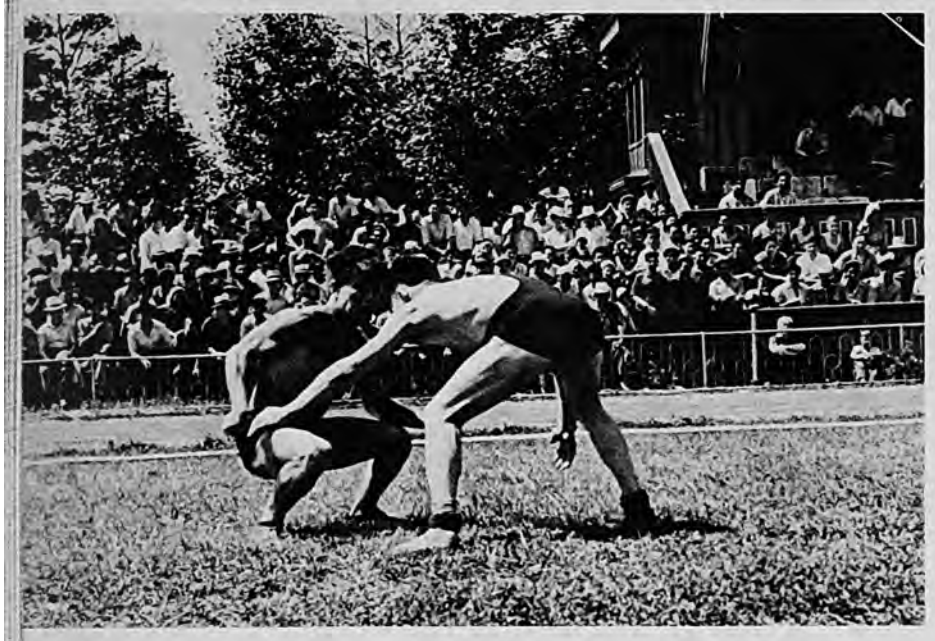
Lake Baikal, situated in the Buryat Republic, and Irkutsk Region is 20 million years old. It contains 600 varieties of plants and 1,000 species of animal life. Three-hundred rivers flow into the 370-mile-long lake, but only one—the Angara—flows out of it. Its unique properties are being studied by researchers of the Institute of Limnology and Irkutsk University's Biological Center.

A special government decision was adopted last year to ensure the rational use of the natural resources of the Baikal area. There are billions of cubic feet of timber here invaluable to the economy of the entire country, but only mature and over-mature trees are permitted to be chopped down. Besides natural replacement, more than 170,000 acres of trees will be planted in Buryatia in the next 10 years. The decision forbids driving logs down any of the rivers feeding into Lake Baikal, and in the current five-year plan the beds of all such rivers will be cleared of sunken timber. When the construction of a pulp plant was started in Buryatia some years ago, there were heated debates in the Soviet press about the damage it would do to the lake. A special commission was set up at that time to study the problem. As a result of its findings, the technological process was worked out so that there would be almost no waste products. Special sewage-clearing units were developed that came to 15 per cent of the net cost of constructing the entire plant. The USSR Academy of Sciences is presently working on a plan for the organization of a water protection zone. When completed, it will be submitted to the government for endorsement. This is part of the ongoing process of preserving Lake Baikal, the gem of Siberia.









The ancient Buryat bow is made of seasoned birch, horse tendons and elk horn, takes some six months to craft, and needs a strong man to shoot it. The republic's archery champ is truckdriver Batoshab Balchinov. Left: National wrestling. Touch ground with any part of your body—soles of your feet excepted—and you lose. No ties, you just keep going until somebody falls down.



Ceremonial opening of the *surkharban* in the Ulan-Ude stadium. The sports festival is a carryover from nomad days, when self-defense and sharpshooting were necessities.

SURKHARBAN

BURYATS have a word that means both holiday and sports event. It is *surkharban*.

For many centuries the Buryats were largely nomadic, living mostly by hunting and livestock breeding. Their grim environment demanded fine horsemanship, marksmanship and expert self-defense in combat with foe or wild beast. These physical skills were naturally highly prized, and those who possessed them were honored, particularly at the *surkharban* festival.

At the *surkharban* there were wrestling competitions and races, but the feature event was archery.

The Buryat bow is a remarkable piece of ancient craftsmanship: A birch stick is smoothed and polished. Several layers of wild-animal or horse tendons are glued onto it. The thicker the layer of tendon, the stronger must be the hand of the archer in order to stretch the bow. Next, the side of the bow facing the arrow is covered with a fine plate of elk horn. Finally, it is trimmed with special wooden hooks at each end for the bowstring, and wrapped in birch bark, leather or thin reed strips. It takes as much as six to eight months to make just one bow.

Today's *surkharban* is an event in which dancers, singers and musicians also take part.

In conformance with tradition, the contests are begun by the archers. On a 13-foot stretch, 10 varicolored targets—small ninepins made of cloth stuffed tightly with wool—are set up. Two archers from each of the teams take their stands at the firing line 195 feet from the target, each armed with a bow and eight arrows. The first shoots four arrows, after which he yields his place to his rival. Each shoots 24 arrows from a distance of 60, 50 and 40 yards. Hits are recorded only when the arrow sends the target flying outside the four-meter limit of the grounds.

The archers are dressed in robes with beautifully embroidered hems. Champions are decorated with red ribbons, which they wear over one shoulder.

Next on the program is *bukhe barildan*—wrestling. The brown, muscular men are naked to the waist. The one who knocks his rival off his feet and makes him touch ground with any part of his body, except the soles of his feet, is considered the winner. No counts or ties are allowed. If the rivals both touch ground, the wrestling is resumed and continues until one of the two wins.

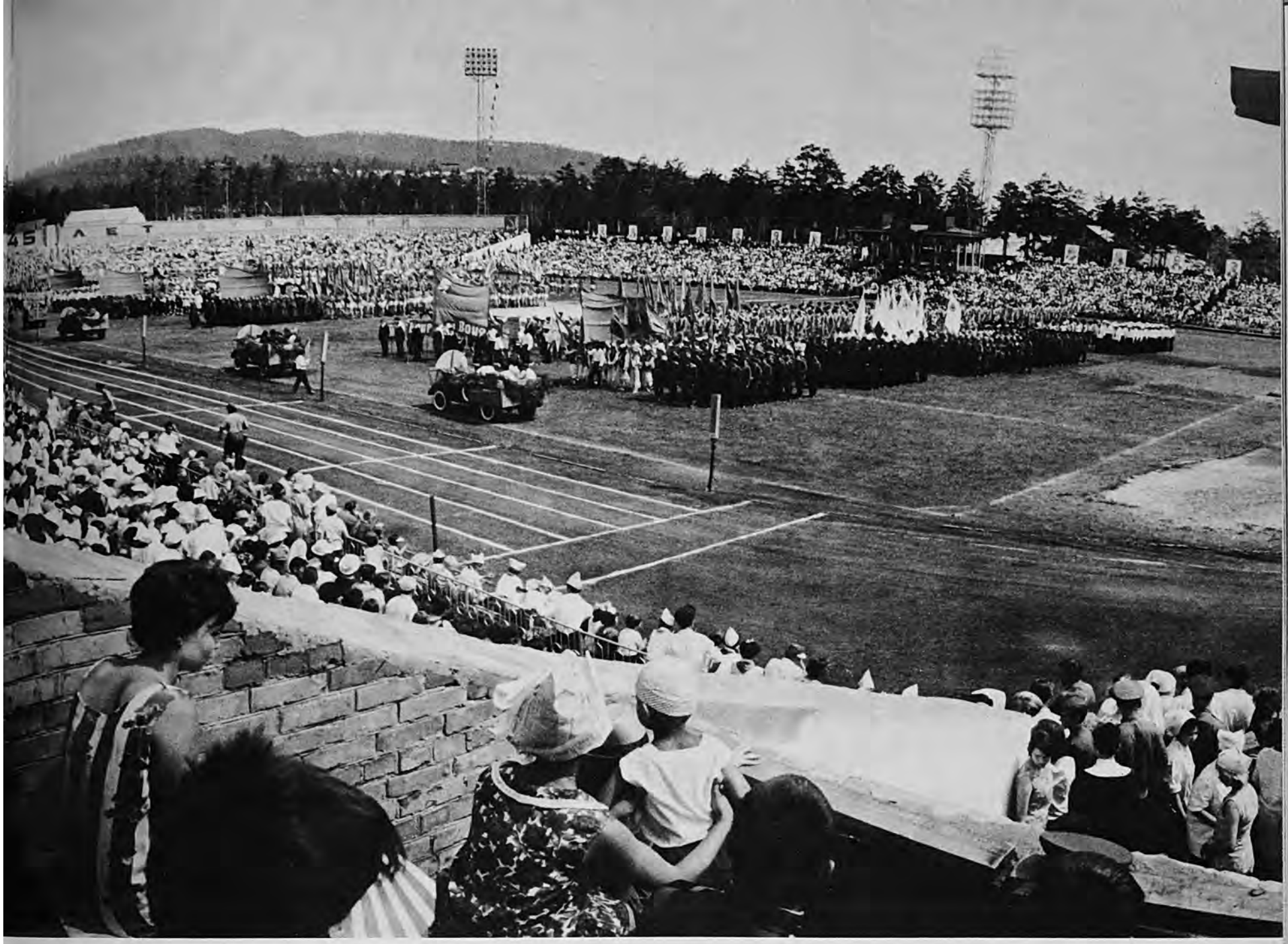
The defeated man is out of the competition. The winner, after a short rest, takes on a new opponent. The one who turns out to be the strongest in his weight class is honored with the title *erkhim bukhe*, and songs are sung in his praise.

The contests end with horse races.

Today's Buryats are as fond of horses as their ancestors were, and they are up on all the fine points of horsemanship.

Boys between 10 and 13 are usually the jockeys. Everything is done to make the horse's load light so that it can put all of its muscle power into the gallop during the brief moments of the race. No saddles are used, nor do the riders wear any shoes, for they are dressed as lightly as possible. Some even dispense with bridles and just hold on to the horse's mane, lying flat like yellow-chocolate bolts of lightning on the backs of their steeds.

The thud of the hoofs pulses against excited cries of the crowd, making a rousing finale for the *surkharban*, the ancient games of the sons of the steppes.





BUDDHISTS IN BURYATIA

FOR CENTURIES, the Buryats, Kalmyks and Tuvinians of Siberia have followed the Buddhist faith in its Lamaist form.

The center of Buddhism in the Soviet Union is the Ivolga Temple, not far from Ulan-Ude, capital of Buryatia. It is the seat of the Buddhist Religious Board, headed by the Bandid Khamba-Lama.

Six annual public services, commemorating the most important occasions in the life of Buddha, are held at the Ivolga Temple. Worshippers gather from various parts of the Buryat Republic and from abroad. Family religious rites are performed at the temple at the request of communicants. Lamas also, at the invitation of worshippers, travel out to the countryside to hold services.

The finishing touches are being put on a new and bigger temple on the Ivolga grounds. Land, building material, machinery and transport were provided by the Buryat Republic.

Under an agreement with the Mongolian Buddhists, young lamas are trained at the Ulan-Bator Buddhist Theological College. In addition to the history and philosophy of Buddhism and other religious subjects, they study foreign languages.

The Central Buddhist Religious Board of the Soviet Union takes an active part in promoting friendship among nations. As a member of the World Fellowship of Buddhists, it participates in WFB conferences and other international meetings and exchanges delegations with other countries. Last May, for example, Buddhist believers in the Soviet Union visited Malaysia and India; their Laotian and Malaysian fellow worshippers were guests at the Ivolga Temple this past September and October.



The traditional religion of the Buryats is Buddhism. A delegation from Laos pays a visit to Buryat Buddhists.





A microbiology lab at the Buryat Agricultural Institute. Prominent neurosurgeon Sergei Baranov practices at the hospital in Ulan-Ude.

SCIENTISTS OF BURYATIA

In 1966 the Buryat section of the Siberian Branch of the USSR Academy of Sciences was opened in the city of Ulan-Ude. It handles problems related to the development of the republic, with Russian and Buryat scientists jointly conducting the research.

All told, there are 1,588 researchers at work in the republic, including 17 doctors of science and 242 candidates of science; about half are Buryats.

Alexander Izyneyev, a Candidate of Science specializing in chemistry and a Buryat, heads the Chemistry Division. Members of his staff have developed samples of refractory polymers. Articles made from these polymers can be used in temperatures as high as 300 degrees centigrade. They are not affected by mineral acids and alkalis, organic solvents and lubricants. The chemists have been granted about 15 patents for their inventions, along with 11 foreign patents, including some from France, Britain, Italy, Czechoslovakia and the German Democratic Republic.

The Radiophysics Division is busy with research of great theoretical and practical importance. For instance, the group working under Tsydypov, Doctor of Science in physics and mathematics, also a Buryat, has proved theoretically and in practice that the zone of remote-control operation in mountain areas can be extended by installing low-powered TV relay stations. On their recommendation 14 such stations have been mounted and are operating in the Buryat ASSR and Chita Region. People in the villages and industrial areas shut in by mountain ranges can now see Moscow television programs transmitted by the Orbita satellite system.

Working in solid-state physics, the Buryat Bulgadayev, a Candidate of Science in physics and mathematics, has published a number of papers on the mechanical and physical properties of fine films of liquid dielectric substances on the borderline of solid bodies.

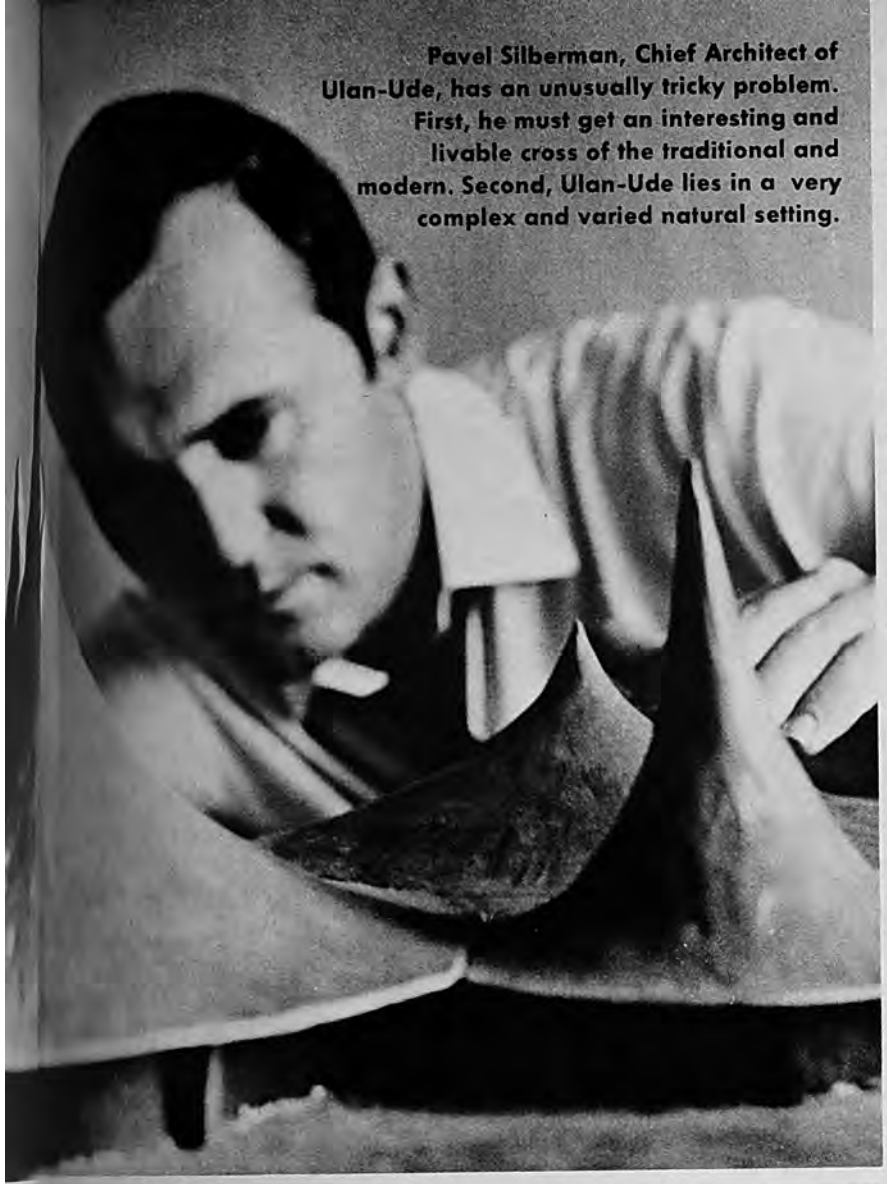
Research in the biochemistry of highly productive animals is guided by Professor Filippov, also a Buryat.

In the area of physiologically active substances, Buryat Petushinov, Candidate of Science in medicine, is engaged in the production and chemico-pharmacological analysis of Indo-Tibetan medical agents.

The Department of Geology, one of the most heavily staffed, is doing research in tectonics, petrography, and prognostication of deposits in the Transbaikal area.



The Odon Restaurant in Ulan-Ude.



Pavel Silberman, Chief Architect of Ulan-Ude, has an unusually tricky problem. First, he must get an interesting and livable cross of the traditional and modern. Second, Ulan-Ude lies in a very complex and varied natural setting.



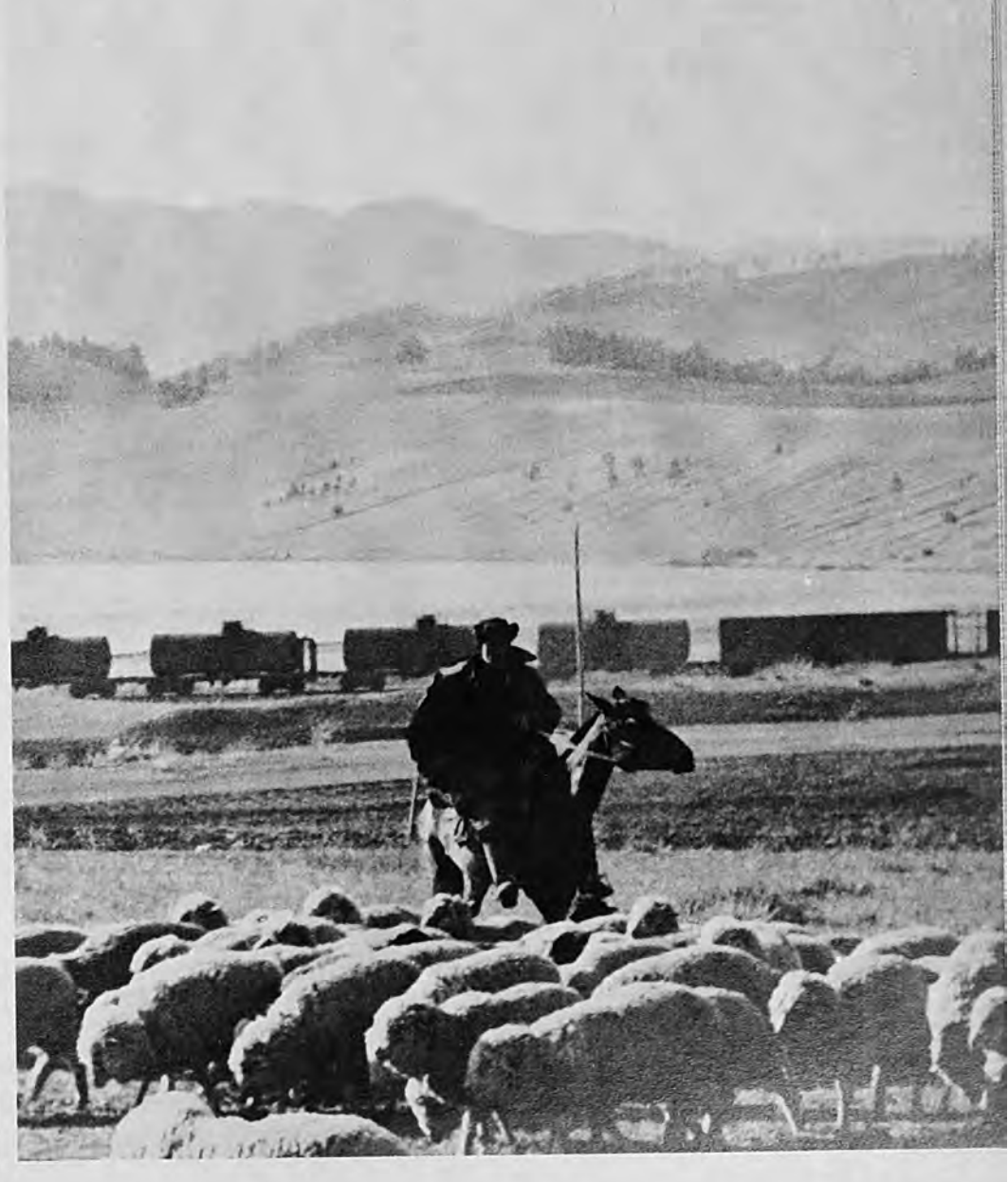
Washing gold from a river in Buryatia.

BURYATIA— A LAND OF TREASURES

The Transbaikal area is truly splendid, a mixture of Switzerland, the Don and Finland, wrote Anton Chekhov. And indeed, in this region, now the Buryat Republic, one finds picturesque mountain ridges, gorges, plateaus, rivers, dense forest and steppeland.
The climate is continental in the valleys and cool, mild and moist in the uplands. Earth tremors, which occur from time to time, testify that this part of the Earth's crust has not yet settled. Buryatia—bigger than Italy—is a treasurehouse of woodlands, spreading over 83 per cent of the republic, and of deposits of molybdenum, tungsten, bauxite, slate, asbestos, coal, graphite and gold, all important natural resources for the whole Soviet Union. The Buryat forests are populated by elk, brown bear, red deer, reindeer, lynx and Barguzin sable. Pelts of the sable are in great demand on the world market, and preserves have been set up for the protection and study of this valuable animal. The Buryat preserves have increased and spread the sable population in Siberia. The rivers and lakes of the republic abound with valuable species of fish, and the forests with fruit and berries.

Buryatia, with no industry to speak of two or three decades ago, now has more than 300 industrial plants manufacturing airliners, diesel locomotives, precision instruments, furniture, clothing, washing machines and a long list of other items for home use and export.





QUERIES FROM READERS

QUESTION: What is the employment situation in the USSR? (Economist Vadim Dobrovsky answers the question.)
ANSWER: Our last state unemployment agency closed 40 years ago. It was no longer needed because unemployment was completely eliminated in the fourteenth year of the country's socialist development. There has been no unemployment since.

Why? Because ours is a rational, thrifty, socially efficient, planned economy, which means that we can accumulate resources and distribute them to best effect among the production sectors and areas.

Socialism takes unemployment out of the economy. In the first place, workers are not pushed out of jobs by machines. Planned economy has eliminated a process, characteristic of capitalist countries, of extremely uneven technical reequipment of enterprises, which gives rise to an uncontrolled surplus of manpower now in one sector of capitalist production, now in another. In its five-year plans for intensive industrialization programs, the Soviet Union takes into account the employment of its entire manpower force.

Secondly, for more than 40 years now collectivized agriculture has been developing concurrently with the growth of industry in urban communities. The result is that the stratification of the farmer into rich and poor and the ruin of families as the result of bad harvests—typical features of capitalism—have been completely eradicated. Individual small farms, victims of cut-throat competition, were always large-scale suppliers of idle manpower. We even have a manpower shortage, especially in the new agricultural areas. That is why, in certain regions, we see a shift of city dwellers to modern collective and state farms. They are attracted by the farmer's high earnings, which have increased by 42 per cent in the last five years.

Thirdly, the Soviet Union has abolished even temporary or partial unemployment, which in capitalist countries comes from layoffs in slack periods or cutting working hours and wages at the same time. When the workweek was reduced to 41 hours some years ago, Soviet workers made the same wages they had earned with the previous longer workweek; moreover, since then, their wages and bonuses have been rising.

In the last five years, the real income of Soviet workers, especially the lowest-paid category, rose by 33 per cent, with no rise in prices of staple foods and manufactured goods. In the new five-year period, 1971-1975, the earnings of Soviet workers will go up by 20 to 22 per cent, and the farmer's income by 30 to 35 per cent.

USSR employment figures show a rise for each year between 1966 and 1970. The annual increase for the five-year period was about 2.3 million. More than 83 million people are currently employed in industry and agriculture.

QUESTION: How is death handled in a Soviet society? (Charles Donald Harris, Mobile, Alabama)
ANSWER: This is probably the area where the old traditions are most preserved. Since ours is a multinational country, each nationality has its own funeral customs. In Moscow, for instance, there have long been cemeteries for Armenians, Russians, Tatars, Jews. Usually the relatives and friends of the deceased arrange a civil service, take leave of the deceased and form a burial procession to the cemetery. If the relatives wish or if the deceased so indicated in his will, a clergyman may conduct the funeral service in church. Usually people are buried at the same cemetery as their relatives. By will of the deceased his body may be cremated and the urn buried or placed in the crematorium wall. Urns with the ashes of outstanding people who rendered great service to the country or humanity are placed in special recesses in the Kremlin wall on Red Square, behind the Lenin Mausoleum.

Obituary notices are published in the papers.

QUESTION: How about juvenile delinquency? How does your government cope with it? (Nellie De Shaaf, Chicago, Illinois)
ANSWER: Though crime is on the downgrade in our country, we still have problem children. They are rarely guilty of serious offenses, however; the charges are mostly petty stealing and hooliganism. We have no organized juvenile delinquency, no armed gangs. We do have occasional groups of boys living in the same apartment house who get themselves into trouble. More often than not they are led by an older boy who has had trouble with the militia before. Those who have dropped out of school or lost interest in studies are most likely to be led astray.

An interesting note: Money is not usually the driving force for our juvenile offenders. In the overwhelming majority of cases, they commit petty crimes to show off, to draw attention to themselves, to be different, and this almost always after they get drunk. Research indicates that almost none of our young offenders ever experienced dire need. It is the family atmosphere that tells the story. As a rule, the young offenders are neglected by their parents.

We fight juvenile delinquency through prevention mostly, by educational work. This is done by special militia officers assigned the job of looking after "problem children," and by committees on juvenile delinquency at municipal institutions. Adult volunteers help by organizing and leading recreational activities for children. The more attention youngsters get from their elders, the less they are likely to be influenced by bad companions. A case in point is the city of Leningrad where, due to the efforts of interested adults, juvenile delinquency has been cut by half.

Readers will find an article on juvenile delinquency in the October 1971 issue.

QUESTION: Please tell me about Moscow University. Does it accept foreign students? (James Tiffany, Marion, Indiana)
ANSWER: Moscow's Lomonosov University is the biggest and oldest school of higher education in the Soviet Union. It was founded in 1755 on the initiative of the great Russian scientist Mikhail Lomonosov. Among its graduates are many of Russia's distinguished scholars and writers. Moscow University has always been a center of advanced social thought.

Today the university has 14 departments —history, philology (Russian language and literature; Roman and Germanic languages and literature: English language and literature, German language and literature, French language and literature; classical philology: Greek language and literature, Latin language and literature), journalism, philosophy, psychology, economics, law, physics (physics, geophysics, radiophysics and electronics), mechanics and mathematics (mathematics, mechanics, astronomy), chemistry, soil biology (botany, zoology, plant physiology, physiology of man and animals, anthropology, soil science and agrochemistry), geology (geology and prospecting for oil and gas deposits, geological survey and mineral prospecting, geophysical methods of prospecting, geochemistry, hydrogeology and engineering geology, geology and mineral prospecting), geography (physical geography, economic geography, cartography, hydrology of land, meteorology). The fourteenth department is the Oriental Languages Institute, which offers courses in the Chinese language and literature, Indonesian languages and literature, Indian languages and literature, Vietnamese languages and literature, Arabic language and literature, and African studies.

The university has a total of 32,000 students; 2,500 are foreigners from 101 countries.

QUESTION: Are there Greek people in Russia? My ancestors came from the mountains of the Caucasus. Are there still any Greeks there? (Ellen Zouroucles, New York, New York)
ANSWER: There are more than 300,000 Greeks in the Soviet Union. Many of them have assimilated more or less completely. In any case, only 40 per cent of the Greeks inhabiting the USSR named Greek as their native language at the last census. Most of the Greeks live in the southern parts of our country—many in the Ukraine, on its Black Sea coast. Their ancestors emigrated to these regions long ago from the shores of the Mediterranian. Odessa, a very colorful multinational port town, has a sizable Greek population. In earlier days they were mostly sailors, fishermen and tradesmen, but now with "national professionalization" beginning to disappear, Greeks are industrial workers, scientists, artists, musicians and everything else.

The Greeks also live in the Transcaucasus. Georgia has more of them than any other part of the Soviet Union, since the southern areas of this republic are on the Black Sea. It was here that the Greek colonists settled, those who followed the route of the Argonauts. By the way, Colchis, where the heroes of the famous myth searched for the golden fleece, is in Georgia.

WHEN CHILDREN HURT THEMSELVES

BY LEONID STAROSELSKY
Candidate of Science (Medicine)

Children are the most privileged groups in the Soviet Union, visiting foreigners often say. And indeed, not only the immediate family but the entire country is very much concerned with the health and well-being of our youngsters.

Here Leonid Staroselsky, who often contributes articles on medical progress to our magazine, treats one lesser-known aspect of our child-care program.

CHILDREN will be children. They run around at breakneck speed, climb trees and fences, jump, turn somersaults and, of course, fall, get scratched and bruised and often break arms and legs. We think of all that as perfectly natural, but is it? Can't we do something to protect them from dangerous injuries without reducing their physical activity? Among the causes of child mortality and disability, injuries come just behind infant mortality and birth defects.

We in the Soviet Union believe that only preventive measures on both a national and local scale, that is, in each republic, in every city and every village, will decisively reduce the total.

Lacking experience, children have a poorly developed sense of danger. They do not have what we usually describe as the instinct of self-preservation. I remember the following case. Nine-year-old Yura K. fell from a six-foot fence, fracturing and dislocating both forearm bones very badly. The bones were set and a plaster cast applied. But neither the pain nor the cast stopped the boy from climbing the same fence just one week later. After a second fall, Yura was brought unconscious to a children's surgical hospital. This time his condition was far more serious—he had ruptured his liver. Twice during the operation the boy was in a condition of clinical death. A miracle plus two quarts of blood and immediate surgery saved his life.

The reader can easily imagine with what apprehension the boy's parents and the surgeons waited for the patient to regain consciousness after the operation. But the first words from the youngster were characteristic—he wasn't in the least concerned about the state of his health—he just begged them not to tell his mother that he had climbed the fence again and wanted to know whether the doctors had found a treasured penknife in his pants pocket.

This story has a happy ending. Now, four years later, the boy is alive, healthy and active again. His parents would undoubtedly be happier if his activities were a little more limited. It is interesting that more than two-thirds of the patients in the accident wards for children are boys.

The problem is very serious. Interward committees have been organized in all parts of the Soviet Union. Using carefully kept records of child injury cases, they work out recommendations for specific preventive measures. The committees include representatives of all the agencies concerned—physicians, teachers, traffic-safety people. Usually these committees are headed by a knowledgeable representative of the local Soviet.

Every medical institution which treats children with injuries, whether hospital or outpatient clinic, is required to send to the committees special cards recording each case. The cards contain the following information: the nature of the injury; when and where the accident took place; the circumstances surrounding it; whether it happened at home, in the street, at school, riding a bicycle, on a municipal vehicle. By means of this procedure, all the accidents that happen to children are registered in specific areas—by district, region, city, republic, as well as on a national scale. This has made it possible to establish that the greatest number of accidents to children happen between three and six o'clock in the afternoon, when school is over but their parents are not yet home from work. We have the greatest incidence of injuries then, when children are left alone for extended periods. The child injury committees passed their findings on to the school authorities. The result has been the organization of what we call prolonged-day groups in the schools of all large cities. In some places whole schools have switched over to a lengthened schoolday. Children do their homework with teachers supervising, go for walks, have snacks and get home shortly before their parents do. There has been a decided drop in the incidence of child injuries at home, in the streets and in traffic accidents between the hours of three and six.

Some 20 years ago, on the initiative of physicians, all streetcars, buses and trolley buses, as well as local trains, were equipped with pneumatic doors that are opened by the driver only at the regular stops. We all know now that you cannot jump into any of these vehicles moving at full speed, but when it went into effect, this simple measure made it possible to considerably reduce the number of child injuries.

Teachers and physicians take a very active part in designing new city routes, traffic intersections, street and underground crossings for pedestrians. New models of municipal city transport are laid out with due consideration for the peculiar temperament of the young city dweller. For instance, streetcar buffers and bus and trolleybus bumpers, on which boys loved to ride, have been completely eliminated.

Beginning with the junior grades, children are taught traffic regulations and rules of conduct in the streets. Radio and television, as well as children's magazines, tell their audience about street and traffic accidents and the dire consequences of carelessness.

Children are especially subject to poisoning by caustic materials. Caustic soda for washing clothes used to be a real scourge. One sip of this liquid causes an esophagus burn followed by cicatricial stenosis. Small children were the most frequent victims. At the suggestion of children's surgeons the production of caustic soda was stopped. The result was a sharp reduction in the number of esophagus burns in children.

The interward committees do not deal with injuries received by children only at home and in the streets. Today every injury suffered by a child at a children's institution—nursery, kindergarten or school—is considered an emergency which must be investigated. Children are sometimes injured doing physical exercises or playing games. Such injuries usually result from neglect of safety rules or from asking more of a child than he can handle at his age. Physical training in the schools, as well as at sports clubs for children, goes on under the strict supervision of the school physician, who must be a specialist in adolescent hygiene.

The activities of the committees undoubtedly reduce the number of injuries. But injury is not diphtheria and cannot be done away with completely. Therefore, along with employing preventive measures, the state health agencies try to improve methods of treatment. The anatomical and physiological peculiarities of the child's organism predetermine the approach. Treating children's injuries and their sequelae is different from treating adults. Special methods of treatment are used, often quite unsuitable to adults, as well as different periods of therapy.

Courses for child injury specialization have been organized. Children's emergency accident wards have been made part of the large regional and interregional hospitals, and there are medical centers for children in large cities, where complex treatment after injuries can be provided. The treatment includes therapy, therapeutic physical training and the gradual development of movement in the joints of injured limbs. The state is spending large sums of money for the purpose in order to reduce child disability to a minimum.

It is not necessary for every child to learn from experience that fire is hot or that asphalt paving is hard.

Children will fall, but it is within our power to reduce both the incidence and the extent of their injuries.

WOMEN



MORE THAN A HOUSEWIFE

Interview with Lydia Litvinenko, Candidate of Science (Economics), Senior Scientific Worker, State Committee for Labor Recources, Council of Ministers of the Russian Federation.

Q: The press has been carrying on a lively debate on demographic problems, with particular attention to the role of women in society. People have all sorts of ideas on the subject. For instance, one reader of *Komsomolskaya Pravda* says that "a woman who has done nothing for society can hardly be good for her children," while another advocates women's return to "the joys of motherhood." Some people think a woman should work before the birth of her child, stay home until he is old enough to be on his own, and then go back to her job. As a young specialist and the mother of two children, what do you think of the idea?

A: I disagree with it. What happens to a woman who leaves her work and goes back to it 10, 15 or 20 years later? By that time she's lost her professional skill. Her knowledge is obsolete and a good deal of her energy is gone. She has to begin from scratch again, practically as an apprentice.

Society is the loser, too. It loses a worker

at the age when she is most productive. The best creative years are between 20 and 40, when you can make bold decisions because you have plenty of time to correct errors, when you're the most open-minded and the strongest physically.

"All the more reason why a woman should devote these qualities to her children," some people will say. "Since the family is the primary and most important social unit, her greatest duty to society is raising her children." This may sound logical, but it's really quite dishonest.

First, a division of responsibilities on the basis of sex shouldn't be tolerated, regardless of the results (I'm not talking about hard physical labor, of course).

Second, it's obvious that a woman excluded from the work collective, which is a major area of life, is being cheated. This is particularly true when she has been prepared for such work from childhood and encouraged by public opinion. And she won't be any good, either, in preparing her children for their future role as producers.

Third, many people forget that financial dependence is as oppressive to a woman as it is to a man. However much she loves her husband, she dislikes being kept by him. As I see it, there would be no radical change in the situation even if nonworking mothers were paid special grants—no matter how much. A woman living on a grant is far less happy than one who's earning her own living.

Fourth, for the children themselves their mother's authority is measured not only by her status in the home as mother, or by how intelligent, kind and educated she is, but also by the job she holds, by how well her work is appreciated by her colleagues.

So that limitation of a woman's social duties to the family actually limits her abilities to carry out these duties on a par with men, as a full-fledged member of society.

The press has been featuring letters from women who maintain that child-rearing and housekeeping are women's prime social function. Most of these women seem to be working at intellectual-type jobs. I suspect some of them aren't being very honest. They seem to say: "I'm clever and competent, and that's why I'm holding down this job. But since others aren't capable of anything but housework, that's what they should do."

In dealing with this "woman problem," the only right and humane solution is to find out why the idea of genuine emancipation hasn't taken hold yet. What we have to settle is not how women can find more time for their families, but how they can be emancipated in every way: economic, social, psychological, etc.

Q: And yet it's a fact that many women have too little time for their homes. And this state of affairs is becoming a socially important problem. What reserves of time are available, and which of these reserves are worth serious discussion?

A: For women, spare time is almost nonexistent. Discussions are already under way on redistributing what there is of it, but as far as I can see, no tangible results can be hoped for. Half the people in the country who hold down jobs are women. Of course, theoretically, the jobs some of them are doing can be taken over by machines. But though the quantity and quality of machines have been rising, the number of women workers has not decreased. On the contrary, there are more of them, and the number of women of working age who are neither workers nor students is decreasing.

On the other hand, many men have time available for household tasks. As many women hold jobs as men. Both sexes are equally busy there. But we women spend two or three times as many hours as the men on home and family. In other words, a woman works for her husband too. This state of affairs cannot be changed by any organizational measures. We women can only count on our husbands' consciences and mutual feeling of equality.

It's common knowledge that Soviet women have the right, under certain conditions, to work shorter hours or to stay home, but few of us take advantage of it. This is true even though women who work part-time get equal pay for equal work, fully paid vacations, and social insurance, and have kindergartens and nurseries where they can leave their children.

I'm not ruling out the possibility that in the future, with the increase in real income, the number of women who prefer to work part-time or to stay home may grow. But the woman should then spend her time not in keeping house, or serving her husband, but in raising her children. We cannot agree with the phrasing of the question "How can society make housework easier for women?" The accent should be not on women's but on family housework. The husband should do as much as his wife.

It goes without saying that the mechanization of housekeeping, the increase in quantity and quality of household appliances, make for greater husband participation. Home appliances and services are improving, and housework takes less time. But it's not right to call, say, home delivery of groceries a benefit for women; it's a benefit for the whole family.

In some articles we read, it's obvious that the author equates housework with women's work. It makes things worse when the author is a woman. When, say, a new meat grinder is invented, the article is headed: "A Gift to Women," or when a new grocery store is opened, you read: "Housewife Will Be Pleased." That's an outdated philosophy, and it should be seriously criticized in the press. Such confusion of relations and condescension do a lot of harm; they prevent both men and women from learning the meaning of genuine equality.

It's in place here to recall the stand taken by the Program of the Communist Party on the subject. It talks not only of reducing the burden of housework, but of the need to get rid of that burden completely, to place major emphasis on improving community services with the help of modern science and engineering.

Equal participation by women in the country's economic and cultural affairs is an indisputable virtue of our social system, a big step forward in mankind's ethical development. Everything possible hasn't been done yet in this field, but none of us will reject what has been done. And no amount of propagandizing or poeticizing about the family hearth will make us change our minds.

INTERNATIONAL WOMEN'S DAY

ON MARCH 8 Women's Day is celebrated throughout the Soviet Union. Weeks earlier, store counters are besieged by men buying presents for the occasion.

It was back in 1910, on the proposal of working-class activist Clara Zetkin, that an international conference of women socialists in Copenhagen declared March 8 International Women's Day. Since then it has been observed in a number of countries, including Russia and later the Soviet Union.

In 1965, a decree of the Presidium of the USSR Supreme Soviet made it an official holiday.

The Soviet Constitution gives women equal rights with men in all areas—economic, cultural and political. They have the same rights to a job and to equal pay, to education, rest and leisure, free medical care, and old age pensions (the retirement age is 55 for women and 60 for men). They also receive 112 days' paid maternity leave, and there is a large network of nurseries.

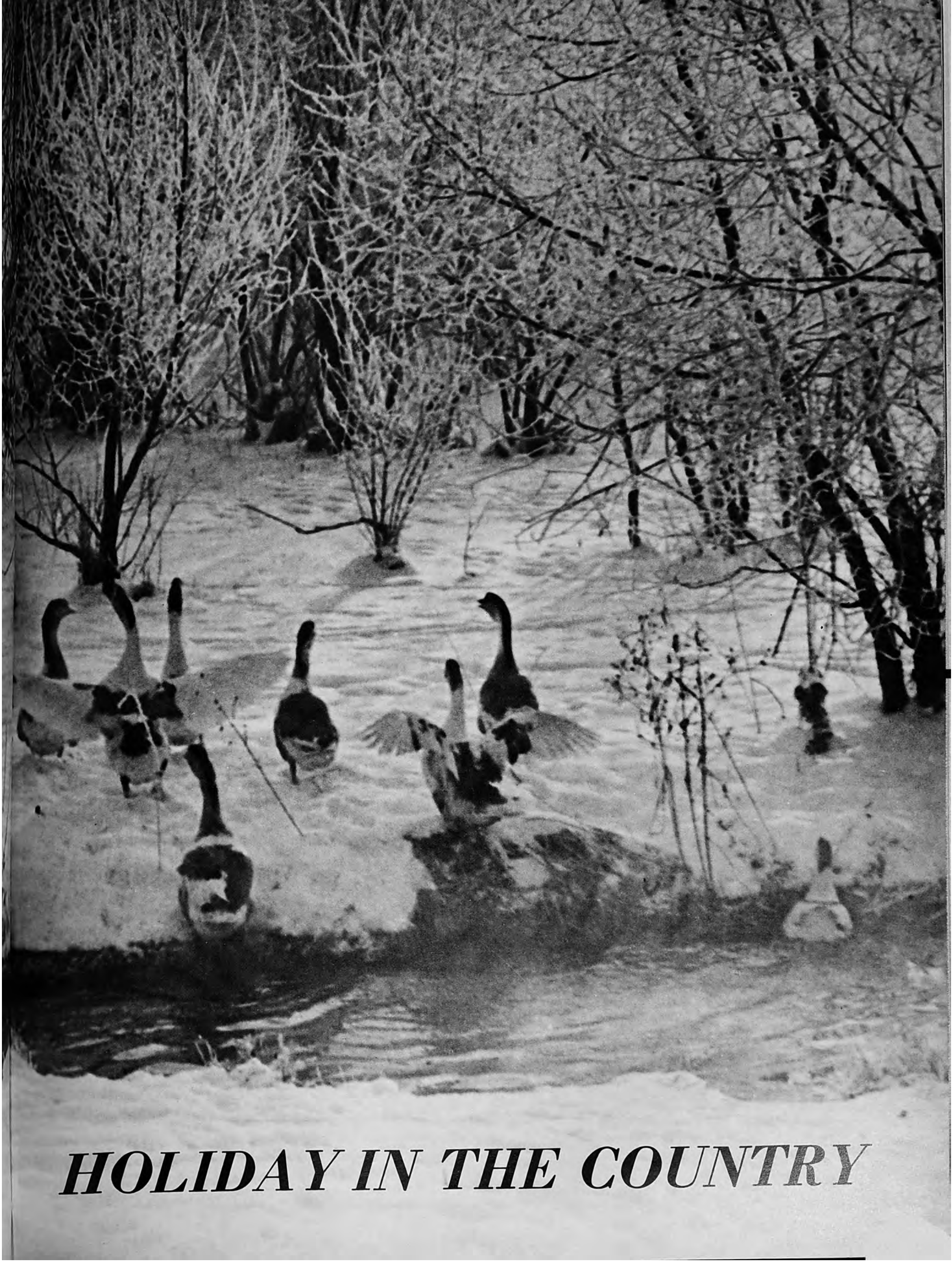
How do women make use of their rights? More than half the people with a higher or specialized secondary education are women. They make up 71 per cent of those in education and 85 per cent of those in public health. As much as 60 per cent of the staffs of administrative and economic agencies are women. They serve as heads of government ministries, chairmen of important committees and international societies. In 1970, 463 women were elected to the USSR Supreme Soviet. They made up 31 per cent of all the deputies.

The time when a woman's life was limited to household chores is long past. Over one-third of the world's material wealth is now the product of women's physical or mental labor. But the question "What prompts women to work?" will get different answers, depending on the kind of society they live and work in.

The Institute of Applied Social Studies of the USSR Academy of Sciences polled over 9,000 women in industrial plants in Moscow, Leningrad, Gorky, Penza and a number of other cities. To the question "Why do you work?" they answered: "To have an income of my own and be financially independent" (50 per cent), "To be a member of the collective, to get out of the house" (24 per cent), "To make use of my knowledge" (9 per cent), and "So I won't lose my skills" (8.3 per cent). These replies are fairly typical. But do they mean that Soviet women have solved all their problems?

What is the Soviet woman's view? Lydia Litvinenko, Candidate of Science (Economics) answers the question in the interview at the left, reprinted from the magazine Journalist.





HOLIDAY IN THE COUNTRY



SCHOOLCHILDREN who live in the northern parts of the Soviet Union like the winter holidays (end of December and beginning of January) best. The crunching snow under skis and the fluffy snowflakes in the rays of the bright cold sun transform the days into a winter fairy tale.

After seeing the New Year in at home with their parents, many city children leave for the country, some to Young Pioneer or sports camps and others to the village to visit Granny.

For Lena Alexandrova, a Moscow second grader, the winter holidays are truly like a Russian fairy tale.

". . . Once upon a time there lived a czar with his czaritsa. They had three strapping sons, Czarevich Vasili, Czarevich Fyodor and Czarevich Ivan. . . ." At bedtime Lena's Granny tells her this story about the three *bogatyr* brothers. Anna Prokofyevna—that's Granny's name—lives in the village of Grivno, not far from Moscow. When Lena was a baby, she was often brought to the village. Now she spends her vacations there—if she gets good marks at school, that is.

Her village holiday fun begins the moment she gets off the train. Waiting for her on the station platform is Uncle Zhenya, who wraps her in a fur coat and fluffy woolen shawl and drives her to the village in a sleigh. The horse trots along merrily, and the air is crisp from the frost.

Granny's house smells wonderfully of baking cakes, a samovar is purring, and wood is crackling in the stove.

After gorging herself on tea and cakes, Lena helps Granny with the dishes, visits her girl friends, plays with her baby cousin Vovka, and goes tobogganing with Granny's dog Trezor.

Her holidays, alas, end as quickly as fairy tales do. Before she knows it, Uncle Zhenya has driven her back to the station, put her on the train—and there she is—riding back to Moscow and to school.













NEXT ISSUE

Song of Armenia" is what the Armenian poet Gevorg Emin titled his text for a documentary film. This is more than a narrative, it is a hymn to his people. Emin writes with pain and bitterness about the suffering of the Armenians throughout their centuries-old history. His emotional tone is altogether different when he describes today's socialist Armenia: "There is no end to what has been done in the 52 years since our national resurrection. But we have still more to do to implement our plans and our dreams." A symbol of the old and the new history of Armenia is Yerevan, its capital, founded at the same time as Rome. There will be an abridged script for the film in the April issue.



Tractor driver Victor Dimitriyev's ancestors way back were Russian peasants, so we can really call him a hereditary farmer. But Victor is also a Communist, which means that he is expected to be up front when it comes to initiative and service to the community. He must live up to this expectation, judging from the opinion the people he works with have about him. "A real powerhouse of energy and invention" is what they call him. A short article and lots of pictures give the reader a chance to judge for himself. We'll visit Victor on the Rossiya Collective Farm 28 miles outside of Moscow, meet his family and see how his wife Lyuba makes Women's Liberation work in the Soviet countryside.



Tyumen Region extends for nearly 579 million square miles in the lowlands of Western Siberia. Rich deposits of oil and gas were found in the region in the early sixties. Despite the rigors of climate and terrain, these deposits are being worked intensively today. At the same time, geologists keep looking for and finding other and even bigger deposits. Boris Shcherbina, First Secretary of the Tyumen Regional Party Committee, talks of the region and its promising future.



What are the earmarks of the "average" city? Our sociologists have made a study of Taganrog in the Russian Federation—its citizen participation in economic and civic problems, the relations of the various sections of its population, its community and municipal activities, its recreational facilities. A journalist's presentation of their findings will appear in the article "Taganrog: Journey to an Average City" in the April issue.

Other items include the USSR People's Games, rehearsal for the Olympics.

COMING SOON
Women of Central Asia

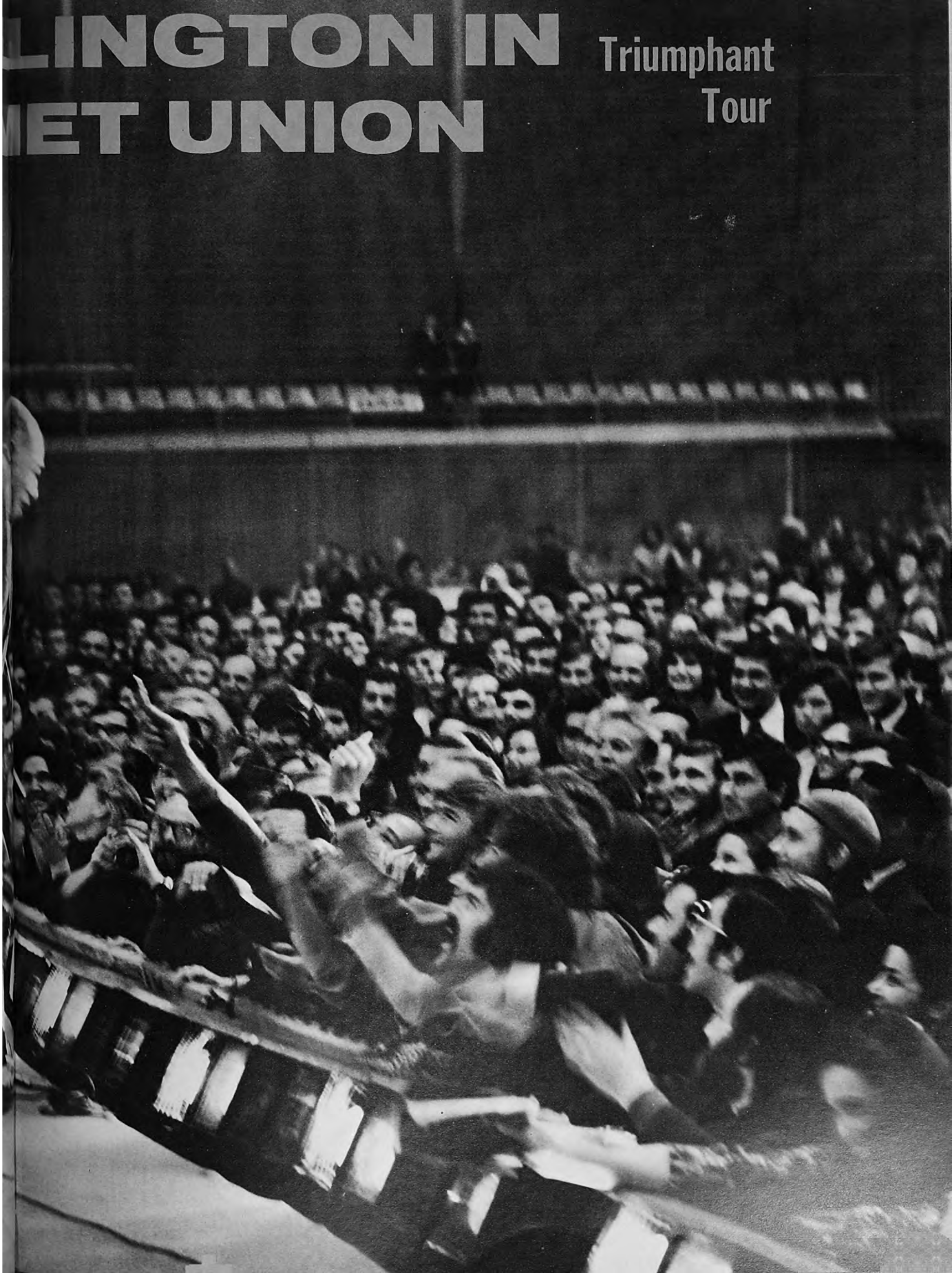
DUKE EL
THE SOV

BY MAYA GORDEYEVA
Photographs by Yuri Ivanov



LINGTON IN
IET UNION

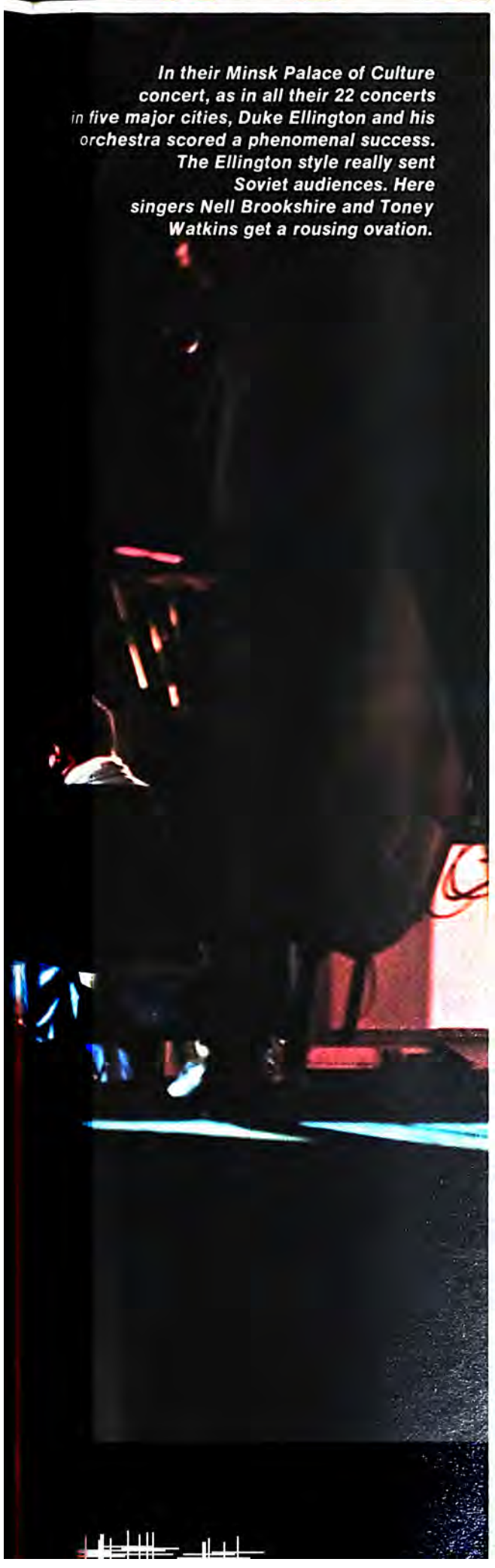
Triumphant Tour











In their Minsk Palace of Culture concert, as in all their 22 concerts in five major cities, Duke Ellington and his orchestra scored a phenomenal success. The Ellington style really sent Soviet audiences. Here singers Nell Brookshire and Toney Watkins get a rousing ovation.

Duke Ellington: "Very sensitive audience."

Duke Ellington's latest European tour began in the Soviet Union, the first appearance there of the great musician and his orchestra. In four weeks they gave 22 concerts in five cities—Leningrad, Minsk, Kiev, Rostov-on-Don, Moscow. An important event in the USA-USSR cultural exchange program, this tour showed how deeply Soviet audiences appreciated the orchestra's superb performance and its band leader extraordinary. SOVIET LIFE reporter Maya Gordeyeva traveled with the band.





DUKE ELLINGTON'S rich palette of popular songs, instrumental pieces and suites, so magnificently performed by each player in the orchestra, literally swept Soviet audiences off their feet. Four to five concerts in a row, and sometimes matinees as well, in each of the cities, in halls like the Kiev and Moscow palaces of sports that seat about 16,000 people, could not satisfy the demands for more. The number of Ellington's fans in the Soviet Union has grown enormously. I asked him what he thought about that.

"We're in a land rich in the heritage of musical tradition," he said, "and the main thing is not the size of the audience but that it is a very sensitive one, living on a high plateau of musical culture. I came here expecting great inspiration and found a greater thrill than I had anticipated."

He went on to say that the tour's major object—communication—had definitely been achieved. This was shown especially by the encores, lasting well over an hour.

The Duke Ellington Style

Many of the people who flocked to the concerts were obviously well grounded in much of Duke Ellington's music. They burst into spontaneous applause when they recognized "Caravan" and "Take the A Train."

"It is surprising how much they know about Duke Ellington here." The comment was made to me by his son Mercer, a composer himself and the orchestra's business manager. "One of the greatest tributes," he continued, "is that musicians traveled from places like Riga to hear us play in Leningrad. Some followed us to Minsk, Kiev and Rostov. They came around to hear about traditional jazz and what's popular now, about contemporary music, which they know, understand and like."

But they were also drawn by what has come to be known as the Ellington style or sound—the blending of combined effort and talent, an amalgam of individualities, each with a personal signature. Players like Harry Carney, Cootie Williams, Paul Gonsalves and Russell Procope quickly developed a following of their own.

"We felt that coming to Russia we should do our best and collected, over the past seven or eight years, really the best musicians we could get in conduct and ability, each with an individual sound that makes him different and sets him apart from the others," Mercer Ellington continued. "You see, when Duke writes his music there are no markings, no indications for dynamics or phrasing, and it is up to the men to decide how they want to represent what he's put down. Frequently they inject a musical thought of their own which becomes part of the orchestration."

Goskontsert people, who sponsored the tour, were baffled to discover that no set program could be worked out in advance for any of the concerts. Duke depends on the inspiration of the moment, what is called his "audience presence," and he actually re-creates the numbers every time he plays them.

"With Duke you never know," many of the orchestra members told me. "He just begins a tune, and you have to recognize, pick up and develop it as a matter of spontaneous interpretation." "It's a challenge and a reward when you give him what he's expecting," Malcolm Taylor (trombone) remarked. Even the singers don't know what the song is until he starts playing the number.

"Among Brothers"

There were numerous musical exchanges of every kind. Ellington and the band were carried off to visit local musical clubs and composer societies, orchestra rehearsals and pop music sessions. They were literally smothered in flowers and embraces, besieged by musicians and music lovers alike and trailed by an eager band of the press.

Many of the orchestra soloists were struck by the abilities of Soviet musicians, not only in the great concert halls and opera houses but even in the Minsk circus, where the band played "Caravan." When the orchestra members got together with their Soviet counterparts, it didn't take them long to understand one another.

But perhaps most satisfying were the serious discussions about music today. Soviet musicians, Ellington said, wanted to know about the Negro's involvement in music in America. And about his own current work and, of course, about the blues, which he explained were always "a result of a romantic triangle, with the odd one left to suffer . . . or rejoice." Asked about his impressions of Soviet musicians, Duke remarked: "They know what they're doing, and they have the

right climate, the proper atmosphere and the proper environment for music."

One of the gayest, noisiest, most emotional receptions in Moscow was the meeting at Friendship House sponsored by the Institute of Soviet-American Relations.

Leonid Utyosov, 77, leader of one of the oldest Soviet jazz bands, graciously expressed the sentiments of the gathering, to which Ellington responded: "I have never been so well received as I am here. I feel very much at home in my tour of the Soviet Union. I feel I am not only among friends, I am among brothers, and I want you to know that any time you need a pianist at home, call me!" Amid cheers and applause he added suddenly in Russian in his deep mellow voice: "I love you all madly."

"Moscow Metro"

It is an open secret that Ellington has not stopped writing on the road, even now in his seventies.

"He's done at least six compositions which were begun here in Russia," Mercer Ellington told me. "A piece called 'Moscow Metro' among them, which we played at our concerts although I don't think it's ever had words. It was something that was written for the people here and about them and was well received."

Duke himself is still of two minds about what to put into it before it is released and before he is rid of "the tonal reflection" complex (although in this case it shouldn't be so vital), but he is convinced that "Moscow Metro" should be done. "I think it should jump—the main thing is to move—right?" And he gave me one of his quizzical smiles. "I understand they have these long escalators that go way down."

So in addition to the opera, the symphony and other compositions he admitted writing on the tour, he may bring home one called "Moscow Metro," as he promised.

Impressions

The trips through the country left many strong impressions on the orchestra. Here are some of them.

Harry Carney (saxophone): "In Russia you believe in greatness, bigness, vastness, and there's so much enthusiasm. There was saxophonist Anatoli in Leningrad, whom I enjoyed so much. I would like people to hear him in the United States to show how well informed the Russians are. I don't know who's influenced whom.

"In Leningrad I had an accident and hurt my leg so I couldn't go sightseeing, but I must say I was very well taken care of. Had it been any place else, I perhaps wouldn't have had so much attention."

Malcolm Taylor (trombone): "It's been different from what I expected. I've been quite impressed by Moscow, the number of people, so much action everywhere. I've enjoyed the museums in Leningrad and the historical sites in other cities.

"We have established friendships, especially among musicians, and exchanged musical ideas. It has been very enlightening."

Joe Benjamin (bass): "In Russia we didn't know what to expect, and it's been grand. First of all, it's clean as a whistle and I like that—very tidy and the country is beautiful. But we have not had enough time to see everything. We've made friendships that I hope will be lasting."

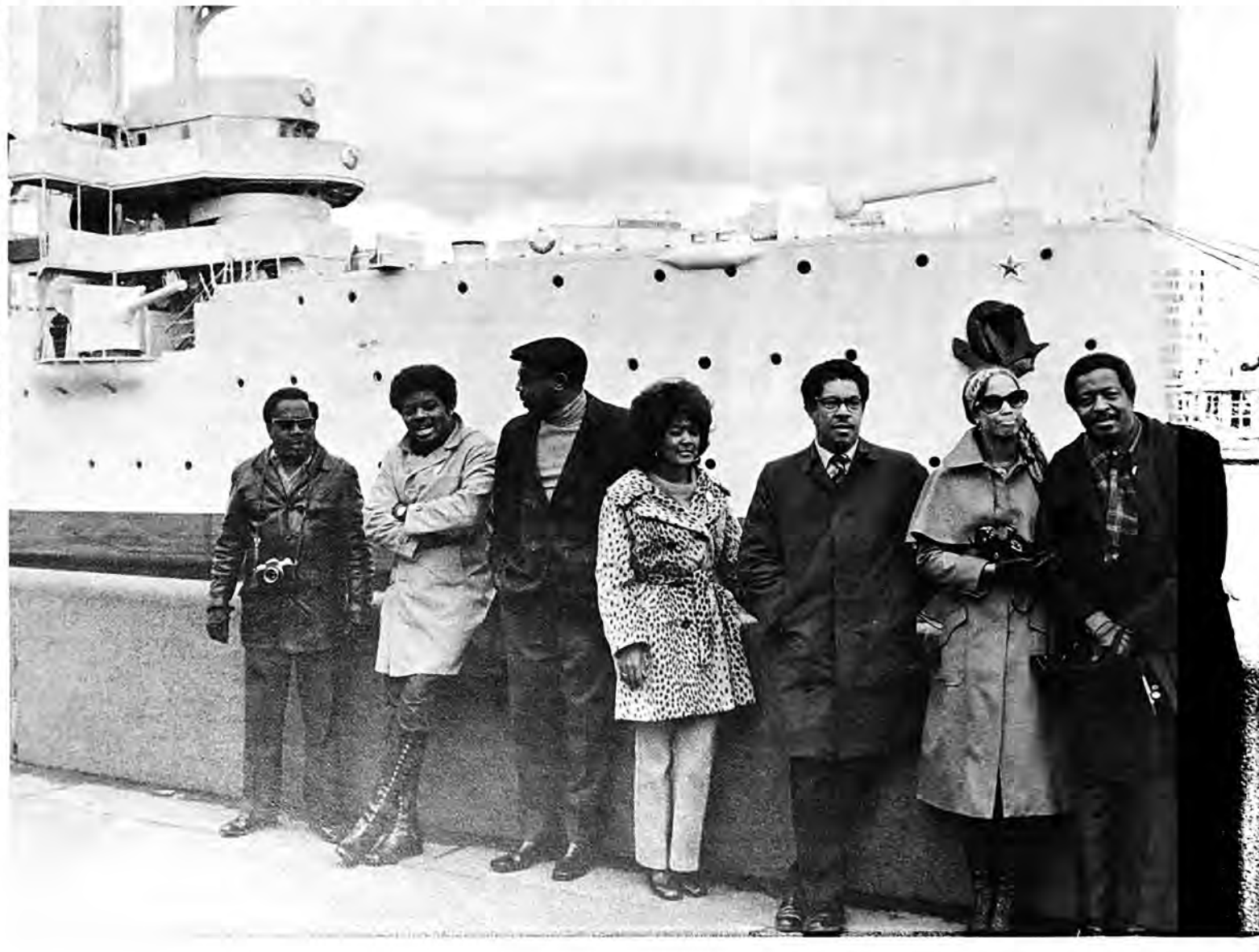
Mercer Ellington (trumpet): "The trip has also had its rigors. We would catch cold because of the change in climate so each day we'd have a morning sick call. But this band really has stamina and Duke most of all. Some of us have bought Russian winter hats to keep warm."

Nell Brookshire (singer): "The food has been very good. I especially liked the bread and butter and gained about seven pounds.

"I've been very comfortable, and the sightseeing tours have proved to be interesting—the palaces in Leningrad, the gold and the jewelry display. The paintings were simply beautiful! The palace where they had the silver tomb was fantastic. I liked the social art and the cartoon paintings and the dance groups we saw. I feel quite attached to the people, and it is hard to leave."

Toney Watkins (singer): "I'm in love with the architecture of a lot of the buildings, the Ukraina Hotel in Moscow, for example, which looks like a huge cathedral or the main building of a university. And the parks in Leningrad are beautiful, the Hermitage impressive. So is the ballet in Minsk. And the concert hall inside the Kremlin. . . . I just couldn't believe it! The Bolshoi, of course, is fantastic!

"To the folks back home I would like to say: If you get a chance, apply for your Russian visa and see what the other half is doing."



Leningrad, with the revolutionary cruiser* Aurora *in the background. Left to right: Harold Minerve, Toney Watkins, Joe Benjamin, Nell Brookshire, Booty Wood, the Duke's granddaughter Mercerdes Ellington and Eddie Preston.

A letter sent to us asked the following question: "Does the Soviet Union have its own Ralph Naders?" While we have no Naders, we do have plenty of people who speak out at meetings and send letters to the press criticizing the quality of various consumer items. Besides, the Soviet Union has a people's inspection system whose business it is to keep an eye on factory production, building, commerce, land tenure, public services, and other aspects of the economy. Here is what Yuri Polenov, vice chairman of the People's Control Committee of the USSR, has to say about this system.

SUPERVISED BY THE PEOPLE

By Yuri Polenov
Vice Chairman, People's Control Committee of the USSR

PEOPLE'S CONTROL is the chief inspection system in our country. What does it actually check on, and why?

The means of production in the Soviet Union are publicly owned, and all economic and cultural development proceeds by a statewide plan that has the force of law. The current one is the Ninth Five-Year Plan. It gives the projected figures for all sorts of interdependent things—steel output and number of hospital beds, timber procurement and the publication of school textbooks, and so on. Ours is an enormous economy, and we have to take into account all the raw material and manpower resources and see to it that they are used in the most efficient way. Therefore People's Control covers practically everything in the area of production and distribution.

What the People's Control agencies do is fight instances of bureaucracy and red tape, get the government agencies to work better and more economically, promote more scientific organization of labor and management.

These agencies also see to it that officials of all ranks observe the law that requires them to welcome suggestions and complaints from citizens. Each People's Control committee has a special office to hear complaints and to check on how sensitive government ministries and departments, factories and commercial establishments are to the reactions of the people they serve. People's Control activities are an integral part of every Soviet enterprise and institution.

Checking

The People's Control system is made up of public inspection teams in factories and commercial establishments, institutions and agencies, and on collective farms. There are now more than a million such teams. Their members are elected by open ballot for a term of two years. The job is voluntary and unpaid; people take it because it gives them an opportunity to participate actively in production management and civic matters. The teams report back regularly to the people who elected them and make a full progress report at the end of their term. In the last elections 42 million voted for public inspectors, and many of the voters came with suggestions to improve the operation of the teams.

The teams are responsible to People's Control committees, which are organized on a territorial basis. The local People's Control committees of from nine to fifteen members include industrial, professional and office workers, collective farmers, representatives of the trade unions, the Young Communist League and the press. They also work without pay. District, city and even regional committees usually have no more than one paid worker. The corresponding Soviets form these committees and appoint their chairmen.

The work of all the committees is tied together by the People's Control Committee of the USSR, whose chairman is appointed by the Supreme Soviet. People's Control is fused with state control, thereby making it that much more effective.

Rights and Powers

The People's Control bodies have considerable rights and powers—anywhere from criticizing persons guilty of watering down standards or breaking the law to taking them to court. People's Control committees have the right to demand that officials provide them with documents and information, to ask these officials to explain deficiencies and see that remedial orders are issued. If necessary, the committees can make economic and financial investigations, check on production and technology, and terminate patently illegal actions or orders of officials. The committees can punish those guilty, even by dismissal. If an official is found responsible for economic loss to the state, a cooperative or a public organization, a People's Control body has the right to fine him or her.

Yet, the main job of supervision is not so much exposing as preventing misdemeanors.

A Bit of History

People's Control (Workers' Control) made its appearance even before the October 1917 Revolution, on the initiative of the working people themselves. It came with the first Soviets.

In 1905, workers of the Kuvayev factory in Ivanovo-Voznesensk, for instance, established supervision over the actions of the management and the factory owner. The workers were headed by the Bolshevik Dunayev. In February-April 1917, after the February bourgeois-democratic revolution, workers' supervision became widespread, although the movement then had no defining organizational principle.

Lenin and the Communist Party regarded it, before the October 1917 Revolution, as a form of struggle for the

rights of the working people and the establishment of a new social system, and, after the Revolution, as an effective means of involving the workers in socialist construction and in managing the affairs of the state.

After the October Revolution, new forms had to be found and developed to involve millions of people in the creation of a new social order, forms that would be simple, understandable and at the same time efficient. That is why Workers' Control was introduced everywhere, with the workers themselves assuming the task of restoring and building industry, transport and agriculture. Through this approach, people learned to place the general welfare above their own advantage on the job.

The dialectics of socialist construction, socialism's development into communism, is a process of manifold development of democracy, of renovating its forms, of searching for more effective means by which the masses of people can function as the sole rulers of their country.

That is why, during the years of Soviet power, the forms of socialist control have changed many times, but its content has remained the same.

School for Management

It is not enough to have rights, we must also know how to use them, since management is the most difficult of skills. And People's Control is the very social institution through which the masses learn to run the country, its production and its politics.

A worker or collective farmer who joins a People's Control body is introduced to community action and learns the managerial techniques needed to run a factory or a state.

You might ask how subordinates (and there is no question that those who work in a factory or office or on a collective farm are subordinate to the management) can check and criticize that management without affecting their job status. The answer is that when the people own a factory, the factory head is their servant. And, in fact, the advice and criticism of People's Control bodies contribute to one-man management the creativity and know-how of the entire staff. Besides, the executives themselves look on the People's Control groups as their helpers.

Here is what Vasili Kolomnikov, director of the Moscow Compact Car Plant, had to say about People's Control: "In the past five years our production totaled 36 million rubles' worth more than the plan called for. More than anything else, the work of the People's Control groups made that possible."

Every supervision session is at the same time a learning situation. Both those who are supervised and those who do the checking acquire good work habits and learn techniques of economic management, of conserving the people's property.

Participation in People's Control makes everyone responsible for everyone else's future. It encourages a strong feeling of public responsibility, develops principled fighters against injustice and unsound methods of management. The Soviet people realize that their personal interests coincide with the public interest, and that without concern for the general welfare, private life becomes sterile.

Efficiency

The area of activity of the People's Control bodies ranges from individual checkups, intended to correct instances of careless management and waste, to generalization of the reasons and the framing of preventive measures. Nobody has the right to interfere with these activities.

A great variety of economic areas are scrutinized by People's Control. Thus, in 1971, it made a thorough study of whether such basic wealth as land was being used to the best advantage. Over 320,000 agricultural specialists took part in the study. As a result, thousands of acres of poorly employed land were put to better use.

The quality of consumer goods is also a perennial concern of the People's Control system.

The Twenty-fourth Congress of the Communist Party of the Soviet Union set the very important task of substantially boosting living standards and increasing the output of consumer goods, especially cultural and household goods. Under the new five-year plan, the state will invest immense sums in the manufacture of these goods. And People's Control agencies have the job of seeing that the quotas are met.

On the initiative of the People's Control groups, a citywide review of the reserves for increasing the output of such goods was announced in Moscow. Special public commissions—city, district and enterprise—were set up to do the job.

The review participants are working to enlarge the choice of goods and improve their quality. Emulating the Muscovites, People's Control bodies all over the country launched similar campaigns.

People's Control is very much involved in the general effort to use the country's resources with care and thrift. Our productive forces have increased so tremendously that even a small improvement, multiplied by the size of our immense economy, saves millions of rubles.

People's Control groups are important contributors to the advancement of democratic principles in industrial management. The new production techniques they introduce benefit the entire country. Here we have the force of personal example, assisted by the campaign against red tape and the timely encouragement of innovators and outstanding people in production, management and the public services.

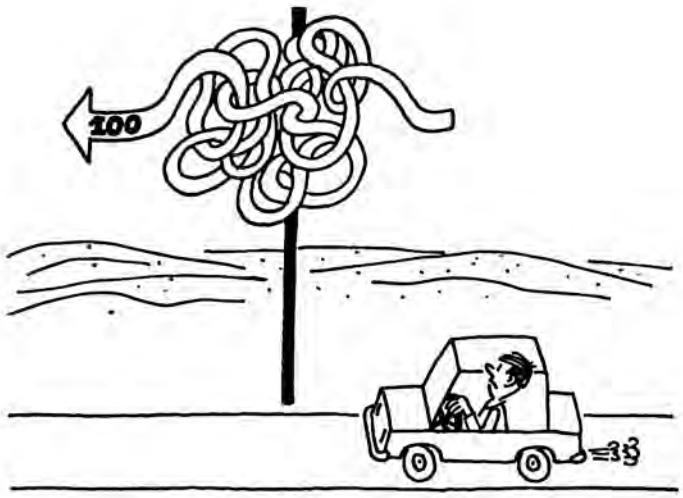
Wide Exposure

The effectiveness of this system is enhanced by the wide exposure it gets. The work of the public inspectors is done with everybody invited to see. They begin their checking, and the news is transmitted to the entire collective so that others who are interested may join in and offer their suggestions. The results of checkups are reported not only to executive bodies but to the collectives. These reports are most important. First, they make it easier to avoid drawing wrong conclusions. Second, they enable the public to check whether shortcomings are being corrected. Last but not least, they encourage people to tackle the job of implementing comments and suggestions.

People's Control in our country has the attention of the press, radio, TV and cinema. This is the eighth year that *Pravda, Izvestia* and other newspapers, both national and local, have been featuring columns on People's Control. In many cities, radio and TV stations broadcast regular reports on the subject. Special programs present the experience of the control committees and teams.

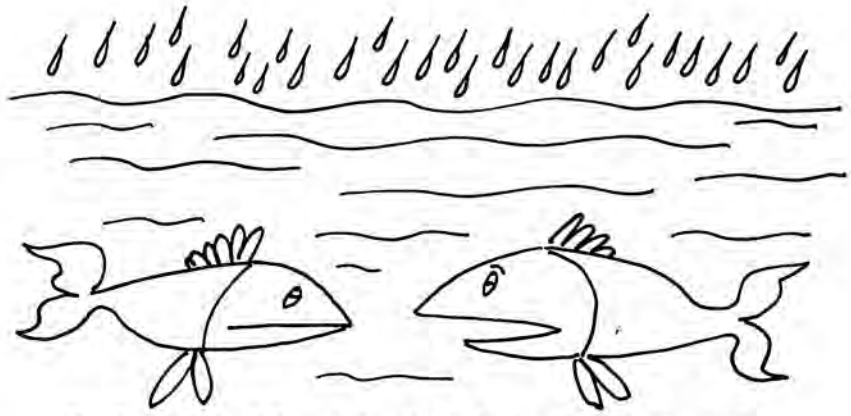
As our society keeps progressing toward communism and developing socialist democracy, the role of the People's Control bodies keeps growing. This is explained by the fact that the scope of production is broadening, with an accompanying rise in its scientific and technological level. It is impossible to control the complex processes of social production without efficient supervision, without the use of the people's initiative and collective know-how, without applying the valuable suggestions that come from the masses. People's Control helps to stimulate the people's initiative and put it at the service of the productive forces.

At its Twenty-fourth Congress, the party gave high praise to the People's Control bodies. Leonid Brezhnev, General Secretary of the CPSU Central Committee, said in the Central Committee report to the congress: "In the system of Soviet socialist democracy an important place is occupied by the organs of People's Control, in whose work millions of factory and office workers and collective farmers now take part. The party will continue doing everything to secure the steadfast implementation of Lenin's precepts on constant and effective control by the broad masses."

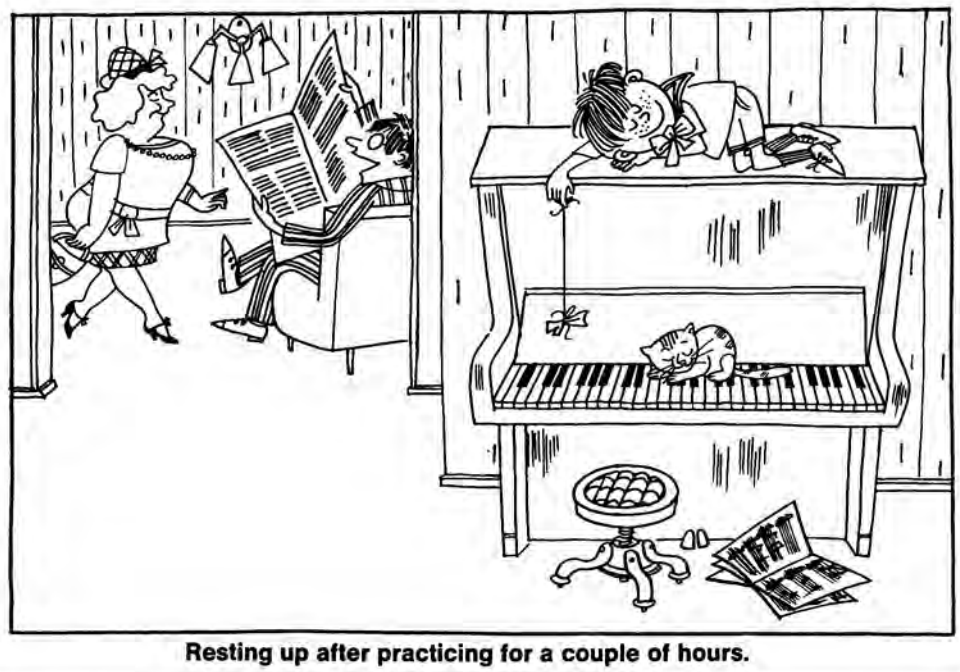




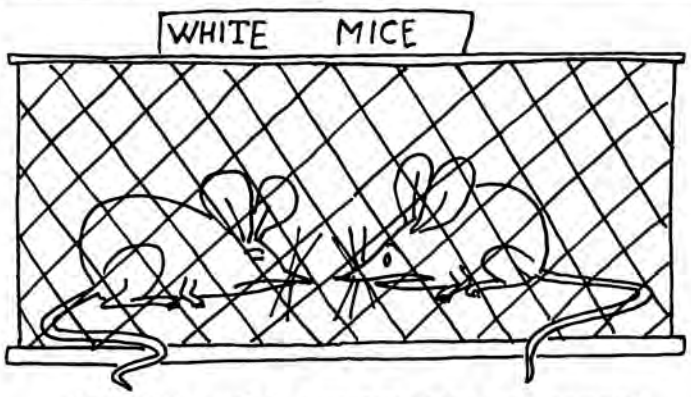
HUMOR



"Instinct, my hat! I'm getting tired of migrating every year."



Resting up after practicing for a couple of hours.



"We really ought to complain to the management, keeping us cooped up like this."



The big thing in hunting is to get your game all mixed up."



"This is what a kangaroo looks like."

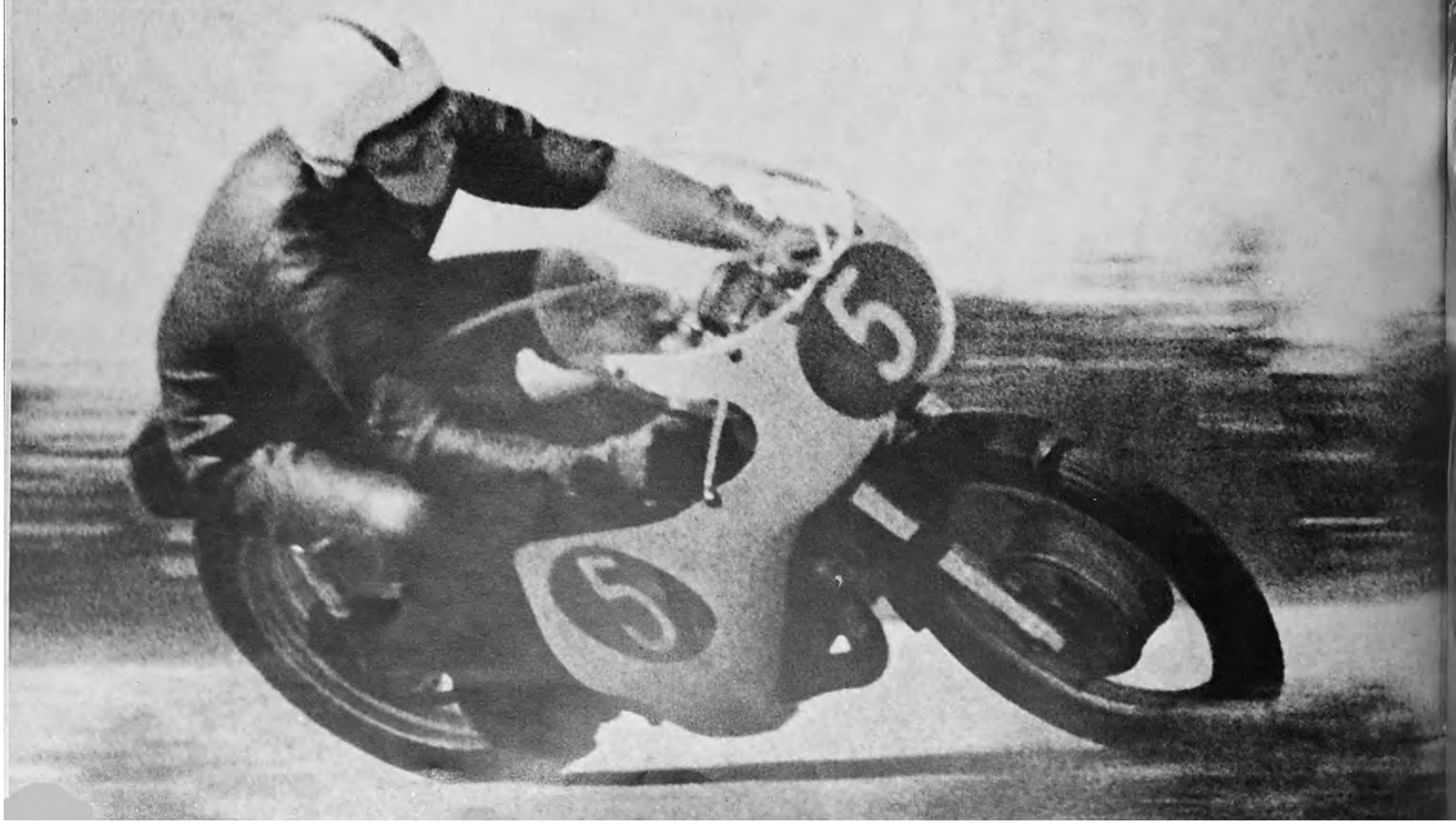


"Son?" "No, just a pet."



National motorcycle races in Tallinn, Estonia, 1971

Photographs by
Yuri Kravtchuk



SOVIET LIFE

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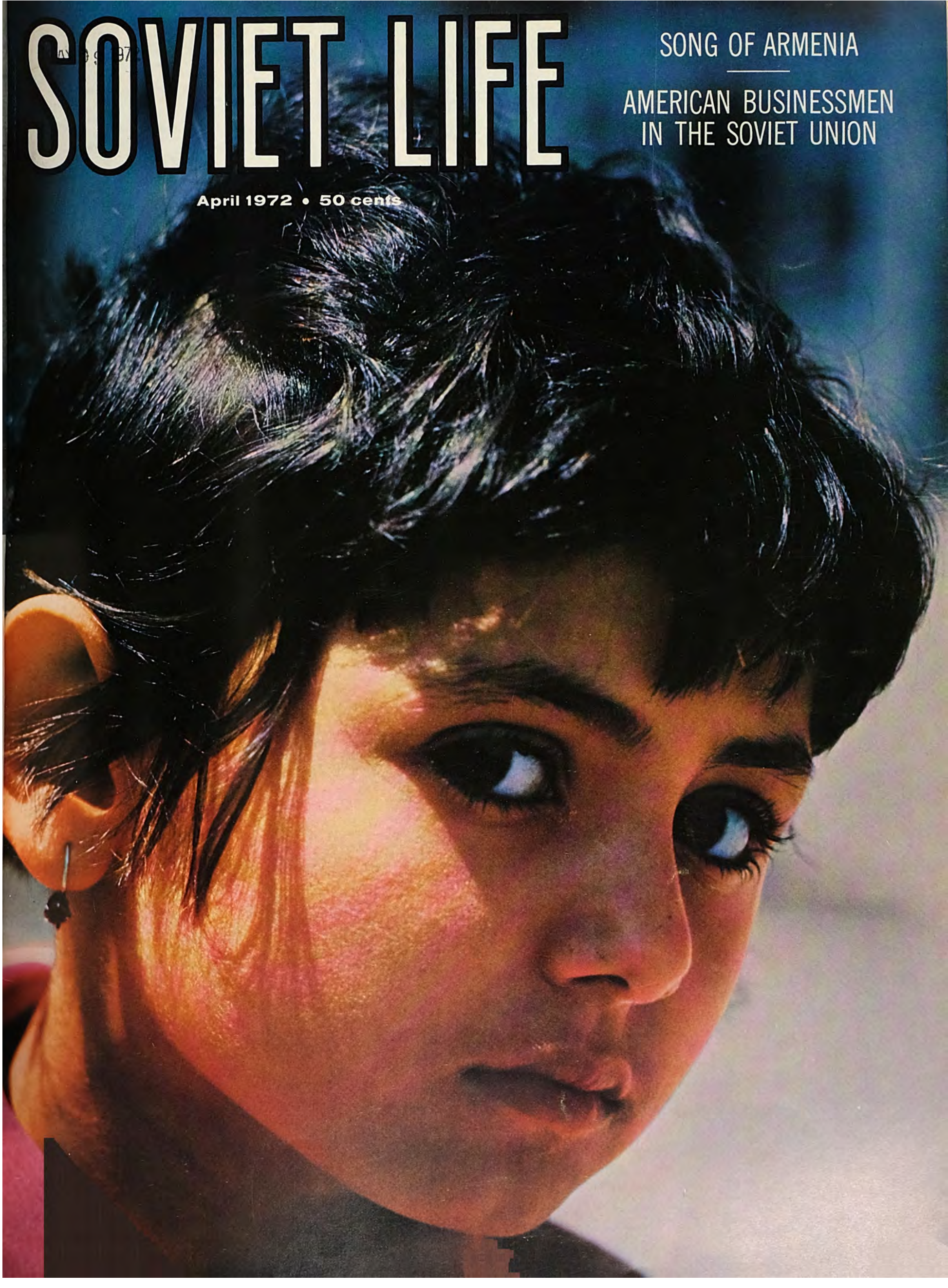
SONG OF ARMENIA

AMERICAN BUSINESSMEN IN THE SOVIET UNION





PAST AND PRESENT IN ONE OF THE OLDEST COUNTRIES IN THE WORLD



A monument to the legendary Armenian hero, David of Sasun, stands on a square in the capital city, Yerevan. The sculptor was Ervand Kochar. Armenia's history is one long genocidal procession of foreign conquerors who spared neither women nor children, homes nor holy places, and of unrelenting, exhausting struggle for independence against Persians, Macedonians, Romans, Arabs and Turks. As a result, beginning with the seventeenth century, Armenian culture developed mainly in the exile colonies abroad. In 1920, Armenia's bourgeois-nationalist government was overthrown and a socialist republic formed. In 1922 it united with other Soviet republics to form the USSR.

See page 6

PEOPLE AND EVENTS

Five-Year Plan

The most recent session of the USSR Supreme Soviet considered and adopted the five-year economic development plan for 1971-1975. It is the ninth such plan.

Alexei Kosygin, Chairman of the USSR Council of Ministers, noted that the goal of the plan is a considerable rise in living and cultural standards.

By the close of the five-year period, the national income is expected to total more than 1.6 billion rubles, a rise of about 40 per cent.* Industrial output will go up by 42-46 per cent.

Average monthly wages of industrial and office workers will rise by 20-22 per cent, and the average payment for work done by collective farmers, by 30-35 per cent.

*The national income in our country is the total value of goods produced for a specific period, one year or five years, for instance.



State Prizes

State Prizes are awarded yearly for especially noteworthy contributions to science and technology, literature and the arts. In 1971 State Prizes were awarded to 275 individuals.

Architects Georgi Zaborsky and Victor Yemelyanov and collective farm chairman Fyodor Senko were honored for their layout and construction plan for the village of Vertelishki, the focal community of the Progress Collective Farm in Grodno Region, Byelorussia.



Experimental construction is being done at many collective and state farms in Byelorussia to find the best models for rural communities. The plan for Vertelishki has been judged the best thus far developed. Most of the new dwellings are two stories high. The architecture takes the local terrain and other natural factors into account, and makes use of national designs in the buildings and apartments.



Vocational Schools

The network of vocational schools for young people, set up in our country long ago, trains skilled workers for industry, construction, transport, agriculture, the service industries, etc.

While these schools teach a trade, some still do not provide a complete secondary education. For the most part, our young people get their general schooling first and only then do they choose their future trade or profession. The vocational schools of Leningrad, one of the country's biggest industrial centers, are enlarging their curriculums to provide a complete general secondary education along with vocational training. The advantages are that more young people will seek admission to vocational training schools, cultural and general educational standards of graduates will be higher, and this better background will help them master today's complicated work techniques.

The city is now building 58 new vocational schools, and the 60 in operation are being modernized. By 1975, these schools will graduate annually some 50,000 young workers trained under the new curriculums. Leningrad's initiative will undoubtedly be followed by other cities, especially since the transition to universal compulsory secondary education is to be completed by the end of the current five-year plan.

Exhibitions Abroad

The Soviet Union will have 20 exhibitions abroad in 1972, displayed in a total area of 970,000 square feet. To commemorate the fiftieth anniversary of the formation of the USSR, celebrated this year, a special section of these exhibitions is devoted to the friendship and cooperation of the Soviet republics.

The display at the Leipzig Fair will illustrate Soviet space exploration, instrument making, electronics and industrial standardization. Visitors to the Atoms for Peace exhibitions in Zagreb, Amsterdam and Colombo will see models of reactors, including those operating on fast neutrons, and atomic installations for desalination of sea water. The Central Asian republics will be emphasized in the exhibit at the Third Asian World's Fair in New Delhi, co-sponsored by the UN Economic Commission for Asia and the Far East.

Goals For Medical Care

An all-Union conference of public health workers in Moscow heard a report by the USSR Minister of Health, Academician Boris Petrovsky, on medical goals projected for the coming years.

There have been marked changes in the state of health of the average Soviet citizen in the last decade. Average life expectancy has increased to 70 years. Child mortality has gone down from 30 to 25 per thousand of newborn infants. The incidence of diphtheria has dropped by 50 times, poliomyelitis, 30 times, whooping cough, 16 times.

The number of hospital beds in 1971 was 2.7 million. The Ninth Five-Year Plan allocates 3 billion rubles for the construction of hospitals and polyclinics. This will add 337,000 more hospital beds.

In this same period, the medical colleges of the country will have trained 230,000 doctors. By 1975 the total will be 839,000, or 32 doctors per 10,000 people. The number of paramedical workers will also rise to a total of 2,679,000, or 104 per 10,000 people.

Sanitary and epidemiological services will be increased to provide a healthier environment. The emphasis will continue to be on preventive medicine.

Of the prospects for combating cancer, Academician Petrovsky cited the Oncological Center of the USSR Academy of Medical Sciences in Moscow. The center is scheduled to open by 1975.

Medical care in the Soviet Union is, of course, free. In 1975 medical and other welfare benefits available to every citizen will total 90 billion rubles, a 40 per cent increase over 1970.



Figure-Skating Champions



In the last European figure-skating championship, held in Goteborg, Sweden, top honors in the pairs went to Muscovites Irina Rodnina and Alexei Ulanov for the fourth consecutive time. Leningraders Ludmila Smirnova and Andrei Suraikin earned silver medals. The Soviet entrants showed faultless technique and high artistry in their original routines.

Silver medals in the dancing competition went to 1971 world champions Ludmila Pakhomova and Alexander Gorshkov, and to Sergei Chetverukhin in the men's singles. All are from Moscow.

Figure skating has become very popular in the Soviet Union in the last few years. A characteristic feature of the Soviet school is that technique, composition and music form an integral whole. In addition to national competitions, the Soviet Union holds an international skating tournament in Moscow each year.

Book Year

When the Soviet delegation proposed an International Book Year to UNESCO, its expressed purpose was to strengthen, on a global scale, the use of books as tools to preserve and maintain international peace and security, to end colonialism and racism, and to foster the economic and social progress of nations.

In November 1970, the General Conference of UNESCO unanimously adopted the text of a resolution declaring 1972 International Book Year. The object of this undertaking is to draw attention to the value and significance of books in today's society.

It has been agreed that Moscow will be the site of the principal project of International Book Year—an international symposium on the subject Books at the Service of Peace, Humanism and Progress.

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EDITOR'S NOTES

THERE ARE quite a number of letters sent to the editorial office of SOVIET LIFE by American readers that are thought-provoking.

Several of them have raised a question that is of universal interest these days—the vast gulf between the educated and the uneducated. The point is not primarily a matter of income. There are many blue-collar workers who earn as much or more than white-collar workers. What seems to be involved is an attitude of mind.

Some people think it's silly for a worker to cultivate intellectual traits, read real literature or listen to classical music.

"Will this happen in Soviet society?" the letters ask. The implication is that as a country's living standards go up and the rank-and-file worker gets all his material needs satisfied, he is lulled by the good things of life and loses any interest he may have had in cultural things.

In spite of our rising standard of living, this is not happening in the Soviet Union. Our Revolution was not made just to get an extra piece of bread. We are not building socialism simply to have more cars and TV sets. We do not look at rising living standards from the purely consumer point of view. Prosperity per se is not the goal of our society. It is only an indispensable condition for the individual's social progress and rounded development. This is the view of the Communist Party, this is the course steered by the Soviet Government in its everyday activity, and this is also the opinion of millions of rank-and-file citizens. That is why the growth of living and cultural standards has been a parallel process in our country. And the nearer we get to communism, the more opportunities we have for education and cultural advancement. It means that we expect from the future not the intellectual cleavage one reader refers to, but the intellectual unity of society—without uniformity or universal leveling, of course.

Naturally, not all Soviet people have the same cultural standards. There are people with high cultural requirements, and there are some (though they seem to be in the minority) whose leisure time activity does not go beyond TV watching. But it would be wrong to attribute this difference to a difference in educational levels. Our conception of a person doing manual work—what Americans call "the blue-collar worker"—has undergone an essential change. Today's

DOES A BLUE-COLLAR WORKER NEED SHAKESPEARE?

Soviet factory worker must be an educated person. That is why we are completing the transition to universal compulsory 10-year schooling. In general intelligence a modern young factory worker does not often differ essentially from an engineer or even a scientist of the same age. Simply, a college graduate has some specialized knowledge. Of course, belonging to the intelligentsia—technical and, particularly, professional—sets a person apart in a way. But much depends on his individual abilities. There are probably specialists in cybernetics whose reading interests do not go beyond detective stories, and factory workers with no training in higher mathematics who get excited about Shakespeare, Goethe and Dostoyevsky.

Do our "blue-collar workers" have any special mind set? They certainly do. As a rule, they are proud of their trade and skill, of belonging to the class that creates material values. But they would not strike any special pose and claim that literature is not for them. A little explanation is probably in order here.

Let's start from the past, from the fact that old Russia was a society where a highly developed culture coexisted with absolute barbarism. Three-fourths of the population of the country in which Leo Tolstoy and Fyodor Dostoyevsky lived and worked were illiterate. The people who gave the world so many brilliant talents led a life of ignorance.

Now recall that a revolution was made in that country, and the new government decided to achieve universal literacy and bring the entire wealth of world culture within reach of the broadest sections of people. Was it possible for that turn of events not to have called forth general enthusiasm? When access to knowledge and culture was opened to everyone in our country, workers and peasants got down to books with zeal, rushed to theaters that were being opened everywhere and argued themselves hoarse about philosophy, religion, politics and art.

Particularly rapid progress was made in the former national hinterlands whose economic and cultural development had to be started actually from scratch. Among the Russians, those who could read and write were not such great rarities. But take the Yakuts, for example. They did not even have an alphabet of their own, let alone their own national intelligentsia. Nowadays a Yakut engineer or writer is nothing unusual. But one must not forget that the cultural revolution is a result of long and hard years of work, the common effort of all the peoples of our country.

The "enthusiasm" of the twenties we mentioned above has not yet worn out, even though everyone now has the rudiments of culture. There is still a truly universal craving for education. One out of every three people in the country is studying. As many as 4.5 million people take evening classes after a full day's work. Most of them are young workers and farmers. Some of them are completing their secondary (10-year) education with a view of going to college and learning a profession. But many do not plan to leave their machine or tractor; they are studying to keep up with the times, to grow culturally.

Here are some relevant figures. In a year, "an average citizen" borrows about 20 books from the public library and sees 19 films. The country's museums are visited by 96 million people, and professional theaters are attended by 110 million a year.

Thirteen million people are active in amateur art groups of various kinds: theater, music, dance. Of course, different amateur groups achieve different artistic levels. There are amateur companies that win prizes at countrywide festivals and others that barely anyone has ever heard about. What really matters is the wish and the opportunity to use one's talents and abilities, not to be simply a culture consumer.

Although the figures we cite are impressive, you may still wonder about the class composition of these groups. Well, since workers and farmers account for 76 per cent of our population, it is obvious that libraries and theaters would be empty without them. And we certainly must not forget the amateur companies organized, as a rule, at factories or on collective farms, with funds and facilities provided by factory and rural trade unions.

You have only to look through library membership cards or visit a bookstore or musum to see for yourself that workers, particularly young ones, make up a considerable part of the library subscribers and museum visitors.

Incidentally, the average intellectual and esthetic standards of readers and theatergoers have grown appreciably. This is borne out by any number of facts. For example, information supplied by libraries and bookstores shows that young people today—including young factory workers—are more interested, in "serious" literature than their counterparts were five or ten years ago. Incidentally, this interest is not restricted to belles-lettres but includes history, philosophy and social problems. And what about films? Polls taken by the press among very diverse filmgoers show that the popular films are those that pose the problems of our time, films with complicated form and solid substance. The average-level film does not evoke any great enthusiasm.

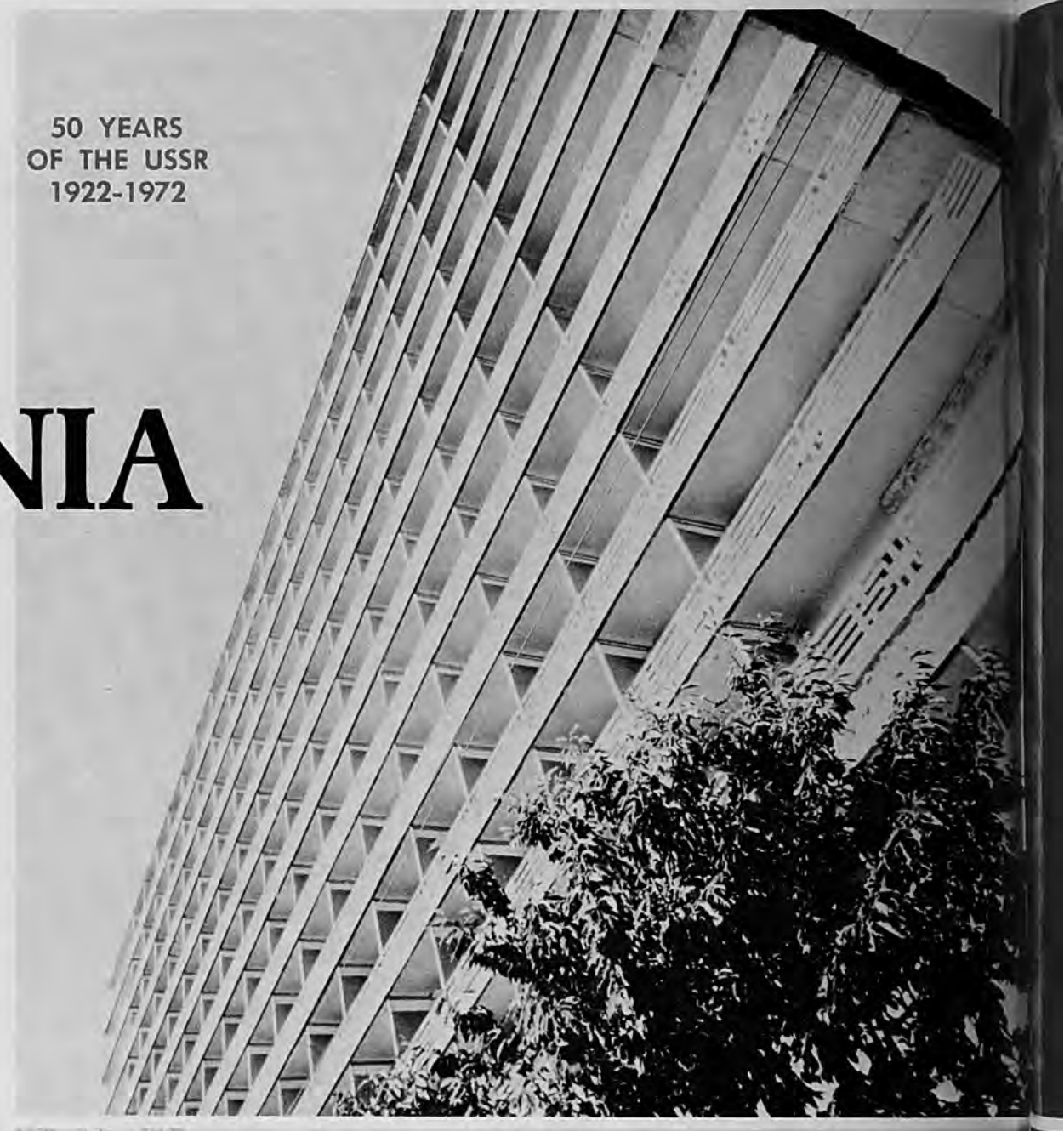
A word about television, that unavoidable accessory of "mass culture." With all its unquestionable merits and convenience, it has not detracted from the popularity of the movie house or theater in our country. Most of our people are devoted to the arts and enjoy some form of active participation.

And yet what is involved is not merely a thirst for culture. Reading, amateur arts, concerts all seem to rest on a more solid foundation than a wish to raise the cultural level. The main role is played by the general world outlook and a creative attitude toward life, these being the characteristic traits of the working people of the new, socialist order. Even on the job Soviet workers or collective farmers are accustomed to thinking in broader terms that cover the interests of the whole collective. Besides, they often go to public or government meetings and functions arising from their activities in trade union, Communist Party and YCL organizations, and the local Soviets. Their world is not limited to home. This follows logically from the social system of our society and just as logically works against the attitude that is worrying some of our readers.

By way of example, let us cite an extract from a letter sent by Alexander Chirikovsky, a printer, to the newspaper *Izvestia,* that the paper carried as part of a reader discussion on choice of vocation. Here is what he writes: "I am a typesetter in a printshop with a 48-year work record. At the same time I read a great deal and always listen attentively to what people with a broader knowledge than mine have to say. I read philosophy and history with interest. And I've had occasion to talk with writers and scientists on various subjects. Listening to them was interesting for me, and they seemed to be interested in what I had to say. Believe me, being a worker is no obstacle to becoming a well-educated man with high cultural standards. Particularly nowadays, with so many opportunities."

SONG OF ARMENIA

50 YEARS
OF THE USSR
1922-1972



BY GEVORG EMIN

This history of Armenia is from the script of a documentary film by contemporary Armenian poet Gevorg Emin. The Yerevan Studio produced the film, which has been shown throughout the USSR.

I AM GOING TO TELL YOU about Armenia, my long-suffering, now happy, homeland. My native land is small yet infinitely large. Armenia covers only 11,580 square miles, but its frontiers extend from the mountain village of Byurakan, where the astrophysical observatory is located, to the very stars, and from the new city of Lusavan to ancient Urartu.

What does "homeland" mean? To me, first, the people who live in it. And then their history, old and new: writings and songs that endow our rocks, our water, our land, our fire with the gift of speech to have them tell us what is closest to our hearts.

History

A star-shaped Babylonian map on a slab of clay is one of the oldest maps in the world, dating from the fifth century B.C. Armenia is one of the six countries scratched into it.

Legend tells us that Noah left his ark on the top of Mount Ararat and descended into the ancient Ararat Valley. Our land is no less fair than that Biblical paradise. But how many years was it a hell on Earth for my people? How many times was it overrun by hordes of foreign invaders sowing death and destruction, committing everything to fire and sword, sparing neither women nor children, temples nor sacred places. That is why we cut our cathedrals in the cliffs, as we did with the Gegart Cathedral.

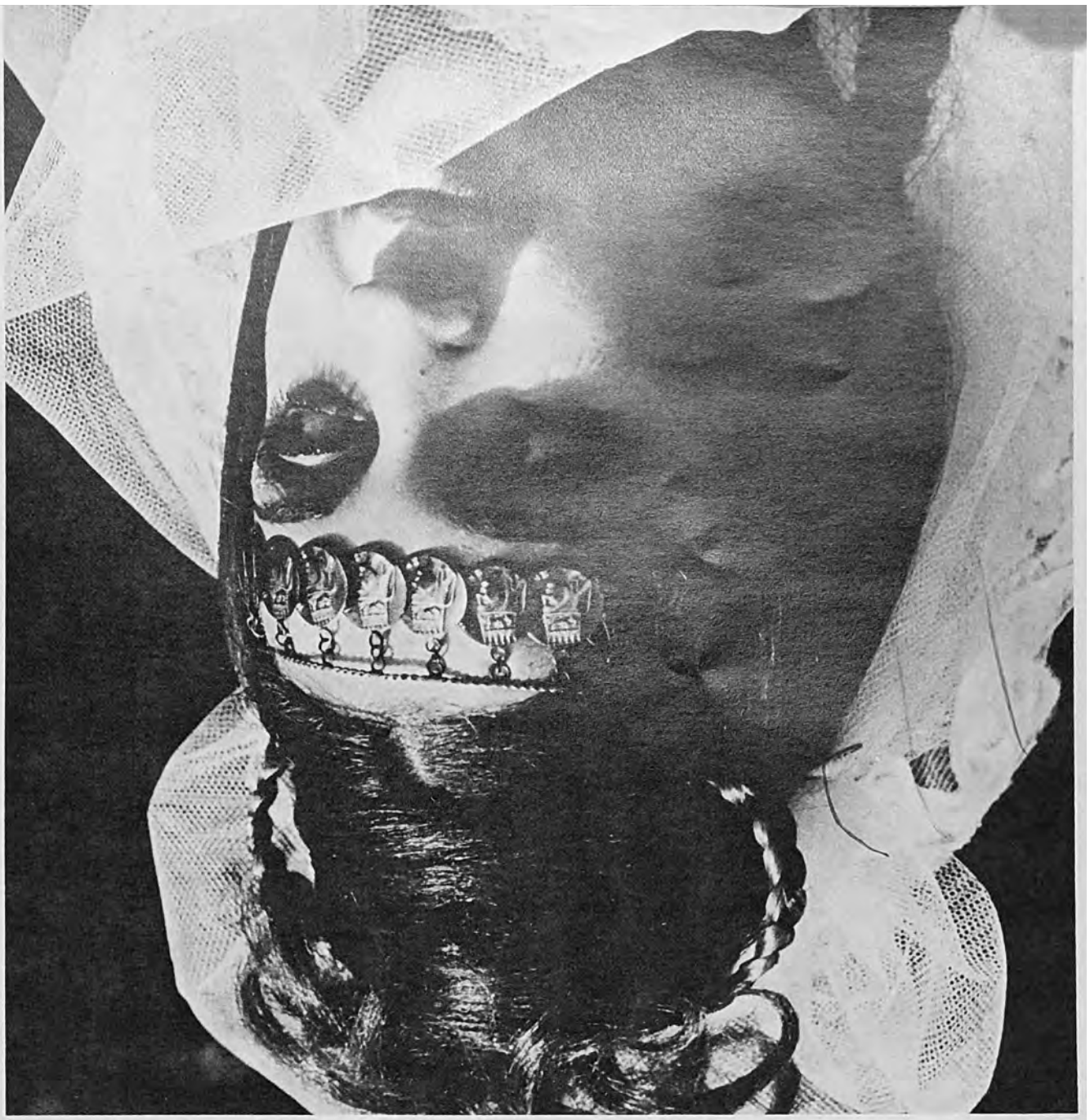
For hundreds of years the Armenians sang, "God, save the people." Not the king or the lords but the people, all those by whose labor and wisdom my country existed. How many times our people died and were resurrected from the ashes, like the legendary phoenix!

As far back as the beginning of the ninth century B.C., the mighty state of Urartu was formed by the unification of several tribes. In 585 B.C. Urartu fell in an unequal battle with the Medes, and



Mining-chemical complex in Razdan. Above: The Dzhermuk health resort, known for its restorative mineral waters. Top left: Armenian architects try to combine the national traditions and modern rhythms in their structures. Bottom left: The ancient, and almost legendary, Gegart Cathedral.









Below: A monument to the 2.5 million Armenians killed by the Turks between the years 1914 and 1918, the first case of such massive genocide in world history. Left: Lenin Square in Yerevan, with its singing fountain, one of many in the city. The Armenian capital lies in the plains of the Caucasus ranges, on the Razdan River, a tributary of the Arax. Built largely of local stone, rose tufa, it makes a striking picture against a background of the twin peaks of Mount Ararat. Legend says that Noah moored his ark on one of them.



Maxim Gorky wrote of Yerevan in 1928: "Construction is what strikes the eye first. . . . From afar, the old city, built of stone against the background of the bleak hulk of silver-headed Ararat . . . produced the impression of a captive in a cage of construction scaffolding, on which antlike figures of workers were putting up new buildings directly, as it were, from the rocky hulk of the Biblical mountain." Today Yerevan is a city of wide avenues, green parks and modern apartment houses. Far left, top: The city at night. Far left, bottom: Traditional dress is still worn on the national holidays.

soon thereafter the Armenian state was born. It waged an endless, exhausting struggle for independence against Media, Achaemenian Persia and Greek Macedonia.

In 190 B.C. the Armenian princes Artaxias and Zariadres won the complete independence of their country, and a hundred years later Tigranes the Great founded a vast empire that stretched from the Caspian to the Black and Mediterranean seas.

The first five centuries A.D. saw the rapid development in Armenia of trade and handicrafts, and the appearance of a theater that staged both Greek and Armenian plays. In 301 Armenia was the first country in the world to embrace Christianity as a state religion.

From the fifth to the fourteenth centuries the Armenians fought fiercely for their independence against the Romans, Persians, Arabs and Turks. The last independent Armenian state in the Middle Ages was Cilicia, which sprang up in the eleventh century on the shores of the northeastern bay of the Mediterranean. But in 1375 Cilicia also fell in battle against the Mameluke Sultanate.

Time after time the Armenians rebelled against their foreign conquerors, but the uprisings were brutally suppressed. That is why, beginning with the seventeenth century, Armenian culture had to develop outside the country for the most part, in the Armenian exile colonies abroad. The first Armenian printing house was in Venice, where the first Armenian book was printed as early as 1512. In Amsterdam, in 1694, the first map of the world in Armenian was printed by Armenian cartographers and engravers. The first Armenian magazine began publication in the Indian city of Madras in 1794.

Both in Armenia and abroad secret unions and organizations, some headed by leading public figures, sought ways to liberate the country. But all attempts to cast off the foreign yoke were doomed to failure without outside aid.

Help arrived from the North, from Russia. On October 1, 1827, Russian troops, together with volunteer detachments of Armenians, stormed and took the Erivan Fortress. The Turkmanchai Peace Treaty, which followed, ceded the Erivan and Nakhichevan khanates of Eastern Armenia to the Russian Empire. The cession saved the Eastern Armenians from annihilation and Persian assimilation. Small wonder that Khachatur Abovyan, our great writer and teacher, blessed "the hour when Russia set foot on Armenian soil."

Since then the friendship between our peoples, the Russians and the Armenians, has grown and gathered strength. The Decembrists, who were exiled to the Caucasus, brought to Armenia a passionate hatred of slavery, tyranny and oppression. The ideas of the Russian revolutionary democrats—Chernyshevsky, Herzen, Ogaryov—born of deep social change and the revolutionary struggle of the progressive forces, were adopted by the best sons of Armenia. Appealing to the people to fight against all forms of oppression, our

Shell of the Razdan thermoelectric project.
Construction is a high-status
occupation in Armenia.

ARMENIA

FACTS AND FIGURES

The Armenian Soviet Socialist Republic covers an area of 11,580 square miles, only 0.13 per cent of the Soviet Union's entire territory. It lies in the southern part of Transcaucasia, at the junction of the Caucasus and Asia Minor, bordering on the Soviet republics of Georgia and Azerbaijan in the north and east, and on Turkey and Iran in the west and southeast.

Armenia is in the same latitude as Spain, Italy and Greece, in the subtropics, and it gets plenty of sun. But the climate is also conditioned by the fact that this is the most mountainous of the Transcaucasian republics. Its average altitude is 6,000 feet above sea level, and even the lowest areas are 1300 feet above sea level. In summer the valleys are bathed in tropical heat, with roses blooming and peaches ripening, while the mountain summits are snow-capped and frostbound.

Armenia is rich in copper, molybdenum and iron. It also has zinc, lead, gold, silver, platinum, manganese, nephelitesyenite (a source of aluminum), apatite (the raw material for superphosphates), magnesium, chromium, antimony and mercury.

The population is 2.5 million. In national composition it is the most homogeneous of all the Soviet republics—88 per cent of its inhabitants are Armenian. However, of the total number of Armenians in the Soviet Union, only 56 per cent live in their own republic. In this respect they yield to all the main nationalities in the country.

Armenia's population has multiplied more than three times over the years of Soviet power, and its urban population more than 11 times. Fifty-five per cent of the republic's people live in towns and cities.

The average population density is 185 persons per square mile, with the highest concentration in the Ararat Valley. Though this valley occupies only 6.5 per cent of the republic's territory, about half the people live there.

Only a few months after the establishment of Soviet power in Armenia, a state university was opened in Yerevan, the capital. Today the republic's 12 institutions of higher learning have a total of 54,400 students, and its technical and other specialized secondary schools 47,100.

Armenia's scientific and educational institutions are staffed by 12,000 specialists. The Armenian Academy of Sciences guides research and development. Major discoveries have been made by the republic's scientists in astrophysics and astronomy, the physics of elementary particles, mathematics, computer engineering, the theory of elasticity, the chemistry of silicates, polymers and biologically active compounds, radiobiology and agricultural chemistry.

Before the Revolution there was not a single theater or museum in Armenia. Today the republic has 14 repertory theaters, 29 museums, and 2900 libraries with a combined collection of 30 million books.

In 1913 only 42 books were published in Armenian in a total printing of some 40,000 copies. Today 1200 books are published annually, and the total printing is 10 million copies.

great poet, philosopher and revolutionary democrat Mikael Nalbandyan wrote: "The only religion worth dying for is freedom." His poems were recited by Armenian youth even from church altars:

"Liberty," I loudly cry.
Though above me breaks the thunder,
Of iron and flame I have no fear.
Though thrust of foe may bring me under,
Though noose or pillory await me,
I will never cease repeating, "Liberty!"

Nalbandyan believed that the only guarantee of genuine freedom for the Armenians would be the triumph of the Russian revolution. He believed in it. He awaited it.

But Western Armenia remained under the rule of the Ottoman Empire. In 1894 reactionary forces organized a massacre in Sasun. Twenty-four Armenian villages were destroyed and thousands of people killed. In April 1915 new massacres began with mass evictions of Armenians from their own country. More than a million people were killed, and nearly as many died on their way to exile. This was the first case of massive genocide in world history. A significant portion of a nation was ruthlessly exterminated.

The words of Anatole France proved most prophetic: "A people that does not want to die will never die. That small portion of blood that the Armenians have retained is priceless. A new country will be born of it tomorrow."

And a new country was born—Soviet Armenia.

Into the fertile soil of Armenia, cultivated by the plowshare of freedom, fell the first seeds of revolution. The people will always remember Stepan Shaumyan, Suren Spandaryan, the legendary Semen Ter-Petrosyan (Kamo), Alexander Myasnikyan, that tender poet of the revolution Vagan Teryan.

A rebellion headed by the Communist Party and the Military-Revolutionary Committee under S. Kasyan overthrew the bourgeois-nationalist government, and on November 29, 1920, Soviet power was proclaimed in Armenia. In 1922 the Soviet Socialist Republic of Armenia, together with Soviet Georgia and Azerbaijan, formed the Transcaucasian Socialist Federative Soviet Republic. On December 30, 1922, the Transcaucasian Federation, the Russian Federation, the Ukraine and Byelorussia, on a voluntary and equal basis, united to form a single state, the Union of Soviet Socialist Republics.

Some years ago in Yerevan, the capital of Armenia, a monument to the victims of the 1915 massacre was unveiled. Besides honoring those who had perished, it celebrated the resurrection of our people. As one of our poets said, "From the abyss of suffering to the shining height of happiness, such is the agelong path traveled by the Armenians."

Rock

Armenia is a land of rocks. According to an ancient legend, when God made the Earth, He was standing on one of the Caucasus peaks. The mixture He created He sifted through an enormous sieve, heaping the soft earth on one side. The rocks he placed on the other side, where present-day Armenia now stands.

Though the Lord was unjust to the Armenians, we learned to love these rocks. We endowed them with life, carving symbols and letters in them.

Here is testimony in stone recording the birth of Yerevan, which is now 2,754 years old, as old as Rome. A king of Urartu inscribed on a stone slab the words: "By will of the god Haldi, Argistis, son of Menuas, built this unconquerable fortress and called it Erebuni."

The most ancient of the architectural monuments that has come down to us is nearly 1,670 years old—the cathedral in Echmiadzin. It was erected in the year 303. Its cream-colored tufa blocks were dry-fitted so well that the seams between them are no wider than a thread. For the cathedral in Gegart, builders first bored a hole in the cliff, then gradually widened it and worked their way into the rock. Leaving the outer face of the cliff almost untouched, they chiseled out of the solid rock columns supporting an altar, vaults and steps.

In this way rocks were used to make fortresses and palaces, and cathedrals were built in the hearts of cliffs. Their walls were covered with fine carvings of stone. These remarkable monuments have become chronicles of our people. May the artists' right hands be blessed!

In our Armenia of today stone means houses and stadiums, schools and kindergartens, hospitals and universities, cities where the workers of my land, who are building its tomorrow, live, study and work.

They say that in Armenia there are rocks more precious than gold. I know that more than gold we love our wise, ancient rocks.

Water

Armenia has no water. Or practically none, which doesn't change matters much. Born high in the mountains, the rivers have tumbled down without leaving a drop of moisture for our parched land, and flowed to where there was water to spare. A tiny brook or a half-dry well could be the cause of bloody feuds, and only the tombstones have recorded how many tillers of the soil were killed by their neighbors for the sake of water.

The course of rivers had to be changed. And to change the course of rivers, the course of history had to be altered.

Today Armenia has both water and electric power. Armenia is flooded with light. To find our southern border, you do not need a map; the border is where the light ends.

Yes, we have plenty of water now, but what it cost us! Our pride and our love is beautiful, benevolent Lake Sevan. It is about a mile and a quarter above sea level and is nearly 330 feet deep. Legend has it that only the gods and the stars quenched their thirst from its bowl, while the Armenians and their rocky earth thirsted for water. Finally

Sevan sacrificed its beauty for the good of its native land. Several hydroelectric power stations were built on the Razdan River, which flowed out of the lake. In the thirties the water of Lake Sevan was Armenia's only source of power. Sevan's son Hayastan* grew strong and squared his shoulders, while ancient Sevan shrank and grew gray. A ribbon many feet wide now encircles the lake like a mourning band. It is a constant reminder of how much higher the level of the lake was before its runoff into the Razdan was increased.

So we have decided to save Sevan, to stop its blue bleeding before it is too late. But can we? Is it possible to turn back not only time but water too? Very hard, almost impossible. But what won't you try to save what you value most?

The Arpa River is foam-flecked, like a wild horse. But people are taming it. Under the snow-covered mountains they have bored into the rock, making a 30-mile tunnel along which the water of the Arpa will flow into Lake Sevan. Then its beauty will be restored, and we shall have done our filial duty.

Working at this construction site are specialists not only from our republic, but from all over the country. Armenians and Georgians, Russians and Ukrainians, Kirghiz and Kazakhs, side by side, are struggling against the rock, because what is dear to one of our country's people is dear to all the Soviet people.

Soil

I do not know what travelers of other nationalities take along with them, but in our republic we carry a little bag with a handful of Armenian soil. It is a symbol of our blood and tears. It is the dust of our kin, dust that makes our soil sacred.

Armenians living abroad who come to visit us, to see the land of their forefathers, always carry away a handful of soil.

Armenia is a small land, but there will always be a place for guests. Though our vineyard is small, it can fill countless cups of friendship with sparkling Armenian wine and pungent cognac.

Not so long ago gold was discovered here. It was found by my friend, geologist Samvel Matevosyan, one of the heroes who defended the Brest fortress from the Hitlerite invaders. The country had honored him with the gold medal of Hero of the Soviet Union, and in return he and his friends gave Armenia a gold mine.

In 1946, with another friend, Ashot Ekimyan, who is a hydraulic engineer, I hammered some stakes into the ground. We were the founders of a new city. This is an honor that formerly was extended only to kings, princes and legendary heroes. Now this city, which is called Lusavan, has a population of 15,000, and the goods made in its factories are appreciated not only in our country but abroad. Polish specialists liked the machines made in Lusavan so much that they wanted to send a tele-

*Hayastan is the ancient name of Armenia.

FACTS AND FIGURES

The statistics say that 15,500 children are born annually in Yerevan. In the past 50 years, the city's population has multiplied by 20. The child population now exceeds 300,000. A few background figures: There were only six hospitals with 212 beds in all of Armenia in 1913. The czarist government allocation for public health was 28 kopecks per person. The total allocated for disease prevention in all the four cities of prerevolutionary Armenia, where malaria and other infectious diseases were rife, was 2300 rubles! It is hardly surprising that the mortality rate, child mortality especially, was so high. The distribution of urban and rural population in the republic has changed dramatically as a result of industrial development, among other things. Pre-Soviet Armenia had only four small cities with a population largely dependent on farming. In 1913 the urban population was 104,000. Ninety per cent of the entire population lived in the countryside. Today scores of cities and towns, many named for long-vanished communities, flourish throughout the republic. Right: A Yerevan resident. Above: These Yeraz cars—the name means "dream"—are made at the Yerevan Auto Plant, one of the city's several large enterprises.



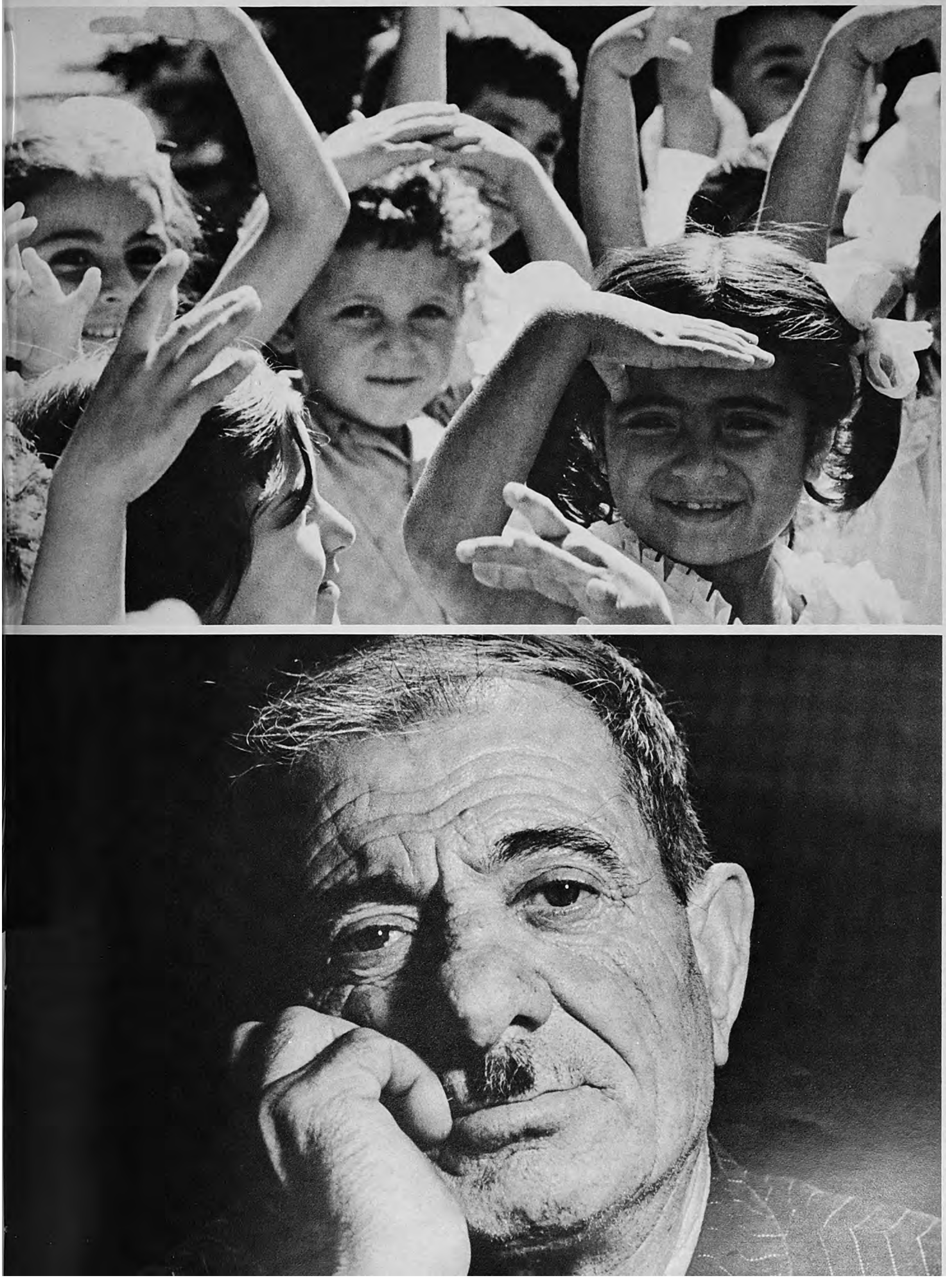
Armenia has 7,770 doctors.

The republic has 680 modern industrial enterprises in such basic fields as chemistry, machine building, electrical engineering, radioelectronics, machine-tool construction, instrument making, nonferrous metallurgy, food processing and building material production.

It exports some 200 different items to 80 countries. Britain buys Armenian hydraulic pumps, electrical measuring instruments, clocks and watches, rugs; Italy, electric motors, hydraulic equipment and drilling machines; the Federal Republic of Germany, monochlorobenzene, cognac, clocks and watches; France, sodium acetate, precision instruments and hydraulic valves; Austria, forges, presses, machine tools and electrotechnical equipment; Belgium and Finland, chemicals and power presses.

In 1961-1965, Armenia's yearly average rate of production growth was 9.4 per cent. In 1966-1970 this figure rose to 12.5 per cent, and the capacity of the republic's power stations almost doubled. Over six billion kilowatt-hours of electricity were generated in 1970.

Real income per capita increased by 37.2 per cent during the Eighth Five-Year Plan period (1966-1970). In the first four years of the plan, 64.5 million square feet of new housing were built for a quarter of Armenia's population.



gram of thanks to the factory workers. But they could not find Lusavan—it has not yet been included in the atlases.

Soil of our land, how long our people suffered and struggled so you would belong to them, so that they could grow the grapes whose roots sink deep into the ages. This is the fruit that decorates the state emblem of the new Armenia.

Three times more beloved is the land when it turns into a homeland, because a homeland is more than soil, it is also the life that was created on this soil.

I love my native landscapes, lovingly depicted by our artist Martiros Saryan. In those landscapes is also the labor of Bagrat Vartanyan, director of the Zeitun State Farm. What need has Bagrat of a bag of native soil, when the whole land is his?

Fire

When Seleucid conquerors wanted to find out the nationality of their prisoners, they sat them near a campfire. The Armenians would immediately give themselves away: They would add twigs, tend the fire, poke the glowing embers. Because the element of fire has always been most akin to the ardent temperament of the Armenian people.

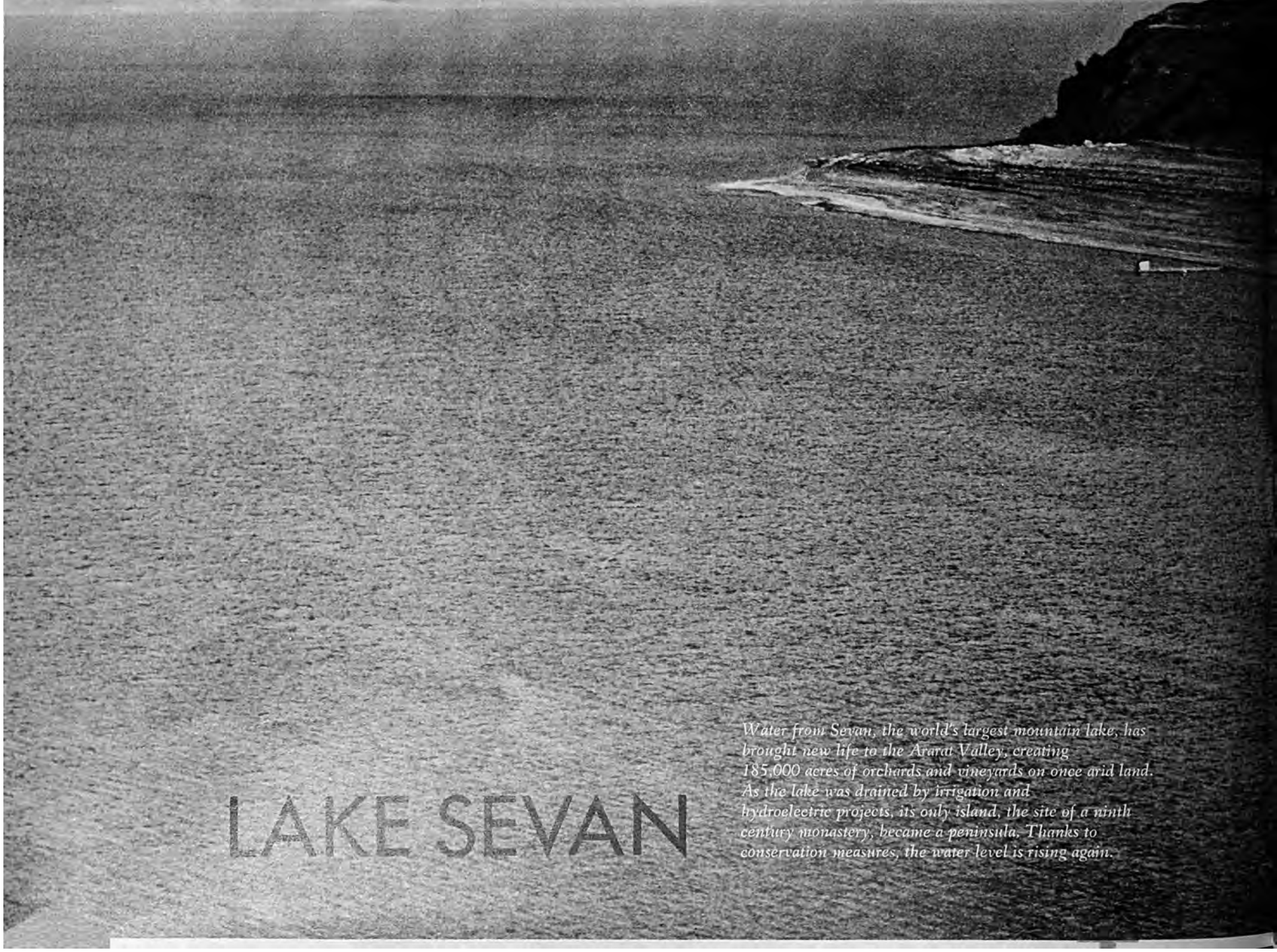
The sky and the earth were in pangs of travail,
The blush of the sea was in painful travail,
There appeared from the water a crimson cane,
From its throat there appeared a tongue of flame,
And from out of that flame an infant came.
The hair of the infant was made of flame,
The brow of the infant was made of flame,
And its face was as fair as the sun aflame.

That is how an ancient legend proclaimed to the world the birth of Armenia. But the lights now illuminating my land were born of the Revolution, from whose flame the new Soviet Armenia came into existence. Most important is the light of knowledge. And it is not simply that our institutions of higher learning train specialists in all fields of science and technology, and that some of our scientists—astrophysicist Victor Ambartsumyan or physicist Artyom Alikhanyan, for example—are known the world over. It is not just that our research centers have the latest equipment. One of the world's most powerful electron accelerators, by the way, was built in Yerevan. We gave this clever giant the tenderest of women's names, Arus.

What I think is most notable is that in Armenia all those who want to can study, regardless of how much or how little money they have. Armenians used to go to Russia and abroad to get an education, now students from all over the world come to our schools and colleges.

Writings

Take off your hats. This carved door leads to the chief temple of ancient Armenian manuscripts, to the Matenadaran. Its halls are full of the silence of 30 centuries, 3,000 years of the history of our people. These books are not only by Armenians. There are books by Homer, Aristotle, Plato, Euclid, Zeno, Galen and Avicenna. Many works by ancient philosophers, the originals of which are lost, have been given to mankind again from ancient Armenian translations.



Water from Sevan, the world's largest mountain lake, has brought new life to the Ararat Valley, creating 185,000 acres of orchards and vineyards on once arid land. As the lake was drained by irrigation and hydroelectric projects, its only island, the site of a ninth century monastery, became a peninsula. Thanks to conservation measures, the water level is rising again.

But the Matenadaran is not simply a temple of ancient manuscripts and one of the richest book repositories of our times. It is also a mighty arsenal, in which is stored our most powerful weapon in the struggle for human happiness —the weapon of knowledge. That is why in Armenia a monument has been erected to books, to the very letters of the Armenian alphabet, which had to wage a valiant struggle for 16 centuries in order to survive. Is it any wonder that the grave of their creator, Mesrop Mashtotz, has become a shrine for Armenian pilgrims from all over the world and his features grace Armenian icons? Poets, historians and philosophers—they are the true saints, prophets and apostles of our people.

Open an ancient manuscript and you will learn not only what is written there, but also a piece of Armenian history. Here is an account of one of the manuscripts in the Matenadaran. It was written in 1204. It weighs over 60 pounds, and hundreds of calves were killed to make the parchment for its pages. During World War I the manuscript narrowly escaped destruction. It was saved by two refugees, who carried it by turns on their backs, then divided it into two parts. One part they buried along the road, the other they carried to the city of Karin. This second part of the manuscript was found and taken to the Matenadaran by a Russian army officer. The first part was already there. Thus both halves of the book were united on their native soil, but 17 of the parchment pages are still somewhere in the world, scattered like leaves swept along by the wind.

I have already said that history has not dealt too kindly with the Armenians. It has scattered them, too, all over the world. Many were born far away from their homeland and have never seen their country. But Armenian books, Armenian culture and Armenian art are the language in which resurrected Armenia speaks to its children living in foreign lands.

Tens of thousands of Armenians have already returned to their homeland. Besides people, books, paintings and songs come back. The sculptures of Akop Gyurdzhan, the first art repatriates, have also returned. At last they have acquired a strong pedestal—their native land. The score of the opera *Arshak the Second* by Tigran Chukhadzhan wandered in the dusty archives of foreign lands for over a century before it returned to the Yerevan opera stage.

No matter where our people happen to live, they never forget their native Armenia. The American writer William Saroyan wrote: "The words I use are English. The places I describe are America. The spirit that makes me write is the spirit of Armenia."

Every year Armenians return to their homeland from the ends of the Earth. Even Armenian cities that vanished long ago come to life and return—their names are given to new cities and settlements that spring up here.

There is no end to what has been done in the 52 years since our national resurrection, and we have still more to do. But besides building, we can dream. That is why we named our first motorbus, produced by the Yerevan Automobile Plant, Yeraz, Armenian for dream.

I have told you only what we read in ancient manuscripts and new books, what we hear in the songs sung by our forefathers and our contemporaries, what we see with our own eyes, create with our own hands. May our descendants carry on this song of Armenia, which is as eternal as our land.



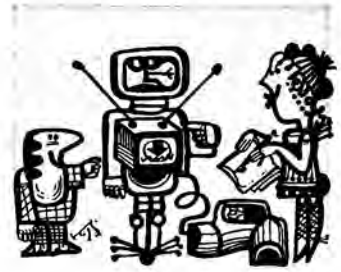


Around the Country

OLD ENGLISH MUSIC

The Melodia record company is planning a unique series of albums entitled "One Thousand Years of Music"—an anthology of songs of different nations. The first album is devoted to English composers of the late sixteenth and early seventeenth centuries, when the so-called virginal style was dominant in England. (The virginal was a stringed plucked keyboard instrument, a form of the harpsichord.) The style was shaped by the lute- and organ-playing traditions of the Italian Renaissance.

Recorded in the album "English Virginalists" are pieces by some of the best-known composers of the time: Orlando Gibbons, John Bull, William Byrd, Thomas Tomkins, Giles Farnaby. Many are arrangements of folk songs. The performer is old-music fan and harpsichord player Andrei Volkonsky.



TUMOR FINDER

Echo-12 is a new instrument that instantaneously detects pathological formations in the patient's brain. It was built by the USSR Medical Equipment Research and Design Institute.

Sensors attached to the patient's head produce ultrasonic oscillations which are reflected by the brain and reproduced on a screen as an echogram. From the echogram picture, the doctor can ascertain the presence of a tumor, hemorrhage or abscess and accurately define its size and location.

TREE SURVEY

To survey the parks of the relatively small republic of Latvia, dendrologists had to cover 25,000 miles. It took them three years to make the tour, and the result is a study, done with the help of electronic computers, of 774 parks.

Many of the older ones have proved to be real botanical gardens. The researchers located more than 500 species of trees of the Northern Hemisphere, among them several not known to grow in the Baltic countries. The black and sitkha firs, Caucasian and Manchurian limes, Alma-Ata hawthorne and American elm are being protected as botanical rarities, and plans are under way to cultivate them more widely.



VOICE-CONTROLLED COMPUTER

An exciting problem involving the recognition of speech signals is being studied at the Institute of Cybernetics of the Estonian Academy of Sciences. The research is especially interesting because efforts are being made to design artificial-speech machines, as well as computers that can be controlled by voice. Initial achievements in the development of these machines were discussed at a recent seminar in Tallinn, Estonia. A computer on display, used for routine control of gas pipeline operation, could "understand" 34 words.

POWER STATIONS OF THE FUTURE

A pilot commercial power station with the U-25 magnetohydrodynamic generator is now producing electricity. The installation, located in Moscow, is designed for a wide range of studies. The operating principle of the U-25 is simple. The energy of a high-speed flow of plasma heated to a temperature of 2600 degrees centigrade is converted into electrical energy in a duct placed between the poles of a magnet.

The U-25 is powered by natural gas combustion products, which are seeded with a potassium compound (potash) to increase electric conductivity.

The efficiency of the power station with a magnetohydrodynamic generator is expected to be 55 per cent, as against the 40 per cent efficiency limit in thermal power stations.

KING STARFISH

A huge starfish, the biggest specimen ever known to marine biologists, has been found in a flooded volcanic crater on Simushir Island, the Kuriles. The diameter of its tentacles is three feet. The discovery was made by staff members of the Institute of Marine Biology, Far Eastern Branch, USSR Academy of Sciences.

RUSSIAN PRINT SHOW

An exhibition titled "Russian Popular Prints on Copper, Eighteenth to Nineteenth Century" was held recently at the Alexander Pushkin Museum of Fine Arts in Moscow. In those years cheap popular prints made on metal, wood, bone, and paper faithfully conveyed the spirit and traditions of folk art.

A characteristic feature of the Russian popular print was its vivid imagery, reflecting ideas about fairy-tale cities and mysterious natural phenomena.

STUDYING LAKE BAIKAL

On the shore of Lake Baikal, the largest fresh-water lake in Europe and Asia and the deepest in the world, foundations are being laid for a new experimental building of the Limnological Institute, Siberian Branch, USSR Academy of Sciences. The institute studies life processes in lakes and ponds.

A part of the building will house eight huge water tanks, each holding up to 21,000 gallons. The height of the largest will be 13 feet. All are designed to simulate the underwater world of Lake Baikal to a depth of 3300 feet. When open pools are built for big Baikal fish, the scientists will be able to simulate processes that occur in the lake itself and to observe the behavior of fish and other underwater life.

ONE THOUSAND BEV

Soviet physicists have completed a series of experiments for the development of a circular proton accelerator with a capacity of 1,000 BEV. That is 14 times as much as the capacity of the world's biggest accelerator, at Serpukhov outside Moscow. The projected machine will be used to study automatic devices for controlling the stream of particles when experimenters are not present.

CONCERT HALL

A new entertainment complex has opened in Tbilisi, capital of Georgia. It holds 3200. A big auditorium of 2500 seats is designed for philharmonic concerts, variety shows, plays, movies and other performances.



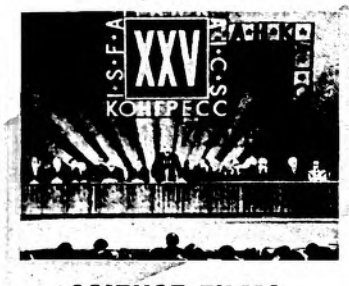
A small auditorium of 700 seats is intended for chamber music concerts and film showings.

The building is round, and its décor makes extensive use of national ornaments. The materials used include granite, marble, basalt and tufa.

TREATING SQUINT

An effective method of correcting squint has been developed by a team under Professor Edward Avetisov at the department of child eyesight protection of the Helmholtz Eye Diseases Research Institute, Moscow.

The method includes three stages, the first of which is treatment by light. A lamp is switched on in front of the patient's eye three times for periods up to 20 seconds, at 10-second intervals. These sessions are repeated 20 to



SCIENCE FILMS

The Twenty-fifth Congress of the International Science Film Association, attended by film workers from 21 countries, was held a few months ago in Kiev, capital of the Ukraine. The congress participants, discussing the impact of scientific and technological progress in their field, dealt with three areas: popular science, research and education.

A science film festival was held during the sessions. The USSR showed a film on how animals think, and Italian film workers one on man-eating sharks. Monogamy in nature, the effect of color on thought processes, butterflies in flight and the production of food from oil were some of the subjects. More than 140 films were screened. Soviet director Alexander Zguridi was elected the new president of the association.

TESTING ROCK

A method suggested by scientists of the Polytechnic Institute in Alma-Ata, capital of Kazakhstan, makes it possible to see into mountain rocks to a depth of 230 to 260 feet.

Based on the use of harmless electric sparks, it establishes the strength of rocks and ore around mine workings in a matter of seconds. Determining rock strength is important for mine safety.



CHAMBER ORCHESTRA

Leningrad has been having a chamber music renaissance in recent years. With three string quartets, a woodwind quintet, a percussion group, several chamber orchestras and numerous groups of variable form, the city on the Neva has never had such a galaxy of chamber music performers in all its history. First place goes to the Leningrad Chamber Orchestra, which is composed of 16 stringed instruments but, depending on the score requirements, may add woodwinds and percussion. The orchestra's repertoire includes more than 100 works, ranging from Antonio Vivaldi and Johann Sebastian Bach to Georgi Sviridov and Dmitri Shostakovich.

UNDERGROUND GALLERY

A group of speleologists, members of the Kara-Dag Tourist Club in the Crimea, have discovered an unusually beautiful underground gallery at a depth of 1500 feet. It is the source of two subterranean streams that flow under an archway of rocks.

To get to the gallery, the explorers had to climb down a cascade of wells. It took them 35 hours to reach the bottom of a pit 280 feet deep.

The newly discovered gallery is the deepest of the known karst caves in the Crimea.

INTERNATIONAL FILMS

Thirty motion picture producers from different countries are now working on joint productions with Mosfilm Studios. A preliminary agreement has been made with Italian film makers for *John Reed,* a picture about an American journalist who was an eyewitness to the October 1917 Socialist Revolution. The film will be directed by Sergei Bondarchuk, who won acclaim for *War and Peace* and *Waterloo.*

A script is being prepared for the Soviet-Italian film *An Italian in Russia.* And producer Carlo Ponti will soon begin serializing Tolstoy's *Anna Karenina* for TV, with assistance from the Soviet studio. Sophia Loren will play in this film.

Offers for joint productions have also been made by Finland, the German Democratic Republic, the Arab Republic of Egypt, Yugoslavia and several other countries.



ADAM AND EVE

The ballet *Creation of the World* by composer Andrei Petrov, staged by the Kirov Opera and Ballet Theater in Leningrad, has been a hit with public and critics alike for two seasons. The idea for the ballet was suggested by the drawings of Jean Effel, a well-known French cartoonist. The production is the work of young choreographers Natalia Kasatkina and Vladimir Vasilyov of Moscow. The leading roles are danced by Irina Kolpakova, People's Artist of the USSR (Eve), and Mikhail Baryshnikov (Adam).

The production is not a literal adaptation of Effel's cartoon series, but rather a modern parody of the Biblical tale.

PHILOSOPHY DICTIONARY

An Anglo-Russian philosophy dictionary, the first of its kind, has just been published. It includes a large number of previously unrecorded terms, giving detailed definitions, for example, of such concepts as "subject-object," "relativity" and "common sense." The dictionary also lists philosophical expressions borrowed from other languages, for example, the terminology of Indian philosophy.

MINIATURES

The works of miniature-carver Nikolai Syadristy of Uzhgorod, on display at the Lvov Museum of Ukrainian Art, can be seen only with a microscope. Among the exhibits are a rose in a case made of a human hair, horseshoes worn by a flea, a working motor with a volume of one two-hundredth of a cubic millimeter and a chess figure that can be seen only when magnified several thousand times.

SECOND RIVER BOTTOM

Hydrogeologists have discovered a second floor under the Sary-Su River. The river flows along the northern fringe of the Bet-Pak-Dala Desert in Kazakhstan and dries out in summer.



Evidently under its sandy bottom there is a fresh-water stream at a depth of 100-130 feet. Investigations have shown that as many as 4800 gallons of excellent drinking water per minute can be obtained from the lower stream. Plans are for the water to supply the new city of Karzhal, whose residents work in iron mines nearby.

ARCTIC GAS PIPELINE

Development work has started at Medvezhye in the northern part of Tyumen Region on one of the country's biggest gas fields. This area in Western Siberia consists of uninhabited tundra, impassable taiga, water barriers and marsh. Construction teams are scheduled to drill more than 10 gas wells in the permafrost ground, and to build a gas pipeline and storage tank.

The pipeline, 62 miles long and almost five feet in diameter, will be the first one inside the Arctic Circle. This is also the first time that welded gas pipes have been laid in permafrost.

By the end of 1975 the capacity of the pipeline will reach 1.2 trillion cubic feet a year.

ANCIENT PIPE

Added to the family of musical instruments that have come down to us from distant ages is a pipe made of bone. It was found in Gorky Region on the Volga River by an expedition of the Institute of Archeology, USSR Academy of Sciences.

Excavations of dwelling sites dating from the Neolithic and Bronze ages have been going on in the Volga area for three years. Archeologists have unearthed several thousand articles made of flint, bone and other materials, mostly work implements, utensils, decorations, arrowheads and spearheads. This is the first musical instrument found here.

30 times a day. They make it possible to correct the incoordination of the ocular muscles originating in the cortex. The second stage is an operation performed to get the squinting eye back to normal position. In the third stage a special device, the synaptophore, is used to project visual images that train the retinas of both eyes to work synchronously.

MORE IRRIGATION

Last year the Soviet Union built several land reclamation and irrigation systems, increasing the area under cultivation by 1.2 million acres. All the engineering work was paid for by the government, although most of the land belongs to collective farms.

TINY ROLLING MILL

The Electronics Laboratory of the Byelorussian Academy of Sciences has built a miniature rolling mill, two millimeters in diameter and weighing half a gram. Installed at a watchmaking factory in Minsk, capital of Byelorussia, it is used to fabricate watch hairs 20 microns thick. The machine has a tolerance of no more than three-tenths of a micron. It is run by a one-sixth-horsepower electric motor.

120,000 TONS OF HONEY

There are some ten million bee colonies in our country, yielding 110,000 to 130,000 tons of honey annually. One of the important honey-producing centers is the Northern Caucasus. Its large apiculture enterprises provide colonies for many of the country's apiaries.

GEOLOGICAL GLOBE

A globe showing the geological structure of all continents and countries has been built at the USSR Institute of Geology. The multicolored sphere, nearly three feet in diameter, shows none of the distortion that is almost inevitable on geographical and geological maps. For their miniature copy of our planet, the institute's staff members used the conclusions of the latest Soviet expeditions and the most recent findings in the earth sciences around the world.

SEWAGE PURIFICATION

Two hundred and sixty million gallons of sewage a day will be treated by a new aeration plant in Moscow. It occupies an area of about 150 acres, and all its processes are mechanized and automated. The sewage first flows into tanks where it is freed of suspended particles. It is then further purified by biological processes. Moscow now has several aeration plants with a total capacity of a billion gallons a day.



ANCIENT ARCHITECT

Uzbek scientists have unraveled the secret of the ancient Kalian Minaret in Bukhara, one of the most magnificent architectural structures in the East. The monument was apparently built by the famous twelfth century architect Ustod Bako.

Early in that century Emir Arslakhan ordered a mosque and a minaret built next to his residence —the Ark Fortress. When the minaret collapsed soon after its erection, the angry ruler commissioned an even higher tower on the same spot. The Kalian Minaret, a masterpiece of ancient architecture, was erected in 1127 in the center of Bukhara. But the architect concealed his name under an ornate Arabic ligature in a quotation from the Koran. It took 845 years for Uzbek historians and architects to decipher the signature.



COUNCIL FOR MUTUAL ECONOMIC ASSISTANCE AND INTERNATIONAL ECONOMIC CONTACTS



BY ALEXANDER ALEXEYEV
Doctor of Science (Economics)
Head of Joint Economic Research Department, CMEA Secretariat

NEW TASKS, as well as methods and forms, of socialist economic integration, are reflected in the Comprehensive Program adopted by the Twenty-fifth Session of the Council for Mutual Economic Assistance in Bucharest in July 1971. They are based on more than 20 years' experience of cooperation among the CMEA countries, their specialization and cooperation in industry and the coordination of their five-year economic development plans.

The Comprehensive Program says that "the CMEA countries, consistent with their policy of peaceful coexistence and in the interests of social progress, and proceeding from the fact that the international socialist division of labor is based upon the world division of labor, will continue to develop economic and scientific-technological contacts with other countries, irrespective of their social and state systems, on principles of equality, mutual advantage and respect for sovereignty."

Attempts are sometimes made to represent the Council for Mutual Economic Assistance as a self-contained grouping. But these assertions are contradicted by the facts: For example, in 1970 the foreign trade of the CMEA countries totaled more than 55 billion rubles, 13 per cent more than in 1969; 13 billion rubles represented the share of their trade with developed capitalist countries and 5 billion rubles with the developing countries; the total of the last two figures represents a 15 per cent increase over the preceding year. There are 90 long-term trade agreements in effect between the countries of Eastern and Western Europe (compared with only 23 in 1960).

This expansion of foreign trade has been attended by the conclusion of special intergovernmental agreements covering a wide variety of scientific-technological, industrial and other forms of cooperation. The Soviet Union, for example, has concluded agreements for economic, scientific and technical cooperation with the governments of Finland, France, Italy, Australia, Japan, Britain, Sweden and Belgium; Poland has similar agreements with France, Italy, Austria, Denmark and Switzerland; Bulgaria with France, Britain, Italy and Denmark; Hungary and Czechoslovakia with France and Italy; Rumania with France, Italy, Denmark, the Federal Republic of Germany and the United States.

The Soviet-French declaration signed in Moscow on October 13, 1970, says that developing relations between the European countries are at present evidenced not only by economic, scientific-technological and cultural contacts but also by efforts to normalize and improve the political relationships of these countries. More recent assertions of these basic considerations were spelled out in the Soviet-French declaration and the Soviet-French document "Principles of Cooperation Between the USSR and France," signed in Paris on October 30, 1971.

It is clear that cooperation between the socialist countries does not at all imply their alienation from the economies of the non-socialist world. On the contrary, progress in the international socialist division of labor creates conditions for more active and more variable exchanges with countries of different social systems.

Statistics indicate that about 20 million different types of consumer goods and more than 500,000 items of machinery and equipment are being manufactured today throughout the world. The technological revolution is responsible for the steadily growing variety.

The question arises, is it possible for each CMEA country to produce on its own the entire range of goods required? Experience shows that among the eight CMEA countries, the Soviet Union alone, with its modern technology, vast market and sources of raw materials, is capable of producing virtually everything it needs. But, as many years of experience have shown, the Soviet Union also is interested in expanding its foreign trade relations. The economic and scientific potential of the other CMEA countries, however, is not sufficient to produce everything they require. Piotr Jaroszewicz, the Polish Prime Minister, said in this connection: ". . . We are aware that we cannot produce everything necessary for the development of our economy. We must therefore avail ourselves of the products of other countries. We must specialize in the production of a considerably smaller variety of goods than we are making at present."

It must be said with regret that the volume and structure of trade between the CMEA countries and the developed capitalist countries do not come up to their economic potentials.

According to the UN Economic Commission Bulletin for Europe published in 1971, in recent years the CMEA countries accounted for only four per cent of the total West European imports and of the imports of finished products, and no substantial changes are expected until 1980.

These forecasts may or may not be accepted, but the important thing is that as early as 1970, machines and equipment accounted for almost one-third of the value of the CMEA countries' total exports and for more than one-half of the exports of the German Democratic Republic and Czechoslovakia. The structure of CMEA general exports is clearly assuming a distinctly industrial character. This means that without a qualitative shift in their imports from the CMEA countries in the direction of an increase of the share of finished goods, particularly machines and equipment, or, to put it in other terms, without a substantial diversification of their imports, the developed capitalist countries can hardly expect to tap all the great potentialities the CMEA market offers them for the sale of their own goods.

The inadequate proportions of the scale and structure of present trade between the CMEA countries and the developed capitalist countries is due to the artificial obstacles raised by the latter to the development of this trade. This is not in the interests of social progress and peace and constitutes a violation of the most-favored-nation principle generally applied in world trade.

As for the CMEA countries, they are pursuing an active trade and economic policy in relation to other countries: They are trying to make use of the various forms of foreign trade contacts, are taking steps to broaden the variety and improve the quality of their export products, are perfecting the organization and methods of their foreign trade, as well as the forms of their foreign exchange settlements. The foreign trade agencies of the CMEA countries are constantly expanding and strengthening their contacts with the commercial, industrial and scientific circles of other countries.

The founding of the community of socialist countries has made radical changes in the general picture of the international division of labor. The CMEA countries have developed into an industrialized region of the world. Their economic achievements have resulted from their own long-term efforts. One important advantage they enjoy is the planned division of labor among themselves based upon the world division of labor. It is responsible for the dynamic growth of their mutual trade. That, in turn, makes for their rapid economic development and for structural changes in production and trade between the CMEA members and other countries.

A historic contribution by the socialist countries to world economic development has been the creation of a new type of economic relationship based on the principles of socialist internationalism, respect for national sovereignty, independence of national interests, noninterference in the internal affairs of other countries, complete equality, voluntary participation, mutual advantage and mutual comradely aid. These are the guiding principles of the Council for Mutual Economic Assistance, which was established through voluntary cooperation rather than the decision of any supranational bodies. This cooperation is not founded on the principle of mutual preferences agreed upon in advance but on the principle of the optimal use of existing resources and the achievement of maximum results. Here, the socialist division of labor promotes the economies of all the participating countries, leading to a gradual drawing together and equalization of their individual economic development.

The cooperation between the CMEA countries as well as between them and the other countries gives substance to the aims expressed in the UN Charter and the principles of the UN Conference on Trade and Development.

ANNIVERSARY OF THE 24TH CPSU CONGRESS

By Anatoli Shishkov

The Twenty-fourth Congress of the Communist Party of the Soviet Union was a landmark in the recent history of our country. It analyzed the past period, charted the direction of our present stage of development, worked out a scientifically grounded home and foreign policy and socioeconomic program.
The congress was held a year ago, in late March and early April.

IN THE YEAR since the Twenty-fourth Communist Party Congress, its directives have been applied with marked success. All branches of the national economy have steadily developed. Significant advances have been made in science and technology. The economic power of our country has grown, and so have the international authority of the USSR and the entire socialist community.

Plan and Reality

The economic and social policy drafted by the congress was embodied in the Ninth Five-Year Plan of Economic Development (1971-1975). This plan became law after approval by the USSR Supreme Soviet last November.

A great deal of work lies ahead of us. In the five-year period the country's national income is to increase by nearly 39 per cent. Industrial production is to rise by 42-46 per cent, a growth in comparable prices of 174 billion rubles (in the preceding five-year period the increase was 125 billion). The output of collective and state farms is to grow by approximately one-third.

Living standards will go up. Funds have been allocated for higher wages and salaries, as well as pensions, scholarships and other benefits. Real per capita income will rise 30.8 per cent in the five-year period. Nearly 12.8 million housing units will be built (as compared to 11.3 million in the past five-year period). The manufacture of household appliances will rise and services will improve.

Building communist society is a big and complex process that covers every aspect of life. Just as any building begins with its foundation, so in building communism the creation of its material and technical foundation is fundamental. Hence the attention to economic development.

Persistent effort and flexible economic management yield tangible results. The target figures for 1971, the first year of the five-year plan, have been met. Industrial production has exceeded the plan by approximately eight billion rubles. Labor productivity in industry has grown 6.3 per cent as against the 5.9 per cent planned. Despite unpredictable weather, the gross grain harvest was 181 million tons (approximately the level in 1970, when weather conditions were more favorable), and a high cotton yield was harvested.

Wages have gone up for certain categories of workers in agriculture and railway transport, and minimum old-age pensions have been increased. These increases affected 19 million people. The money income of the population grew by 7.2 per cent during the year. The sale of manufactured goods and foodstuffs increased markedly. Tenants moved into about 2.3 million apartments.

The prospects are also good for 1972. Compared with 1971, real per capita income will rise by 5.2 per cent and national income will grow correspondingly by 6.2 per cent. As of September 1, salaries of teachers, doctors, and kindergarten and nursery staffs will go up, as will student scholarships. Additional benefits are being introduced for industrial and office workers in the eastern and northern parts of the country, where the climate and working conditions are more difficult. The government is allocating about 10 billion rubles in 1972 for medical care and sports. Housing construction is taking on larger proportions.

More Than Economics

The Twenty-fourth Congress attached great importance to the sociopolitical development of society, the efforts under way to bring the workers, the farmers and the intellectuals closer together, to bridge the gap between town and country and between mental and manual labor.

The building of communism, the scientific and technical revolution, and the changing character of labor make for significant social changes. Our society is better educated. One hundred million people in the USSR today have a complete or incomplete higher education, or a technical or secondary education. The vocational and cultural level of workers and farmers keeps rising. The number of intellectuals keeps growing, particularly scientific and technical personnel, and their ranks are augmented mainly by those with a factory or farm background.

The course worked out by the Twenty-fourth Congress leads to the rapprochement of all the socialist nations of our country. It is not accidental that the new five-year plan foresees a distribution of the country's productive forces that guarantees the economic development of all the union republics. The rapprochement of nations does not, of course, mean blurring their individuality. On the contrary, this individuality is nurtured in an atmosphere of equality and friendship. Incidentally, this year is the sesquicentennial of the formation of the Soviet Union. It will be celebrated by all our nations, large and small.

The Twenty-fourth Congress discussed in detail the further development of socialist democracy and noted the need for a broader participation of the masses of people in state and economic management. Every person, it emphasized, must be made to feel that he is a citizen in the full sense of the word.

What was done in this connection over the past year? The rights and responsibilities of the Soviets, the trade unions, the Young Communist League and other mass organizations were enlarged. Rank-and-file workers, through production conferences and meetings of workers and collective farmers, are taking a more active part in the concrete details of economic management.

For Peace

The domestic policy of the party is linked to its foreign policy of peace and international security. The Soviet Union is opposed to aggression; it supports the peoples' liberation movements, follows the course of peaceful coexistence of states with different social systems, cooperates with the socialist countries and all forces that work for peace and universal security.

The Soviet Union concerns itself with the cooperation of the countries of the socialist community, particularly within the framework of the Council for Mutual Economic Assistance. The CMEA session recently adopted a comprehensive program for the greater economic integration of its member states. The program shows the tremendous possibilities inherent in production cooperation and joint scientific and technical effort.

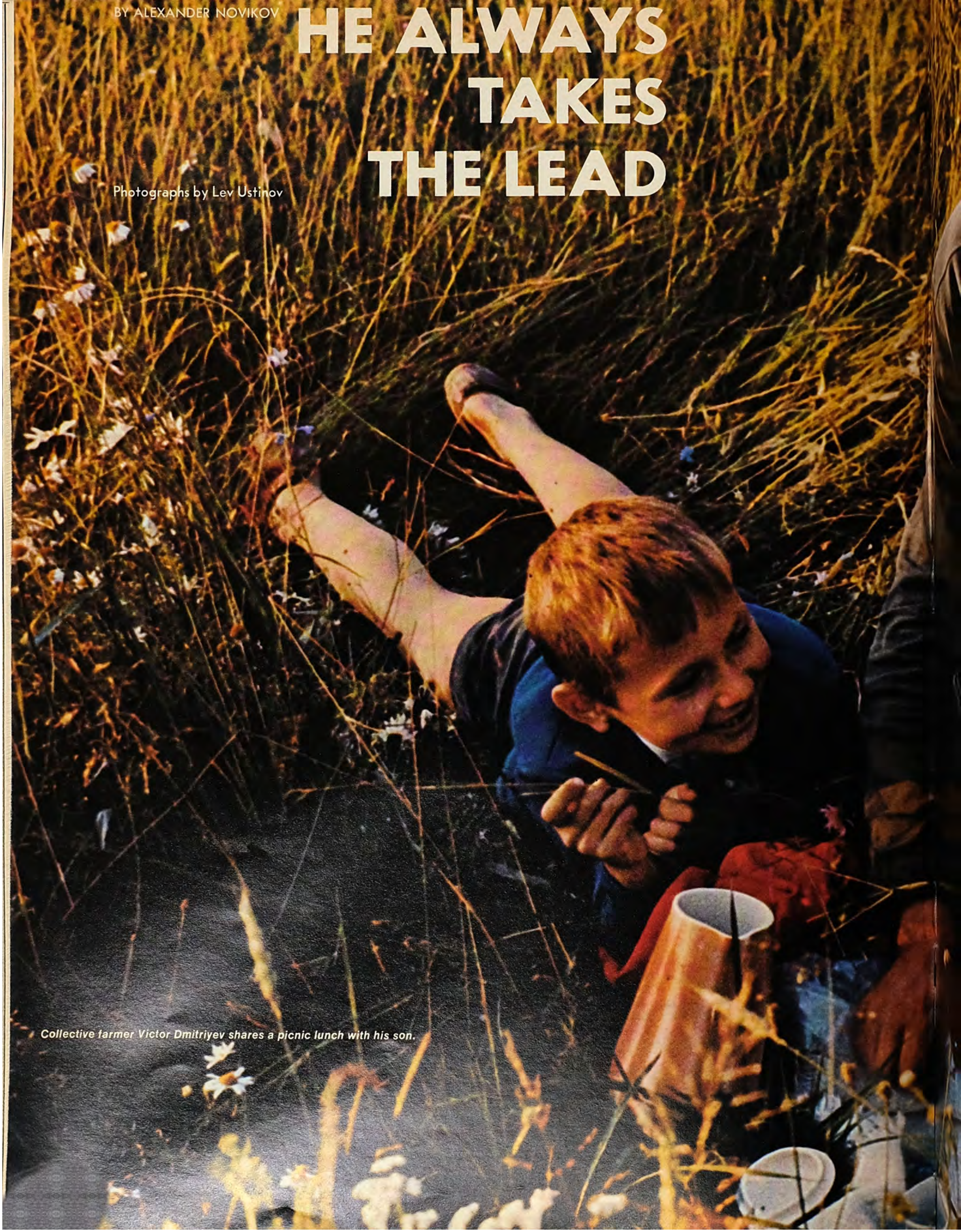
Our country has taken a number of practical steps during the year to promote the peaceful coexistence of states with different social systems. It has been working energetically for a détente in Europe, for a European security conference in the near future, for an end to the arms drive and for disarmament.

The foreign policy program of the Twenty-fourth Congress was implemented by the visits of Leonid Brezhnev to France, Yugoslavia, Hungary, Bulgaria and the German Democratic Republic and his meeting with Willy Brandt, Chancellor of the Federal Republic of Germany, the visits of Nikolai Podgorny to the Democratic Republic of Vietnam and the Arab Republic of Egypt, and of Alexei Kosygin to Algeria, Canada, Cuba, Denmark and Norway.

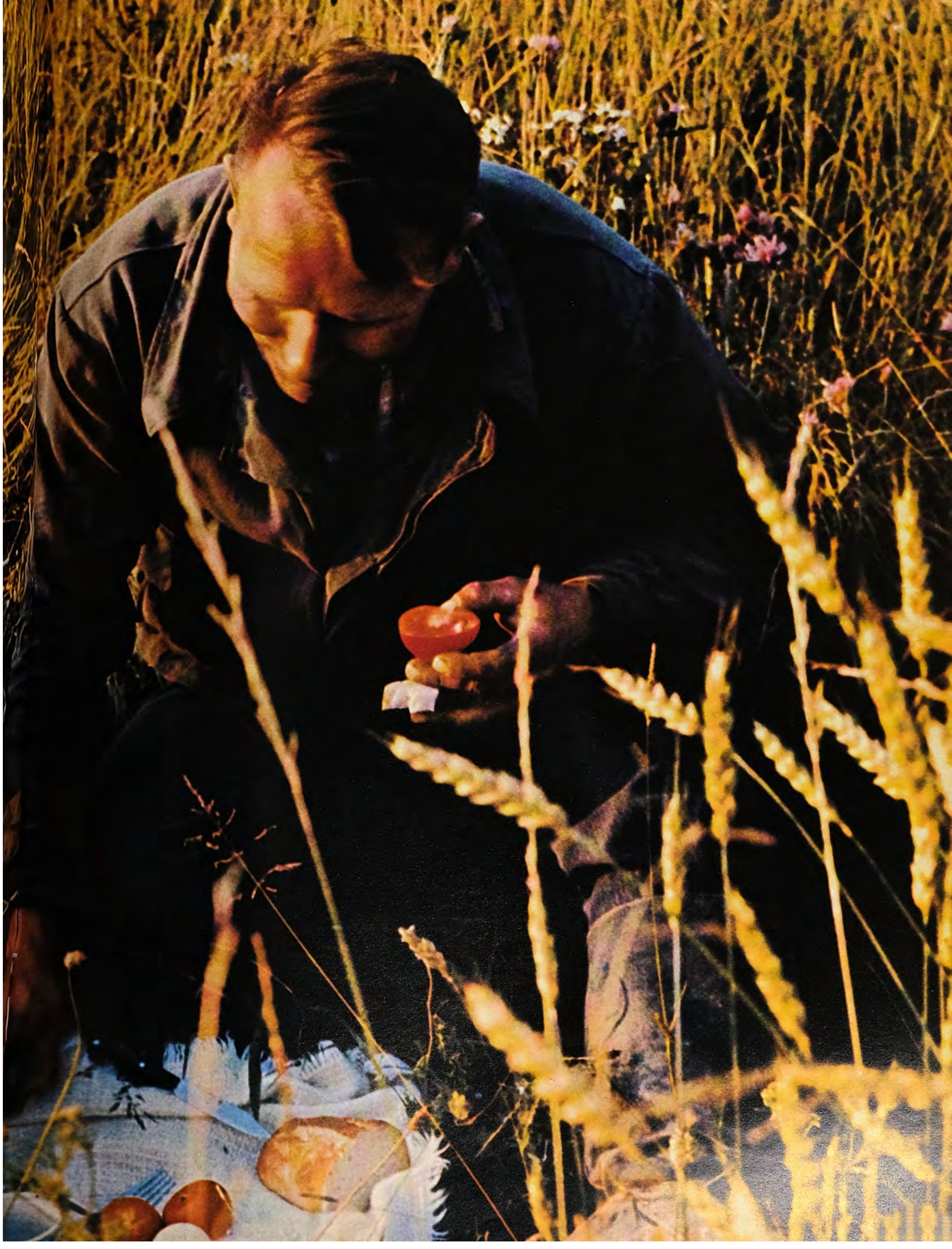
BY ALEXANDER NOVIKOV

HE ALWAYS TAKES THE LEAD

Photographs by Lev Ustinov



Collective farmer Victor Dmitriyev shares a picnic lunch with his son.



I MET VICTOR DMITRIYEV, a tractor driver, at a "best district plowman" contest held at a neighboring collective farm. The competition brought together tractor operators from all over the district. Dmitriyev is from a line of Russian peasants and lives and works at the Rossiya CollectiveFarm 28 miles northwest of Moscow.

We could talk only briefly then. Victor was absorbed in the contest. Now he was inspecting the piece of land that fell to him by lot, then he was marking where he would plow the first furrow, finally he drove up to the edge of the field to try the soil and check how deep to plow. Everything seemed all right. He was understandably excited and preoccupied, eager to uphold the honor of his farm and reaffirm his own reputation.

We became better acquainted when Dmitriyev got back home from the contest, where, by the way, he won a prize.

I saw at once that Victor was not the kind of man who talks easily about himself, although he has enough to his credit to talk about. He doesn't like people who boast about their own achievements.

At the Rossiya farm board they told me how two years ago he presented the case for growing corn. To the argument that corn requires too much care in the climate of Moscow Region, Victor replied by citing the experience of a neighboring collective farm where yields were high. But the board was not convinced. However, the objective economic needs of Rossiya later proved him right, and last year the farm did grow corn. It grew taller than a man.

"You would think," somebody said, "that it wasn't up to Victor, who is just a tractor driver, not part of the farm management, to keep pushing new ideas. But he always does. He's a real powerhouse of energy and invention."

"It's not a matter of energy or invention," put in team leader Sergei Gorshkov, who is Victor's immediate boss. "He just takes the common cause to heart. He's always ready to help, even if he's got more than enough work of his own. And people respect him for that. It's a pity that he has only four years of schooling. The war is to blame, of course. Even so, he's as good as an engineer at the machinery. Once he suggested, for example, that we make mounted harrows for







Victor Dmitriyev gets his assignment before the start of the district contest for tractor operators. He brought home one of the major prizes. Top: Victor is a leader in many of the farm projects. Because of the war, he got only four years of formal schooling.



But he is a top-grade driver and mechanic and an innovative farmer, so that his suggestions command general attention. Saturday mornings, Victor and Lyuba go to town. Andrei, 8, gets a hug when they come back. They have two older children: Sasha, 15, and Nina, 14.

Lyuba holds down a job, too. She is a cardboard maker at a nearby plant. The Dmitriyevs recently moved into a 24-unit apartment house built by the farm. Another apartment building, a kindergarten and a music school are to be completed this year. Below: With Victor's mother, Anna, they bring home some new furniture.



Belarus tractors. Now all operators use his innovation. Then he improved a multipurpose cultivator. Small things lead to big things. Other operators, too, began to think and to read technical books. Now we have a different spirit on the team.

"We held a party meeting recently," Gorshkov went on. "Victor was one of the speakers. There were complaints: not enough spares, undependable weather, and other such beefs. Then Dmitriyev spoke. That's all true, he agreed, but if every Communist takes the lead and chooses the tougher jobs, the difficulties will be overcome.

"Of course, there are other exceptional men. Truck driver Fyodor Sudarev is like Dmitriyev. He could be bathed in sweat, but he'll keep saying: 'Just one more run and I'll go home.' Some people would be fast asleep, but Fyodor sticks to the steering wheel so that the grain harvester won't be kept idle in the field, so that the grain will be hauled out in time. Nobody ever forces him to make these extra runs."



When the Dmitriyevs moved to their new apartment, the collective farm lent them a truck, of course. And neighbors, in the best rural tradition, came along to lend a hand. Below, they hoist a refrigerator. Rent for the three-room apartment, which cost the







farm about 5800 rubles, is very modest. (In both city and country, rental charges average about five per cent of income.) Victor commutes from his apartment, in the village of Slavkovo, to the collective farm center in Pokrovskoye. Above: The well-stocked general store in Pokrovskoye does most of its business during the weekends.

Victor asked me to visit his home and then said, somewhat embarrassed, "Only I don't know where to take you; right now I have two homes. Tomorrow morning I'll be here, in Slavkovo, and in the evening in Pokrovskoye, the collective farm center."

It turned out I had picked a bad time for the visit. The Dmitriyevs were just moving into a new four-room apartment that the farm completed recently. It is in an urban-type three-story building. The farm's economist puts the cost of the apartment at 5800 rubles.

Victor, 40, and Lyuba, 38, have three children: Sasha, 15, Nina, 14, and Andrei, 8.

"Who's the head of the family?" I asked, half joking.

"Both of us," smiled Lyuba.

"Both," said Victor seriously.

An equal say in family matters is fairly common in today's countryside. It wasn't always so. But the age-old peasant tradition that the family head must be the husband or even his father (if both the old and young people live in one household) is now a thing of the past.

The wife no longer depends on her husband for support. Lyuba works, too. She is a cardboard maker at a farm workshop that produces packaging for Moscow plants.

Lyuba comes from a neighboring village and is also of peasant stock. She married Victor in 1955, 10 years after the war, which left them with bitter childhood memories.

The family gets along well. Even while they were moving, there was no fuss or bother. They treated one another with genuine respect and without too much sentimentality. This is very much a characteristic of country living; children are looked upon as helpers and are not pampered. They know the value of their parents' work. In the city a child may never visit the factory where his father works, but it is different here. Opposite the new house where the Dmitriyevs now live is the farm board office. Near it, in a conspicuous place, are portraits of the best workers, Victor's among them. As soon as we met, Sasha, Nina and Andrei showed me their father's medal and certificates. And immediately added: "Mama just got a bonus, too."

So parental example, which may well be the best way to educate, is very much a part of the children's existence. They do their household chores every day as a matter of routine.

The Dmitriyevs and 23 other families at the Rossiya Collective Farm saw in the first year of the current five-year plan in new apartments. The farm is completing another apartment building, I was told by farm chairman Timofei Baryshev, a robust, broad-shouldered man of 65.

Baryshev has worked at the farm since the thirties, since the country first turned to cooperative agriculture. He is a war veteran—he fought at Stalingrad—and a Hero of Socialist Labor.

"The farm's income has grown," he said. "Last year's net profit was more than half a million rubles. Earnings are good. Victor Dmitriyev, for example, earns almost as much as a skilled factory worker. But wages are only part of the story. With machines, the farmer's work is becoming industrialized. Countryside and town are drawing closer together. Add to this the growth of cultural facilities and our rising standard of living. We're even building houses in the urban way."

As we went on talking, I learned that the farm's social and economic development plan calls for housing construction throughout 1971-1975. In addition to housing, a kindergarten and a music school are scheduled for this year.

The plan also has a provision with this title: "Raising the Cultural-Technical Level." Almost 400 members of the collective farm are in groups studying political and economic problems and the technology of farm machinery. Seventeen are correspondence students at specialized secondary schools and institutes.

"I've seen a lot in my life," said Baryshev when we parted. "And I can compare yesterday and today. Many of our people have grown up in front of my eyes. Take Victor again. He was just a shepherd boy once, now he's our best machine operator. But then, it's not so much the trade that matters. Men like Victor always make their mark, whatever they do. They are the ones who keep things moving."



Andrei Dmitriyev goes fishing.



QUERIES FROM READERS

QUESTION: Would you please write about the city of Magadan? (C. E. Reese, Los Angeles, California)

ANSWER: This city, with a population of 100,000, is the administrative center of Magadan Region in the Russian Federation. It is located in the northeastern part of the country, on the shore of Nagayevo Bay, the most accessible harbor on the Sea of Okhotsk.

In 1939 Magadan (its name comes from the Magadanka River), formerly a township, acquired the status of city. Still standing here and there are some of the small houses brought from Leningrad in 1932. They were dismantled and shipped across seas and oceans. Most of today's housing has gone up in recent years.

Magadan owes its growth to the subterranean riches of the area. The deposits of gold, tin, tungsten, coal and building materials found here in the twenties stimulated the region's economic development.

The city manufactures mining equipment and spare parts for machinery. It has motor repair plants and more than 30 construction agencies.

The rapid development of the Soviet Union's northeastern regions turned Magadan into a busy airport, with flights to Khabarovsk and then on to Moscow, Yakutsk and Petropavlovsk-Kamchatski. It also has a large trucking depot and an intercity bus station.

Magadan is also a seaport at which icebreakers, freighters and fishing boats call. Considering its high latitude, the port has a sizable freight turnover, with navigation open the year round. It is connected with many seaside cities of the Soviet Far East.

There is not much agriculture. With the exception of a narrow strip on the coast of the Sea of Okhotsk, the region lies within the permafrost zone, with long, cold winters and very short, though warm, summers. There are only a few collective farms along the coast. For the most part the local rural population (Evenki, Chukchi, Eskimos) engage in the traditional deer breeding, hunting and fishing.

Magadan is the scientific and cultural center of the Northeast. It is the seat of a combined research institute of the Siberian Branch of the USSR Academy of Sciences and has several other scientific institutions. Besides its general schools, Magadan has a teachers institute, a polytechnic specialized secondary school and vocational, music and medical schools. Like every Soviet city it has libraries, movies, houses of culture, a sports palace and swimming pools. The city has its own TV center, and Moscow telecasts are relayed via a system of communications satellites.

In the past Magadan's population was made up almost completely of outsiders. Today a good portion are natives. Parents sometimes return to the West—not all elderly people adjust to the climate—but their grown children remain to continue their work, to develop the economy and culture of this remote area. New people keep coming. Generally speaking, the population is quite stable.

QUESTION: Would you tell us something about stamps in the USSR and the events or people they are issued for? (W. H. Snyder) Is there a national organization of collectors in the Soviet Union who specialize in Russian stamps? (B. P. Steinke, Dumont, New Jersey)

ANSWER: Many thousands of people of all ages and cultural levels collect stamps. For some it is a hobby, others believe it is a painless way of learning geography, still others think that stamp collecting can be a tool in the education of children.

Collectors usually belong to city or district clubs or hobby groups affiliated with the USSR Society of Philatelists. It now has 515 sections and 279 independent groups and clubs, with a total of some 54,000 members. In addition there are 1,437 clubs and groups of junior philatelists—some 59,000 schoolchildren. In the last four years the society has published 29 books and pamphlets for collectors, including 12 exposition reviews and stamp catalogues. It is a member of the International Philatelic Federation and cooperates with national associations in most countries. Soviet collectors exchange stamps with their counterparts in all parts of the world.

The first Russian postage stamp appeared in 1858 and the first Soviet one in 1918. The latter showed a sword smashing through a chain. Since then the Soviet Union has issued upwards of 4,000 stamps with a total of over 50 billion copies.

Our stamps carry pictures of leading workers and collective farmers, scientists, artists, poets, and other outstanding representatives of the people. The first stamp bearing a portrait of Vladimir Lenin, the founder of the Soviet state, was printed in 1924. In 1935 a stamp commemorated the opening of the first section of Moscow's Metro. It carried a picture of a Young Communist League construction team.

The subject matter of Soviet postage stamps is varied. For instance, those issued in 1971 were devoted to architectural monuments, famous diamonds housed in the Kremlin, Soviet automobiles, sea animals, sports, Russian and Soviet pictorial art and the history of Russia's navy—a total of 110 different stamps and six blocks.

The USSR Ministry of Communications has an art council made up of prominent artists, art scholars, philatelists and representatives of various boards and the press. They discuss new designs and subjects. Original stamps are designed by artists of diverse creative styles.

The society publishes a monthly, *USSR Philately*. For Soviet stamps write to Mezhdunarodnaya Kniga, USSR, Moscow G-200. This organization fills orders from foreign philatelists.

QUESTION: Tell us about the Soviet Union's public city transport.

ANSWER: Our system includes the Metro, bus, trolley bus and streetcar lines, taxis and minibus lines (we call them route taxis).

We have Metro lines in five cities: Moscow, Leningrad, Kiev, Tbilisi and Baku. In the current five-year period others will open in Kharkov and Tashkent. The Metro is the fastest and most convenient mode of transport, and a must in big cities. For more information see the March 1970 issue of SOVIET LIFE.

The streetcar is also widely used. Our engineers are especially interested in perfecting and developing streetcar and trolley bus systems since they do not pollute city air.

Both small and big cities have bus service routed to the farthest outlying districts.

Fares are low (Metro and bus five kopecks, trolley bus four kopecks and streetcar three kopecks, irrespective of the distance traveled).

Many cities also have route taxis. They are minibuses covering definite routes, and a passenger can get off at practically any point along the way. The fare is 10 kopecks, regardless of distance.

Every city, of course, has a state-owned taxi fleet. Cabs can be called by phone, are available at special taxi stands and can be hailed in the street. The fare is 10 kopecks per half mile.

People in cities located on rivers also enjoy river transport: river trolleys, steam launches (if you're in no hurry) and high-speed hydrofoils.

Municipal transport facilities are expanding so rapidly, the cities have had to reorganize them to avoid traffic congestion. New roads, highways, overpasses and tunnels are being built for vehicles, and underpasses and overpasses for pedestrians. All this tends to increase the speed of traffic and make travel safer.

QUESTION: What electrical appliances would the average Soviet home have?

ANSWER: Practically every home and apartment has a refrigerator. Most families own washing machines, though a good many prefer to have their wash done at laundries—it's less trouble and the service is very cheap.

Floors in city apartments are parquet as a rule, so many people have electric floor polishers as well as vacuum cleaners. Also very popular are multipurpose electric kitchen units that slice bread and other solids, grind meat, whip cream, make dough and so on. Others have appliances for separate operations—electric coffee grinders, juicers, meat grinders and vegetable graters. Electric toasters are coming into use (toast has not been a part of the Russian cuisine).

Most apartments have gas ranges, but in some houses, especially new ones, electric ranges are being installed. City apartments usually have central heating (steam, water or gas). But residents also use various types of electric heaters; people in the provinces particularly need them.

In the country's southern areas some families have air conditioners, but they are not yet in general use in homes.

The charge for electricity is uniform throughout the country—four kopecks per kilowatt-hour.

Alexandra Kollontai

1872-1952

By Georgi Petrov

Georgi Petrov is on the staff of the Central State Archives of the October Revolution. He is presently writing a thesis on Alexandra Kollontai. The photographs are reproduced by courtesy of Madame Kollontai's family and the USSR Museum of the Revolution.

The hundredth anniversary of the birth of Alexandra Kollontai will be celebrated on April 1, 1972. Hers is a familiar name both in the USSR and internationally. Books have been written about her, a play on this remarkable woman has been in the Moscow Art Theater repertory for years, and two Soviet documentaries and a feature film have brought her to the screen.

Alexandra Kollontai led a most unusual life. She was a revolutionary, a close associate of Lenin, a fiery speaker for the revolution, the new Soviet government's first minister of social welfare, and a distinguished diplomat, ambassador to Norway, Mexico and Sweden.

"I like to look back on the road we've covered and then into the wonderful future when mankind, its freedom newly won, will proclaim happiness as its birthright," she wrote in her later years.

To Kollontai the purpose of life was to fight for the working people. At the age of 26 this daughter of an aristocrat—her father was a general in the czar's army—abandoned her privileged environment, joined the Russian Social-Democratic Labor Party and became a dedicated revolutionary. From that time on, as Lenin put it, she gave the revolution "not just her free evenings but her whole life."

Alexandra Kollontai, like Nadezhda Krupskaya, Lenin's wife and comrade, began her activity by leading workers' circles in Petersburg and speaking at underground gatherings. She studied conditions in Russia and the problems confronting the revolutionary movement, and wrote a number of articles on history, economics and social problems. As a speaker, Kollontai soon won a large following. She spent much of her time and energy bringing political enlightenment to the masses, and especially in drawing workingwomen into the revolutionary struggle.



In 1908, to escape the czar's secret police, Kollontai had to leave Russia. She spent eight years abroad and helped to strengthen Russia's links with the revolutionary movement of the West. Her ability as a speaker and her knowledge of languages stood her in good stead. She spoke to worker audiences in Germany, Britain, Belgium, Denmark, Switzerland, Norway and Sweden, and to international socialist congresses in Copenhagen and Basel.

During World War I, as a member of the Bolshevik party, Kollontai carried out Lenin's assignment to rally left socialist forces throughout the world. Lenin prized her gifts as writer and speaker. In 1915, at the invitation of the American socialists, she visited the United States, where she spent five months touring the continent and appealing to workers to fight against the imperialist war. She publicized the Bolshevik view of the war and Lenin's revolutionary ideas. The American working-class press of the time carried glowing accounts of Kollontai's moving speeches.

After the February 1917 Revolution, she went back home. She did educational work with the seamen of the Baltic and with the women of Petrograd. She also became a regular contributor to *Pravda,* was elected to the Executive Committee of the Petrograd Soviet and to the Bolshevik party Central Committee at the sixth party congress, participated in the most decisive meetings of the Central Committee and supported Lenin's call for an armed uprising.

In October 1917, the socialist revolution was victorious. On Lenin's recommendation Kollontai became People's Commissar of Social Welfare in the first Soviet government.

Lenin had a high regard for Kollontai's organizing abilities. While he frankly and firmly criticized her for errors, he helped her correct them and find the right solution. His admiration for her never wavered.

For half a year Alexandra Kollontai held the office of people's commissar. In that brief period she laid the foundations for a new state system of social insurance with no contribution from the worker's pay envelope. She arranged for payment of the first grants

and pensions, set up children's homes and opened a mother and child center, all completely unprecedented undertakings at the time. "Put Kollontai in charge, she'll do it," Lenin would say, and Kollontai did it. In 1919 she was sent to the Ukraine as People's Commissar of Propaganda and Agitation. As ever, she was occupied with the problem of drawing women into the construction of the socialist society. She did much writing on the subject, but her interest was far from theoretical—she was an indefatigable administrator and organizer.





Below: Alexandra Kollontai in 1888. Top right: Madame Kollontai and her son. Right: At the International Socialist Congress in 1910.



"I was born in 1872 into a family of the landed aristocracy. My father was a Russian general of Ukrainian origin, and my mother was of Finnish peasant stock.

"From childhood I caused my mother a good deal of grief by my desire 'to live not the way others did.' I struck up friendships with the servants . . . stood up for my independence, reveled in books and lived in a world all my own, shut away from the adults."

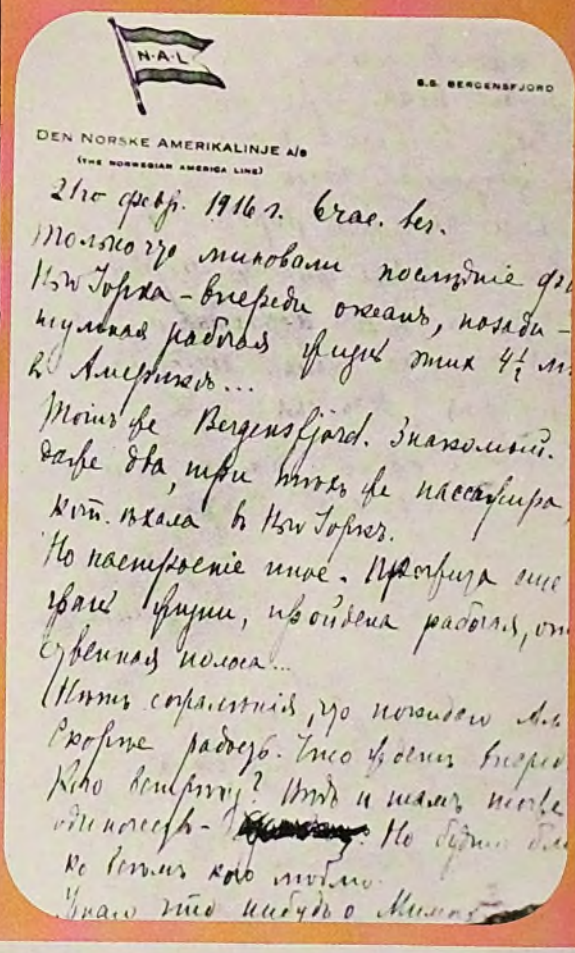
From autobiographical sketch
by Alexandra Kollontai

In 1922 Alexandra Kollontai began her service as a diplomat, first representing the Soviet Union in Norway, then in Mexico and Sweden. She was the first of her sex to be named to such a post. Women had ruled kingdoms and empires before, but none had been the ambassador of a great power.

"A diplomat isn't worthy of the name if he hasn't made new friends for his country," Kollontai used to say.

She scored a number of major diplomatic successes as her country's representative. Norway, for example, was one

Right: Oslo, 1924. About to present her credentials as Soviet ambassador to Norway. Below: A page from her American diary.







Lenin chairing a meeting of the Council of People's Commissars in January 1918. Madame Kollontai is shown here seated next to Lenin, the eighth from left.

"I married early, partly as an act of defiance against my parents. But three years later I separated from my husband, engineer V. Kollontai, assuming full responsibility for bringing up my son. . . . We separated not because we stopped loving one another but because I felt oppressed and fettered by an environment from which the marriage with Kollontai did not rescue me. . . . I did not leave Kollontai for another man, but was caught up by the wave of growing revolutionary turmoil and events in Russia."

From "Reminiscences"
by Alexandra Kollontai

of the first to recognize Soviet Russia.

Kollontai served as an untiring advocate for the Soviet Union's peace-seeking foreign policy. As a member of the Soviet delegation to the League of Nations, from 1934 till 1939, she time and again offered the Soviet Union's proposals for averting a world war.

For 23 years Kollontai represented her country abroad. In the spring of 1945, when she returned to live in Moscow, she was past 70 but continued as adviser to the Ministry of Foreign Affairs.

She held the highest Soviet decoration, the Order of Lenin, and two orders of the Red Banner of Labor; the Order of Saint Olav, the highest decoration of Norway, and the Mexican El Aguila Azteca order. By Swedish law women could not be awarded decorations or medals. But King Gustav V, in recognition of her diplomatic services, sent Madame Kollontai his photograph in a silver frame engraved with his coat of arms in gold.

Alexandra Kollontai died on March 9, 1952. She lived a long, productive life. To the end she walked abreast of her age and remained dedicated to the people.



Below left: Madame Kollontai chats with President Calles of Mexico in 1926 after presenting her credentials as Soviet envoy. Below right: At the League of Nations in Geneva in 1926. Alexandra Kollontai and Boris Stein were the Soviet delegates.







On her way to the royal palace in Stockholm in 1930 to present her credentials to King Gustav V. Top: Kollontai is shown here in 1918 with some of the orphans under her care. An aristocrat by birth, at 26 she left the privileged environment in which her parents lived, joined the Russian Social-Democrats and became a dedicated revolutionary.





With H. V. Johnson, U.S. Ambassador to Sweden, 1944. Above right: Nikolai Shvernik, President of the Presidium of the Supreme Soviet, presents her with the Order of the Red Banner.



"Is it not far wiser and more humane to settle problems by agreement and negotiation, rather than plunge ahead with arms atilt? There may be another war, several wars—but new methods are taking shape, new forms that will make it possible to settle problems between states. This makes me happy, especially the realization that the Soviet Union is trying to pave the way."

Alexandra Kollontai,
Saltsjobaden, Sweden, 1939

"The capacity for dreaming helped me throughout my life. I saw the world not only as it was, but the way it could be if it were changed. This capacity helped me see into the future when our Soviet state was only beginning to take shape. I can say of myself that I loved intensely . . . that I lived my life fully. I have been a part of many great events. The principal thing for which I fought, about which I dreamed and for the sake of which I worked all my life—the socialist state—has become a reality."

Alexandra Kollontai





Half a century ago, on May 19, 1922, a children's organization, the Young Pioneers, was founded in our country. It had 4,000 members in its first year, and its expressed purpose was to help the grownups, to the extent that children can, build the world's first socialist society. Today the All-Union Young Pioneers Organization has a membership of 23 million 10- to 14- year-olds.

This organization is open to all youngsters, but membership demands a considerable measure of responsibility and self-discipline. Members wear the Young Pioneer badge and a triangular red tie, a symbolic segment of the flag.

YOUNG PIONEERS

50 YEARS OLD



The Young Pioneers are the reserve of the Young Communist League. Therefore they are expected to train themselves to be good citizens. A Young Pioneer is required to do more than be a good student. He must also help his schoolmates, take care of younger children and old people, be courageous and principled, be active in his community and make friends with the children of other countries.

This code is reflected in real deeds. For example, the Young Pioneers have done a great deal of conservation work. They have planted trees and shrubs along hundreds of miles of highways and railroads. In the hot months, when small rivers and lakes dry up or are shallow, country children catch and carry hundreds of thousands of young fish to deeper spots.

Young Pioneers have a sense of history. The Young Pathfinders movement that has spread throughout the country illustrates that. These children, mainly those living in areas where fierce battles took place 30 years ago, decided to track down the names of the unknown fallen. They got after old-timers, met with war veterans, and studied archives to find out how many of those reported missing had died, thus identifying the nameless graves.

The state provides the children with every possibility for developing their talents by giving them all sorts of recreational facilities. The country has 127 theaters and 5,000 libraries specifically for children. There are 3,700 Young Pioneer palaces and houses with photography, drawing, singing and other circles; 450 Young Technicians clubs, 300 Naturalists clubs, and many boat clubs and sports schools. The state built miniature railroads where children are the engineers, conductors and switchmen.

Sports are, of course, among the prime activities. The national children's contests in skiing (for the *Pionerskaya Pravda* newspaper prize), hockey (the Golden Puck competition) and soccer (Leather Ball) are a tradition by now. There is also an international children's track and field competition called Druzhba (Friendship).

Many children spend their summer and winter holidays hiking or going on excursions to other cities. In the summer months most vacation at Young Pioneer camps located in picturesque suburban areas. In addition to local camps, there are national camps like Artek on the Crimean Black Sea coast. Teenagers from many other countries also holiday there at the invitation of our Young Pioneers. The fact that they do not speak Russian does not prevent them from making friends and having a very good time.

The Young Pioneers Organization has its own press. Sixty children's magazines and newspapers are published in 19 of the languages spoken in the Soviet Union. *Pionerskaya Pravda* is the most popular national children's paper. It has the biggest newspaper circulation in the country—almost 10 million copies. In an easy-to-understand form it prints home and foreign news. But its strong emphasis is on material directly related to children. The paper annually receives over 300,000 letters from readers. The editorial staff is helped by scientists, writers, artists, statesmen and public figures in answering them. Those that are likely to stimulate debate or comment appear in the paper, together with the answers.







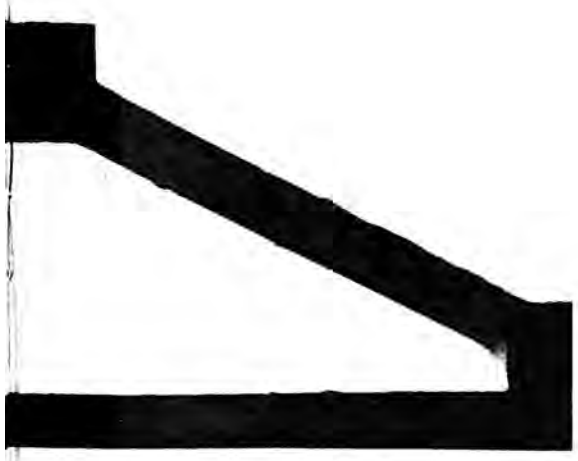


This plan to modernize Taganrog was drafted by Leningrad architects. Here they interpret it to city representatives. For a small city, Taganrog has an unusually high industrial worker ratio. Several giant plants explain it, a metallurgy and a harvester combine plant among them.

A new shop under construction to meet the country's fast-growing demand for improved farm equipment. The Taganrog plant manufactures a whole family of self-propelled grain combine harvesters: half-track, full-track and rice harvesting versions. New models are being developed.

Taganrog farm-equipment designers are working toward a fundamentally new type of machine, a general purpose harvester and transport power frame with a whole set of different mounted units—seeder, cultivator, windrower and truck—that can be used all year for varied jobs.









Visit to an Average City

BY ALEXANDER LEVIKOV

TAGANROG is the "average" city our sociologists invented. They kept the name hidden behind a pseudonym until they had collected all the data they needed.

With their knowledge and permission, I want to compare my personal impressions of Taganrog with their scientific findings. A comparison of these two methods of acquiring a knowledge of social reality should be interesting for its own sake.

Taganrog is a southern seaside town with none of the easygoing atmosphere of a resort; it is strictly a workers city. The proportion of industrial workers to the rest of the population is very high, probably higher than in the country's largest industrial centers. Among the factories are such giants as the combine and the metallurgy plants and the Krasny Kotelshchik (Boiler) Plant.

Taganrog is an unpretentious, very human city, although it is not small; it has a population of a quarter million.

Everyone Knows Everything

The sociologists who interviewed tens of thousands of Taganrog people for various studies wanted to know, for one thing, how much the residents knew about city problems, how the press, radio and television influence public opinion, and how effective, in the final analysis, public opinion is.

I tried to do the same thing by the "good old method." I simply walked around, looking and listening. If I had to give my personal impression in a few words, I would say that Taganrog is an open-and-aboveboard town. The city has a friendly, trusting attitude toward its citizens, and they repay the compliment.

You notice the attitude the very first time you walk along the street. Ahead is a neat little square of green grass, a very tiny section of a very green city. Without asking anyone, I discovered that factory foreman Boiko created that lawn.A sign announces it to all passers-by. When and where the citizens of Taganrog may see their representatives, from the Council of Deputies No. 9 of Ordzhonikidze District to Junior Lieutenant of the Militia Zhukov, I also learned without asking anyone. I simply read the signs on the houses.

I talked with a good many people in Taganrog about these significant trifles, among them Ivan Yesaulenko, first secretary of the City Party Committee. He made this sensible comment: The public activity of the population depends directly on how much it is kept informed. The more its citizens know about the problems of their city, the more eagerly they will help find solutions. The opposite also holds true. The conclusions of sociologists may not confirm such a direct connection, but I think that Ivan Yesaulenko has something there.

Taganrog Pravda gives its readers a detailed picture of what goes on in the City Committee, the District Committees, the City Executive Committee and other such bodies.

The paper runs a column called "Reporting to the Citizenry" in which those responsible report on work in progress. There is always a picture of the person making the report so people can see what he looks like.

Taganrog Pravda also lists forthcoming meetings of the City Party Committee or sessions of the City Soviet, the speakers and the items they will be discussing. Every citizen is thus given the opportunity to join in the discussion, give what information on the subject he has, make suggestions or level criticism.

The Individual Among People

While in Taganrog, I was constantly meeting generous, soft-spoken people.

Taganrog has all kinds, of course, otherwise there would be no reason for its volunteer public order squads, militiamen, courts or public prosecutor's office. They all have plenty to do, although in recent years there has been a steady decline in crime and all types of hooliganism. Perhaps it was just luck that I met the people I did, but my feeling of being in a "good city" was born of a large number of conversations and observations. It seemed natural for Taganrog, somehow, something inherent in the city.

Sociologists used various methods to measure the moral microclimate of Taganrog quantitatively. These included interviews, follow-

Lenin Prize winner Hanaan Isaacson, head of the Taganrog farm equipment design bureau, is known internationally for his innovative harvester combine designs.

ing the principle of "A man is known by the company he keeps."

Only 10 per cent of the workers in the Taganrog poll would not answer questions about their best friend. It turned out that only seven per cent of the men had no friends; the figure for women was 27 per cent. The researchers found that Taganrog people go in for friendship in a big way. Seventy-two per cent of the factory workers (men) meet their best friend daily or almost daily. The figure for women workers was 69 per cent. Intellectuals are not so sociable; the percentages are much lower: 47 and 42 per cent. Although, say the researchers, this may be because most of a worker's friends work in the same factory he does (59 per cent), while intellectuals have fewer close friends among the people they work with. The workers did say, however, that contacts with friends are usually outside the factory, at home.

Within their own "circle" Taganrog residents try to make friends with people who are better educated than they are. This is indicative of the times and our Soviet reality—people are drawn to those who know more. Only 20 per cent of the friends of factory workers with six grades or less of schooling had the same level of education. Over half of their friends had gone through grades seven to nine, and a third through secondary school. For the poorly educated women workers, one-seventh of their women friends had a secondary or college education.

By the way, in Taganrog, with its two colleges (teachers and radio engineering) and eight technical schools, this desire for education is plain to see. In the evenings the streets are crowded with young people carrying drawing portfolios and briefcases on their way home from classes or on their way to classes after work.

But let us return to best friends. Taganrog factory workers were asked what they usually talked about with each other, what they valued in their best friend. Apparently we men mostly talk, even among friends, about our jobs, while with women, family affairs prevail. Twenty-three per cent of the men said that they talked to each other about politics (the percentage for women was much less), and 23 per cent talked about cultural topics. Naturally, there was great fluctuation in interests, depending on age. And mutual friends are the topic of primarily young people.

What qualities do the people of Taganrog appreciate most in their friends? The majority of the industrial workers polled—54 per cent of the men and 71 per cent of the women—prefer friends with character traits the sociologists describe as spiritual. Men and women, young and old, all called their friends sincere, honest, sympathetic, modest, unassuming. From other answers one can see that the qualities they admire in their friends are wit, high cultural standards and competence.

If the adage is right, the people polled in Taganrog seem to have painted their own portraits in the image of their friends. Their ethical ideals—collectivism and humaneness, and their dislike of anything mercenary or selfish—are manifest daily at home and at work.

I spent several days in the town, enough to hear from any number of people how so and so was given a helping hand, of kindness extended without display. I was told, for example, about a young factory worker who offered to make some repairs on the house of a sick woman for nothing and got so interested in the job that he built her a new house. "At the metallurgy plant we have a tradition of doing repairs and building for each other," I was told. This was followed by examples similar to the one above. They told me about a recent mistake of one simple-minded townsman for which his brother almost paid with his life. The brother came for a visit, got sick before leaving, and the man gave him some heart medicine to take back, just in case. When the train left, he found that he had given his brother an unlabeled bottle of hydrochloric acid instead. It took Taganrog telephone operators several hours to contact the train. When they did, a doctor went into the



Anatoli Abuzarov founded a chorus for teenagers with "no ear" for music, said the experts. Its 75 members sing like professionals, they now admit.



What's on today? Plays, concerts, opera, puppet show, chess match, health lecture.

A wedding at the palace of culture of the harvester combine plant.

Right: Hot shop. The foundry of the big metallurgy plant.



man's compartment and exchanged the bottle of acid for heart medicine.

By noble impulses I mean both those powerful, mass impulses that we group under the word "patriotism" and the impulses that manifest themselves in everyday life and often go unnoticed.

For example, a festival arranged by two streets is nothing out of the ordinary for the people of Taganrog. When the city celebrates an occasion like the twenty-fifth anniversary of Victory Day, that is really a celebration. Columns of war veterans wearing all their medals, some of them in faded tunics that date back to the war years, many of them with canes or even on crutches, slowly march through the city. No volunteer public order squads or militia details are needed to keep order, although literally all of Taganrog turns out. Little boys and girls shower the veterans with flowers cut right on the spot, under their windows.

Management Ethics and Factory Pedagogics

Among other things, the sociologists wanted to find out what opportunities Taganrog offers in the way of job advancement.

The story of the director of the harvester combine plant illustrates the questions they put. Thousands of people work at the plant. The head of this human and technological colossus is Nikolai Lutai, winner of a Lenin Prize and a State Prize and a member of the USSR Supreme Soviet.

He started at this plant in his own home town as a lathe operator in 1929; now he is the director. From machinist he rose to foreman, section superintendent and chief engineer. Nine years ago he was appointed director. There were only two short breaks—his army service and a period when he was completing his higher education.

There are now 1,158 people at the plant who take college, specialized secondary and secondary school courses in their free time. It is altogether possible that one of them will some day be director when Lutai retires. This often happens in our country. People rise from the bottom. They are put in charge of more and more complicated sections of production. Young people quickly learn to cope with machinery and technological processes. But do they all have what it takes to manage a factory?

A great deal has been written and said in recent years about the art of management. Nikolai Lutai realized that education for management was not a passing fashion but a demand of the times. He decided to put the idea into practice.

The plant has 21 agreements with technical research institutes. The twenty-second agreement was concluded by the plant director with a teachers college.

Members of the department started with a poll. They all knew, of course, that subordinates turn to managerial workers with their personal as well as their work problems. But none of them suspected that the percentage of such problems would be so high. Fifty-nine per cent of those polled said they had talked with their shop superintendent and 56 per cent with their foreman about matters that had nothing to do with the job. Such questions were put to the team leaders far more rarely (17 per cent). It is interesting that the response of the managers was so much appreciated by the workers. Almost two-thirds of those polled said that their questions were answered.

A poll is not an end in itself. What followed?

The college organized a seminar on ethics for the managerial personnel. From November of last year till April of this year the first group of 30 foremen met for two hours once a week. Then a conference was held, attended by 500 members of the managerial staff. I read the minutes of the conference. Without going into detail, what surprised me was the change in attitude from the usual "technological" perception of a problem to perception of the problem through people, and the sincere desire to understand a sphere as complex as the pedagogics of management, the psychology of dealing with people on the job.

A handbook which the sociologists compiled is called **The Art of Managing a Collective.** The first 600 copies were distributed to managerial workers at the plant. More copies will have to be printed to fill the requests for the handbook that have come in from other industrial plants.

I mentioned the poll on the traits most admired in a friend: adherence to principle, kindness, and a willingness to give of oneself. Compare these with those most admired in a manager (from a poll by the teachers college): intelligence (43 per cent), knowledge of the job (80 per cent), insistence on high standards (88 per cent), fairness (71 per cent), tact (52 per cent) and understanding (63 per cent). To me it is very indicative that only six per cent of those polled considered a manager's most valuable quality to be his ability to meet production plan quotas.





Mayor Anatoli Kozmin and city Communist Party head Ivan Yesaulenko talk municipal renovation.

Spiritual Culture: Consumption and Production

The formula "consumption and production of spiritual culture" comes from the sociologists.

I shall speak, however, only of "production," for this, the active side of the spiritual life of Taganrog people, is easiest to see with the naked eye.

Five years ago Anatoli Abuzarov, an enthusiastic musician, got the idea of setting up a children's chorus.

He chose 30 children who had not been able to get into music school because they did not have a good enough ear for music. Not that Abuzarov wanted only those who had been turned down; the others just wouldn't come to his singing lessons. His group did not even have the status of an amateur talent group. To get the parents interested, Abuzarov promised to teach their children not only singing but the piano and string instruments.

Today, five years later, this children's chorus numbers 75 boys and girls. It has a violin ensemble, something seldom found. But that is not the point. Among the compositions this chorus of children "with no ear" sings are Rachmaninoff's "Vocalise," Debussy's "Clair de lune," Massenet's "Meditation" and a Kabalevsky cantata—all difficult music, say the experts. The chorus has a repertoire of 47 Russian and foreign classics, Soviet songs and folk songs.

Isn't this a vivid illustration of the "production of spiritual culture" in an average city? Nor is it the only illustration.

Taganrog has a drama theater with a fine tradition and professional actors; it has many gifted, conservatory-trained musicians. And in this kind of town fitters, drivers, nurses, students, teachers, typists, engineers, assembly workers, machinists, bookkeepers, and so on and so forth, staged and produced **King Lear,** operettas including **The Gypsy Princess, Countess Maritza, Les Cloches de Corneville,** besides several classical operas, including **Eugene Onegin!** There are seven amateur companies: four drama groups, a musical comedy company, an opera group, a young spectators company that stages as many as four plays a year, and an endless number of all kinds of choirs, ensembles, orchestras, studios, groups and collectives that constantly have tournaments, the most popular of which is the annual "Musical Spring."

It would seem that the fine professional companies of which Taganrog is rightfully proud should be sufficient for all its adult residents. But no, if you read the billboards in this seaside town, you will see that they always contain a full compliment of performers on tour, most of them with national and even international reputations.

It is certainly not for lack of entertainment or poverty of cultural life that amateur art is developing alongside the professional. And though the total audience remains the same, the two coexist splendidly in Taganrog. Instead of competing, they cooperate closely and lend each other creative energy.

In this case the "consumption and production" of culture have blended into a single process.

The sociologists have explored in depth the attitude of Taganrog residents to culture—the press, television, the theater, film, museums. These studies, conducted by different groups of researchers with specific projects, are not yet complete. But even now we can say one thing quite confidently: There is not a family in Taganrog that does not use its leisure time at something closely connected to culture—its "production" or its "consumption."

Courtesy of **Literaturnaya Gazeta**





Swimming, indoors and out, is the city sport. Taganrog fronts on the sea.



The annual Taganrog races. The muddy face notwithstanding, he didn't win.



Many of the neighboring towns and cities compete.

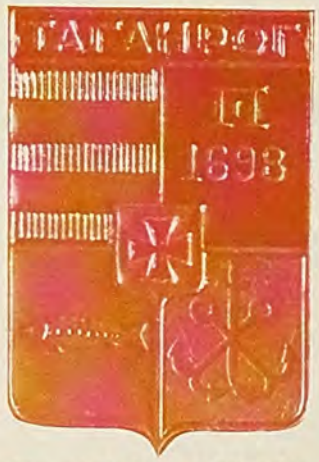






The park in this very green southern town is a hangout for young, old and in-between.





City seal. The old trades were fishing and sailing.

You couldn't tell from this photo that Taganrog is a heavy industry town of 250,000.

Looking out to sea. The harbor is a factor in Taganrog's industrial development plans.



THE UNION NINTH FIVE-YEAR PLAN

By Victor Pavlenko
Member of the
USSR State Planning Committee

THE ECONOMIC DEVELOPMENT of the union republics and the territorial distribution of the country's productive forces are important elements in the Ninth Five-Year Plan (1971-1975).

The targets of the union republics for the plan period are based on the Communist Party's policy on the national question: the all-round economic and cultural development of all Soviet nationalities through cooperation and mutual assistance. That policy has been pursued from the founding of the Soviet Union. But each historical period has specific features of its own. The most complicated tasks in drafting the Ninth Five-Year Plan were, first, to find the most effective ways to develop the republics and the best places to locate new industrial projects. Second, and this is especially important for our multinational state, to define the contribution to the Union as a whole expected from each of the republics and economic areas, with their individual characteristics and interests taken into account. The over-all goal is a further rise in the standard of living of every Soviet citizen.

Territorial Specialization

The distribution of industry under socialism is based on the planned territorial division of labor. Changes in the distribution of the productive forces are intended to reduce the total cost of social production and raise its efficiency.

But certain important sociopolitical and socioeconomic problems must be solved simultaneously: continuing the development of formerly backward regions, raising the standard of living in all parts of the country, slowing down the excessive growth of the big cities.

Therefore the prime question in territorial planning is the proper specialization and rate of development of the economy of each of the union republics and economic areas.

This is why the Directives of the Twenty-fourth CPSU Congress not only provide quantitative indices for the growth of production and list some of the most important construction projects, but also supply major guidelines for the specialization of industry and agriculture in each of the union republics. This specialization is mandatory if we are to have rational economic relations among the union republics and economic areas.

Production Complexes

The five-year plan provides for the all-round economic development of union republics and economic areas. But all-round development does not necessarily mean the creation of a self-contained and isolated economy. What distinguishes this type of development is not isolation, but the greatest possible completeness of economic processes and close coordination of the major branches of the economy.

Different types of territorial-production complexes have developed in the course of socialist planning. The largest of them constitute economic areas of the USSR (the Urals, the Northern Caucasus, the Far East), the smaller ones form the economic nuclei of the relatively smaller union republics (Moldavia, Armenia, Kirghizia), and of the separate regions, territories, autonomous republics or their groupings (Sverdlovsk and Perm Regions, the Central Urals).

In many of the union republics the industrial regions and centers already in existence are being developed and new ones set up. They too are essentially territorial-production complexes, only more specialized and operating on a smaller scale. Some of them, however, have considerable national significance, for instance, the oil-producing regions of Western Turkmenia, and the Krasnoyarsk and Bratsk industrial centers in Eastern Siberia.

Territorial-production complexes that combine industry and agriculture are also being created, principally in Moldavia, the Ukraine and the Northern Caucasus. They include sugar-refining, vegetable-canning and wine-making enterprises.

Better siting of the productive forces and greater integration of the economies of the union republics and economic areas make it possible to improve territorial economic ties, both interrepublican and interregional, and to reduce shipping distances. Preliminary estimates show that the Ninth Five-Year Plan will cut down on shipping of oil, ferrous metals, cement and mineral fertilizers.

By bringing factories nearer to sources of raw materials and power, by promoting industrial cooperation, by using joint power, construction and housing facilities and community services, territorial-production complexes make it possible to cut costs and thereby raise the productivity of labor and efficiency of production. In the process—and this is most important—quite different resources, economic, social and demographic, are integrated.

Our approach to territorial planning is not limited, however, to the internal development of any one complex. There is also another, no less significant, aspect. Each territorial-production complex or center is considered not as an isolated unit, but as part of the economic area or union republic. Development plans for the economic areas and the republics, in turn, are part of the national economic plan.

East and West

The five-year plan for 1971-1975 focuses on the accelerated all-round development of the eastern regions—Siberia, the Far East, Kazakhstan and the Central Asian republics—which are exceptionally rich in mineral resources. Of the 500 billion rubles' worth of new production capacities and fixed assets to be created under the plan, a third is to be invested in the East. As much capital construction is to be done there alone as was done throughout the country a relatively short while ago, under the Sixth Five-Year Plan (1956-1960).

The program is not confined to the construction in the East of industrial enterprises and territorial-production complexes. It also calls for the training of skilled workers and engineers, largely from the local population, and the raising of living standards. Higher-than-average wages will be paid, and housing and social and cultural facilities will be built at a faster rate than elsewhere in the country. This applies to the Far East especially.

The most important branches of heavy industry in the eastern parts of the country

AND ITS REPUBLICS

are being developed at an accelerated pace. In the course of the five-year-plan period oil output is to be almost trebled. Coal output will be increased by more than 25 per cent, accounting for half the country's output. In gas, too, the East will account for about half the national output. All told, the eastern regions will be responsible for more than 75 per cent of the total increment in the country's fuel production. Since this share represents the cheapest fuel, it will make possible a saving of more than three billion rubles over the five-year period.

The quickest and most profitable way of increasing production is by making better use of available capacities, by modernizing, expanding and, in some cases, rebuilding existing plants. While paying special attention to the development of new regions in the East, the plan also takes into account the latent reserves in the western regions. The point is that most of the production capacities in the machine-building and petrochemical industries, as well as light industry, are in the European part of the country and the Urals. Their products are manufactured for the whole of the USSR, and the cost of shipping most of them is relatively low (less than one per cent of production costs).

The plan therefore provides for a further rapid growth of the manufacturing industries in the European parts of the country. In some areas—the western parts of the Ukraine and Byelorussia, Moldavia, Central Russia, the Transcaucasian republics—manpower resources are available.

The small and medium-size towns have labor resources which, though considerable, are not enough to operate large factories. Therefore it seems advisable for the small towns and communities to set up small specialized enterprises, as well as branches of factories and mills operating in the big cities. Considerable work has already been done along these lines. Thus, some of the industrial associations and factories of Moscow have opened branches in Ryazan, Kaluga and Smolensk regions, and those of Leningrad in Leningrad, Pskov and Novgorod regions.

New Frontiers

In the course of drafting the five-year plans of some of the republics, it was found possible to step up the pace of industrial development outlined in the Directives of the Twenty-fourth CPSU Congress, which drafted the national plan.

Through industrial specialization, the union republics are to make the following contributions to the development of the national economy:*

In the *Russian Soviet Federative Socialist Republic* a territorial-production complex of national importance will be created around the mineral resources of the Kursk Magnetic Anomaly. The oil, oil-refining and gas industries will be developed in the Komi Autonomous Republic and Arkhangelsk Region in the northern European part of the RSFSR. The Togliatti industrial complex will be completed on the Volga, and the new Nizhnekamsk complex, including the Kamsk auto plant and some petrochemical enterprises, will be developed.

One of the major projects of the five-year plan—a new oil and gas center—is being developed in the northern part of the Western Siberian lowland. The plan calls for an output of 137 million tons of oil and 1.5 trillion cubic feet of gas from the center in 1975. Large petrochemical complexes, gas refineries and gas pipelines laid to link up with other parts of the country are under construction in Western Siberia.

In the Eastern Siberian economic area the plan provides for the rapid development of mineral extraction, power-generating capacities, and industries that are large consumers of power. (Examples are the timber and pulp-and-paper industries.) A large number of territorial-production complexes, including the Krasnoyarsk-Achinsk, Irkutsk-Cheremkhovo, Bratsk-Ust-Ilim and Sayany complexes, will be built or expanded.

In the Far East, the electric power, oil-refining, nonferrous metal, timber and timber-processing industries are being rapidly developed. The output of lead, tungsten, mercury and gold will be stepped up. The diamond industry in Yakutia will also be expanded.

More than 25 per cent of all the capital investments of the RSFSR will go into Siberia and the Far East, and industrial output in those areas will grow by 60 per cent against an average of 47 per cent for the republic as a whole.

The average annual output of agriculture in the RSFSR is to go up 22 per cent above the Eighth Five-Year Plan figure. The republic's collective and state farms will supply the bulk of the country's grain, flax, sunflower seeds, vegetables and livestock products.

In the *Ukraine,* the chemical, oil-refining, petrochemical and engineering industries will get priority. The reconstruction of existing coal mines and the building of new ones is being completed in the Donbas. In the iron and steel industry, modern production methods will be increasingly introduced, and higher grades of rolled metal, pipes and other metal products will be manufactured.

Labor resources in the Ukraine, especially in its western regions, are far from exhausted. There are also free hands in such densely populated industrial areas as the Donbas and the Dnieper regions, where there is more demand for male than for female labor. Therefore the development of light industry and the food and precision-instrument industries will be stepped up.

The Ukraine will keep its important role as the national supplier of such farm products as grain, sugar, butter and meat.

In *Moldavia* industrial output will increase by 62 per cent, primarily through the development of wine making, other agricultural processing industries, and engineering industries that require a great deal of intensive labor. In rate of growth of farm output Moldavia leads all the other republics.

In *Byelorussia* the biggest gains will be made by the chemical and petrochemical industries, especially those manufacturing synthetic fiber and mineral fertilizers. The power industry too will make a big step forward. Total industrial output will increase by 58 per cent.

Despite unfavorable climate conditions, farm production in Byelorussia grows faster than the average for the country as a whole. In 1971-1975 large tracts of wetlands in the republic are to be reclaimed.

The Baltic republics—*Latvia, Lithuania* and *Estonia*—will develop their industries intensively, mostly through a rise in labor productivity. The leading role continues to be played by branches requiring the most highly skilled labor—electrical and radio engineering, light industry, and knit goods manufacture especially.

Agriculture here continues to specialize in milk and meat. Extensive land reclamation is being done, but less than in Byelorussia.

In *Kazakhstan,* where new mineral resources have been discovered, the specialization is in nonferrous and ferrous metals, chemicals and fuel. With a 59 per cent advance in total industrial output, production of oil, rolled steel and mineral fertilizers will more than double. The power industry, and enterprises that are large consumers of power, will be developed on the basis of cheap and abundant coal. The textile and other consumer goods industries too will make rapid progress.

In agriculture, major efforts will be made to insure crop stability and to increase the output of meat and wool.

The basic economic tasks of the Central Asian republics—*Uzbekistan, Kirghizia, Tajikistan* and *Turkmenia*—are to continue developing the national cotton complex, the chemical, fuel, gas and power industries, nonferrous metallurgy, and the branches of engineering and light industry requiring considerable labor resources. By 1975 these republics will be producing more than 30 per cent of the country's gas supply. The pace of industrial development will be particularly high in Turkmenia and Kirghizia, with advances of 64 and 55 per cent, respectively, in the next five years.

The average annual production of raw cotton in 1971-1975 will be at least 10 per cent above the average of the preceding five-year period. The results of the first year of the plan offer good reason to expect that plan targets will be exceeded. Rapid strides are being made in gardening and other such profitable branches of agriculture based on favorable natural conditions, including winegrowing, vegetable and melon raising, silk production and sheep breeding. There are many pastures here, and the people of Central Asia are skillful shepherds. Water supply is still a serious problem, but major irrigation projects, including the construction of hydroelectric stations, are planned to regulate the flow of mountain rivers. A territorial-production complex of national importance is being created in Southern Tajikistan around the Nurek hydroelectric station.

In the Transcaucasian republics—*Georgia, Azerbaijan* and *Armenia*—the machine-tool, instrument-making, chemical, metallurgy and electrotechnical industries, and others requiring large amounts of manpower, are being developed. The Azerbaijan oil industry is concentrating on the development of the resources of the Caspian Sea. Modernization of the oil refineries is also scheduled. The power-generating capacities of all three republics will be substantially increased.

Courtesy of *Ekonomicheskaya Gazeta*

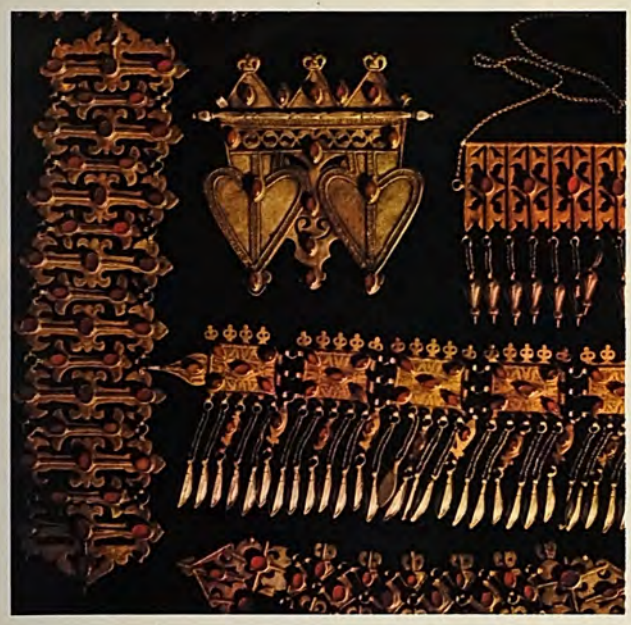
* See the map of the most important construction projects for 1971-1975 in the October 1971 issue of SOVIET LIFE.

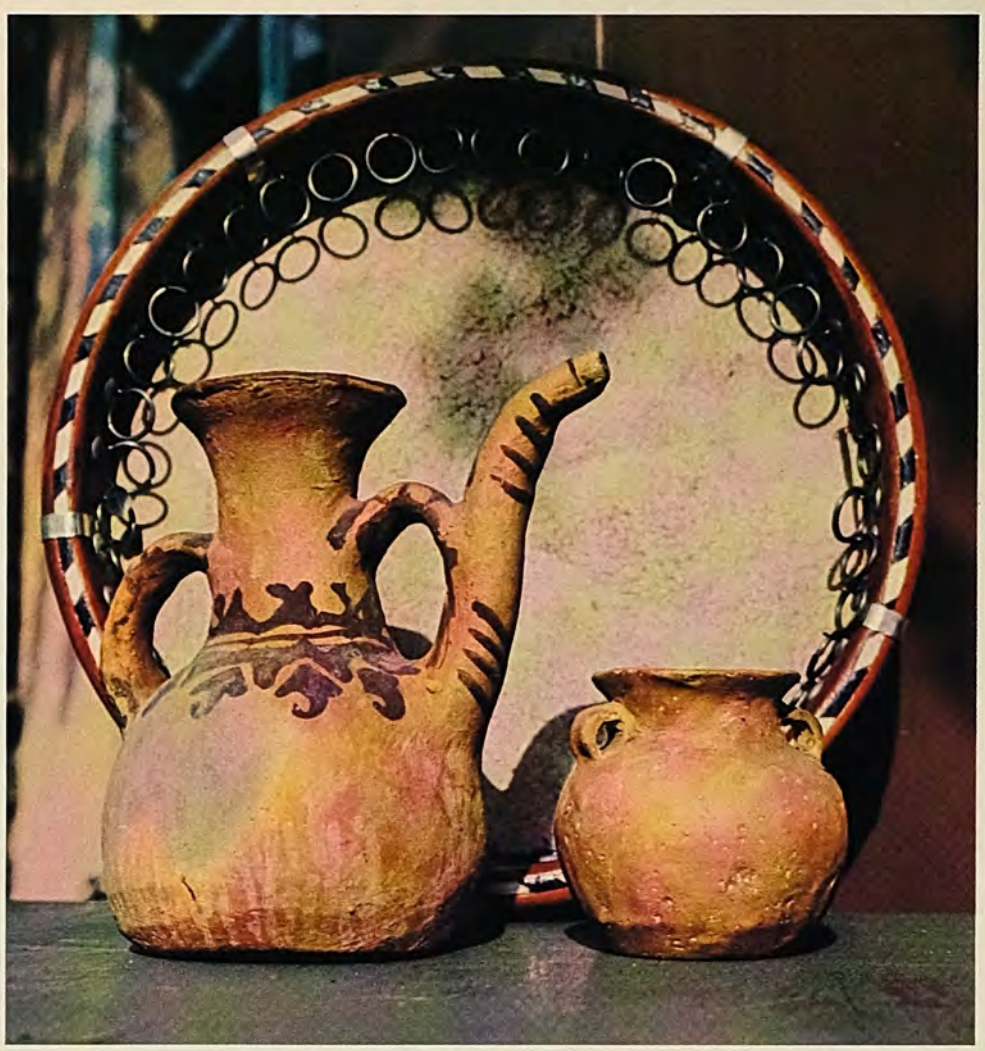
SILVER TRANSFORMED

The artistic talent of the Turkmen people has expressed itself for centuries in their decorative and applied arts. The rugs and felts, embroidered fabrics and women's silver jewelry are world famous. Rugs have always been used in the East as a home decoration and have been sold commercially since ancient times. But the silver masterpieces seldom left Turkmenia and are little known beyond its confines. Each Turkmen family used to order a complete set of jewelry for the bride—ornaments for her hair, pins and buckles for her dresses, bracelets and rings. Some of them were quite modest, just silver; others were gilded and studded with carnelians. They were kept in the family and handed down from generation to generation. Family silver was seldom sold.



When the young Turkmen painter Mamed Mamedov decided to paint *Prayer for Water*, now exhibited at the Fine Arts Museum in Ashkhabad, he needed old national costumes and ornaments to copy from. His search took him to the silver section of the Ashkhabad market, where he discovered an inexhaustible source of folk artistic imagination. That was the beginning of his collection. It now consists of more than 300 silver objects, including some eighteenth century ornaments; old prayer mats, robes and pottery. It is always available to his colleagues. Now he has decided to show it to the artists in the Baltic republics, Transcaucasia and the Ukraine. Mamedov is 33. During the six years he has been collecting folk art, he gained such a vast knowledge of the field that today the staff members of the Turkmenian Museum often seek his advice.







Galya and Mamed Mamedov setting up an exhibit of their silver collection. Top left: Ancient Turkmen jewelry of silver and carnelians. Top right: Ceramic vessels and a tambourine. Above: Ceramic mountain goats.

THEATER FOR CHILDREN









BY YVETTE KNYAZEVA

Photographs by Boris Manushin

Have you ever been to a theater that has its own parliament and anthem, and even has rivers named for it? If you've never heard of such a place, come with me to the Young Spectators Theater of Leningrad. The city, with a population of four million, has 19 other theaters and dozens of concert halls with an audience of some 33.5 million people annually, but this theater breaks all records for popularity. Nor is this the opinion of Leningrad's inveterate theatergoers alone. Sara Spencer of the U.S., chairman of the 1972 Congress of the International Association of Theaters for Children and Young People, saw several shows at the Leningrad Young Spectators Theater. She said afterward: "When I was told of the achievements of the Soviet theater for children, I thought it was an exaggeration. Now I've seen them for myself, and they surpass all expectations."

ONE OF THE PRODUCTIONS of the Leningrad Young Spectators Theater features a "children's man." Though an adult, he has preserved all the spontaneity, innocence and defenselessness of the child. He has none of that hoary prejudice or stodgy common sense we usually associate with grownups. For him children are not silly but grand little people with big thoughts and big problems. He understands and respects them.

Zinovi Korogodsky, chief director of LYST, is such a children's man. His hair streaked with gray, this Honored Worker of the Russian Federation is, at 44, as candid, inquisitive and trusting as a child. And he can laugh as much and as infectiously as a child does.

His background? Nothing special. The son of a Siberian engineer, he graduated from the Leningrad Institute of Drama, Music and Cinematography. Later, already working as a stage director, he attended a teachers institute. Why? "The theater is always a school, and the stage director is always a teacher. He needs specialized training."

But before coming to LYST, Korogodsky had no idea he would be working in a children's theater. How did that come about? "How does it happen that out of the many girls you meet you choose a particular one for your wife? Everything depends on that mysterious and all-powerful word—love."

He doesn't have to use the word when he talks of children; you can read it in his face. To listen to him, you would think there was nothing better than children in the whole wide world. Did he mean that all children were special?

I think my question annoyed him. Patiently, like a teacher in a classroom, he explained:

"All children are special. I say all, because they all have enormous potentialities that we grownups need only stimulate."

"And what about problem children?" I persisted.

"It's the grownups who turn them into problems. Juvenile delinquents are children who are neglected or spoiled by bad upbringing. They pay for the grownups' sins."

"People say that today's teenagers are cruel. What do you think?"

"I don't know about other countries, but I haven't noticed it in ours. Children are models of the grownup world. That's why I keep saying that in a healthy society childhood is a happy time. I would go so far as to say that the conditions in which children grow up are a valid demonstration of a society's spiritual health. It is to be expected that in our country, where the state-supported system of child health protection and education is really the nation's No. 1 concern, we would have no unusual problems of juvenile vagrancy and delinquency."

The history of the theater he directs gives Korogodsky every reason to speak so con-







Left: Chief director Zinovi Korogodsky leads a rehearsal.



vincingly of the "nation's No. 1 concern." Here is one of the results of the country's policy toward its children. The first children's theater in Russia was opened two years after the October Revolution. Though the Civil War was still raging and Russia was beset by famine and typhus, the government was already considering how the arts could be used in rearing children. The Leningrad Young Spectators Theater was opened in 1922. Its founder, Alexander Bryantsev, a teacher, writer and stage director, declared that this "theater of special designation must be built by artists who can think like teachers and by teachers who can feel like artists." LYST was the progenitor of a whole movement of children's theaters with a definite ideological and artistic credo, the validity of which has been borne out over the years.

Now there are 43 of these playhouses in the USSR—in all the republics and many of the big cities. Add to this a special music theater for children in Moscow and 100 puppet theaters, and you will have a good idea of the state-subsidized system for the esthetic and moral education of Soviet children.

But to get back to Korogodsky. What about his audience?

"We have more than one audience. Our theater plays to all the school age groups."

"So your audience is mostly teenagers?"

"It depends upon how we define the term. In Britain, teenagers are children between 13 and 19. Our audience runs from 7 to 17. But even within this 10-year range, according to Soviet psychologists, there are four children's age groups, differing psychologically, physically and emotionally. We build our program with an eye to each of these groups. So we really have four theaters in one."

The First Theater

This theater's audience ranges from 7 to 11 (Grades 1 to 4 of primary school). Korogodsky calls this age group "the age of pure faith and absolute harmony." Theirs are the loveliest mothers, the cleverest fathers and the best teachers. Like all human beings, they need love, and their families and society itself provide it generously. Though they have great need of their elders, that dependency does not discourage them. "Let me do it!" is a frequent cry.

But even at this blissful age, the child is no rough copy of man; he is man himself.

Of course, he is still not a developed personality, so that the people who undertake to shape him must be all the more responsible. This is why—and Korogodsky makes the point over and over again—it is not enough to want to love a child; we must know how to love him. How many grownups have this ability?

Consider your own attitude toward children. You tell them: "Don't do that." Not so much because it is really taboo but because you are accustomed to thinking that "it shouldn't be done." Usually we speak to children from the heights of our own age, our own experience. That is dangerous. It's the beginning of misunderstanding, not on their part, but on ours.

Here they are now, flocking noisily into the big auditorium and taking their seats. In 1962 Leningrad gave its favorite theater a new building, with the last word in stage equipment, with psychologists, physicians and teachers supervising. It is beautiful, not only because the foyer is open to the sun, like the deck of an ocean liner, and the winter garden green the year round, but because the auditorium itself is adapted to the peculiarities of a child's perception. The amphitheater slopes downward, in a semicircle, to the stage; the apron extends almost to the middle of the auditorium to draw the young spectators into the action, to make them participants. The theater cost Leningrad 2.5 million rubles. It seats a thousand, but usually there are a great many more. Who minds doubling up or sitting in the aisles? Although the house sells out immediately, tickets are cheap—about 47 cents. The price stays the same, even though the government has to give the theater an annual subsidy of half a million rubles. Profits here are not figured in terms of money.

What does LYST present to its junior audience? Fairy tales by the great Russian poet Alexander Pushkin, the Czech writer Karel Čapek **(The Magic Glass)** and Gianni Rodari **(Gelsomino in the Land of Liars).** Entertaining, of course, but they also teach. "The aim of the teller of fairy tales is first and foremost to teach the child humanity, to give him that wonderful ability to be stirred by somebody else's misfortune, to rejoice in another's joys, to feel for another as for oneself." These are the words of the late Kornei Chukovsky, the wise and humorous writer who was a favorite of Soviet children.

It is a pleasure to watch youngsters at a fairy tale play. Little Gelsomino finds himself in a strange land where, when you want to say something nice, it turns into an insult; where forged money is considered real and real money, forged; where telling the truth is forbidden. You should see how agitated the children become. "Gelsomino, look out, the czar's hiding around the corner!" a girl cries. "Gelsomino, sock him one!" yells a boy.

The Gelsomino show is fascinating. It has everything—adventure, a chase, singing and dancing. It also says that justice is the foundation of human existence. The theater does not lecture its audience.

The message of its productions is emotional. It does not intrude from the outside but lives inside every play. The theater gets the message through unobtrusively. Its first lessons in ethics are a great success because it has, at the same time, created a vehicle of explicit meaning and of entertainment and artistry.

The Second Theater

Here the audience is 12- and 13-year-olds, fifth and sixth graders. This theater calls them junior teenagers, for, although they have left the carefree world of the younger children, they are still unburdened by the concerns of the complex and truly difficult teens.

Korogodsky says:

"I call this age hectic rather than difficult. Perhaps it is a difficult one for us adults, for we find it hard to keep up with the potentialities of the 12- or 13-year-old within that short span of time. He sees, hears and remembers more, and his capacity for joy and sorrow is greater, too."

The junior teenagers who make up the audience of the second theater differ markedly from the younger set. They are independent, are accomplished readers and have a good stock of information from school, newspapers, books, radio and television. They have access to practically the same information as grownups. They are no longer taught by one teacher, as in primary school, but by several. This is important—it's when comparative criteria invade the child's thinking. Now "this teacher is kinder and that one is stricter," "this one knows how to make class interesting, and that one is a bore." Naturally, the junior teenager's relations with the world grow more complex, especially since that time of inner turmoil which comes from his (or her) rapid physical development is at hand. But at this point the teenager is in the early stage of this tormenting process.

They are holy terrors, these junior teenagers—one minute deep in thought and the next running like mad on business of their own, one minute rolling over with laughter and the next on the verge of tears. The boys are strange. Though they may like a girl, they will pull her pigtails—their code of honor forbids a man to show any sentiment. If between 7 and 10 their reactions were highly individual, now they behave "like everybody."

How to explain this sudden conformity? But it isn't sudden at all, says Korogodsky. Great quantities of information about the world are being thrust upon the junior teenager, who is still unformed as a personality. He takes the easiest way out: to be like everybody.

"Even so," repeats the stage director, "this isn't a difficult age. Genuine difficulties arise only where contact is hard or impossible to make. It's not hard to communicate with junior teenagers, but neither is it simple. The key? As in every case of repertory and artistic materials, to recognize and understand who you are addressing."

And so, the second LYST is familiar with its audience. What does it offer them? When they were still babies they were given fairy tales. Now that they can reflect upon good and evil, beyond their representation in fairy tale characters, they are presented with shows that feature their peers. Since they dream of heroes and heroism, they can be told about real life heroes. Since they are tirelessly active, the plays must be as impetuous, temperamental and rich as the youngsters' own imagination. (Here the theater sets its only restriction. The younger age group is not admitted to the theater of the older groups. But there is no age limit at the upper end—each show must be interesting not only to those for whom it is designed but to all spectators, regardless of how much older they are.)

But to get back to the program. We are introduced to Alyoshka **(We're Pals—Alyoshka and I)** or Seryozha **(Seryozha to You),** both of them madcaps as wild as any sitting in the amphitheater. The stage heroes live a tense and altogether hectic life. They fight cowards and liars, shake apples down in private orchards and play truant. But certain things they know—to offer a helping hand and never to betray a friend. "Seryozha to you" is, if you like, a promise of loyalty: "If you need my help, call me. Seryozha to you!"

Then there is Olga Smirnova, the heroine of **Ding-Dong.** She's a genuine firebrand, redheaded and high-strung. As is usually the case, her personality gets her into trouble. For those who are different, life is more complicated. The theater doesn't use the word "conformity," but the entire play warns against the tendency to go along with what's acceptable, which is so destructive to personality. It carefully teaches the young that they must respect other people's opinions and habits, that what makes a person interesting is not what he has in common with others but those qualities, good ones, of course, which make him different.

Finally, there is Victor Paramonov, 12, who dreams of adventures and thinks he has been born too late since mankind has already done everything heroic. In the play **The 500,000,022nd,** all kinds of strange things happen to this hero. The author's fantasy carries Victor as far back as the Stone Age. He helps his primitive ancestors discover the secret of fire, fences with his favorite musketeers and battles against White Guards in the Russian Civil War. He is continuously comparing, appraising, protesting, teaching others and learning himself. While he's not always the victor, there are defeats that are worth victories because they teach him something. Victor, that 500,000,022nd dreamer, returns to our day convinced that heroism exists not only in the man on a steed brandishing a saber. The real hero is the man who dedicates himself completely to his time. Here again, the moral is no didactic appendage. It reaches the spectator through all the components of this turbulent play, which is as colorful as a child's drawing, where reality and fantasy, truth and fiction, concreteness and generalization are organically united. This theater talks directly with its audience.

The Third Theater

At this point Korogodsky used the word "sympathy" for the first time. Children of 14 and 15—senior teenagers—need love, respect and understanding no less than their juniors. But they also need sympathy because, as Korogodsky said:

"This is truly a difficult age. It's hard for us grownups to make contact with it. To begin with, in this period physiological and sexual development is rapid. The physical development overtakes the mental. Inner harmony is violated. The disproportion between desires and their fulfillment creates a field of high tension which spreads to all areas of life. The 14- and 15-year-olds make a strong, even frenzied, break with childhood. They want to be grownups quickly—in manners, dress, interests. But adults still consider them children. The more passionately they yearn for independence, the less of it they're granted."

It's like a struggle, isn't it? The conflict between fathers and sons?"

Not at all. The aspiration toward independence is a natural propensity of this age group. But fortunately in our society there is no social antagonism between fathers and sons. Nor can there be any, because they're representatives of the same class. Also, we don't have the moral questioning of the hippies in capitalist countries. Our senior teenager is not only very dependent on the grownups' moral code but shares it with them."

Were the stage director's observations subjective? I had an opportunity to find out from the philosopher Igor Kon, a good friend of the Leningrad Young Spectators Theater, whom I met several times at its shows, discussions and even rehearsals. Here is what this distinguished professor had to say:

"Recently Urie Bronfenbrenner, the well-known American social psychologist, sent me his new book, **Two Worlds of Childhood: U.S. and USSR,** in which he cited an experiment he had done jointly with Lydia Bozhovich, a Moscow psychologist. Their purpose was to establish the teenager's attitude toward the ethical standards of the adult world. A group of children in the Soviet Union and the United States were presented with imaginary situations which could move them to do what is disapproved by social morality. The results were most interesting. The American schoolchildren were far more willing to defy the moral code than their Soviet peers. Russian teenagers, according to Bronfenbrenner, share the system of values held by the adults of their country. As I see it, this is to be explained by the common spiritual climate of the society, the degree of ideological solidarity. In general, to interpret the conflict of generations as a conflict of ages is naïve and unscientific. Each generation has had its own revolutionaries and reactionaries, but both have had their mentors, have drawn upon their elders for ideas and models."

To return, however, to our so-called difficult senior teenagers—the audience of the third Young Spectators Theater. These restive young people prize independence above everything. They already have a sense of their own personality but are still unsettled, searching, comparing and appraising. Today they are one kind of person, tomorrow another. They behave this way with parents, that way with teachers and still another way with friends. So multifaceted are these teenagers, it seems as if only a computer could analyze them. From all this complexity LYST distills the essence: The teenager is out to find his ideal self and naturally looks for it in the world of adults.

"You wonder who deserves to be called Man?" the theater seems to ask these teenagers. And it replies with the production **A Breath of Freedom.** On December 14, 1825, officers of the Guards Regiment brought their troops out onto St. Petersburg's Senate Square and refused to pledge allegiance to the new Russian czar Nicholas I. Every Soviet schoolchild knows about the Decembrist uprising. But the theater's purpose was not to illustrate a page of the school reader. It was

interested in the moral aspect of the problem. Without hoping for victory, the Decembrists demonstrated for the sake of a "breath of freedom"—the freedom that was to be won by future generations of Russia. In serving their country, they also served themselves, never casting a stain on their honor, never bending their heads at the hour of retribution. Bulat Okujava, the author, gave the youngest participants center stage in the uprising. That they were only 5 or 10 years older than the teenagers sitting in the auditorium moves the audience to reflect upon the theater's message. Of course, freedom is a moral necessity for humanity, but you must know why it is essential. Guard your honor as your compatriots did in 1825 and in 1917. You are their heirs and successors.

In 1917, almost a century after the Decembrist uprising, when the October Revolution took place, not a day but a whole epoch of heroism began. In that period there were tragedies unprecedented in history. In 1918, on Lenin's orders, the Black Sea squadron was sunk to keep it from falling to the enemies of the young Soviet state. The revolutionary sailors themselves opened the Kingston valves of their ships. This living material became the story of Alexander Korneichuk's play **Death of the Squadron.** Here again the heroes in the drama are almost the same age as the children watching it.

Besides the revolutionary past, this theater presents the problems—both social and individual—of contemporary life. In the play adapted from Vasili Aksyonov's story "Colleagues," the heroes, who are graduates of a medical institute, pass a difficult test in professional and personal integrity. This theme of individual honesty is, as we know, of particular concern to teenagers. In Max Bremener's **Dedicated to You,** 15-year-old Vitali writes a poem to a girl in his class. In its sweet, tremulous lines, he tells her of his love. Unexpectedly for him, his poem becomes the subject of criticism by tactless, insensitive people. He is hurt by their callous hypocrisy. Vitali fights the battle for the right to think and feel in his own way, and among his adversaries (as well as among his allies) there are people of his own age as well as adults. The point is that it is not age but human qualities that you reject or, conversely, accept.

At this play I was sitting next to a dark-eyed 15-year-old boy with a shock of black hair. He was the same age as the hero on the stage, and I was interested in his reaction—not a stormy one in his case, because he considered himself too grownup to show his emotions. But he was all eyes and ears. This was Danila Korogodsky, Zinovi's son and one of his most conscientious critics.

"Is Danila typical of his generation?" I asked his father.

"I would say yes," he replied, "if I didn't hate the word 'typical' so much. Even within the framework of what's considered typical, people are very individual, and I think that's very good."

The Fourth Theater

Now for the oldest and, as Korogodsky claims, the happiest spectators in terms of self-awareness. They are the 16- and 17-year-olds, who have moved out of the difficult period of adolescence into early adulthood. They don't have to fight for the right to be independent because the world of adults, always reluctant, has by this time gotten used to the idea that they have grown up. These teenagers, as the sociologists put it, have a high level of expectation. They are finishing secondary school and can choose any career they like. They feel sure that love, success and an absorbing job lie ahead. This is the time of self-awareness, of an appreciation of the world, of the meaning and purpose of life.

Since these playgoers are older and more complex, should the theater's approach be subtler?

"The theater for these young people is a normal adult one," says Korogodsky. "It's complex because theater is complex. This spectator is sophisticated and, no less important, he has a background of esthetics."

Let us go back to the auditorium. Now we find the girls and boys sitting in couples. The word "love" is no longer something in their imagination alone.

In Ignati Dvoretsky's **Man of 17,** the hero is called Kozlik (the Kid) because his name is Kozlov. He has a good head for mathematics but suffers because he is short. "A lot of people have funny troubles," he sighs, "but they're still real." In his class there is a girl named Varya. She has always been considered an ugly duckling, but when she returns to the tenth grade after her vacation, everybody gasps. Varya has become a beauty! Oh, how passionately Kozlik wants to be tall and handsome! He even thinks of giving up mathematics and taking biology instead so as to discover a stimulant for human growth.

A simple and amusing story? It might have been, but the play went further, presenting the idea that what kind of person to be is much more important than what to be. All sciences are useful, Kozlik finds, and it's true that the future is unthinkable without the continued pursuit of knowledge. But man is no programmed machine, and the lofty impulses of the heart—love, loyalty, generosity—grow in importance as society progresses. In other words, the theater says through its heroes, "You must be a real man first. Society is built on the human value of each of us."

And what is human value? Take another play, **After My Execution, I Beg You . . .** by Wolf Dolgy. "Every word is documented," declares the theater. "We haven't added a thing. Today you will see how Lieutenant Pyotr Schmidt lived, suffered and loved. Today we're not giving a play, we're introducing you to a real man."

Lieutenant Schmidt, the son of an admiral of the czarist navy, sided with the rebellious sailors in the Revolution of 1905. He was later executed by Nicholas II. Here again the theater was true to its purpose. Rather than dramatize a school lesson, repeat what the children already knew, it chose an unusual aspect: the correspondence between Pyotr Schmidt and a woman he had seen only twice but loved throughout his life. From the lines of the letters there emerges an admirable human being. "His is the invincible strength of spirit before which you either bow your head or pale with shame for your own weakness," said the well-known Soviet writer Konstantin Paustovsky.

The theater has also produced a dramatization of Maxim Gorky's autobiographical stories titled **The Master** and given it an epigraph from Lenin:

> The slave who is aware of his slavish condition and fights it is a revolutionary. The slave who is not aware of his slavish condition and vegetates in silent, unenlightened, and wordless slavery, is just a slave. The slave who drools when smugly describing the delights of slavish existence and who goes into ecstasies over his good and kind master is a groveling boor.*

Of course, the Young Spectators Theater draws on the classics of world literature too. In this theater, Don Quixote is no ludicrous knight of rueful countenance, warring against windmills. Mikhail Bulgakov's play, based on the romance by Cervantes, seems to echo Gorky's words that to call anybody a Don Quixote "is the best thing you can say about a person." The play ends with Don Quixote and his faithful Sancho Panza fading into the blue distances. Suddenly we see them wandering not along the dusty roads of Spain but over the meridians and parallels of the globe. The time of Don Quixotes, the play points out, is not over. In every age, not only in the sixteenth century, in all countries, not only in Spain, the Don Quixotes wage their battle for truth and justice.

This, according to Korogodsky, is how the theater shapes the spectator's future outlook. "Future," he repeats. "Perhaps our audiences of today are not the top pupils of their class, or too well behaved at home. But years from now, the good that the theater has taught them will flower in their work, their relationships, their attitudes toward life."

"Your theater educates its audiences to live by the highest moral standards. Aren't you afraid that in adult life this outlook might lead to contradictions?"

Korogodsky laughs.

"I've been asked this question before. The answer is No, I'm not afraid. Of course, I'm no idealist—I realize that not everybody lives by such high standards. But childhood, adolescence and youth are a kind of spiritual training, and training is always accompanied by extremes. I'm sure that the more such discipline there is in the growing years, the more will be preserved for later life."

The Delegate Assembly

Of course, LYST is more than just Korogodsky. No matter how original and attractive the chief director is, he could never have done it all without the rest of the staff—the actors and other directors. Obviously, a theater can function effectively only when it develops into a body of like-minded people.

LYST has an excellent drama studio. Its seven teachers, all with specialized secondary or college training, bring a critical eye to each première, making a detailed study of audience reactions. Lada Surina, the head of the faculty and a graduate of the Psychology Department of Leningrad University, is writing her candidate's thesis on this subject of audiences.

The faculty has regular contact with the spectators' parents and teachers. The most active mothers and fathers form LYST's Parents Council, which is just one of the theater's ties with its audience. The parents are able to advise about the children's tastes, demands and artistic inclinations. Another contact is with the schoolteachers, whom LYST considers its closest allies. The teacher helps strengthen the effect of the play so that the young spectator continues to think about it and, at the same time, develops a lasting interest in the theater. Junior graders, for instance, make drawings in school of what they have seen on the stage, tell stories about the play or improvise on its scenes. Posttheater work with teenagers is serious. They can write brief reviews or give their impressions of the play in class. Seniors can discuss the play with the theater's teachers, stage directors and actors.

An idyllic alliance, you might say. Yes, but not with all the grownups or even with all the parents and teachers. Staff members of the theater are still asked: "Why do the characters in your productions smoke, drink and fight in some scenes? Is that the way to teach children?" Or: "Can you call it a forest when the actors hold up poles with pictures of trees?" The interesting thing is that children never ask such questions. The theater patiently explains that in some scenes the characters smoke and fight, but this is because children cannot be shielded from life. LYST does not expect its audiences to model themselves on the hero of a play, but to revise and perfect their own feelings, broaden their spiritual outlook. Replying to the second question, the theater talks about the esthetics of the modern theater, which has given up drab, tedious naturalism. The adults are urged to attend the plays with the children. In short, the theater knows that it has to teach the teachers as well.

But with the children LYST has long been the best of friends. You feel it even before you take your seat in the auditorium. In the foyer you are met by youngsters wearing light-blue armbands. They help the smaller children off with their coats and usher them to their seats, quiet the unruly, answer questions. Before the show begins and during intermissions, two of these children stand at the front of the stage, solemn and motionless, as guards of honor. There is profound symbolism in this ceremonial welcome.

The blue-banded ushers are delegates to the Young Spectators Theater parliament. Two years after the theater opened, in 1924, a delegate assembly, the children's self-government body, was formed. Since then all Leningrad schools have been sending their delegates (some 500) to this parliament. Korogodsky calls it his "circulatory system, which runs through all schools, carrying the theater's spirit and popularizing it, and in its return flow, bringing the theater the nourishment it must receive: the atmosphere of the child's world."

This is a remarkable parliament, seething with life. The children argue about the shows. A special issue of the wall newspaper, with reviews and essays on the theater arts, is devoted to each new production.

A microcosm of the children's world, the parliament enables the LYST staff to study that world closely and constantly, to check their creative intentions against the genuine demands of the children of our day. The children reciprocate in kind for the love and trust they are given.

Continued on page 55

* V. I. Lenin, *Collected Works,* English edition (Moscow: Foreign Languages Publishing House, 1962), vol. 13, p. 53.

DOING BUSINESS WITH THE USSR

Over 100 top American business executives representing 70 major multinational corporations attended the four-day Business International USSR Roundtable in Moscow to explore mutually beneficial business opportunities. Maya Gordeyeva reports on impressions shared with her by both sponsors and participants.



Chairman of the Council of Ministers Alexei Kosygin meets with American businessmen. Business International president Orville Freeman starts the discussion.

IT ALL WENT as Business International, the U.S. sponsoring research and advisory firm, had promised: No speeches were permitted (even by ministers) because the background briefing paper "Doing Business with the USSR" Business International put out made them superfluous. The time was completely devoted to an informal and frank discussion with Chairman of the Council of Ministers Alexei Kosygin, the ministers and more than 250 Soviet government officials and industrial managers.

They were able to cover a great deal of ground, exchanging some 500 prepared and extemporaneous questions and answers through a simultaneous interpretation service, sharing experiences freely and coming to grips with the real issues right from the start.

In his opening statement at the concluding Roundtable press conference, BI President Orville Freeman put it this way: "We're a little the worse for wear but feel it's been exciting and useful. We spent two hours with Prime Minister Kosygin, and everything went off as scheduled. There were both penetrating discussion and exchanges, visits with ministers in their offices and with management personnel, as well as trips to plants, some of which are going on right now in Moscow, Leningrad and other places around the country."

"An important point," he said, "is joint research, ranging from applied studies to the more basic kinds—for example the universal problem of pollution—and ways of pooling research in order to share costs."

Mr. Freeman stressed that both the Soviet ministers and the forum participants were cooperative and responsive and that their Soviet hosts received the various business leaders, talked with them and patiently answered their questions.

It was a very satisfying week, in Mr. Freeman's opinion, and he believed it was going to be significant for business relations between the United States and the Soviet Union.

East-West Trade

West Germany heads the list of 12 Western suppliers to the Soviet Union. Sales topped 400 million dollars in both 1969 and 1970. Next are Japan, Italy, Finland, France and the United Kingdom. The U.S. rates eighth in the list, coming after Sweden.

"The company I represent," said Lars Thavenius of Alfa-Laval AB, operating in 100 countries with headquarters in Stockholm, "has been doing business with Russia for 75 years. We sell farm machinery and machines for the food, chemical and shipbuilding industries. We are also the sole representatives in Sweden of the USSR foreign trade organization Stankoimport and have set up a company to sell Soviet machine tools. So a market for Soviet products has opened up in the country, and this is regarded as a very positive development."

"Many top American executives came to Moscow for the first time," explained Eldridge Haynes, Chairman of the Board of Business International, "and some of the questions they asked made experienced East European experts sitting in Vienna or London smile, but it was part of the educational process."

Mr. Haynes felt the discussions were "history-making in a way." They also revealed that "U.S. companies had not been trying very hard, up to now, to find ways of establishing contact, unlike the French, British, Japanese, Italian, Belgian or Dutch."

Since Western Europe has been trading with the Soviet Union, it has already developed a market for Soviet goods. It would be a fresh undertaking for American firms.

"You've been world suppliers of many raw materials, metal ores, timber, pulp, furs, of course, and other traditional goods," Mr. Haynes pointed out, "but you are now rapidly building up your industries. This is a new development. Our companies are interested not only in buying for the United States. They have a marketing network all over the Western world and are interested in finding Soviet products that are competitive in the world market in quality, design and price. They've got the organization to do that and could easily undertake marketing Soviet products."

Some Roundtable participants had specific ideas about Soviet goods they would like to distribute themselves. They were looking for new technology in fields that the Soviet Union has pioneered, particularly space, medicine, pharmaceuticals, medical instruments and chemical products. Eyes and ears were also wide open

Business International Roundtable cochairmen: PepsiCo president Donald Kendall, USSR Minister of Foreign Trade Nikolai Patolichev and President of USSR Chamber of Commerce Boris Borisov.



for licensing agreements and the use of Soviet patents.

Removing Obstacles

The BI Roundtable worked out conclusions stipulating actions that should be taken to facilitate Soviet-American trade. They stress, first and foremost, the removal of obstacles that stand in the way.

"But even without the roadblocks being removed," Mr. Haynes pointed out, "we have a list of things that can be done right away, such as organizing symposiums, participating in trade fairs in the Soviet Union, working with Amtorg in New York and foreign trade organizations and industrial ministries in Moscow, exchanging visits with Soviet officials and experts, opening nonaccredited offices pending accreditation, improving contacts and long-term technical cooperation agreements, which the Russians are ready to do right now, translating technical literature and other materials into Russian and English. These are some of the things that can be done without delay, and more companies will be doing them now. We were also given lists by Soviet ministries of new technologies they were investigating, to which many American firms will doubtlessly respond."

"We have enjoyed extremely good relations with the Soviet Union for a great many years supplying machinery, the company's main product, to the tune of 20 million dollars in the past 10 years," said John E. Bishop, President of Joy International S.A., the U.S. Joy Manufacturing Company's marketing branch in Brussels. "It is mostly for mining potash at Soligorsk in the Russian Federation but also for working coal and nonferrous mines."

The company bought a license from the Soviet Union and was trying to explore this field further. The one purchased is for a special machine designed mainly to break rock. It was developed by scientists of the Siberian Branch of the USSR Academy of Sciences.

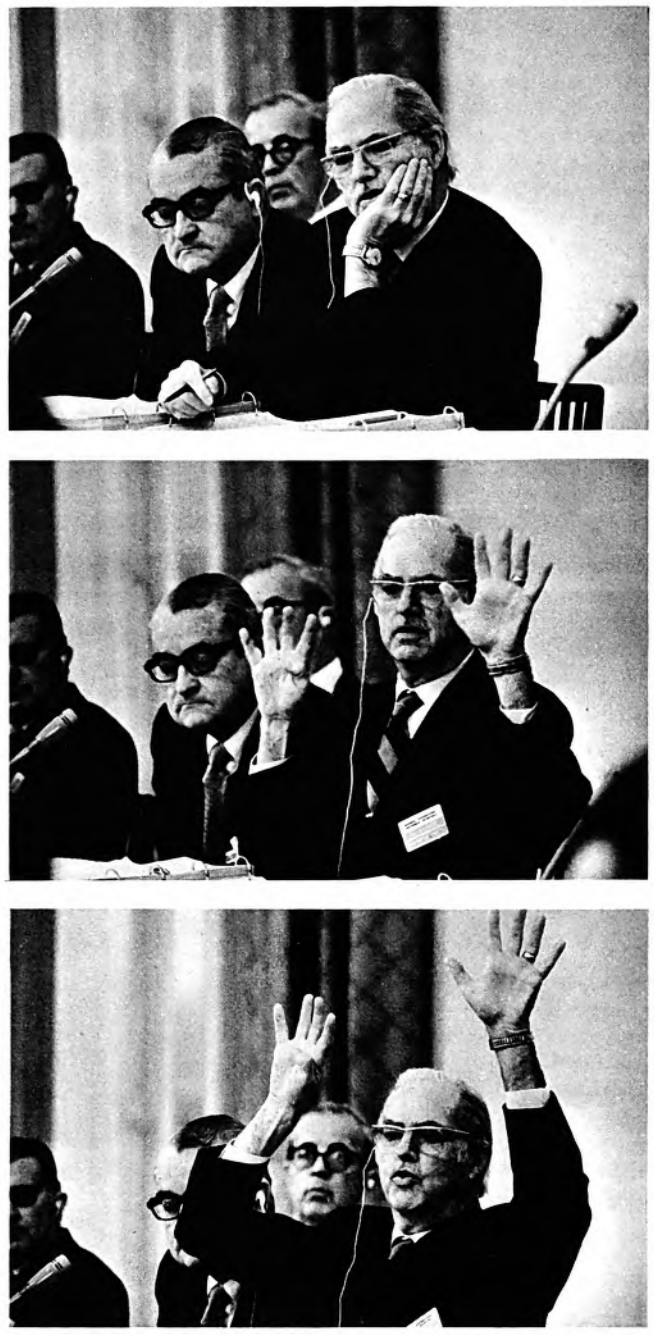
The Joy plant had exchanged delegations with the Soviet Union, attended a seminar last year at Krivoi Rog in the Ukraine and intends to cooperate with the Soviet mining industry in developing certain products of mutual interest.

Belgian Hubert Verhaegen, the company's vice president in charge of the Eastern Hemisphere, pointed out that there was "a lot of misinformation about the Soviet Union, and when an American comes to Moscow he has the opportunity to find that lots of things are not at all as they were explained to him outside the country."

The Prospects

How far can trade between the United States and the Soviet Union develop? Some American businessmen tend to view the problem optimistically provided most favored nation treatment and long-term credits are extended to the Soviet Union.

While in Moscow, former Secretary of Commerce Stans mentioned a possible multiple increase. This caused some agitation among West European firms attending the BI Roundtable as observers. They wanted to know whether the Soviet Union was sufficiently equipped to continue trading with West European firms "plus America"



John Hannigan, president of Brunswick Corporation (left) and Business International chairman Eldridge Haynes. Mr. Haynes said he felt that mutually advantageous business undertakings between countries lead to cooperation in other areas.

or whether it might "forsake its old friends in Europe." But as Mr. Freeman stressed, Soviet officials were "very emphatic that they had no plans to reduce their trade with France, Italy, Japan or West Germany, or any other Western country for that matter" and would look forward to "a large expansion in trade with the whole Western world."

"To Our Complete Satisfaction . . ."

So BI Roundtable participants were impressed by the reaction of Soviet leaders to the propositions for expanding trade.

But most of all they were interested in meeting and hearing Chairman Kosygin, who described the fields and several concrete ways in which commercial relations could develop not only by trade but also through technical and scientific cooperation. As Mr. Haynes pointed out, "They were all enormously impressed by Mr. Kosygin's understanding and grasp of the problems before them. He convinced us of his deep sincerity in wishing for more Soviet-American exchange of goods and services."

Several U.S. businessmen, like Donald M. Kendall of PepsiCo and Daniel L. Goldy of International Systems and Control Corporation, discussed with him the more specific aspects of selling their particular commodities, ranging from marketing vodka in the United States, selling Pepsi Colas in the Soviet Union or starting liquified natural gas supplies to the United States.

Mr. Bishop felt that the meeting of BI Roundtable participants with Chairman Kosygin would also be a memorable occasion for them all because, as he put it, "while exposing himself to a huge delegation of over 100 shrewd American and West European businessmen for some two hours without a team of supporting experts, the Prime Minister answered every question thrown at him, including highly technical ones, to our complete satisfaction."

American-Soviet trade, BI Roundtable participants realized, is not a commercial matter alone. Both Chairman Kosygin and all Soviet officials emphasized over and over again that it is a question of better economic and political relations and mutual confidence, too.

This is how some of them said they felt about expanded American-Soviet trade:

Daniel L. Goldy: My view for many years has been that trade is a bridge between countries, and those who trade together will work together. Countries, like people, need a whole series of contacts to establish warm relationships that transcend other kinds of problems. Trade is one of the finest and most effective ways to establish lasting, firm, cordial international relationships between states."

Eldridge Haynes: The more mutually advantageous undertakings between countries exist, the more certainty there is that they're going to be friends, that they will cooperate and find more common goals. Tension and concern about each other would become less, confidence in each other would grow, especially if we build lasting relationships.

Lars Thavenius: I think U.S.-Soviet trade will increase rapidly. The two countries have to get together and get to know each other. There has been a certain lack of communication up to the present. I think our American friends have learned a lot at the Roundtable in Moscow. This should help to improve the situation. Most American companies came to establish only first contacts in the USSR, but the prospects are good and the USSR is a reliable trading partner.

John E. Bishop: Obviously anything that involves people traveling from one country to another leads to better understanding. As a businessman, I go where business is to be done, and I always enjoy myself when I come to the Soviet Union. It's been 10 years since my first visit here. There have been quite a few British, French, Belgian and West German BI members at the Roundtable, mostly presidents or board chairmen, and the interest in trade with the Soviet Union has been mutual and great.

Orville Freeman: The object in Moscow was to establish communication so that the Soviet Union and the multinational corporations could arrive at an understanding. This conference has some significant achievements to its credit. Bridging the gap in terms of how each participant operates was the purpose of our efforts here. There is, I think, more understanding on both sides now, and we can get on to the business of determining precisely how we can do business together. I am hopeful. As Mr. Kosygin and all Russian officials pointed out, it's a question of better economic and political relationships, which both countries need to build up.

MAURICE STANS—OUR GUEST



Former Secretary of Commerce Maurice Stans and Chairman of the Council of Ministers Alexei Kosygin in Moscow.

MAURICE STANS, the former U.S. Secretary of Commerce, was welcomed by USSR Minister of Foreign Trade Nikolai Patolichev at Sheremetyevo Airport on November 20, 1971, at 10 A.M. Moscow time. An hour and a half later he was received in the Kremlin by Chairman of the USSR Council of Ministers Alexei Kosygin.

Mr. Stans gave Chairman Kosygin a letter from President Richard Nixon, which, said a TASS report, expressed readiness for the normalization and development of Soviet-American trade relations.

Mr. Stans spent 10 days in the Soviet Union. He took part in talks on cooperation between the two countries in maritime shipping, the gas, oil-refining and automobile industries, exchange of technical information and tourism.

The first stop on his own tour itinerary was Leningrad. Usually a foggy and rainy city, it welcomed Mr. Stans with sunny and slightly frosty weather. His sightseeing began with the Piskaryov Memorial Cemetery, where some 600,000 Leningraders, victims of the Second World War, lie buried.

He then boarded the legendary cruiser *Aurora*, famous for firing the signal to storm the Winter Palace in the October Revolution of 1917, and went through Smolny Institute, the headquarters of the Revolution.

Subsequently Mr. Stans saw the unique collections of world painting and sculpture at the Hermitage Museum, called at the Palace of Culture of the Trade Unions, and enjoyed a performance of *Il Trovatore* at the opera and ballet theater. At the Elektrosila plant, which makes the world's biggest power turbines, director Boris Fomin presented Mr. Stans with a souvenir key to Leningrad, thereby inviting him to visit the city on the Neva again.

For the two days following, Mr. Stans was the guest of the Georgian Republic. With his assistants Harold Scott and Andrew Gibson, he visited the old capital, Mtskheta, saw the ancient Georgian architectural monuments and was shown through several industrial plants.

He was very much interested in the high-grade tobacco, which is exported to the United States, and in Georgian tea, wines and cognacs.







Mr. Stans at Leningrad's Electrosila plant and with USSR Minister of Trade Nikolai Patolichev. Moscow kindergartners welcome Kathleen Stans.

He viewed a rare collection of chased icons at the Georgian Art Museum and attended a folk dance concert. In a discussion with Sergei Nikitin, Chief of the Foreign Travel Administration, Mr. Stans observed that Georgia was an attractive place for tourists.

In Baku, the capital of Azerbaijan, Mr. Stans and his party inspected the oil fields and talked to leading people.

Maurice Stans was the first member of the Nixon administration to be present at a session of the USSR Supreme Soviet, the Soviet parliament. This session considered the economic development plan for 1971-1975 and the budget for 1972. Together with the Soviet deputies, he heard a report delivered by Alexei Kosygin.

Later, at a news conference at the American Embassy in Moscow, Mr. Stans said that he had been much impressed by the Supreme Soviet session and that he had been pleased to hear Chairman Kosygin express the desire, in the concluding part of his report on the five-year plan, for an expansion of trade and other business relations between the Soviet Union and the United States.

Mr. Stans told newsmen that he shared this desire and hoped that these relations would develop beneficially for both sides. He said that he had come to the Soviet Union to "open the door" for American-Soviet trade ties, to find a way of normalizing commerce between the two countries.

On the eve of his departure, contracts with American firms adding up to 125 million dollars were signed at the USSR Ministry of Foreign Trade. The Soviet Union will buy American mining and oil industry equipment and sell U.S. firms 25,000 tons of nonferrous metal.

Before leaving Moscow, Maurice Stans said: "I am returning to the United States with great optimism about the possibilities for bringing our two countries closer in the commercial field."

Saryan
Unanyan
Kodzhoyan
Gevondyan

ARTISTS' VIEW



show you Armenia and its people

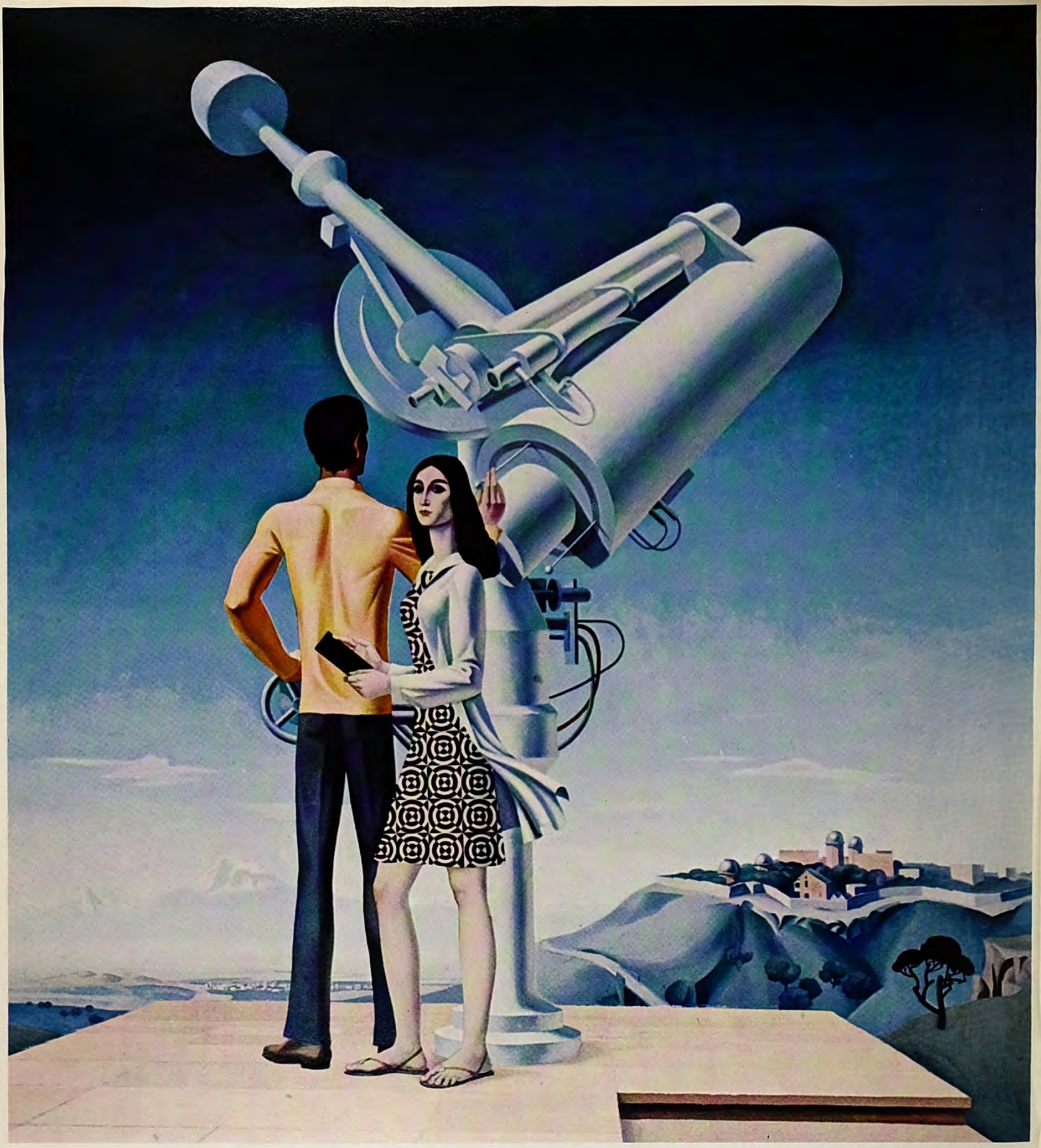
Architectural Symphony
by Atashes Unanyan
(1968)

Fruit and Vegetables
by Martiros Saryan
(1942)





David of Sasun
by Akop Kodzhoyan
(1922)



Byurakan *by Ruben Gevondyan (1970)*

MODERN Armenian art, emerging from close ties with both Russian and general European culture, took its own course of development.

The Armenian school was strongly influenced by Martiros Saryan (b. 1888). His very earliest work, done before the Revolution, was a fantastic fusion of Cézanne and the Orient, with a joyous gamut of hues the result. With the passage of time, his paintings took on a greater complexity and a growing sophistication. Today one looks at Saryan's pictures as if through a sunny haze. He does landscapes of his native country and portraits of its people, and his art is still as young as ever.

Among the celebrated artists of the older generation was Akop Kodzhoyan (1883-1959), a man of great artistic taste and background. He did much to make book illustration an independent genre. In his search for themes, he turned to Armenia's past, to its folklore, on several occasions to the image of David of Sasun, Armenia's legendary hero.

Both artists have their followers, who have inherited not so much the manner and style of the masters as the gift of their own vision of the world and the talent to transfer it creatively to their canvases.

Atashes Unanyan is of the middle generation (b. 1922). Such canvases of his as *Armenia's Fantastic Landscapes* and *Architectural Symphony* picture reality, not reduced to bleak everyday terms, but elevated to a universal perception.

Ruben Gevondyan (b. 1942), a young artist, does austere, clear-cut, economical work. But his modern pattern of line and choice of topic do not make his paintings supranational. And that is because his pictures have a definitive decorative structure, their own character and rhythm. The most popular is his *Byurakan,* painted two years ago, the product of a trip to the famous astrophysical observatory of that name.

Here we have four artists of different generations, four pictures, reflecting Armenia's history and present.

THEATER FOR CHILDREN

Continued from page 47

"LYST is the best theater in the world. I feel wonderful in it—it's like home and sometimes even better."

Ira Belyayeva, 14

"Sometimes I even forget that the hero of the play isn't real. I think about him and compare myself with him. Of course, many heroes are better than I am. But I'm still growing."

Kostya Korneichuk, 12

"I go to LYST four or five times a month. What attracts me there? Grownups and children interact in the productions of our theater. We want to know not only about life today, but what we will be like tomorrow. In this sense, LYST is our favorite teacher."

Nadya Alexeyeva, 17

"It was Mom who brought me to LYST the first time. When I was a little girl, I was a delegate to the theater parliament. She told me, 'Zhenya, watch and listen carefully, because everything you learn from the shows concerns you in one way or another.' Mom was right, and the theater is always right, too. In the plays, the grownup never turns out to be right only because he is a grownup. If a person is right, he's right, and if he isn't, he just isn't, no matter how grownup he is."

Zhenya Lazarev, 14

"LYST is the city of our childhood. It gave us the magic mirror, the opportunity not simply to watch but to see, feel and understand."

Irina Vyazova, 21

I heard these statements at the holiday session of the LYST parliament. It is held annually on February 14, the day the delegate assembly was formed, and is attended not only by present, but also by former, delegates, who have since entered a variety of trades and professions. They come to LYST to express their love and gratitude, and bring their chlidren along. They sing songs dedicated to the theater by successive generations. Here is a line from one of them: "Quietly open the door, we are yours, we are yours."

The present delegates give their guests a warm welcome. They treat them to tea and pies they baked themselves or with the help of their mothers. And they come to see how loyal to the theater the audiences of 40, 30, 20 and 10 years ago still are. You see it wherever the theater's devotees happen to be. Some former LYST delegates who became geologists discovered two tributaries of a great Far Northern river, and named them LYST and Delegate.

Art for Children vs. Art for Adults

In so complex a theater, shouldn't there be special qualifications for everything and everyone involved?

"Not at all," says Korogodsky, "because there's no such thing as art for children and art for adults. One of our Russian authors has said: 'You have to write as well for children as for grownups, even better.' The same is true of the theater."

This declaration of Korogodsky's is a polemical extreme, a reaction to endless argument with people who think that plays have to be adapted for children. Korogodsky vehemently disagrees. He believes that the children's theater is free to do anything the adult theater does, and he is probably right. LYST has first-class actors—Georgi Taratorkin, who played the role of Raskolnikov in the Soviet film version of Dostoyevsky's **Crime and Punishment;** Tatyana Bedova, who played Sonechka Marmeladova in the same film, and Antonina Shuranova, who starred in the role of N. F. von Mech, Tchaikovsky's patroness and good friend, in the film **Tchaikovsky.**

If the LYST actor differs from his counterparts in other theaters, it is only in the higher demands made upon him. The children's theater is a synthesis. Musical, visual and emotional, it must combine depth of human experience with circus technique. Its actors must be finer and more sensitive instruments than those of the grownup theater. If, when acting, they merely demonstrate their professionalism without either poetry or joy, the child spectator, says Korogodsky, will immediately sense the superficiality. Finally, the stage of the children's theater demands younger performers. An actor of 30 is old here.

The LYST company includes 65 actors between the ages of 23 and 25. Young people enrolled at the theater's studio, which functions also as a department of the Leningrad Institute of Drama, Music and Cinematography, also play in its productions. The studio is directed by Korogodsky. So practically all the actors, both present and future, represent a single creative whole.

The same creativity characterizes the stage directors. Children are by nature averse to the stereotyped. They have no prejudices. The newer the approach, the more chance there is for the theater to spark their attention.

"Everything in modern stagecraft," says Korogodsky, "esthetics, engineering and dramaturgy, serves the children's theater—and even more than it does the grownup theater. We can use poems, songs, documentaries, dramas, comedies, vaudeville sketches—LYST has a festival revue called **Ours, Only Ours**—and even circus acts. One of our shows is called **Our Circus.** And we put on operas, operettas and ballets. Recently the theater staged a lively revue called **Our Chukovsky!** Our credo is: You can use the most unconventional forms to make a character believable. I think adult companies would benefit from that approach, too."

The chief director is prepared to admit to only one essential ingredient of his theater—its bias in favor of its audience. Childhood is the object of its concerns, its worries, its love.

NEXT ISSUE



What part do Soviet women play in the country's life? This is a question frequently asked by our readers. Articles in the May issue describe the status of today's women in the Central Asian republics. Freed of the *paranja,* the black horsehair veil that shut them off from the world in more than symbolic ways and reduced them to chattels, women now hold high positions in the government, industry and public life. Makhfirat Karimova, Vice Chairman of the Council of Ministers of the Tajik Republic, writes about the dramatic changes that the Revolution generated. The May issue will also carry feature stories on two other Central Asian women, a collective farm chairman and a composer.



The wonderful memory of this trip to the USSR will be with me for the rest of my life. I am tremendously impressed with the great energy and enthusiasm of the Soviet people. The reception we received has been warm and friendly. The questions we asked were answered without hesitation." ". . . Their intelligent and far-reaching vision in planning their cities so as to make them livable and efficient is an approach that can be used elsewhere to face the urban crisis that menaces the world. . . ." These are comments made by the U.S. Governors who visited the Soviet Union. Their impressions of the tour will appear in May.



Nuclear power stations with an aggregate capacity of 30 million kilowatts will be built in the Soviet Union in the next 10 to 12 years. Some of them will be in operation by the end of the current five-year plan period, 1975. The Byeloyarsk atomic power station in the Urals has two generators already functioning and a third under construction. The operating principle of the third unit is different from that of the other two. The atomic fuel of its fast-neutron reactor not only releases power but also produces new fuel. An illustrated article on this station, which also serves as a research center, in the May issue.

An article on Voronkovo, the little village in the Ukraine, where the beloved Yiddish writer Shalom Aleichem was born and spent his childhood.

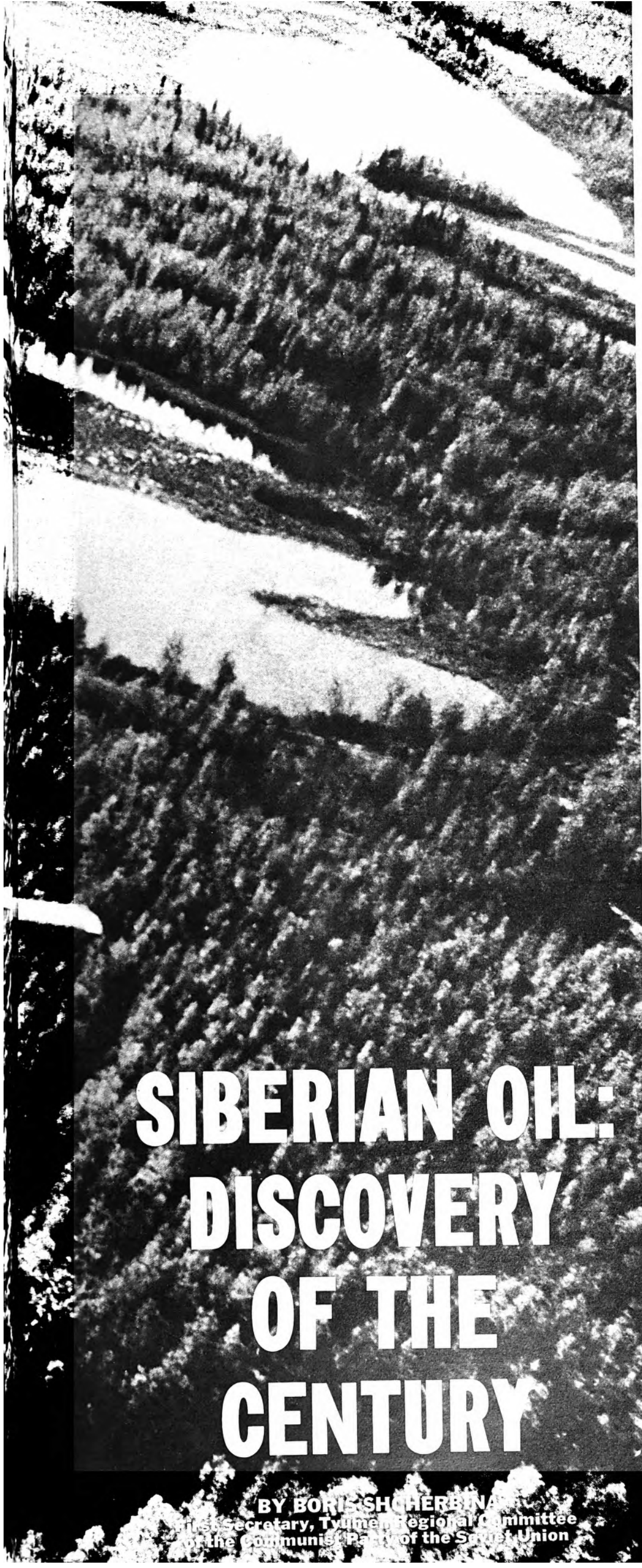
A picture story about Alexander Medved, Soviet free style heavyweight wrestler who downed 400-pound Chris Taylor in a 1971 USA-USSR contest.

COMING SOON

The Moldavian Soviet Socialist Republic



Getting equipment to Tyumen wasn't easy. It couldn't go by river. Civil aviation people did the job.



SIBERIAN OIL: DISCOVERY OF THE CENTURY

BY BORIS SHCHERBINA
First Secretary, Tyumen Regional Committee
of the Communist Party of the Soviet Union

Tyumen Region covers almost 580,000 square miles of the West Siberian Plain. On the north it is washed by the Kara Sea and the Arctic Ocean. It includes the Yamal Peninsula which, in the Nenets language, means "rim of the land." Between this "rim" and the region's southern boundary lie more than 1,200 miles of land.

Vast reserves of oil and gas were discovered here in the early sixties. Today the area is being developed rapidly. It will be a major oil-producing center by the end of the Ninth Five-Year Plan period (1971-1975).

WHEN you have 20 years of work in Siberia behind you, when your heart is in this wonderful land where life and legend follow the same roads, it is difficult to recall without emotion the ups and downs of the Tyumen people's search for oil.

My mind goes back to 1948, to a Communist Party school in Kiev. It so happened that one of the questions I got in the examination was on the economy of Western Siberia. The textbooks said the West Siberian Plain is poor in minerals. I said that, too, and the examining board was satisfied. This was my indirect acquaintance with Western Siberia.

Direct contact came much later. In the spring of 1961 the Communists of the region elected me Secretary of the Tyumen Regional Committee of the CPSU. It was a responsible post calling for a knowledge of the region's natural resources. I had to start studying the area all over again, and not from textbooks.

A great deal has been written about the first oil and gas gushers in Western Siberia. Much of the excitement centered in the village of Berezovo. Journalists write about luck, that companion of the treasure seeker, about all kinds of happy accidents.

Indeed, there were many happy accidents.

A caravan of barges carrying equipment for drilling rigs in September 1953 got stuck in the village of Berezovo. Geologists began drilling holes by chance since they were there anyway. The borehole gave a little gas and petered out. But when the drillers began to lift the tools, a mounting roar came from the bowels of the earth. An inordinate force shot the pipes out of the well, and a giant fountain of gas mixed with water squirted out.

Was it accidental, that discovery? To a degree. But it was not unreasonable chance, it was not blind luck. The prospectors followed the trail marked by the scientists. If the gusher had not struck on that memorable day in September, it would have struck, undoubtedly, from another well drilled sometime later. By their discoveries geologists confirmed the hypothesis of scientists that there were large deposits of oil east of the Urals.

The year 1960 was historic for us. The exploratory well drilled by a team led by foreman Semyon Urusov announced the opening of the first oil deposit at Shaimskoye in Western Siberia. Discoveries followed in rapid succession, nearly every new one made after drilling a first well. The map of the West Siberian Plain was changing under our eyes, the unexplored area shrinking rapidly. The possibility of gas and oil looked good on an area of 650,000 square miles, the major deposits being likely in Tyumen Region.

As of today 44 oil deposits, 37 natural gas and four oil and gas deposits have been explored. And that is not the end. Geologists are working on the shores of the Kara Sea, whose shelf seems promising. Offshore oil and gas production in the North is not an immediate task—we have our hands full on land—but we are not excluding it. We've got to get ready to extend our operations into the Arctic Ocean.

But let's get back to the treasures already discovered. The distinctive feature of the West Siberian lowland is an accumulation of large and superlarge deposits. Take a look at its geological map and you will be amazed at how lavishly nature has distributed its gifts. Samotlor is the largest oil deposit in our region. Scattered around it like the planets around the Sun are other deposits. It is hard to say now just how many more constellations of this kind will be discovered in the future. A mere 15 per cent of the likely areas have been explored thus far.

Samotlor, in the language of the Siberian Mansi people, means "Trap Lake." This deposit alone can produce as much petroleum in a year as the entire Soviet oil industry did in 1970.

At present the Nizhnevartovskoye deposit seems to hold even larger reserves of oil. Geologists are busy looking for other treasure troves. Perhaps we will learn about a new huge deposit soon.



Nikolai Rostovtsev won a Lenin Prize for his contribution to the Tyumen oil find. He heads a West Siberian research institute. Below: Grigori Norkin, chief foreman at the Samotlor field. Tyumen has huge natural gas deposits.







The team headed by Semyon Urusov was the first to tap Western Siberia's oil deposits. His countrymen elected him deputy to the Supreme Soviet of the Russian Federation. Right: Diver Igor Aparov worked on the Tyumen find.



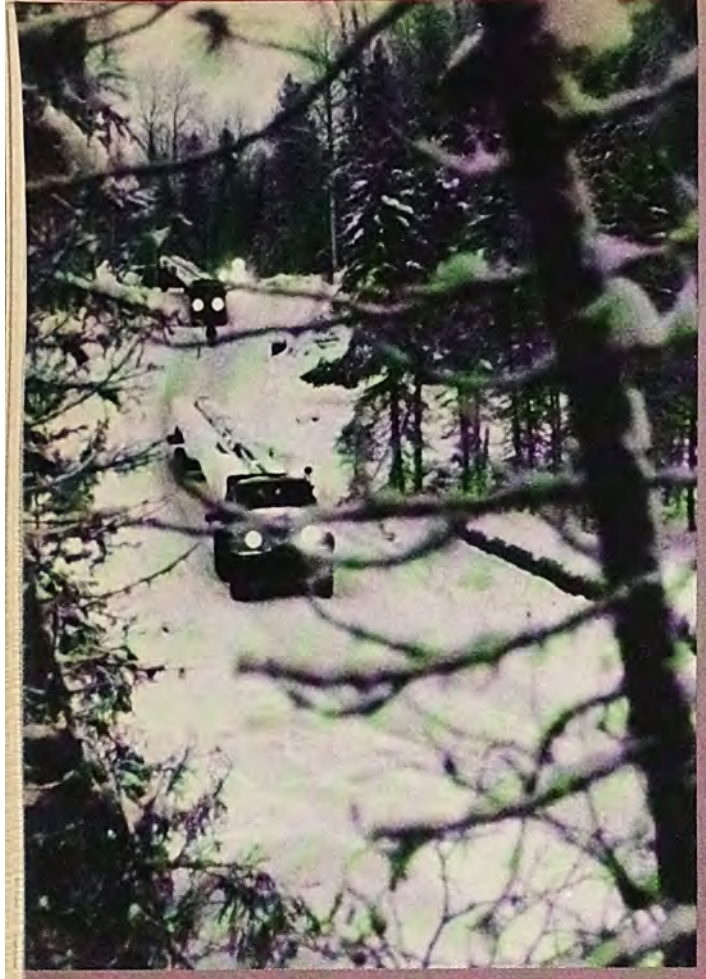
Above: One of the first scientists to forecast the phenomenal oil and gas deposits in Tyumen Region was Lenin Prize winner Raul-Urii



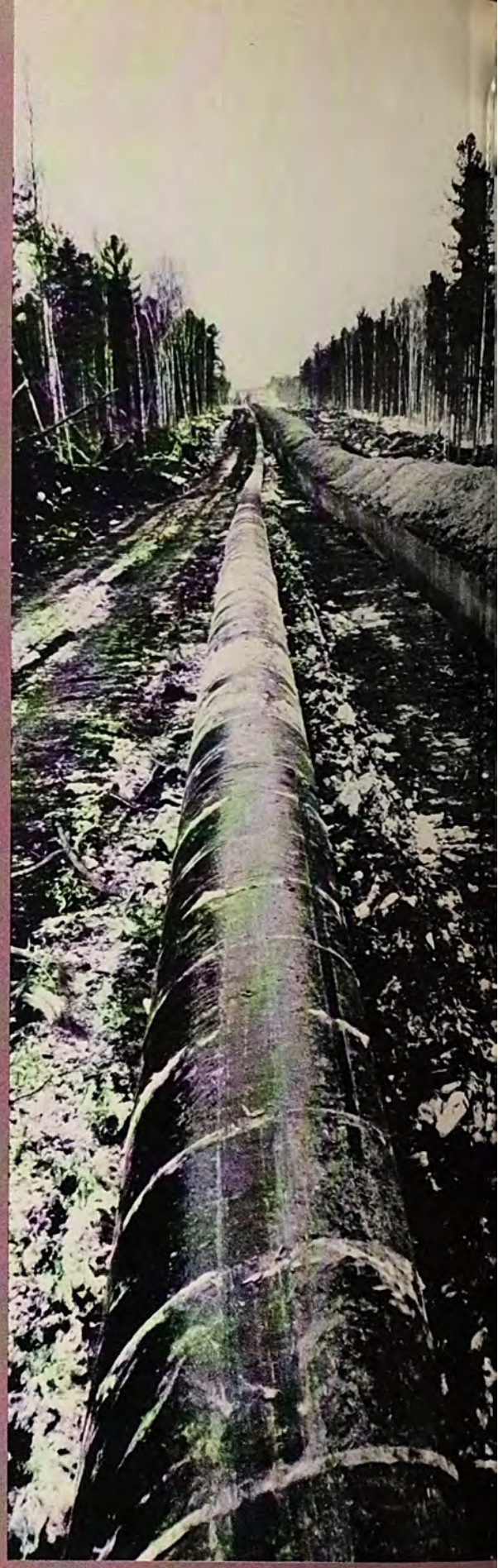


"Sure I'm going to be a driller." This next-generation oilman lives in Gornopravdinsk.









This road was laid in the taiga to transport equipment to remote borings. A few feet more and they will strike "black gold."

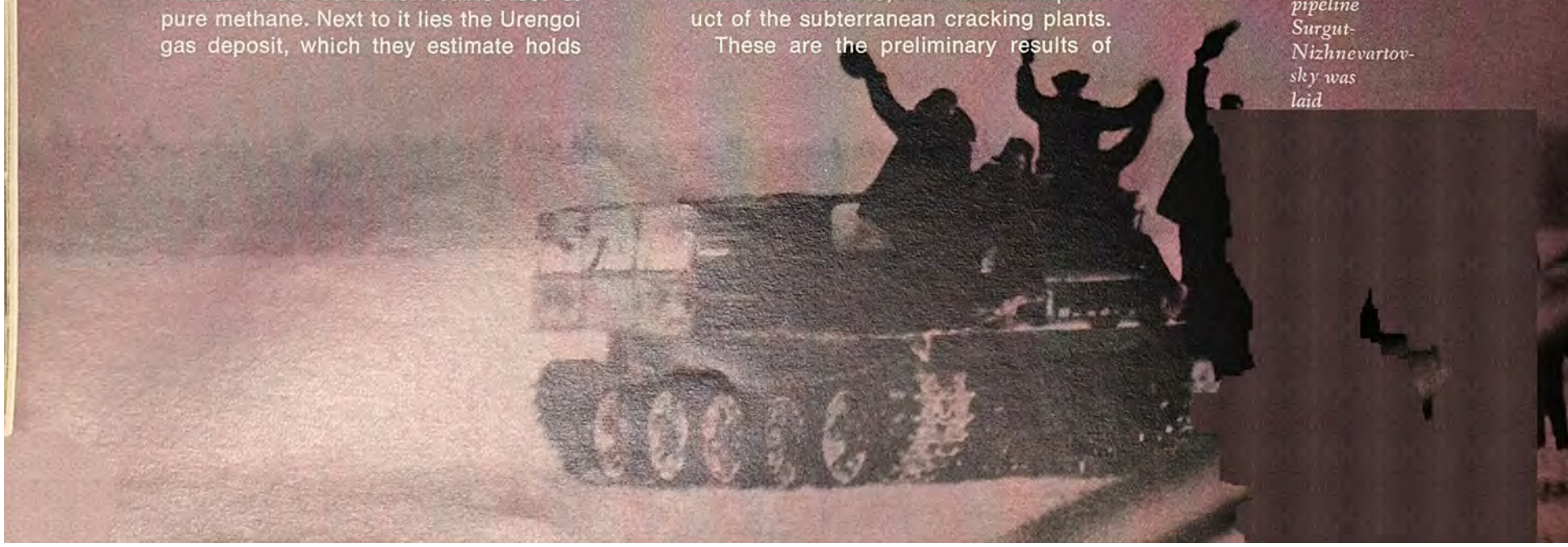
In the early sixties geologists debated whether or not to head north. It was not so easy to move the prospecting equipment. It took two trips by river to transport the drilling rigs to where they were needed. Later on prospectors began using planes, and the Far North had to yield to these brave and stubborn men armed with powerful equipment. They discovered gas in many places. The reserves of the widely known deposit on the Yamal Peninsula are estimated at trillions of cubic feet.

Our ideas are changing. The North is growing into a source of heat for the country. A gas deposit, Medvezhye, has been found under the permafrost layer beyond the Arctic Circle. Geologists say it has almost 53 trillion cubic feet of pure methane. Next to it lies the Urengoi gas deposit, which they estimate holds over 350 trillion cubic feet of gas. A little farther out from Urengoi a whole constellation of gas fields has been found, each a supergiant.

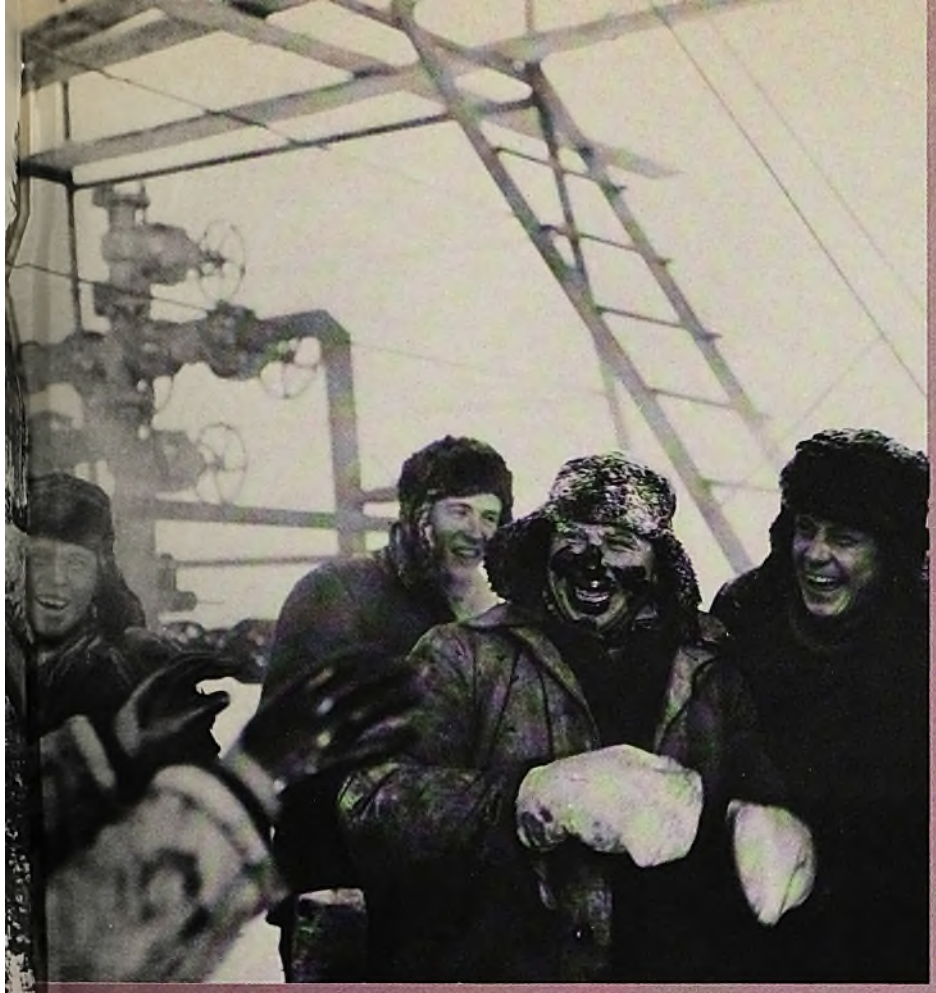
The Siberian gas pools already produce 24 trillion cubic feet annually. The figure for the near future is 52 trillion cubic feet, only a little less than the world's total production today.

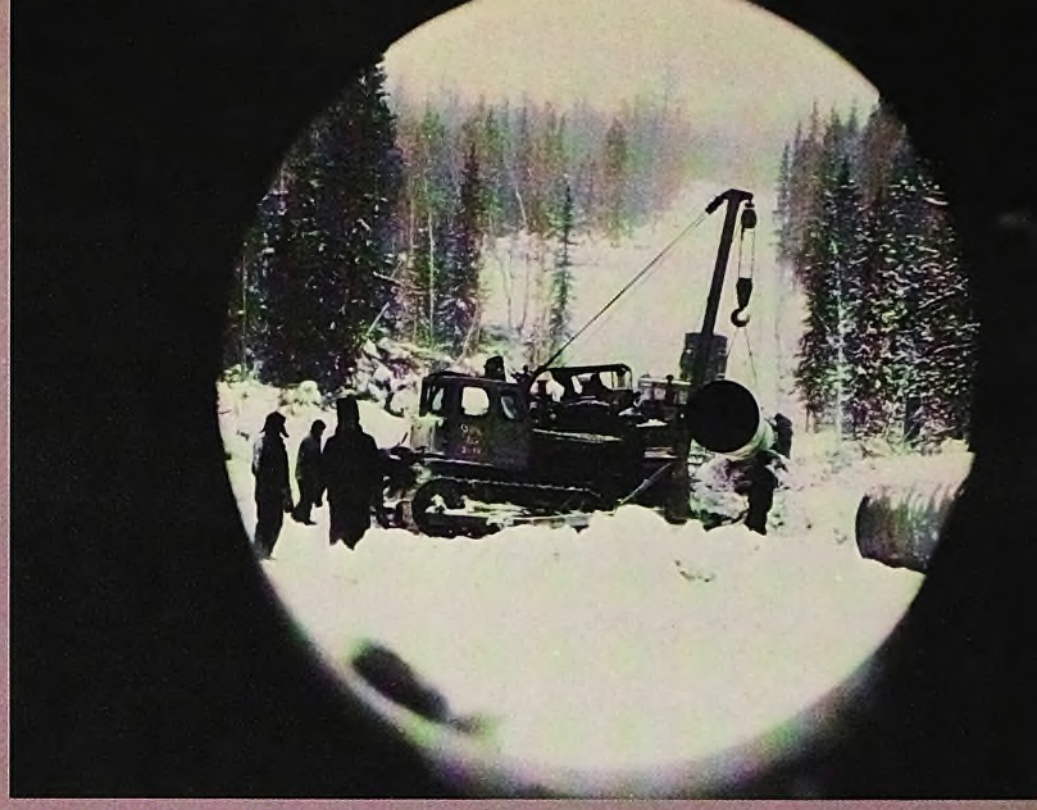
Also, the claim of Tyumen geologists that there is oil in the northern areas of the region was borne out. Oil was found in the horizons underlying the gas pools. Condensate gas deposits were unexpectedly found there as well. Located between the gas and petroleum formations, their reserves run to trillions of cubic feet of gas and many millions of tons of condensate, that marvelous product of the subterranean cracking plants.

These are the preliminary results of



The oil pipeline Surgut-Nizhnevartovsky was laid





The first well drilled in the northern part of Tyumen Region spouts. Above: Very often work had to be done in 50 below zero weather.

prospecting for oil and gas in our region. Really amazing results. But even more wonderful is the courage and stamina of the men who stood their ground in the face of tremendous hardships.

In the severe Siberian winter of 1969 the mercury registered minus 58 degrees F. for months. We had the impression that the winter had decided to frustrate the development of the Samotlor oil deposit. The machinery froze. The teeth of excavator buckets and booms snapped in the cold. Work stopped for a time, but nothing could break the will of the Samotlor pioneers. The builders thawed out their machines and themselves at bonfires, and as soon as the frost grew milder, they set to work again. These are well-knit collectives of geologists, builders and oilworkers. In 1970 the deposit produced about 4.4 million tons of oil, in 1971 twice that. The goal for 1975 is 65 to 75 million.

Young people play a prominent role in the conquest of the North. They left big cities and comfortable apartments for Siberia to tap oil and gas, to build new cities in the taiga. Young men and women are moving into these parts in earnest and for good. The experience they are getting is invaluable.

We promote them fast, prepare them for leading posts, reinforce the rich practical know-how of the older personnel with the energy and initiative of the young. They're really the ones responsible for the creation of the Siberian oil-producing region.

However, only the first part of the project is finished. If we look five to ten years ahead, we will see a picture of sweeping changes. Oil production in Tyumen Region in 1975 will be brought up to 120-125 million tons. Plants with a capacity of 175 to 200 billion cubic feet of gas a year will be built. The Tyumen oil and gas fields are expected to yield 60 per cent of the national increment in oil output and produce 370 to 380 million tons of oil and three to four trillio... cubic feet of gas in the five-year perio...

The development of big gas deposits in the northern part of Tyumen Region will be accelerated. A major petrochemical complex will be built in Tobolsk. Power station capacity will be augmented. New railroads will be opened.

The landscape of Tyumen Regio... already changed. Railroads run throu... the taiga in all directions. The steel pylons of power lines stretch away toward the most out-of-the-way places. Gas and oil pipelines run across rivers and marshes.

Over the years the Tyumen geological prospecting school took shape and developed its own scientific approaches. A whole generation of Siberian geologists grew up. Oilworkers and gasworkers augmented the numbers of the working class.

We were helped tremendously by the USSR Academy of Sciences, its Siberian Branch and by the country's research and design organizations generally. As a result, we were able to set up a network of our own research centers and train our own skilled personnel. The region now has 25 research and design institutes and branches. More than 600 doctors and candidates of science are working on regional problems and have already contributed in a substantial way to the technical progress of Siberia.

U.S. Black Delegation In the Soviet Union

A delegation of black Americans toured the Soviet Union recently for nearly three weeks. The 11-member group, including journalists, teachers and writers, visited Moscow, Tashkent, Samarkand, Dushanbe, Volgograd, Leningrad. They met with public figures, workers and students, saw schools and factories, and talked with officials about the Soviet Union's solution of its nationalities problem. APN special correspondent Slava Tynes interviewed members of the delegation.



George B. Murphy, Jr

Group Leader, Journalist

IT must have been back in 1927 when I made up my mind that I wanted to visit the Soviet Union. My interest was stirred when the Afro-American newspapers began to print stories by a black correspondent who was living there. Most of his pieces elaborated on the theme that here was a country where segregation and discrimination had been completely abolished by law, and this law was not just statutes hidden in books. It was clear to all who could read and understand that in the USSR even speaking disparagingly of any nationality constituted a punishable crime.

At first I wanted to come here with just two or three people. And then a couple of close friends of mine suggested that I assume responsibility for a larger delegation. I was free to pick the people. This I did.

One thing I want to say about our delegation is that all the members have different ideas about the Soviet Union. We vary in the range of our knowledge not only of the country, but also of Marxism-Leninism. This is our first visit to the first socialist country in the world. But we all agree that we are here as friends, with a desire to learn and bring back to all progressive Americans—Afro-Americans in particular—the meaning of our experience. Our motto, you might say, is knowledge, freedom and peace.

We wanted first to see how the Soviet Union has solved the nationalities problem. The USSR is a multinational state. Most of us have read something about how it deals with the national question. But it is one thing to read about it and even to understand some theoretical questions in relationship to it, and another thing when you see it with your own eyes. Nothing strikes you so sharply as when theory merges with practice and both are given life. That, in one way or another, is what all of us have found in the Soviet Union, the first socialist state in the world.

We visited two Soviet national republics—Uzbekistan and Tajikistan—whose peoples had endured slavery under the czars. It was a great delight for us to see darker peoples who had known only slavery but who had leaped over czarist imperialism, the brutality, arrogance and exploitation of man by man under capitalism, and moved into socialism. This, to us, was the meaning of Soviet power because these peoples—the Tajiks and the Uzbeks—were able to make that leap with the loving interest and concern of Soviet power.

We saw that women in these two republics, who for centuries had been semislaves to men, in addition to being slaves of the shahs, the emirs and the landowners, were walking with unveiled faces, beautiful faces. They were equal to men in their work, were occupying positions of influence in the government of the country, in medicine, power development, heavy industry, construction, in short, in the building of a new society. We saw in the life of these two republics, as well as throughout the Soviet Union, what is meant by the creation of a new socialist man and woman. It was an enjoyment that each of us felt. We will never forget it.

We also learned a lot from watching people, seeing with our own eyes how workers conduct themselves in a socialist country where they are in full control of their lives. This was brought home to us in their dress, which was casual but neat, in their friendly curiosity when we stopped and chatted in the parks, the theaters and the industrial projects we visited. It made us understand that working people can control a government they elect themselves, can build a new nation and a new society when they are the owners of the means of production. How wonderful it is to meet people who know that the very stones, the very buildings, the very art and culture so long suppressed and hidden from them are now their own possessions.

All of us enjoyed our trip and want to come back to the Soviet Union again.

Alice Childress

Actress and Playwright

I wanted to see the Soviet Union because I've been reading and hearing about it all my life. In fact, almost everyone is curious



At the monument to Stalingrad's defenders.

about the USSR. Some people are very friendly, and there are others whose remarks are not so kind. I wanted to see for myself so that others would not be interpreting for me. I think it's important for people to get to know this socialist country.

Fortunately, I was able to see a great deal of the USSR and meet many different people—in Tajikistan, Uzbekistan, Moscow, Leningrad, Volgograd. We spent one day in Samarkand. It's like another world, a whole new world—really a wonderland.

I was very much impressed with the women of Central Asia. One woman in Tashkent told me what a long way Moslem women had come from the time when they used to cover their faces with veils and had no rights or privileges. She said, too, that women were once sold like commodities. Now they have equal rights as well as many special ones, such as child care, based on the needs of workingwomen.

The nursery school system all over the Soviet Union is a great help to working mothers. It frees them, makes them willing to work when they know their children are taken care of. They can get out of the house, take part in building the world. There are no limits to the opportunities the Soviet women have—they can work at anything and study anything.

Another thing I noticed: So many Soviet people can speak two or more languages. And there are books just everywhere. What I saw was a society oriented toward the people. I had been looking particularly for the enjoyment they got in the building of this new world.

I have never seen so many houses going up. I was most impressed with the postwar rebuilding of cities, which the Soviet people take great pride in.

Then there's the cleanliness everywhere, a very beautiful thing to see. I was also thrilled to watch the crowds going to museums. It's like shopping—they swarm into the galleries.

The people in the Soviet Union don't think in terms of race. The emphasis as regards nationalities there is to bring people together.

I want to come again, which is the best thing you can say about a place.

Ella M. Pappademos

Elementary School Teacher, Illinois

My visit to the Soviet Union was one of the most impressive experiences I have ever had. I was particularly interested in the nursery schools and kindergartens, which are combined here. The children are just delightful, bright and very happy. Even the choice of locations for the preschools is very important. I really think the surroundings influence the way children work with teachers, and teachers with children. In our country kindergartens are part of the regular school system, not separate as in the Soviet Union.

I was especially interested in the two Central Asian republics we visited, and in the status of women there. I got the impression that women in Uzbekistan and Tajikistan are right up in front. We met some who are factory managers or vice presidents of the Presidiums of the Supreme Soviets.

Asian women, during their long history, were shoved into the background, but now they are playing a really vital role in the life of the republics. This really impressed me.

Another thing that surprised me is the over-all development of the Asian republics. They are preserving their heritage and at the same time doing an admirable job of blending the old with the new. I think a lot of people, particularly Afro-Americans, would be very impressed at what's being accomplished in this country, where a man's nationality has nothing to do with his opportunities. Worth here is measured by talent and the contribution you can make to society.

I particularly liked Samarkand, where we spent one day. It was a place I'd read about and dreamed of seeing. The city is really tremendous. It's hard to believe that there was once a city like ancient Samarkand and that the people are preserving this part of their heritage while they build the future for themselves.

I went to Tashkent, and there again we

In Leningrad, the group visited palaces, museums, and the home of Russia's national poet, Alexander Pushkin. Near a statue of Peter the Great, an Intourist guide describes the reign of the eighteenth century czar who built the city.







The Americans sampled Central Asian cuisine at a collective farm near Tashkent, capital of Uzbekistan. Center: In Volgograd, as in other parts of the country, they were struck by the vast scale of construction since the end of the Second World War.

saw things that impressed us, especially the people of Uzbekistan. Then we went to Dushanbe, the capital of Tajikistan. We took a ride through a mountain tunnel to a power station that's being built in Nurek. If someone had described it to me, I would have said it was impossible, no one could do a job as big as that. But when you get there, you see it can and is being done. I'd just like to come back in five years to see how the project has developed.

One of the other things I noticed is the genuine economic equality. You don't see any extremes of wealth and poverty. Also, everyone respects everyone else, which is, I think, a great thing, particularly in a country where you have multinational groups working together in all sectors of society.

My husband and I took a trolley bus and couldn't believe that the fare was only three or four kopecks—about four or five cents. We're so used to paying 50 or 55 cents for a streetcar ride.

Another thing we learned is that Soviet people are so willing to help in every way. I don't speak any Russian and my husband speaks just a little, but wherever we went, we found people courteous and concerned. And not just because we were foreigners. I saw the same relationship among people in the street. This made a deep impression on me.

We visited Volgograd as well. When the Nazis tried to take the city and use the Volga as a bridgehead, how courageously the people fought against them! After repelling the invaders, Volgograders were confronted with the task of rebuilding, and they've done a tremendous job.

We visited the Volgograd power station. You'd think that building such a station and rebuilding this kind of city after the destruction would take a hundred years, but the station took only 10 years to complete.

We went to Leningrad. I love that city. During the war, the people there showed tremendous courage, preventing the fascists from destroying what earlier Leningraders had built. I visited some of the palaces, museums, and—something that interested me particularly—Pushkin's home. I wish I could have extended my stay in Leningrad and hope I get the chance to see it again. I also hope when I come back to see Nurek completed.

One of the things I'll remember best about my visit is the people—smiling, talking or just strolling down the street. I've never seen so many people visiting parks, museums, stores, and I don't remember a single one who looked angry or up tight.

John Pappademos

Associate Professor of Physics, University of Illinois

I came on this trip with a delegation of 10 others to see the Soviet Union and study something of its life. There was only one white person in the group, myself.

What impressed me particularly about the USSR is the part that science plays in building society. Education—studying, learning, reading—occupies a major place in Soviet life. We found bookstores everywhere. Even the corner bookstands display volumes on chemistry, physics, philosophy. I got the picture of a dynamic society, one that is reading, studying and building for the future.

The fact that there is equal educational opportunity also made a deep impression on me. And I am sure it would on anyone, any teacher who comes here and sees your educational system for the first time, as I did. In my country only the middle and upper class can afford a good education. Here you find that the democratic principle is applied and actually works.

I would like to mention two other points. First, I was thrilled to be in a country where work is such an honor.

Another thing that impressed me has to do with brotherhood. You don't find ghettos in the Soviet Union. Instead, you see different nationalities, races and colors living together, and there is no problem. How could the Soviet Union do that in the space of only 35 years of peaceful construction uninterrupted by war or invasion?

I was very grateful for this opportunity to come to the Soviet Union, and I shall remember it for a long time to come. I'll try to bring a report about all I've seen to as many people as possible.

"IT'S ALIVE, AND IT SHINES"

By Victor Dragunsky
Drawings by Leonid Sergeyev



ONE EVENING I was sitting in our yard by the sand pile waiting for Mother. She must have been held up at the institute, or at the store, or maybe she was waiting at the bus stop. I don't know. All the parents from our house had already come and taken their children home. Right now they were probably sitting at the table having bread, tea and cheese for supper, while Mother was still walking around somewhere.

At last the windows began to light up, there was music on the radio and dark clouds that looked like bearded old men in the sky.

I was hungry and Mother was still not there. I thought that if I were in her place and knew she was hungry and waiting for me somewhere at the world's end, I would run to her right away. I wouldn't be late and wouldn't let her sit alone by the sand pile.

That moment Mishka came into the yard. He said "Hello!" to me and I said "Hello!" to him.

Mishka sat down beside me and picked up my dump truck.

"It's a nice one!" he said. "Where did you get it? Can it pick up sand by itself? It can't? But it can dump sand, can't it? And what's this handle for? Can I turn it? That's fine. Will you let me take it home?"

"No, I won't. It's a present. My daddy gave it to me before he went away."

Mishka looked sulky and moved away from me. It got even darker in the yard. I kept looking at the gates so as not to miss Mother, but she didn't come. Probably she had met Aunt Rose and now they were talking, forgetting all about me. I lay down on the sand.

Then Mishka asked,

"Will you give me the dump truck?"

"Leave me alone, Mishka," I said.

"I'll give you one Guatemala and two Barbados stamps for it," said Mishka.

As if you can compare a Barbados stamp with a dump truck!

"Will you swop it for this life belt?"

"But it's torn!"

"You can fix it."

Then I got angry:

"And where am I going to swim? In the bathtub?"

Mishka pouted. Then he said:

"Well, I won't be mean! Here."

And he handed me a matchbox. I took it.

"You open it, then you'll see," said Mishka.

I opened the little box and didn't see anything at first. But then I noticed a little green light, as if a tiny star were shining far away, and at the same time I was holding it in my hands.

"What is it, Mishka?" I asked in a whisper. "What is it?"

"It's a firefly," said Mishka. "Do you like it? It's alive, you know!"

"Well, you can take my dump truck, if you like," I said, "for keeps! And you give me this little star. I'll take it home."

Mishka grabbed my dump truck and ran home. I was alone with the firefly. I couldn't tear my eyes away from it. It was so green, like in a fairy tale, and though it was quite near, in the palm of my hand, it shone as if it were very far away. I was afraid to breathe on it, and I could hear my heart beat. Something tickled me in the nose as if I wanted to cry.

I sat like that for a long time. There was no one around me, but I forgot about everything. At last Mother came, I was very happy and we went home.

While we were having supper, Mother asked,

"Well, how do you like your dump truck?"

"I swopped it," I said.

"That's interesting, and for what?"

"For a firefly! Here it is, in the matchbox. Just put out the light and you'll see!"

So Mother put out the light, and the room got very dark. Both of us looked at the pale-green firefly. Then Mother switched on the light again.

"Yes," she said, "this is real magic! But still, how could you exchange such a valuable thing as a dump truck for a little firefly?"

"I was waiting for you so long and I was lonely, and then this firefly—it's better than any dump truck in the world."

Mother looked at me closely and asked,

"And why is it better?"

I said:

"Don't you see? It's alive, and it shines!"



Concert at Dawn
Photograph by Pevilas Karpavičius

SOVIET LIFE

AMERICAN GOVERNORS
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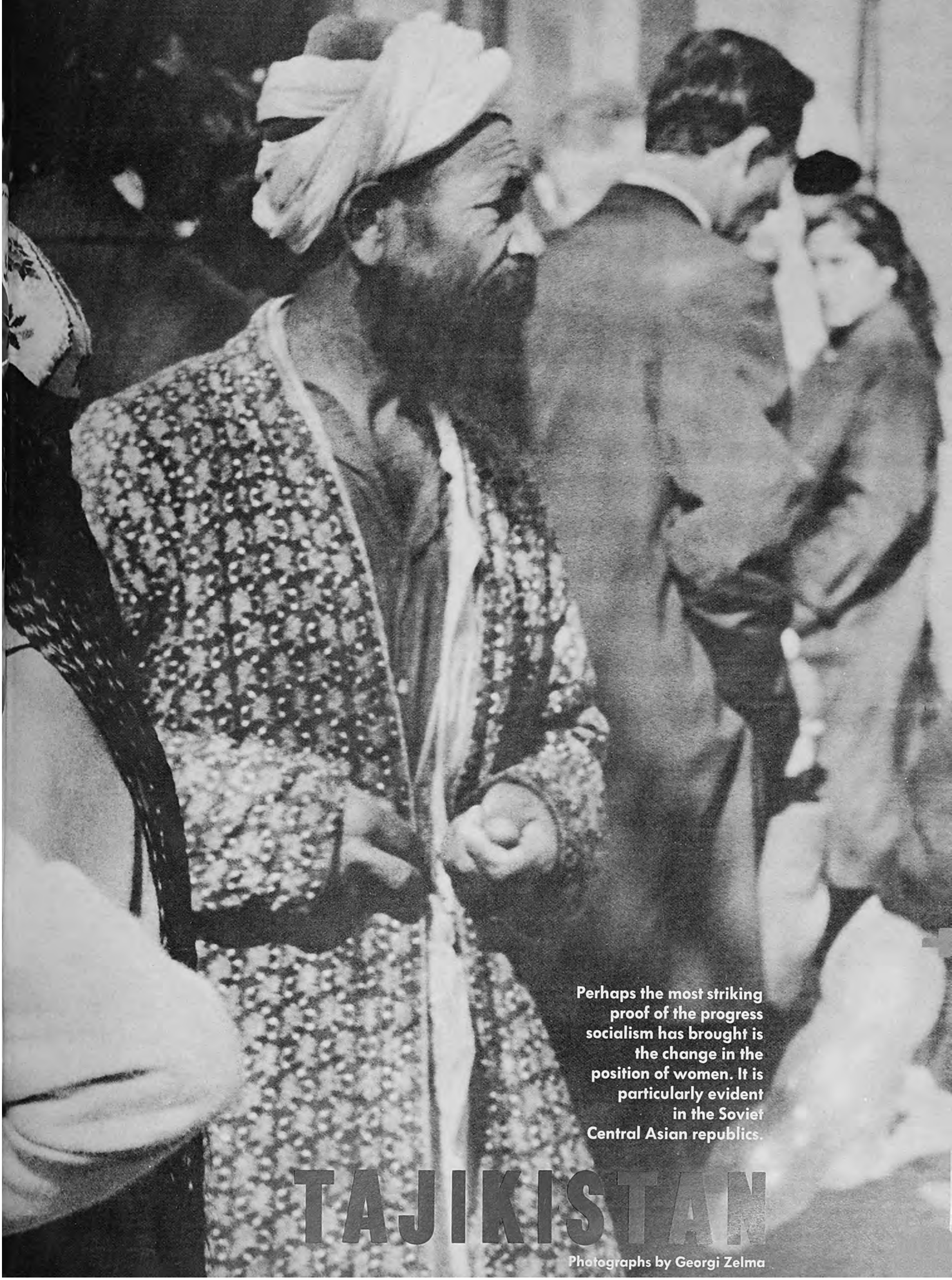
WOMEN OF CENTRAL ASIA





Perhaps the most striking proof of the progress socialism has brought is the change in the position of women. It is particularly evident in the Soviet Central Asian republics.

TAJIKISTAN

Photographs by Georgi Zelma



Soviet-French Satellite

A new artificial satellite, *Oreol,* has been launched in the Soviet Union. It is part of the combined Soviet-French project to explore the Earth's upper atmosphere and study polar auroras. Scientists believe these auroras are actually giant plasma explosions at great distances from the Earth's surface.

Plasma gas is always present in near-Earth space, but we have not yet been able to obtain samples that are hot enough and stable enough for ground-based experiments. This is why the study of plasma explosions in outer space is so important.

We know little or nothing about many of the phenomena associated with polar auroras. Some authorities believe that the ionic composition and concentration in the upper atmosphere changes considerably during polar auroras. Electric fields and currents appear in the magnetosphere and ionosphere. The Soviet and French instruments on board the satellite will probe these and other phenomena.

At the same time, observations will be made from the Earth, since the equipment on board the *Oreol* can register occurrences only at a particular moment and a particular point in space. Many phenomena may occur when the satellite is at the opposite side of the Earth. And observations from Earth cannot pinpoint the precise time and place of a phenomenon's occurrence. That is the reason for the comprehensive studies. Information obtained from the satellite and from the ground will be processed separately, so that the same data can be examined from different points of view.

For Better Mutual Understanding

Industrial workers, collective farmers, public leaders, writers, teachers, scientists, and newsmen attended the second national conference of the Institute of Soviet-American Relations at Friendship House in Moscow. It commemorated the tenth anniversary of the institute, founded in 1962 on the initiative of the Soviet public to help develop ties between the Soviet Union and the United States.

Present at the conference were Jacob Beam, U.S. Ambassador to the Soviet Union, and members of the U.S. Embassy staff.

The institute's varied activities were described in a report by president Nikolai Blokhin, who is also a member of the USSR Academy of Medical Sciences. "The Soviet people," he said, "have repeatedly shown their readiness to cooperate with the people of the United States in the interests of both countries and to work for universal peace."

Other speakers included Academician Ivan Artobolevsky, Yuri Zhukov, political observer of *Pravda,* Georgi Arbatov, Director of the Institute of the United States of the USSR Academy of Sciences, and Alexei Khomenko, Secretary of the Soviet Peace Committee.

The conference received messages of greeting from both Soviet and American organizations and individuals, among them the Soviet Women's Committee, Writers Union of the USSR, Moscow University, Committee of Youth Organizations of the USSR, Fund for Peace, American Friends Service Committee, Center for the Study of Democratic Institutions, Women Strike for Peace, and American astronaut Frank Borman. His message said, in part: "I hope that the bonds of peace that exist between our two countries will be strengthened by the results of the national conference and by President Nixon's forthcoming trip."

The resolution adopted by the conference declares that the Institute of Soviet-American Relations will continue to work for friendly contacts, for the development of scientific and cultural ties with the American people in the interests of world peace.



National Film Festival

Tbilisi, capital of the Georgian Republic in Transcaucasia, was the site recently of the Fifth USSR Film Festival.

The fiftieth anniversary of the formation of the Soviet Union was the keynote of the festival, as it has been of many other events this year. Thirty-nine studios of the national republics and various cities showed close to 80 feature, documentary and popular science films.

The main prize went to the Mosfilm (Moscow Film Studio) productions *Battle for Berlin* and *The Last Storm,* the concluding sequels of the screen epic *Liberation,* on the Great Patriotic War of 1941-1945.

Other prizes were awarded to the Dovzhenko Studio of the Ukraine and the Tajik Studio (Central Asia) for their popularization of folk traditions in *Zakhar Berkut* and *Sohrab and Rustum* respectively, and to the Georgian Studio for *The Warmth of Your Hand,* which was rated the "best film about Soviet man."

The winning film for children was *Oh, That Nastya!* made by the Gorky Studio of Moscow.

First prize in the documentary division went to *Naryn Diary,* submitted by the Kirghiz Studio (Central Asia). There were two prize-winning popular science films, *Lenin and Turkestan* (Uzbek Studio of Central Asia) and *Sources of Life* (Central Popular Science Film Studio of Moscow).

EVENTS



Sixtieth Birthday of *Pravda*

May 5 marks the sixtieth anniversary of the first issue of *Pravda* (*Truth*), the nationally circulated daily.

Pravda was founded in St. Petersburg (now Leningrad) in 1912, when Russia was on a rising revolutionary tide. It was published with money donated by the workers, and distributed by them.

The paper was subjected to frequent suppression by the czarist authorities. Between 1912 and 1914 it was banned eight times, and in 1914 closed down for good and the staff arrested. Publication was resumed in February 1917, after the czarist government was overthrown. From that time it has been the Communist Party organ. *Pravda* played a prominent role in the October 1917 Revolution.

Today it is one of the most popular mass newspapers in the country, with a circulation of over nine million.

Since *Pravda* was actually the first mass workers' newspaper, the date of its first issue is celebrated as Press Day.

The Soviet Union now publishes more than 9,000 newspapers and 6,000 magazines in many national languages, in a total printing of 300 million copies, as well as every fourth book published in the world.

Shrinking Herring Hauls

An extraordinary session of the Commission on Fishing in the Northeast Atlantic was held recently in Moscow. It was attended by ministers responsible for the fisheries of 14 European countries —England, Belgium, Holland, Denmark, Ireland, Iceland, Spain, Norway, Poland, Portugal, the Soviet Union, France, West Germany and Sweden—as well as by observers from the United States and Canada.

The session discussed the sharp decrease in the catch of certain fish—herring, haddock and cod—in the Northeast Atlantic. The over-all herring catch in 1966 in this area was 3.9 million tons. It dropped to 1.3 million tons, or one third, by 1969. The herring catch of Soviet fisheries over the last four years dropped to an eighth, and Iceland's to a thirteenth.

The reasons for the depletion of herring stocks are overfishing, fishing of fry for fish meal production, and unfavorable climatic conditions.



To remedy the situation, several countries, including the Soviet Union and Iceland, cut down on their herring haul. But that did not bring back the herring shoals. What is needed is similar action by other nations fishing in the Northeast Atlantic.

Today practically every country in the world fishes in the seas and oceans. The annual haul of fish, mollusks, algae and other marine products runs to 66 million tons, and the world ocean can yield even more if its reserves are properly utilized. By limiting the catch of certain varieties of fish, the supply of others can be increased. For instance, according to Soviet experts, there are good prospects for the fishing of such species as smelt and boreogadus saida in the Northeast Atlantic.

The participants at the session worked out recommendations that would limit the fish catch and extend the closed season.

The Northeast Atlantic is not the only area fishermen are worried about. The stocks of sea perch in the North Pacific, flatfish on the Australian coast and Alaskan crabs are noticeably diminishing. The Soviet Union is asking for collective action by all interested countries.

Moscow Tomorrow

The Central Committee of the Communist Party of the Soviet Union and the USSR Council of Ministers have approved Moscow's master development plan for the next 25-30 years. By then the population of the capital is expected to be 7.5 million, with the area of the city the same as it is now—340 square miles.

Instead of the present pattern, based on a single city center, the planners proposed several districts, each with its own center. Seven such peripheral districts will be laid out around the Kremlin and its immediate neighborhood. Each such district will have a population of no more than a million.

Moscow is in its ninth century and has a good many historical monuments. So that these monuments will not disappear into the new city, the plan calls for preserving whole blocks of old buildings.

The Moscow of the future will continue to be an important industrial center, but it will specialize in precision engineering and instrument making. The service industries will, of course, be developed considerably. Other branches of industry will be located 30 to 75 miles outside the Moscow city limits.



A wide forest-park zone will encircle the capital, separating the metropolitan area from the suburbs and serving as a huge reservoir of pure air. This zone is near completion—foresters are planting wooded strips that will connect the outer forest belt with the parks and gardens inside the city.

Public transport facilities—the Metro, streetcar, bus and trolley bus lines—will be expanded considerably, so that city residents can travel to and from work in no more than 30-35 minutes.

Moscow's layout of radial and circular thoroughfares is retained by the master plan. Fifteen radial avenues will be extended from the city center to the circular highway that surrounds Moscow at a distance of 10 or 12 miles from the Kremlin. Apart from the Garden Ring (*Sadovoye Koltso*), which now girdles Moscow's old center, two new circular thruways will be built inside the city. The plan also provides for express highways that will cross the city north to south and west to east, bypassing the center.

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Front Cover: After the Revolution the Central Asian teahouse, or *chaikhana*, opened its doors to women. See articles on status of women in Central Asian republics. *Photograph by Vsevelod Tarasevich.*

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LETTERS TO THE EDITOR

Sirs,

The March '72 issue was especially interesting regarding the Anashkin and Bolotin articles. Questions may be raised as to some statements made but the articles in general appear accurate as we understand it. Arguments will rage regarding the two socioeconomic systems but clearly yours has whipped poverty and want in the basics. Ours has developed a broad "middle class" giving whatever stability we enjoy with its relatively high standard of living. Clearly the course is reconciliation, not change—and your magazine does much to accomplish that end.

A. R. Heacock
Bedford, Texas

Gentlemen (or tovarich, if you prefer),

The quality of your magazine has improved immensely in the last five years. I have received SOVIET LIFE since its beginning and have noted the change from a "gray" dull statistical rendition to a colorful, interesting, professional journal of the USSR. My students certainly enjoy reading it too. There is always a waiting list in my school library. I have been especially interested in the all-too-few articles on archeology which appear from time to time. Our social studies classes often cite your articles during units of study on Russia, Central Asia etc.

May I thank you for my students and myself for continuing to send the magazine despite the fact that we lack sufficient funds to buy the subscription.

Robert H. Gauthier
Boulder, Colorado

Dear Sirs,

I have but recently become a reader of SOVIET LIFE. I especially liked the articles in the October, 1971, issue on the nuclear power industry.

I would like to know if you can tell your readers if Russia is experimenting in "material transport" or "human telegraphy." The American mathematician Norbert Wiener, in *The Human Use of Human Beings*, speculated:

"It is amusing as well as instructive to consider what would happen if we were to transmit the whole pattern of the human body, of the human brain with its memories and cross connections. . . .

"There is no absolute distinction between the types of transmission which we can use for sending a telegram from country to country, and the types of transmission which at least are theoretically possible for transmitting a living organism such as a human being. . . .

"The idea that one might conceivably travel by telegraph, in addition to traveling by train or airplane, is not intrinsically absurd. . . ."

Are there any experiments in Russia on the material transport of inanimate objects—pens, rings, keys? Or of live organisms—insects, small animals, or human beings?

Lori G. C. Krakowski
Bethesda, Maryland

Dear Sir,

SOVIET LIFE is an excellent magazine. For some time I have been buying it on the stand here. This has broadened my knowledge of the Soviet Republics a great deal.

I have been a collector of Russian stamps for over 20 years and must say that they are among the most beautiful stamps issued by any country. This has helped me to gain an insight into Soviet history. Over the past years I have been able to learn Russian enough to help me in my stamp collecting. Through a magazine such as SOVIET LIFE our two peoples can learn about each other, which will help us to live in a world of peace. The possibility of a joint space effort in the future between Russia and America is a great step forward in our mutual understanding and friendship. This is truly a time to be living in history. I will be looking for my next issue of SOVIET LIFE in the mail.

Verl L. Kinley, Jr.
Springfield, Ohio

Dear Sir,

I spent a few days in Moscow two weeks ago. What I want to tell you about is the fantastic view from floor 6, room 413 of the Hotel National.

It is at night that I especially remember lying in bed and seeing the Red Stars of the Kremlin shining so brightly in the window and the flag of the Soviet Union with lights shining on it waving in the breeze. Everything seemed to be calm and peaceful.

The Lenin Mausoleum and the road to Red Square all lighted up are also seen from this fantastic room. It was my thought at that time how many important historical events one could have seen from this room in the Hotel National.

Thank you for selecting me as one of the prize winners in last year's SOVIET LIFE Contest.

Edward Sandberg
Kenosha, Wisconsin

EDITOR'S NOTES

WOMEN IN POLITICS, WOMEN IN THE ARTS

FEW REASONABLE PEOPLE would hold these days that women have no talent for anything beyond the kitchen and the care of children. Too many women, in both socialist and capitalist countries, have distinguished themselves in politics, science, the arts, even in warfare, to make that ancient myth credible.

But not every country can say that the opportunities it provides women open up broad areas for them in which to develop their talents. Proof of this are the women's organizations in so many countries that must agitate for equal opportunities.

Socialism has relieved women of economic dependence, has given them the right to work on equal terms with men and to receive equal pay for the same work. Economic emancipation alone, however, is not enough to make women full partners in society. Integral to complete equality is the social structure. It gives women special training and access to positions of management in every field of endeavor, from their place of work and the neighborhood they live in to the union republic and the entire country.

We could cite statistic after statistic, reel off long lists of women who, in one way or another, are involved in the management of our country's affairs. But more convincing than figures and recitals of names are the careers of some of our women. Many readers have asked for stories of such careers in their letters to the editor.

In this issue we give the floor to women from the Soviet Central Asian republics. Makhfirat Karimova, Vice Chairwoman of the Council of Ministers of Tajikistan, describes the status of women in her republic. They constitute 45 per cent of the people employed and 43 per cent of the specialists with a secondary or college education.

Our readers will meet a young woman from Uzbekistan, Dilorom Saidaminova, a composer who has won the acclaim of her more eminent colleagues.

Our correspondent will tell you about Ogulgeldy Dzhumayeva, who manages a collective farm in Turkmenia and is also a deputy to the USSR Supreme Soviet.

These women are from different age groups, they have vastly different abilities. But they also have much in common: a broad range of interests, independence of judgment, a feeling of civic responsibility.

You might ask why we make our point with three women from Soviet Central Asia.

Because before the October Revolution this area was perhaps the most backward in all of Russia. Czarism deliberately encouraged the preservation of the inhuman taboos and dark superstitions of the past, including the absolute subservience of women. These articles demonstrate the economic and social leap that has been effected by once backward, long oppressed peoples. And this advancement was accomplished in a very short time, as we measure human history—in only half a century. In December of this year we shall celebrate the fiftieth anniversary of the founding of the USSR.

A foreign journalist at the last session of the USSR Supreme Soviet humorously suggested that the marked boost in the output of consumer goods scheduled in the Ninth Five-Year Plan might be explained by the pressure of a large number of women deputies in the Soviet parliament.

Hardly pressure, since the policy of raising living standards has been and still is the basic goal of the Communist Party and the Soviet state. But his comment on the large number of women who sit in our country's parliament is true enough—they make up almost 31 per cent of the deputies.

Women participate in drafting the laws of the land, which they discuss in standing committees of the Supreme Soviet and then at the full sessions.

That, for instance, was how legislation on the state budget for this year and the economic development plan for the next five years was prepared and adopted by the USSR Supreme Soviet. The importance of these legislative acts is evident in the tasks they set.

Consider the five-year plan. Its primary goal is a substantial rise in living standards, to be achieved by over-all economic development. A social welfare program envisages a 31 per cent growth in real per capita income. The state has appropriated 22 billion rubles to raise wages and to increase pensions, grants and student scholarships. By 1975 the average monthly pay of industrial, professional and office workers, including farmers, will rise by 20 to 22 per cent compared to 1970 wages. This is in addition to benefits available to every Soviet citizen, such as free education through college and professional school and free medical care, paid for out of public funds. By the end of the five-year period, a family of four will be receiving the equivalent of 1400 rubles a year from these funds.

Consumer goods production will increase substantially. Schools, hospitals, polyclinics, sanatoriums, tourist centers and hotels will be built, along with almost 13 million apartments.

These are only some of the objectives of the plan, those that bear on living standards. But even this brief enumeration shows the plan's importance and its ramifications. Before it was considered by the Supreme Soviet, the plan in draft form had been gone over with a fine-tooth comb. Its individual sections were prepared by specialists in various institutes and departments. There were a number of women among these experts. The entire draft plan was published in the press and subjected to nationwide debate. It was discussed at the Twenty-fourth Congress of the Communist Party of the Soviet Union. Only then was the plan presented to the standing committees of both chambers of the USSR Supreme Soviet, the Soviet of the Union and the Soviet of Nationalities. It was at this stage that the deputies tackled the plan directly. Differences were debated and ironed out in the committees. When the draft came to the Supreme Soviet, it represented the considered judgment of great numbers of Soviet citizens who had discussed its provisions and proposed changes and additions.

Participation in drafting so important a piece of legislation inevitably makes the citizen, regardless of job or profession or its comparative importance in the total scheme, look at that job as part of the national effort. It makes her or him think in countrywide terms.

This is what socialist democracy means: involving the entire population, both women and men, in the running of the country.

UZBEKISTAN ON THE RISE

50 YEARS OF THE USSR 1922-1972

By Sharaf Rashidov
First Secretary, Central Committee, Uzbek Communist Party

LENIN, THE LEADER of the Russian Revolution and fighter against every kind of national oppression, formulated the basic principles of the party's program on the national question. In essence it called for the full equality of nations, the right to self-determination and the unity of all workers. It was a program of struggle for the emancipation of oppressed nations, for their free political, economic and cultural development along socialist lines; for the fraternal friendship of nations and their comradely cooperation and mutual assistance; for proletarian internationalism.

The founding of the Union of Soviet Socialist Republics in 1922 was a landmark in the realization of this program.[1] The more than 100 nations and nationalities of Russia joined their unremitting efforts to construct a socialist society. A new, international community—the Soviet people—emerged as a result of the political, socioeconomic and cultural changes.

However, international community does not mean the rejection of national community, national cultures and languages. It merely emphasizes the essential and sustaining quality inherent in all socialist nations. "The unity of the multinational Soviet people is as solid as a diamond. In the same way as a diamond sparkles with multicolored facets, so does the unity of our people scintillate with the diversity of nations, each of which lives a rich, full-blooded, free and happy life," Leonid Brezhnev noted. This holds for all the Soviet republics, all our nationalities.

Since I am an Uzbek, my republic, of course, is closest to me. It is only natural that on the fiftieth anniversary of the USSR my thoughts should turn to the progress Uzbekistan has made.

Advancement in Every Sphere

In times gone by there were many men with great gifts in my native land. Biruni, Avicenna, Navoy, Ulugh-Beg and Khorezmi[2] made their names famous by contributing to the science and culture of the world. The ancient structures of Samarkand, Bukhara and Khiva testify to the skill of Uzbek architects and builders. My people built complex irrigation systems many centuries ago.

Despite that history, looking back at the past, you see a people to be pitied. Uzbekistan before the Revolution was a country of almost universal illiteracy, with a feudal system and primitive mode of production, a land of small impoverished households with no rights whatsoever for working people. And that was the life of the working people in the other outlying provinces of Russia.

With the victory of the Socialist Revolution in October 1917, the dawn of hope heralded by the Leninist party rose over my land, too. The old order and, with it, poverty, hunger, disease and ignorance, is gone, never to return. The people are the masters of their destiny. They have won political rights and made the material and cultural values of society their own. Ordinary people have taken over the running of the state and have produced scientists, scholars and artists as well as administrators in all the areas of our economy.

In the past 50 years our republic has been transformed beyond recognition. The pride of Uzbekistan, the chief source of its wealth, is cotton. That was also true in prerevolutionary times. But in 1916 the cotton production of the present territory of the republic was only 610,000 tons, and the yield averaged 982 pounds per acre. Things are very different today. For the last few years, the republic has grown well over four million tons of cotton annually. In 1971 the average per acre yield was 2,410 pounds. Uzbekistan sold 4,550,000 tons of cotton to the state, nearly 600,000 tons more than planned. We have grown into the principal cotton-producing center of the Soviet Union.

Other branches of agriculture have also made enormous strides. Large storage lakes and irrigation canals, a wide-branching irrigation system with high-capacity hydrotechnical structures have been built in the republic in these years of growth. We were able to turn vast tracts of wasteland into flourishing oases and to double the arable acreage. Our farms have introduced comprehensive mechanization. Chemical fertilizers are used widely.

The Uzbek countryside reflects these changes. There is a vast difference in the life of our farmers. The villages have attractive, well-equipped homes, community services, schools, clubs, libraries, shops, child-welfare and medical institutions. The collective farmer or state-farm worker of today knows his specialized job and utilizes the latest scientific findings.

Before the Revolution our industry consisted of a few dozen semihandicraft enterprises. Today, Uzbekistan has more than 1200 large mills and factories in over 100 industries. This has created a working class where there was none in the past.

There have been sweeping changes in education. Only two per cent of our people were literate before the Revolution; now every Uzbek can read and write. Uzbekistan did not have a single college; today it has 40 institutions of higher learning, with a student body of more than 230,000. The republic is way ahead of advanced Western countries in the number of students per 10,000 population. Some 167,000 young men and women study in specialized secondary schools, and the enrollment in elementary and secondary schools is 3,217,000.

We have our own academy of sciences and 147 research institutes. There are over 25,000 scientific workers and educators, including more than 100 full and associate members of the academy, 500 doctors of science and 6900 candidates of science.

Literature and the arts, enriched by a new, socialist content, are seeing enhancement of their genres and forms. We have our own novelists and poets, composers, artists, architects, film workers and actors. In prerevolutionary times there was not a single cultural institution in the republic; today there are 25 theaters, 20 song and dance companies, 3,440 clubs and 5,712 libraries. A movie theater can be found in every village, to say nothing of the towns. The press, radio and television have large audiences.

We have a socialist system of public health protection with free medical and disease-prevention aid accessible to all.

A New Human Being Created

The emancipation of women is one of our most significant social gains. Women in the East had no civil rights, and Uzbekistan was

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1 See the introductory article by Anastas Mikoyan in this series in SOVIET LIFE, December 1971.

2 Abu-Reihan-Muhammed ibn-Ahmed al-Biruni (972-1048), encyclopedist and scholar; Avicenna or Ibn Sina (about 980-1037), philosopher, naturalist, physician, mathematician and poet; Nizamaddin Alisher Navoy (1441-1501), poet and statesman; Muhammed Taragai Ulugh-Beg (1394-1449), astronomer and mathematician; Muhammed ben-Musa Khorezmi, ninth-century mathematician and astronomer.

Sharaf Rashidov, novelist and political leader, was born in 1917, the son of a poor Uzbek peasant. A graduate of Samarkand University and the Higher Party School in Moscow, he taught in a secondary school and worked as a newspaperman, joining the Communist Party in 1939. During the war against nazi Germany, Rashidov did political education in the army. In 1944 he was elected secretary of the Samarkand Regional Committee of the Communist Party, and in 1947 he was appointed editor in chief of the newspaper "Kzyl Uzbekistan." President of the Presidium of the Uzbek Supreme Soviet since 1950 and First Secretary of the Central Committee of the Uzbek Communist Party since 1959, Rashidov is also an alternate member of the Politburo of the Central Committee of the Communist Party and a Presidium member of the USSR Supreme Soviet.



no exception. A woman was a domestic slave, permitted no public activity of any kind.

Today, Uzbek women are free; they enjoy the same rights as men. Many are factory managers, engineers, physicians, collective farm chairmen and state farm directors. They hold responsible posts in party, government, trade union and Young Communist League organizations. They have equally prominent positions in scientific, cultural and other institutions. More than 9,000 work in the fields of science and education. Numbers of them hold doctor and candidate of science degrees. About 86,000 Uzbek women are party members.

Lenin's hope of enlisting working women in the administration of the state has become fact. As many as 331 of our women are members of the Supreme Soviets of the USSR, Uzbekistan and the Kara-Kalpak Autonomous Republic, which is part of Uzbekistan, and over 38,000 women have been elected to local Soviets.

Socialism is molding a new person. We have a qualitatively new generation of educated people in Uzbekistan, as in the country generally. Some 540,000 men and women with a higher or secondary education are now employed in the national economy of the republic.

The characteristics of this new Soviet citizen are a pride of industry, a sense of social duty, an awareness of personal responsibility for the common good and for the country's progress. Soviet people accept their obligation to work for the socialist homeland, to contribute actively to the program of communist construction charted by the party.

Our society honors the services of the people. In the last five years alone, more than 27,000 Uzbek workers and farmers were awarded government orders and medals. The title of Hero of Socialist Labor, the highest civilian decoration, was conferred on 80 people. All told, about 140,000 citizens of the republic have been awarded orders and medals in the 50 years of our Soviet existence.

Two Directions

Our people know that they owe their success in building a new life to socialism. Since its advent, the productive forces of all the republics have been developed: Scientific enlightenment has dealt with natural and climatic conditions; raw-material resources have been taken advantage of; and national characteristics have been respected and encouraged. All the nations of the Union have achieved political and economic equality.

The epoch of full-scale communist construction, on which the USSR has entered, signifies a new stage in national relations. We operate in two directions at this stage, as previously. On the one hand, each nation makes great strides forward in its own development. On the other hand, we see all the nations drawing closer together under the banner of internationalism. A feature of the present stage, compared with the past, is the growing strength of the second tendency.

This is understandable. The laying of the material and technical foundation of communism leads to a closer economic unification of the Soviet nations. The contribution of each republic to the common cause of building communism keeps growing. The gradual elimination of distinctions between classes and the shaping of communist social relations increase the social homogeneity of the nations and help foster a common communist culture and ethics. Mutual trust and friendship keep growing stronger as a result.

The great progress made by the nations and their drawing closer together are objective and interconnected processes. The development of one process is a condition for the development of the other. This bringing together of the socialist nations and nationalities and their cooperation are essential for all-round progress. In turn, the progress of the nations and nationalities strengthens their ties. Both courses compose a dialectical unity harmoniously combined. They reflect the growth and fusion of the socialist nations into a single, friendly, international family. In the unity of our nations, in their fraternal friendship, lies the source of the indomitable strength of our society.

The Strength of Friendship

Friendship among the Soviet nations has withstood severe trials. It has been cemented by the blood shed in common struggle against the enemies of the Soviet people and by the work of all the Soviet nations in building socialism and communism.

The Uzbeks know from their own experience the effective strength of this friendship. It was with the help of other Soviet nations, above all the great Russian people, that they achieved statehood, developed economically and culturally and have moved on to the high road of socialist prosperity.

Friendship of the Soviet nations was manifested with particular force after the earthquake that struck Tashkent in 1966. The entire country helped rebuild the Uzbek capital.

Trains arrived in Tashkent on emergency schedules, bringing teams of skilled workers, machines and building materials from other republics. In the next three years the fraternal republics built thousands of houses in Tashkent at their own expense and with their own materials. They built whole districts, more than 10 million square feet of housing. Cultural and welfare institutions and municipal services were restored at the same time. The central government allocated large sums for reconstruction.

Owing to this assistance, an even more beautiful Tashkent came into being in a very short time. We have the beginnings of a subway now.

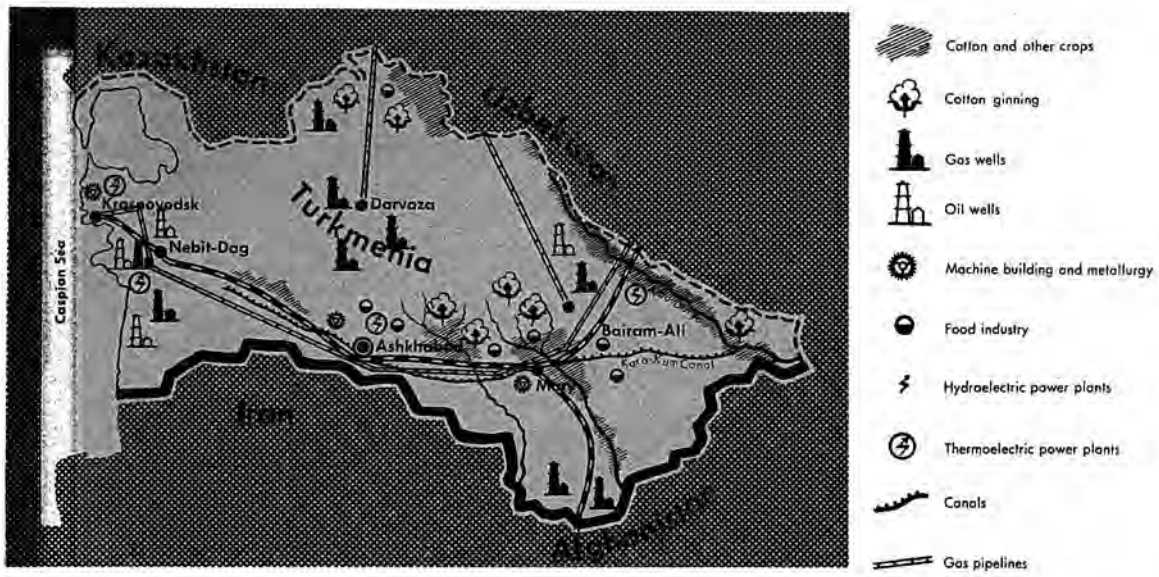
The Uzbeks have returned this fraternal assistance. In 1968, when the Turkmen city of Chardzhou was flooded and Kirghizia and then Daghestan were struck by earthquakes, the Uzbeks immediately came to their aid.

Mankind has never before known such close cooperation and mutual assistance. Fraternal ties between the nations are evidenced daily and in every sphere. The Soviet nations rally their efforts in economic development and jointly build large projects. Production cooperation is on a countrywide scale. Reciprocal deliveries of goods from one republic to another increase from year to year. There is no republic in the USSR that does not ship its goods to Uzbekistan, and every corner of the Union uses goods produced in Uzbekistan. The exchange of cultural values between socialist nations becomes richer year by year.

The friendship of the nations of our country is as strong as granite, pure as spring water, and hot and bright as the sun. It warms and inspires the Soviet people, fosters the feeling of a single family and multiplies their strength. The Soviet people cherish this friendship as the apple of their eye—that is where their future lies.

COLLECTIVE FARM MANAGER AND MEMBER OF PARLIAMENT

50 YEARS OF THE USSR 1922-1972



By Nikolai Yeryomchenko

Photographs by Vsevolod Tarasevich

"DRINK your tea, it's good for you." So we drank our tea.

In Turkmenia, an interview, a friendly talk, or any kind of conversation begin and end with tea.

Ogulgeldy Dzhumayeva, 58-year-old chairwoman of the Kalinin Collective Farm, talked softly, with unhurried conviction, and listened with the respect due a guest. She wore the peasant dress of her ancestors.

Ogulgeldy has managed this large, diversified farm since she was 30. The collective grows cotton and corn, produces raw silk (50 tons of cocoons a year) and breeds livestock (1500 cows and over 15,000 sheep). Its 5,526 acres of arable land are irrigated by a system of canals from the Amu Darya River. Last year's cash income was 3.6 million rubles.

The collective was just getting established 30 years ago, when the nazi armies invaded the Soviet Union. Although the farm was thousands of miles from the front, the war took its toll here.

The men left for the front, only the women were left to work the land. Everything they produced went to the front. Many of the women gave even their family treasures to the country's defense—the silver ornaments that Turkmenians hand down from parent to child.

A graduate agronomist, Ogulgeldy headed a team of silkgrowers for all five years of the war. Her husband and two brothers were killed at the front, and her daughter died. Since she was earning more than she could spend, Ogulgeldy took into her house the fatherless family of her younger brother and helped raise his children. She had the respect and affection of the village. The widowed and orphaned came to her for help and advice.

When the time came to elect their chairman, the collective farmers nominated Ogulgeldy. And even the old men, who still held to the Eastern tradition that women must obey their husbands and always follow the lead of men, accepted her as the only logical choice.

The newly elected farm board held a meeting immediately after the elections. There was only one item on the agenda—how to get the farm on its feet again. The granary was empty, and there was very little in the farm's bank account. Cotton and silk production were profitable, but to make them pay required time and substantial funds. They decided to borrow from the state.

The chairwoman suggested that before they got into cotton and silk, they begin with an item for which there was a more immediate demand—food. She had heard that a variety of hen at a poultry factory in the regional center did well in hot desert areas like theirs. There was a big demand for eggs and chicken meat, and the down and feathers would be a supplementary source of income.

In the very first year the poultry section made a handsome profit. The farm invested the money in its basic branch—cotton growing. Today cotton brings in two million rubles a year, and not only have the collective farmers paid back their government loan but they have forgotton how it feels to be in debt.

One morning during the harvesting, the chairwoman and I got into a car about 6 A.M. She was making her daily rounds. The distances on this farm are vast—some fields are 75 to 100 miles from the central village.

The driver asked whether we were going to the third team.

"I haven't seen them for five days, and that's a long stretch," Ogulgeldy told me. "They seem to be doing a good job."

There was a businesslike air about the section the third team was working in. They were unloading cotton from a row of trucks and spreading it to dry on a large asphalt platform.

A wisp of smoke hovered over the canteen chimney, which was covered with grapevines. Tea is always ready. If a collective farmer gets tired, he drinks tea. If he gets hot, he drinks tea. And for a break in the routine, he drinks tea. He also eats lunch at the canteen. It's paid for by the farm.

Ogulgeldy pointed out a self-service store at the field camp that stocked essential items. "This was organized by my Sona," she said with a smile.

Sona Mamedzhumayeva is the chairwoman's assistant in charge of cultural and social welfare facilities. Her job was created 11 years ago. The farm has six schools, a maternity hospital (with the medical staff

Continued on page 14

Four-fifths of the area of Turkmenia is desert. Surrounding this farm are sand and typical dune vegetation. Its 5,526 arable acres are irrigated by a system of canals from the Amu Darya River. Major crops are cotton and raw silk, and additional income is derived from the sale of eggs and poultry.



The regional branch of the Agricultural Machinery Supply Agency sends equipment to all parts of this widely dispersed farm—some fields are as much as 90 miles from the center. Chairwoman Dzhumayeva, an agronomist by training, is an authority on diversified farming and is frequently consulted by neighboring collective farms.





TURKMENIA

FACTS AND FIGURES

THE TURKMEN Soviet Socialist Republic has a population of more than two million. Like the other union republics, it is multinational, with Turkmenians accounting for 61 per cent, Russians 17 per cent, Uzbeks 8 per cent, Kazakhs 5 per cent and other nationalities 9 per cent of the population. Ashkhabad is the capital.

With an area of almost 193,000 square miles, Turkmenia spreads over more than two per cent of the Soviet Union and 40 per cent of Central Asia. Some four-fifths of this area is desert—the Kara-Kum Canal is consequently the republic's most important construction project. More than 520 miles of the canal have been built, and the water of the Amu Darya is already irrigating a half-million acres of desert land.

Turkmenia has a diversified modern economy. In the half-century of Soviet power total industrial production has multiplied by



Ogulgeldy Dzhumayeva has managed the Kalinin Collective Farm in Turkmenia's Kara-Kum Desert for 28 years. She also represents the people of her district in the republic's legislature.

TURKMENIA

FACTS AND FIGURES

40 times and the output of cotton fiber almost 11 times. There has been a corresponding growth in such prerevolutionary industries as oil and salt extraction, cotton ginning and vegetable oil manufacture. New large-scale industries include gas extraction, oil processing, chemicals and machine building. The Turkmen machine-building industry produces oil pumps, bakery and saltmaking equipment, and numerous other items both for domestic use and for export.

Turkmenia is one of the Soviet Union's biggest oil producers. It contributes more than four per cent of the national output of oil, although it has less than one per cent of the country's population.

The active involvement of women in production and government is one of the great achievements of socialism in the Central Asian republics. Turkmenia's economy includes more than 89,000 people with a higher and specialized secondary education, of whom more than 37,000 are Turkmen. Women, two-fifths of them Turkmen, make up 26 per cent of the specialists who have graduated from higher educational institutions. The number of students enrolled today is 27,300, and more than one-third (9300) are women.

About a third of the deputies to the local Soviets are Turkmen women. Ninety-six Turkmen women are deputies to the Supreme Soviet of the republic, and eight to the Supreme Soviet of the USSR.

Turkmenia has 133 students per 10,000 of population—more than France, Turkey, Pakistan or Iran.

Before the Revolution there was one doctor for every 10,000 people. Today there are more than 20 doctors and 100 hospital beds for the same number.

Upwards of 3,000 scientists are at work in the republic, 47 per cent of them Turkmen. The Turkmen Academy of Sciences, founded in 1951, has 21 full and 18 corresponding members.

There are 1,135 public libraries with more than six million books on their shelves. Some 400 books are published annually, 250 of them in Turkmen. Forty-eight newspapers are published, including 33 in Turkmen, and 33 magazines, including 12 in Turkmen. The republic has six theaters and a TV center.

At the farm's highly mechanized cotton receiving center, work goes on around the clock at harvest time.



COLLECTIVE FARM MANAGER AND MEMBER OF PARLIAMENT

Continued from page 8

paid by the farm), a kindergarten, nine nurseries, a palace of culture that seats 500, a movie house, a canteen, bakery, library, radio relay center and an art gallery. It takes more than a day to see it all. The farmers decided all these facilities needed somebody in charge, definitely a woman, and one with a college education. There are many college graduates on the farm. Most of them studied in Moscow, Ashkhabad and Chardzhou on scholarships from the collective farm. Sona is one.

Before lunch we covered 42 miles, making several stops. We visited fields where cotton-picking machines were operating briskly, then the melon patch and finally the farm where silk worms are grown. Watching Ogulgeldy, so unreserved and friendly with the collective farmers, and seeing their response in kind, it was hard to picture her as she looked in the portrait gallery of the farm's outstanding workers, wearing the Gold Star of a Hero of Socialist Labor, the Order of the October Revolution and the badge of deputy to the Supreme Soviet of the republic.

After lunch there was a discussion of the latest harvesting report. Agronomists, zootechnicians and economists exchanged ideas on the best and quickest way of getting the cotton crop in. The chairwoman listened, making an occasional note, asking a provocative question, giving a piece of advice.

"We bring in 119 tons of cotton a day," she told me on the way back. "I remember how hard it was my first year at the job. I slept no more than two hours a night, just like the men at the front. The country desperately needed cotton—we forgot about sleep. It's much easier now. The trouble is that my hands aren't used to the hoe any more. When I do a little hoeing in my garden in a spare hour, working with my grandchildren, my shoulders are stiff all day."

By way of explanation she added: "My daughter died during the war and I was left with Gyrmyzy, the daughter from my husband's first marriage. Gyrmyzy gave me eight grandchildren. The two older ones are at college, the others are with their mother."

"You get an annual vacation, of course?"

"Yes, 24 working days. I usually take it at the end of the year, when the season is over. I go to a spa nearby for treatment. We have a fine health resort in Turkmenia —Archman. I don't like to go far away because I miss everything—the farm, my grandchildren and the garden."

If you want to see an oasis in the desert, go to the Kalinin Collective Farm. It's hard to believe that this lush greenery, this intoxicating air and refreshing coolness is in the hottest part of the Kara-Kum Desert, where the summer temperatures reach 140 degrees in the shade.

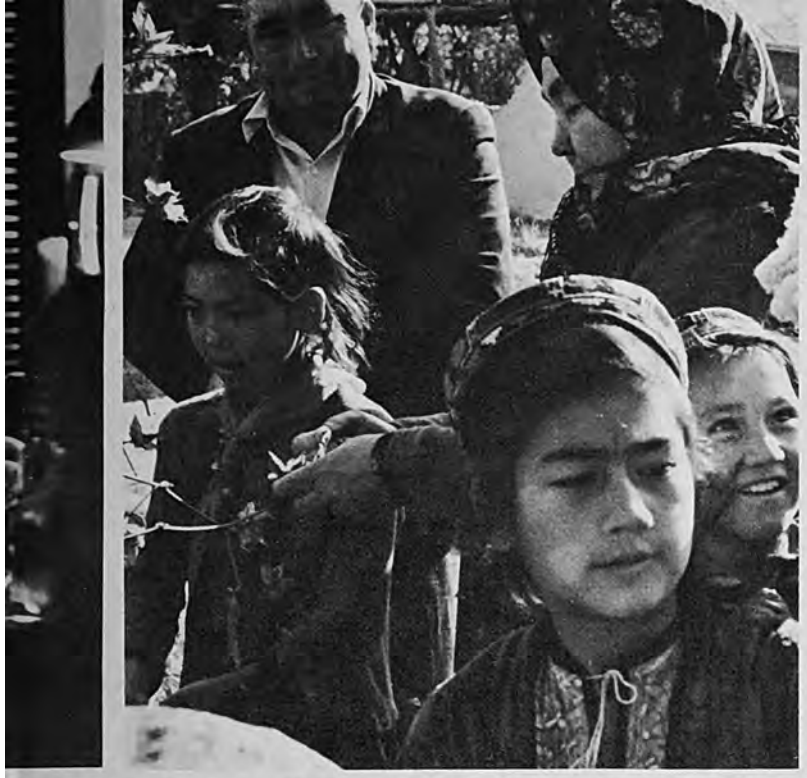
It is an Eastern custom to pass on from generation to generation the name of a person who grows at least one tree in the desert. On the Kalinin Collective Farm I met people whose collective will and energy had created a whole oasis. There are many such farms in Turkmenia now. "And there will be more," Ogulgeldy said confidently. "In time our whole republic will be an oasis."



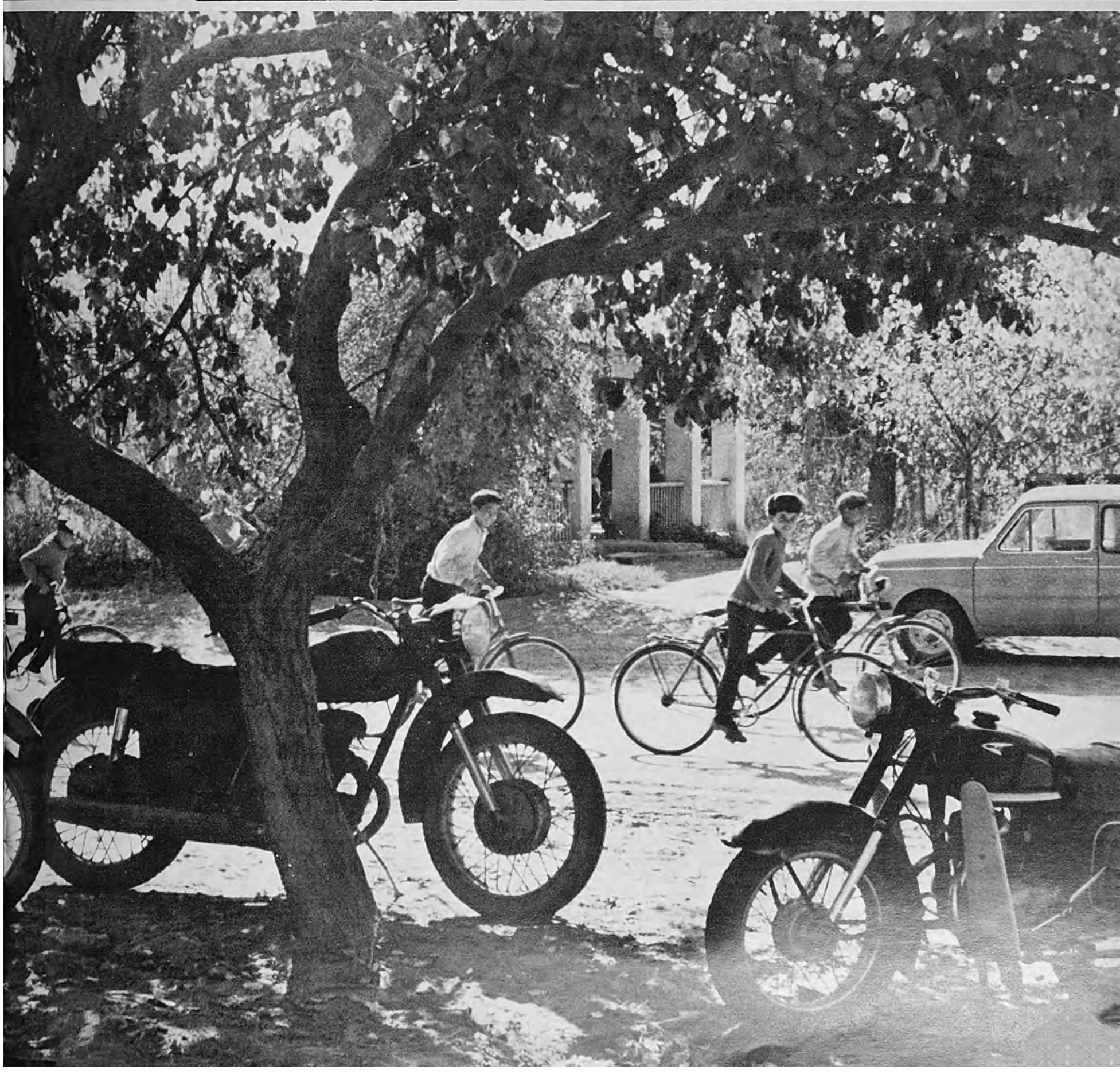




The reed that grows in abundance on the outskirts of the Kalinin Collective Farm makes good building material. Here manager Dzhumayeva checks an area for future cutting. Top left: She keeps in touch with outlying sections by radio. This is her daily progress report to the farm community. Top center: Cotton is very much part of the sensory and experiential world of these children. Ogulgeldy Dzhumayeva with a biology class. To her right is teacher Pirmi Annakuliyev. The farm has six general schools, a kindergarten, nine nursery schools, a library and a palace of culture, all supervised by the manager's assistant for culture and social welfare. Top right: With economist Khemra Khudainazarov, secretary of the farm's party organization. Right: A street in the main village. Visitors get the impression that everyone here travels on wheels attached to a vehicle of one kind or another.







Council for Mutual Economic Assistance

BANK OF FRATERNAL COOPERATION

Last year member countries of the Council for Mutual Economic Assistance set up the International Investment Bank (IIB) with headquarters in Moscow. At its most recent meeting, the IIB Council voted loans for the construction, expansion and modernization of several large industrial projects in CMEA countries.



These include the Tatra Auto Plant in Czechoslovakia, machine-building plants in Poland and the German Democratic Republic, and railroad car and chemical plants in Rumania. Our correspondent interviewed Vladimir Vorobyov, IIB board chairman, about the bank's role in the economic development of the socialist nations.

Q: What achievements would you point to especially during this first year of operation?

A: Our bank has a number of things to its credit. Specifically, we have solved problems of procedure, and established policy on formation of capital, on interest rates and granting of credit.

The following countries are members of the bank: the People's Republic of Bulgaria, the Hungarian People's Republic, the German Democratic Republic, the Mongolian People's Republic, the Polish People's Republic, the Socialist Republic of Rumania, the Union of Soviet Socialist Republics and the Czechoslovak Socialist Republic. IIB activities are interrelated with measures for continued development of socialist economic integration and application of the Comprehensive Program adopted by the Twenty-fifth CMEA Session.

The establishment of the International Investment Bank was an objective necessity for the CMEA countries. The steadily rising level of their economic development requires closer cooperation and collaboration on major economic projects. The bank will make it possible to concentrate large resources and use them effectively in the common interest.

Q: Judging by the IIB Council's decision, the main task of the bank is to make loans for capital construction. Is that right?

A: Yes. We grant credit for the construction and modernization of projects to promote international socialist division of labor, specialization and cooperation in production, and expansion of the output of raw materials and fuel. In other words, the bank's primary function is to make loans for the construction or modernization of enterprises whose products are in growing demand by the member countries.

In this connection we should say that, as before, socialist countries will be able to make bilateral business arrangements with other states and international organizations.

Q: What are the terms for IIB credits?

A: The first consideration is that at least several of the member countries must be interested in the expansion or construction of projects for which credits are asked. In certain cases, credits will be given for projects that will help individual countries to make economic progress. Credits are granted for the construction of enterprises that will ensure high technological standards and profitability, and the manufacture of high-quality products at prices on a par with the world market. Studies by IIB experts determine whether the projects for which credits are asked meet these conditions.

Loans are made for a period of up to 15 years. Repayment begins as soon as the new enterprise begins to function or the modernization is completed. For medium- and long-term loans in transferable rubles* the interest rate is four to six per cent, which is much lower than international monetary market rates. For credits in freely convertible currencies, the interest rate is commensurate with those prevailing on international markets.

Q: To be able to grant credits, the International Investment Bank must have assets. How are they formed?

A: Our bank has substantial assets, both statutory and reserve funds. Special funds may also be formed.

The bank is authorized to receive commercial and bank credits and medium- and long-term deposits, and float interest-bearing bond loans on the international capital market.

The IIB statutory fund was fixed at 1.052 billion transferable rubles. Seventy per cent of the total is contributed in transferable rubles and the remainder in freely convertible currencies or gold. The size of a country's contribution to the IIB statutory fund is determined by its share in intra-CMEA trade, that is, the contribution is determined by the size of commodity transactions.

Q: What body directs IIB activities?

A: In general, our activities are guided by the council, which includes representatives from all the IIB member countries. Irrespective of its contribution to the statutory fund, each country has one vote on the council. A council decision on a major question requires a unanimous vote.

Day-to-day work is supervised by the board, consisting of the board chairman and his deputies, appointed for a term of five years. They are citizens of IIB member countries. The bank staff is recruited in the same way.

Q: What was the business world's reaction to the establishment of the International Investment Bank?

A: There was a lot of comment, mostly favorable. Naturally enough, we started doing business with the central and other banks of the socialist countries first. We are confident that these business relations will continue to grow.

We have also established contact with the leading banks of other states and corresponding international organizations.

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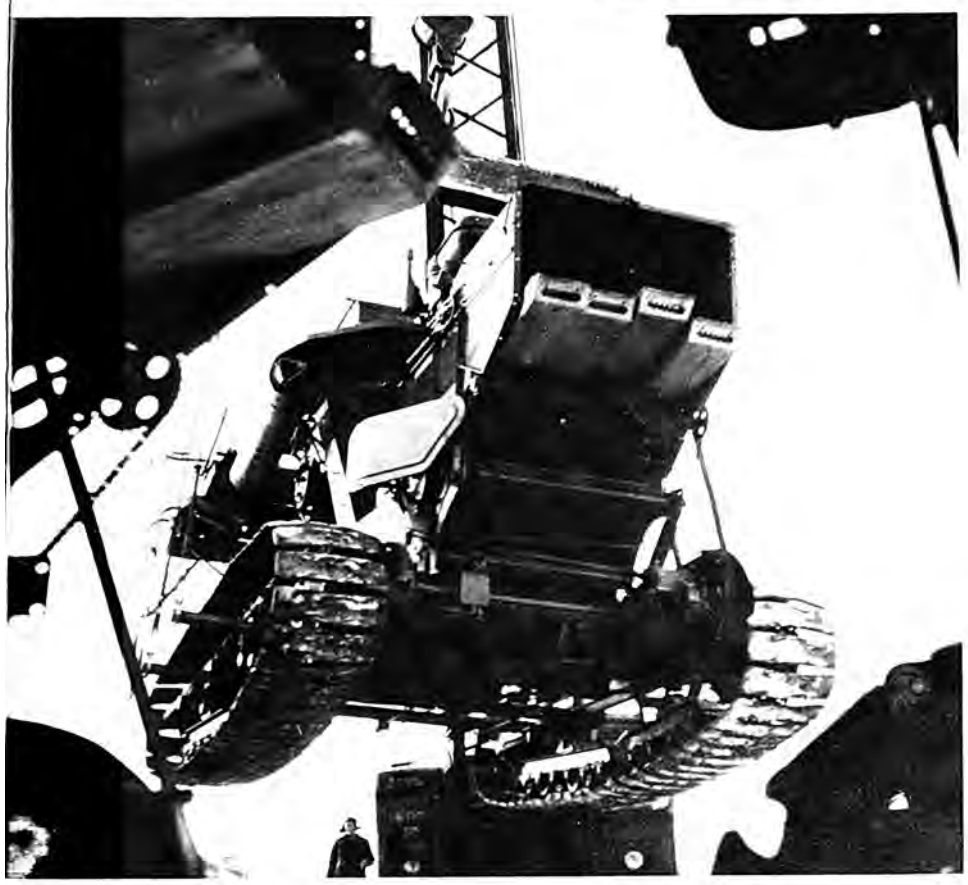
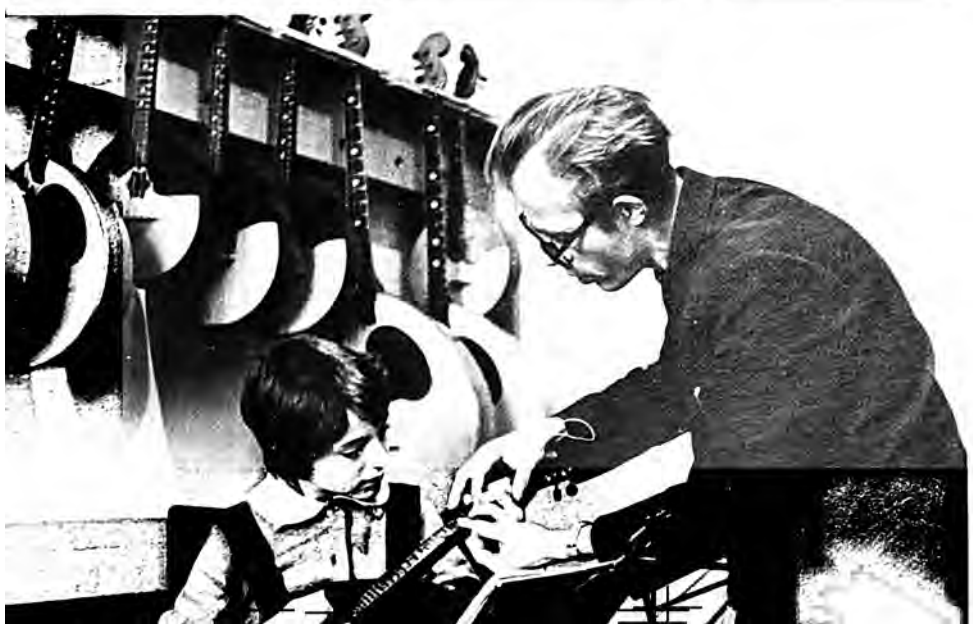
* The transferable ruble is the CMEA bookkeeping money used, since 1964, to settle accounts for transactions within the CMEA framework. Such settlements are made by transfers between accounts at the request of the banks involved. The gold content of the transferable ruble is 0.987412 grams. There is no transferable ruble in the form of paper money.









Thirty-eighth Anniversary of Jewish Autonomous Region

By Lev Shapiro

First Secretary, Birobidzhan Regional Committee of the Communist Party

THE BIRTH of the Jewish Autonomous Region dates back to March 28, 1928, the day the Soviet Government announced its intention of providing free land in the Amur area of the Soviet Far East for the resettlement of Jewish working people. It would, it said, give settlers everything they needed to develop their newly acquired land.

The Jewish Autonomous Region became an administrative entity on May 7, 1934. It has an area of 14,000 square miles, five administrative districts, two cities, a dozen towns and about 250 villages. Its population of 178,000 is composed of Jews, Russians, Ukrainians, Byelorussians and other nationalities.

In 1967 the Jewish Autonomous Region received the Order of Lenin, the country's highest award, for "outstanding progress in economic and cultural development."

There are nearly 50 large enterprises in the region producing combine harvesters, power transformers, lumber, tin, cement, lime, paper, furniture, knit goods, clothing and other consumer items.

Machine tools, electrical engineering, mining and building materials play a key part in our economy.

Dalselmash (Far East Farm Machinery) is the only plant in the Soviet Union making self-propelled caterpillar rice and silage crop harvesters, which are in great demand both at home and abroad.

Capital investments have been growing year after year.

The Jewish Autonomous Region has 23 state farms, two large collective farms, a large poultry farm, experimental agricultural and land-improvement centers, and four branches of the Farm Machinery Supply Agency. Farmland totals 1,263,000 acres, nearly half of it arable. The main crops are grain, soybeans, potatoes and vegetables.

Agricultural personnel is trained at the Birobidzhan Technical School and the rural vocational schools.

The Testament of Lenin Collective Farm, formed in 1932, is typical of our agricultural progress. It now consists of 320 households with 630 working members and owns 65 tractors, 25 combine harvesters and 35 trucks. It has 2,000 head of cattle, including 900 milch cows.

The collective farmers get a good return for their labor. And with its very healthy bank balance, the farm is able to do quite a lot of building. It now has three kindergartens and nurseries, three clubs, libraries, a hospital and health center, and five schools. Well over 200 new homes have been built in the past few years in Waldheim, the farm village.

The chairman of the farm, Vladimir Peller, is a deputy to the USSR Supreme Soviet and a Hero of Socialist Labor.

There are plenty of clubs, libraries, movie houses, music schools and sports centers. We have eight specialized secondary schools. Every village school has its own club and film projector.

There are two newspapers—*Birobidzhaner Shtern,* in Yiddish, and *Birobidzhanskaya Zvezda* in Russian.

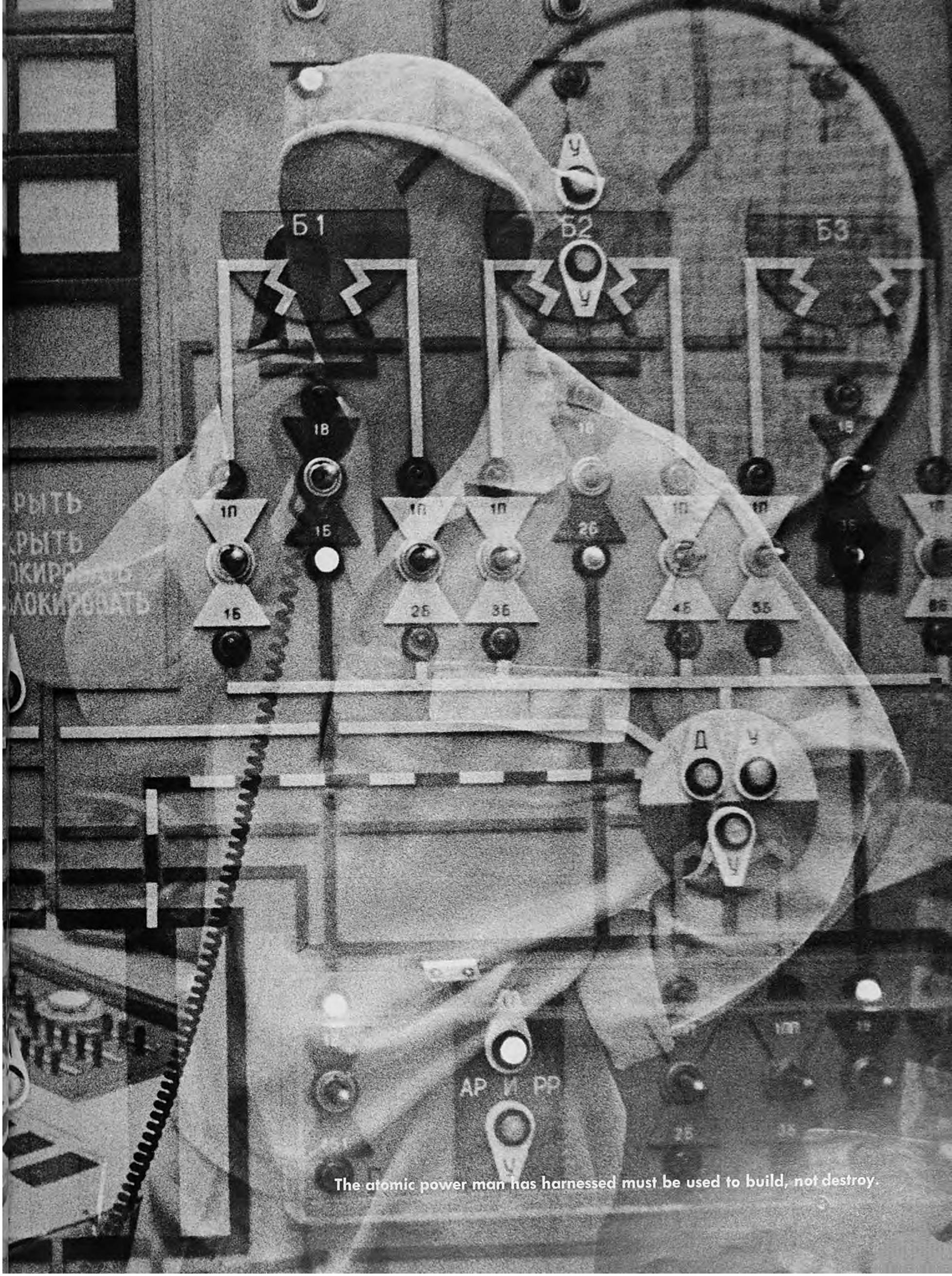
The local radio station broadcasts in both Yiddish and Russian. TV programs are relayed from Khabarovsk, Moscow and elsewhere, besides Intervision programs.

The Shalom Aleichem Library has thousands of books in Yiddish, Russian and other languages of the USSR, magazines and periodicals from abroad and, of course, a good selection of our own writers, like Isaac Bronfman, Lyuba Wasserman, Buzya Millar and Leonid Shkolnik.

As for the region's Yiddish and Russian theaters, their fame has spread far beyond our own boundaries for their excellent productions of Jewish, Soviet and foreign plays.

Top to bottom: The Central Hotel in Birobidzhan, Jewish Autonomous Region. The Amateur Jewish Theater performances are enjoyed by all nationalities. Dalselmash in Birobidzhan is the only plant producing these harvesters. Teacher Vyacheslav Belousov and pupil Sofa Zeltser at the music school.

THE BYELOYARSK NUCLEAR POWER STATION



The atomic power man has harnessed must be used to build, not destroy.

In the next 10 to 12 years the Soviet Union will build nuclear power stations with a total capacity of 30 million kilowatts. Those now under construction, as scheduled by the Ninth Five-Year Plan, will have a capacity of six to eight million kilowatts by 1975.

IN 1954 the world's first nuclear power station, with a capacity of 5,000 kilowatts, started operation at Obninsk near Moscow, and it gave the necessary impetus to the development of nuclear power engineering. At present, 80 nuclear stations operate the world over. Their aggregate capacity is 25 million kilowatts.

Why the interest in this field?

Conventional thermal power stations burn organic fuels, mainly coal, which has to be extracted and transported, sometimes over large distances. Soviet economists say that the construction in the USSR of nuclear power stations with a capacity of 30 million kilowatts should make it possible, in the next few years, to reduce capital investments in the coal industry by three billion rubles. To generate that much electric power, thermal stations would need 110 million tons of coal a year, and that would require the construction of new mines and railroads solely for fuel transport.

Hydroelectric resources are not inexhaustible, nor are they available everywhere. Besides, hydroelectric stations require high-cost dams. The transportation of power over long distances also involves great expense.

There are vast industrial or developing areas that have no natural power resources—many industrial centers, for example, in the European part of the country, districts in the Far North and the Transcaucasian and Central Asian republics.

In Zarechny township, surrounded by Ural forests, the Byeloyarsk commercial nuclear station is being expanded. Its original section began operating in 1964. The present capacity of its two units is 300,000 kilowatts.

The Byeloyarsk station is also a research base for the nuclear power industry. The research spirit dominates here. You see it in the laboratorylike cleanliness and austerity of the buildings, in the dress of the staff and in the presence of scientists, both local and from other cities and countries.

A massive, automatically opened door leads to a reactor room. Under the floor, covered with heavy cast-iron plates,is the reactor. In that atomic boiler burn 998 uranium logs, 55 tons of uranium. That is enough fuel for several years. On the wall are reserve uranium channels that look like giant pencils.

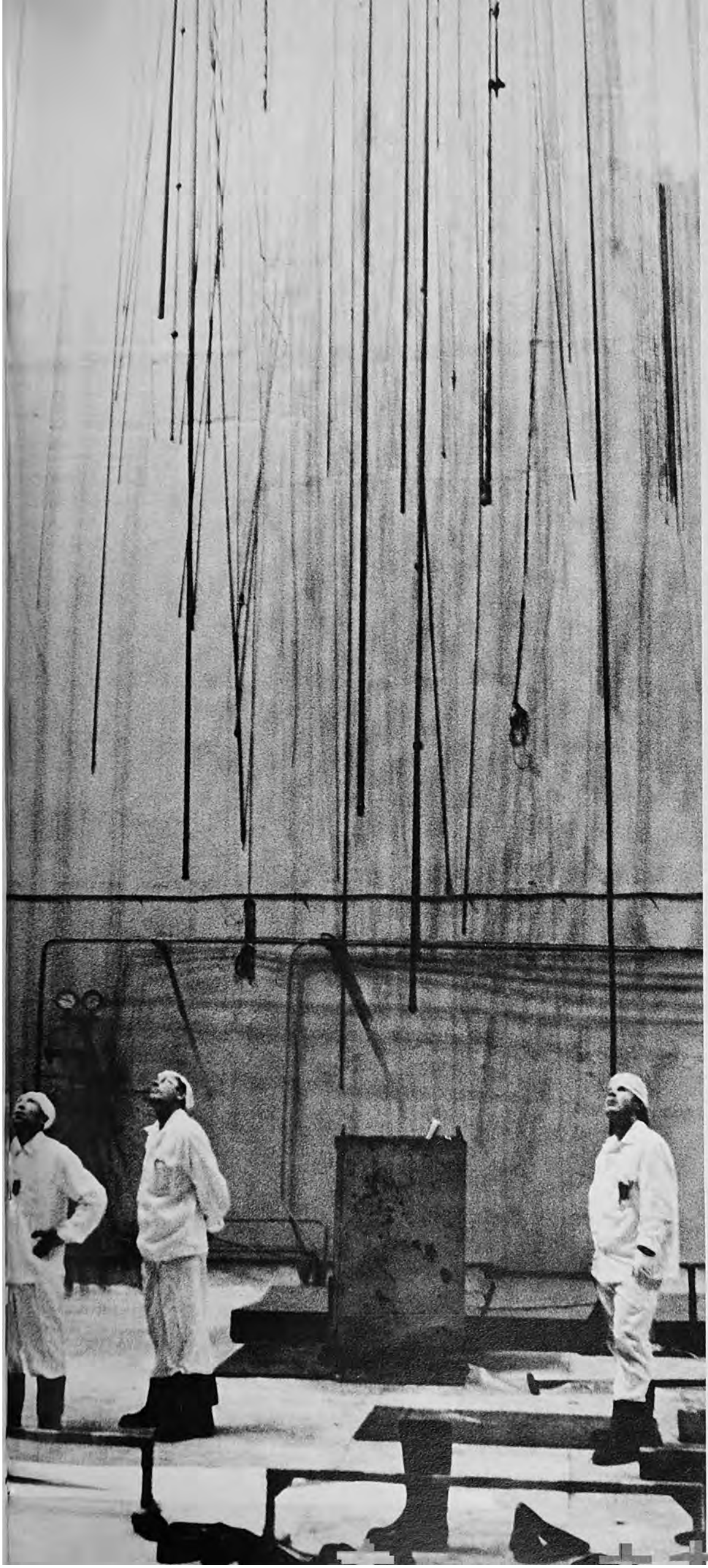
Surgical cleanliness is the rule here. Because of the strict protective care, the nuclear power station is no danger to either the people who work there or those who live in the area. Nor is it a threat to the surrounding biological environment, unlike conventional thermal electric stations, which pollute the atmosphere and cover nearby areas with ash and coal slag.

According to the report of a special commission, "The long operation of the Byeloyarsk Nuclear Power Station shows that it does not adversely affect the radiation level of the surrounding areas." Specialists maintain that a nuclear station of the Byeloyarsk type can safely operate in a densely populated city—that it can successfully solve the problem of the relationships between this industry and nature.

The third Byeloyarsk unit, now under construction, will have a capacity of 600,000 kilowatts. This unit differs in principle from the other two. When nuclear fuel is burned in its fast-neutron reactor, it not only releases power, but also produces new fuel. The amount of fuel produced is greater than the volume initially fed into the reactor because the unit can transform the noncombustible variety of uranium, uranium-238, into nuclear uranium—plutonium. It is worth noting that in slow-neutron reactors operating at existing nuclear stations, the combustible part of uranium, uranium-235, constitutes only 17 pounds per ton. The operation of fast-neutron reactors will permit the use of an enormous amount of uranium that could not be employed earlier, and increase nuclear fuel stocks roughly 100 times.

The brilliant work in this field by Soviet scientists since 1949 has helped ease the world's fuel hunger. However, experience in the operation of commercial installations is needed to develop nuclear power engineering. Byeloyarsk's third unit will provide that experience. As time goes on, stations with fast-neutron reactors will assume greater relative importance in nuclear power production. This is where the future lies.













Byeloyarsk is more than an operating commercial power station, it is a research base for the nuclear power industry. Above is the reactor room of the station's first section, and above that, the computer room. Left: Checking for nuclear contamination. Far left: Preparing to change a fuel channel in the reactor room. Below is the control desk for the second section. Opposite page: The reservoir near the station brings anglers from all over.





FREED OF THE BLACK VEIL

A new generation of Tajik women make up 43 per cent of the republic's educated specialists and 40 per cent of its scientific workers.

By Makhfirat Karimova
Vice Chairwoman of the Tajik Council of Ministers

Photographs by Georgi Zelma

I RECENTLY FLEW to Leninabad, the city of my childhood and youth. There I met the voters of the Nau electoral district, who for the fourth time have elected me a deputy to the Supreme Soviet of the Tajik Soviet Socialist Republic.

After four times, there should have been nothing for me to be anxious about. After all, I had met the people often, made reports to them, told them what we had discussed at the Supreme Soviet sessions and what decisions had been made. But I guess this business of elections is something you just don't get used to. Each time I'm overcome by the same feeling I had when I first walked into a classroom in Leninabad as a teacher. That was 30 years ago, and I had just turned 17.

How different the Leninabad of today is from the city I remember. Now the tall buildings stretch along the shore of an artificial sea, created by the Friendship of Peoples Hydroelectric Power Station. The city is a model of the enormous changes that have taken place in the years of Soviet power. Our ancient Tajik land has made the leap from feudalism to socialism, from deprivation of rights, from oppression and backwardness to economic and cultural progress, the effects of which are very clear: Goods marked "Made in Tajikistan," for example, are now exported to 42 countries. Before the October Revolution, even nails had to be imported.

And one of the greatest achievements is the change in the lives of women.

I sometimes wonder what my life would have been like had I been born 50 years earlier. I know the answer. Like my mother and thousands of her contemporaries, I would have remained illiterate. I would have been given in marriage as a young girl to a man I did not love. I would have had to hide my face behind a black veil, the *paranja.*

But I was lucky! I am the same age as my republic, which three years from now will be 50 years old. In that half-century a new and different generation of Tajik women emerged, women with equal rights and with every chance for happiness.

They are active in all areas of the national economy. They constitute 45 per cent of the work force, 43 per cent of the experts with a higher and specialized secondary education, and about 40 per cent of the scientific workers. Some 350 women hold doctor or candidate of science degrees. Many are well-known government officials and party functionaries, managers of major enterprises and collective farms, directors of educational institutions.

Recently a conference of women, attended by more than 800 Tajik professionals, was held in Dushanbe, our capital.

Among the delegates was Adolat Kasymova, who is a deputy to the USSR Supreme Soviet, the secretary of the standing committee on trade and community services of the Soviet of Nationalities and director of the Gulistan Clothing Factory, one of the largest in Central Asia.

Kasymova was a pupil of mine. I remember 18 years ago—I was then principal of School No. 10 in Dushanbe—this modest girl came to me just graduated from secondary school. I can still see the braids on her head and hear the ringing, childish voice, which firmly and decisively declared: "I want to be a textile engineer."

And so she left for Moscow to study at the Textile Institute. Now she is head of an enterprise employing thousands.

Today about 6,000 women are directors or deputy directors of industrial plants and construction projects, engineers, chiefs of sections, shops and shifts.

Deputy Minister Saboat Abdullokhojayeva is known and respected in the meat and milk industry, Deputy Minister Rosa Knyazeva in light industry. Baraka Babayeva is director of a clothing factory in Leninabad, Makhbuba Sadykova of the Isfarinsk Embroidered Goods Factory. With all their responsibilities, they remain loving wives and mothers.

The state does everything to make our work easier. It assumes a substantial portion of the care of our children, allocates large funds for kindergartens and nurseries, community services, public catering facilities. In the last five-year period, the volume of community services more than doubled (2.6 times) and in the rural areas it more than tripled (3.8 times).

My parents were peasants. I remember their cracked hands, bent backs, burnt faces, their primitive implements—the hoe and the wooden plow with which they tilled the soil.

Water was the most precious possession. It was guarded like a treasure. My parents told me how in arid years they dreaded the winter, how their brothers and sisters died of starvation.

Today our republic is crisscrossed with canals and irrigation systems, artificial rivers, which the Tajiks could only dream of in the old days. In 1961-1970 alone 358,150 acres of irrigated land were cultivated, and water was brought to 1.5 million acres of pastureland. Compared with 1928, the beginning of the first five-year plan, the yield of cotton, our main crop, has increased by nearly 20 times.

Over 20,000 tractors, hundreds of grain-harvesting combines, cotton-picking machines and trucks are now at work in the fields of our collective and state farms. Women agronomists, cattle breeders, team leaders and farm chairmen are common.

At the conference in Dushanbe, Inajon Baimatova, Heroine of Socialist Labor and chairwoman of the Moskva Collective Farm in Kanibadamsk District, described her collective farm, where the cotton yield is a high 1.3 tons per acre.

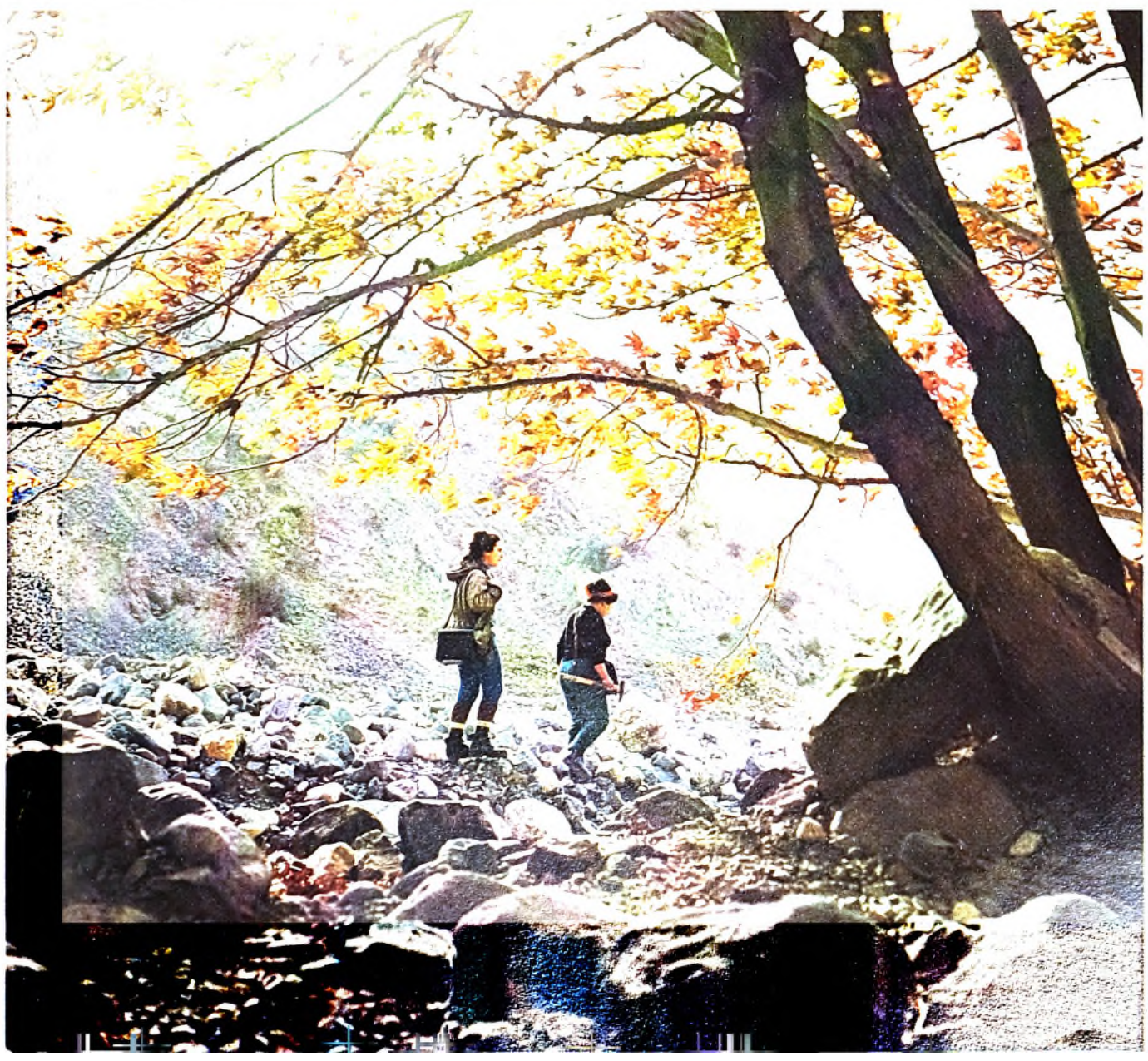
Professor Saadinisso Khakimova, a corresponding member of the USSR Academy of Medical Sciences, gave her impressions of a trip to Austria. Her Austrian colleagues heard from her how health services are organized in our country and our republic and about the work done in obstetrics and gynecology, particularly in hormonal regulation of the reproduction function, which is Professor Khakimova's specialty.

Our republic's birth rate is one of the highest in the world. We have set up a broad network of women's and children's hospitals and consultation clinics and have sharply decreased child mortality.

Compared to prewar 1940, the number of maternity homes has increased 500 per cent. We have more than 200 women's and children's consultation clinics.

Motherhood is honored in our country. Women with five and more children are awarded orders and medals and grants in aid. In 1970, for example, 24.3 million rubles were spent by the republic on grants for mothers of large families and for unmarried mothers. Women get a four-month ma-





Left:
High school students Zukho Safarova and Muslima Khakhanova.

Bottom:
Geologists Larissa Panianu and Mukhabat Pulatova on a field trip.

ternity leave on full salary, and there are special privileges for nursing mothers. It is universally known now that in the Soviet Union all kinds of medical services are free. We can't imagine how it could be otherwise.

In Tajikistan public health is almost exclusively in the hands of women, who comprise 71 per cent of the staffs. Such doctors and candidates of science as Kubrika Khasanova, Makhkam Pulatova, Maryam Mukhamedkulova, Shair Yusupova, Muazam Niyazmukhamedova and many others are known not only in our republic but throughout the country. The Deputy Minister of Health is Khosiyat Adbushukurova.

But let us return to Professor Khakimova. She is my age, and her career is not untypical. She went through school, then a medical institute and at 33 became a doctor of science. Today Khakimova has 50 major scientific papers to her credit. Among her pupils are two doctors and 14 candidates of medical science.

Her son Khakim is a Candidate of Science in mathematics, her daughter Jilbar a student at the Central Secondary Music School of the Moscow Conservatory.

My daughter Tajinisso recently graduated from a medical institute and will soon become a mother. It is my fond hope that she will measure her life by Saadinisso Khakimova's.

The conference heard another remarkable woman, a teacher, Heroine of Socialist Labor Mukhabbat Makhmudova.

Five centuries ago the great Tajik writer and philosopher Abdurakhman Djami said that it was not given to everyone to be a teacher, to every mountain to be a Pamir peak, to every fragment of

TAJIKISTAN

FACTS AND FIGURES

THE TAJIK Soviet Socialist Republic has a population of 2.7 million and an area of 55,200 square miles. Its capital is Dushanbe. It is the most mountainous of the Soviet republics—only one-tenth of its territory is habitable.

Cotton is the major crop, and the most valuable fine-staple varieties are grown.

The republic has built a large-scale industry with more than 100 branches. In the past 40 years industrial output has multiplied more than 50 times. Among other things, Tajikistan manufactures parts for farm machinery, automatic looms, electrical equipment and cotton gins.

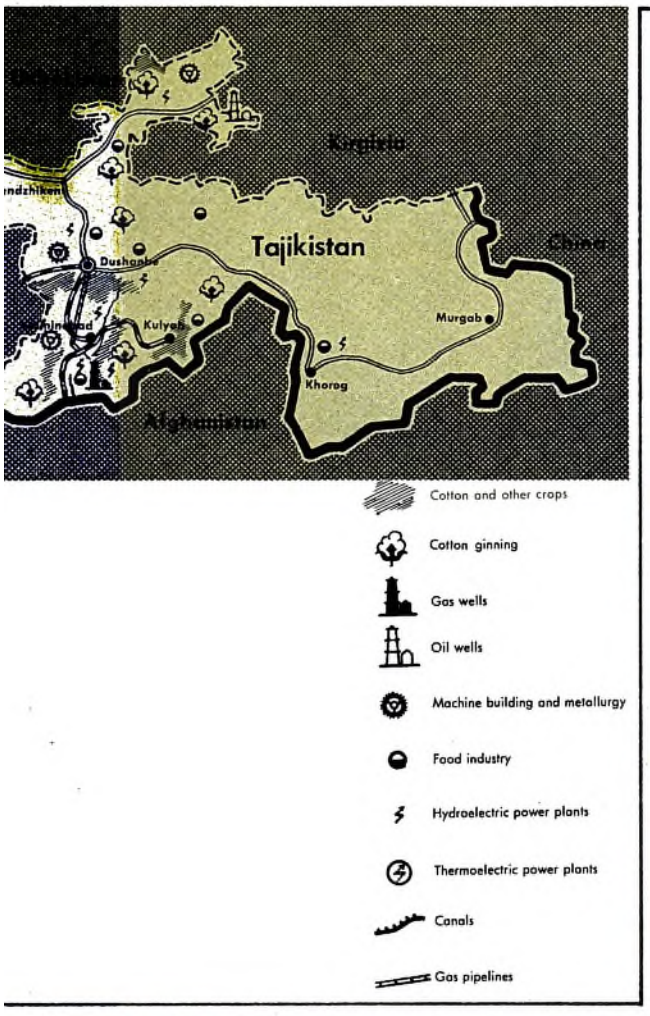
There are vast electric energy resources, accounting for approximately half the total in Central Asia. The republic's power stations generate 3.2 billion kilowatt-hours of electricity annually. The power-generating capacity of Tajikistan will grow very considerably with the opening of the Nurek hydroelectric station, whose design capacity is 2.7 million kilowatts.

Half a million children attend the republic's 3,000 schools. In addition to Dushanbe University, there are seven other schools of higher education and 30 specialized secondary schools.

In the Tajik Academy of Sciences more than 3,000 scientists conduct research in astronomy, medicine, economics, geology, chemistry, biology.

The republic's population includes 1,375,000 women. More than 8,000 have a higher education and 190,000 a specialized secondary or an incomplete higher education.

One hundred and four women have been elected to the Tajik Supreme Soviet and 8,567 to the local Soviets.









Zulfia Bakhritdinova, Honored Art Worker, teaching folk embroidery at the Leninabad Pedagogical Institute.
Left: Teacher Mukhabad Makhmudova, Heroine of Socialist Labor. Tajikistan has 800,000 children in its 3,000 schools.
Far left: Tuidi Babiyeva, from the city of Kulyab, won the republic's women's chess crown. She is the mother of 13 children.



stone in a cliff to be a precious ruby.

In her more than 30 years of teaching, Makhmudova has guided many pupils along the road of life. Some of them were at the conference—head physician of a maternity home Sharofat Khaidarova, engineer-technologist Salima Tursunova, Candidate of Technical Sciences Yedgar Salymova, the young Tajik poet Gulrukhsor Safiyeva. And how many more besides—workers, collective farmers, physicians, teachers and actresses—warmly recall their very first teacher.

In one of the issues of the magazine *Vestnik Prosveshcheniya (Educational News)*, which was published before the Revolution in St. Petersburg, czarist officials estimated that to end illiteracy in Central Asia, including Tajikistan, would take 4,000 years. We did it in less than 50. Today we have nearly 3,000 general-education schools attended by about 800,000 children and 44 higher and specialized secondary schools. The number of students per 10,000 of the population is more than 145. Every third citizen of our republic is studying.

Women are in government. In the Supreme Soviet of the Tajik Soviet Socialist Republic more than a third of the deputies are women. In the 1971 elections to the local Soviets, 9,670 women were elected, more than 45 per cent of the deputies. The mayors of many cities, including such large ones as Kulyab, Ura-Tyube, Khorega and Pendzhikent, are women.

For the finishing touch to the picture I would like to add to the list: Vice President of the Presidium of the republic's Supreme Soviet Nizaramo Zaripova; Central Committee Secretary of the Tajik Communist Party Ibodat Rakhimova; Chairman of the Tajik Society for Friendship and Cultural Relations with Foreign Countries Khamro Tairova; First Secretary of the Central Committee of the Young Communist League of Tajikistan Guljikhon Bobosadykova.

When I think about our Tajik women, I am reminded of the inspired verse of our national poet Mirzo Tursun-zade:

Very well the fruit of her labor we know.
Is it good that we're proud of her? Yes, it is so.
There where mothers are worshipped and wives are esteemed
Human beings are valued as treasures supreme.

A young Tajik family. The republic has a population of 2.7 million, a little less than half of it women. Tajikistan's birth rate is one of the highest in the world. A large network of women's and children's hospitals and clinics has cut child mortality sharply. Women who have borne and raised five children are honored with medals and orders and entitled to grants-in-aid.



The Presidium of the republic's Supreme Soviet. In the chair is Nizaramo Zaripova.



Oishi Sarvarova, mayor of Kulyab, talks with Dzhonatan Yusupova, the mother of 13, and Alkozbi Rakhmanova, the mother of 11.

Architect Saira Isayeva.





Professor Saadinisso Khakimova lecturing to a class of medical students.

Right: Dzhumagul Nazarova, crane operator, at the construction site of the Nurek Hydroelectric Power Station.

Getting the cotton in. Zebi Khudaiberdiyeva and Dzhant Tadzhibayeva, below, operate combines.







Textile worker Shabodat Makhkanova with her newborn son.

PLACES SHALOM ALEICHEM LOVED

"To the level of mankind's greatest names we raise the illustrious name of Shalom Aleichem as a symbol of friendship, internationalism and humanity against cannibalism and obscurantism."
Alexander Fadeyev



By Solomon Rabinovich

Photographs by Boris Korobeinikov

LOOKING THROUGH an issue of the Jewish-American newspaper *Freiheit* one day, I came across these lines:

"In New York hundreds of thousands of people saw Shalom Aleichem off on his last journey. But in New York there are no signs that the city was so important in the great writer's life. There is no memorial plaque on the street in the Bronx where Shalom Aleichem lived. No street in New York bears his name. How do we explain that?"

These poignant words prompted me to set out on a sentimental journey to the places in the Soviet Union where Shalom Aleichem lived and wrote his immortal stories. How do we preserve his memory?

Borispol, Voronkovo, Pereyaslav-Khmelnitski

Setting out on my tour, I took with me Shalom Aleichem's autobiographical novel *The Great Fair,* in which, as he said, he put down what was closest to his heart. As my plane circled over Kiev before landing, I read again: "Borispol—a new town, to be more exact, a new village, a big village. The houses are the same as in Voronka, and the people are the same—only their noses are different."

"We have landed at Borispol Airport. Please prepare to leave the plane," came the voice of the stewardess.

I found myself in a large square flooded with summer sunlight. As far as the eye could see there were tall, modern houses. This was my first visit here—I had always traveled from Moscow to Kiev by train. I cannot draw any comparison with the past. But where was the village and where were the houses Shalom Aleichem wrote about?

From old-timers I learned that Borispol was rebuilt after the war. Today it is a good-sized town. I wandered across the clean streets and shady squares, and people pointed out to me the palace of culture, the kindergartens, the restaurant, the hotel.

"Kiev is close by, but we rarely go there —only on business. We have everything we need right here," said a lean, elderly man as he snipped off some dead branches in his garden.

I introduced myself.

"My name," he said, "is Trofim Nichurenko. I'm a teacher."

"Is Voronkovo far from here?"

"Not at all. What brings you there?"

"It's where Shalom Aleichem spent his youth."

"I'll tell you something: When he was a boy, Shalom Aleichem—his real name was Solomon Rabinovich, as you probably know—used to run here to Borispol almost every day with a gang of madcaps like himself. Old-timers remember how he loved our thick forests and our orchards. That's one of the reasons we feel he is part of us. As for Voronkovo—Shalom Aleichem calls it Voronka—it's no longer the small town he knew, but a big village. You'll see what I mean when you get there."

Shalom Aleichem's summer cottage in Boyarka, near Kiev. Center: A group of American tourists visit the house in Kiev where he lived. Bottom: Maybe the kind of Kiev chitchat he wrote about with such affectionate wit.







On my way to Voronkovo, sitting comfortably in the bus, I again opened my volume of Shalom Aleichem. "Voronka, if you'd like to know, is in Little Russia, in Poltava guberniya, near the old historical town of Pereyaslav. . . . Not Kasrilevka, but Voronka. Write that down! . . . It's a small place, this Voronka, but it's beautiful, with a charm of its own. You can walk the length and breadth of it in half an hour if, of course, you have the strength and the legs. It has no railway, no harbor, no noise —and only two yearly fairs, designed specially for Jews to let them buy and sell a little and earn something. A small, a very small town, but with so many wonderful tales and legends that they could fill a whole book."

The Voronkovo of Shalom Aleichem's day was a typical provincial town in the Jewish Pale, a little town where, as the writer put it, Jews "have been packed as closely as herrings in a barrel and told to increase and multiply." Shalom Aleichem immortalized his native town to which he gave the generic name Kasrilevka (from the Jewish name Kasril, or Israel). "A *Kasrilek*," he wrote, "is not just an ordinary pauper . . . he is a man who does not allow poverty to degrade him. He laughs at it."

What did I see in Voronkovo?

It is a large village, like many throughout the Ukraine. Everything in it is new, all the houses and all the public buildings. During the war, the whole village was burned down, and the people who didn't leave in time died a terrible death.

In today's Voronkovo is a large state farm that supplies Kiev with fresh vegetables and dairy products. The villagers are Ukrainians, Russians and Jews.

At the Voronkovo library I found a thick volume that turned out to be a chronicle compiled by the village students of local lore. Some of it is devoted to Shalom Aleichem's boyhood.

Leaving Voronkovo, I traveled on a road cutting through a luxuriant forest. In about an hour and a half I arrived in Pereyaslav. This was where Solomon Rabinovich was born. Here he finished the district school, acquired his background in Russian and Ukrainian culture and wrote his first stories.

In May 1954, on the three hundredth anniversary of the Ukraine's unification with Russia, Pereyaslav was renamed Pereyaslav-Khmelnitski. In Pereyaslav Taras

Shevchenko wrote his famous *Commandment* and did a number of paintings and sketches. Nikolai Gogol lived and worked here in the first half of the nineteenth century. In this town he collected material for his narrative *Viy*.

The town is proud of Shalom Aleichem. One of the streets is named after him. Every year, on his birthday, literary evenings celebrate his life and work. The local museum has a display of his works.

In the past, as Shalom Aleichem describes it, Pereyaslav was a town where people lived in hopeless penury—they were hand-to-mouth tailors, cobblers, shopkeepers. Today it is a cultural and industrial center with factories, dozens of secondary schools, a music school and a teachers institute, clubs, sports stadiums, hospitals and kindergartens. That is Shalom Aleichem's native town today.

5 Krasnoarmeiskaya Street, Kiev

My next stop was Kiev, where Shalom Aleichem lived for nearly 20 years. It was in Kiev that his talent reached full flower. In 1903 he wrote to his friend I.H. Ravnitsky: "I lost my money long ago, but my spirits are high and my pen is firm in my hand. My disease (writing) has gone so far that I no longer belong to myself or my family, but to our literature and that huge community called 'the people.' "

In Kiev Shalom Aleichem wrote his finest works: *Tevye the Milkman, Menakhem-Mendl*, the novels *Stempenyu* and *Yosele the Nightingale, Railway Stories* and others. During his residence there, he began corresponding with Leo Tolstoy, Anton Chekhov and Maxim Gorky.

He did not leave Kiev of his own free will. At the close of the nineteenth and the beginning of the twentieth century czarism created unbearable conditions for Jews. As a consequence, in the period from 1881 to 1914, one-third of the Jewish population emigrated from Russia. Shalom Aleichem did not believe he would settle permanently abroad, and during his years of wandering, returned to his homeland twice. In June 1906 he wrote to his children from London: "I am terribly lonely." In another letter: "I feel like committing suicide. It's sad to live abroad. I am tormented by homesickness."

Some three years later, in Italy, he wrote to M. Syrkin, a journalist in Kiev: "I was moved to tears to receive a birthday greeting from my compatriots. It's Kiev. And Kiev is my home town. Of course, it's impossible for everybody to come for my birthday. And I'm very sad that I was unable to go to Kiev. How did you manage to hold that gathering in my Kiev? I'll tell you frankly, I believe the sun will soon rise in our street, too."

It did rise, that sun, in October 1917, but a year after Shalom Aleichem's death.

My first visit in Kiev was to No. 5 Krasnoarmeiskaya Street, which has a memorial plaque on its front: "The illustrious writer Shalom Aleichem lived in this house, 1897-1904." I had been to Kiev on many occasions but never knew that my old friend, the well-known Jewish philologist Ruvim Lerner, lived in that particular house.

I found a group of Jewish-American tourists standing before the plaque. The leader of the group, Maurice Grubin of New York, said to me with a smile:

"This is our second meeting with Shalom Aleichem."

"Where was the first one?"

"In the Jewish People's Theater in Vilnius. We watched a rehearsal of the play *Fiddler on the Roof*."

"I hear it's having a long run in the United States," I said.

"Yes, it's a smash hit. But it's in English. We wanted to hear it in the native language of Tevye the Milkman."

"How did you like it?"

"We thought it was terrific. Judging by what we saw, it's a magnificent play. Leonid Lurie, the theater's art director, told us that *Wandering Stars* and *200,000* have been running for years in his theater. He said audiences love Shalom Aleichem."

Ruvim Lerner, who had come out of the house to meet me, joined in the conversation. He told the tourists that plays by Shalom Aleichem were staged not only by Jewish professional and amateur troupes but by Ukrainian and Russian theaters. In Kharkov, for example, the stage production of *Tevye the Milkman*, in Ukrainian, has been drawing packed houses for nearly 20 years.

Taking our leave of the Americans, we climbed to the third floor, where the great humorist once lived. Shalom Aleichem had walked up and down these worn stone steps. Perhaps sometimes he sat down on one of them to make a quick note. Remember, he himself used to say that he could write anywhere—in the kitchen, on the train, at a fashionable gathering, in a restaurant, on a walk, in a cab and even in bed.

"This is an old house," Ruvim Lerner said, interrupting my musing. "During the war, it was badly damaged by the Nazis. But when Kiev was rebuilt, it was not demolished. They restored it because Shalom Aleichem lived here, I suppose." He paused and then added: "Krasnoarmeiskaya Street begins at Kreshchatik Street, which is in the heart of Kiev, and tens of thousands of people go past our house every day. I often see them slow down when they catch sight of the plaque."

Lerner and I drank tea from an old samovar. He told me of the work his colleagues were doing on Shalom Aleichem's literary legacy, citing the studies of Nokhem Oislender, Yekhezkel Dobrushin, Riva Rubina, Uri Finkel and other literary critics. Lerner himself did a study of Shalom Aleichem's style. It was published in the United States in a Yiddish edition.







Kiev, practically leveled by the Nazis, was rebuilt after the war. Center: This new residential district has a street named for the beloved Jewish writer. Above: The address of this Jewish family is Shalom Aleichem Street.

Mikola Bazhan on Shalom Aleichem

"Of course, Shalom Aleichem's works attract non-Jewish scholars, too," Lerner said. "His books are read by everybody. One of the most interesting of the recent studies of Shalom Aleichem is by Academician Mikola Bazhan, the Ukrainian poet. It has been published in both Ukrainian and Russian."

He found Bazhan's book in a bookcase and read to me:

"Shalom Aleichem gave all his love, understanding and sympathy to the oppressed and exploited toilers, created such vivid and full-blooded characters as the stocky milkman Tevye, the likable crank Shimon-Elya the tailor, the poverty-ridden Hercules Nakhmen Verebovsky, the young Marxist revolutionary Misha Grusevich and countless other figures—sad and gay, hot-tempered and gloomy, visionary and restless, courageous and tender. . . .

"In this environment Shalom Aleichem jokes, roars with laughter, flares up in anger, stealthily wipes a tear and, with his heroes, fills with indignation, dreams, fights, seeks a way out and searches for sympathy and understanding."

"A point Mikola Bazhan makes," Lerner said, "is that Shalom Aleichem relied on the moral support not only of Jewish intellectuals but of the Russian, Ukrainian and Polish intelligentsia as well."

Bazhan mentions the friendship between Maxim Gorky and Shalom Aleichem. After reading *The Boy Motel,* Gorky wrote to the author:

"Sincerely respected brother in arms, I received your book and read it. I laughed and I wept. It's a wonderful book. . . . I liked it very much. I'll say it again—it's a superb book.

"It sparkles with a fine, strong, wise love of the people, a feeling so rare in our day."

Anton Chekhov, Vladimir Korolenko and Leo Tolstoy wrote to him with similar warmth and respect.

Writing of Shalom Aleichem's literary legacy (10 novels, 20 plays, hundreds of stories and several critical studies), Mikola Bazhan notes that the attraction of his work and the affection for his warm, gripping style stretched far beyond national boundaries.

Shalom Aleichem Street

In Kiev three or four years ago, I learned that the City Soviet had decided to name a street after Shalom Aleichem. I wanted to see it, but nobody could tell me where it was. I got to talking about it to the Ukrainian writer Yuri Smolich, who is an ardent admirer of Jewish literature, and he said he would be glad to take me there. We set out, but it took a long time before we came to a lone house under construction in a pine wood on the left bank of the Dnieper. On the house we saw the name Shalom Aleichem.

I was disappointed. How could you call something with only one house on it a street? They would have done better to choose a place in the Podol District, where there once really was a street bearing Shalom Aleichem's name. During the war the Nazis tore down the sign with its Jewish name. Yuri Smolich calmed me down:

"I've seen the development plan. Believe me, this is going to be one of the loveliest streets in Kiev. You'll see. Next time you come, you'll be surprised."

Indeed, he knew what he was talking about. Some years later, I saw there stretched in front of me a broad, arrow-straight street lined with tall buildings. Down the center ran a carpet of greenery, giving the street a special charm.

"What kind of people live here?" I asked a passer-by.

"You want to know who lives here?" he repeated my question.

"Judging by your accent," I told him, "I'd guess you are a Jew. Am I right?"

"No. I suppose I've picked up the accent. I'm a Ukrainian, but I've lived all my life with Jews in the Podol District. My name is Vasili Kravchenko. I'm a carpenter." As we walked along, Kravchenko filled me in: "When I moved here from the Podol District, many of my neighbors—Jews, Russians and Ukrainians—moved with me. We're a friendly bunch here. If you remember Shalom Aleichem, he was all for friendship. Remember his Tevye lamenting that God created Jews and non-Jews? If, he said, God created them, why must they be separate as though some were created by God and some were not?"

Kravchenko invited me to his apartment and put some delicious iced kvass on the table. He and his wife had two rooms and a large kitchen and balcony. We sat around a while, and then he took me to see his neighbors, a Jewish family. Boris Pogoriler was a building worker, his wife was a bookkeeper, and his son Mark a high school student. Their apartment was a pleasant, well-furnished place with plenty of flowers and books.

"Is life treating you well?" I asked the lady of the house.

"Yes, in a lot of different ways. You can see for yourself that we have a nice apartment. We both have interesting jobs, and they pay well, besides."

"Do you like your street?"

"I should say so. This isn't the Podol District."

"The Podol," her husband explained, "was old and crowded, with ramshackle, primitive houses. Here we have all the conveniences."

My new friends took me up a floor to see the Lozanskys. This was a Jewish family, too. Mikhail Lozansky, an engineer, was vacationing on the Black Sea coast, but I met his wife, Lyubov.

"You're not crowded here, are you?"

"I should say not," Lozansky's elderly mother answered for Lyubov. "In the Podol District we had two tiny cubicles, but here there are three good-sized rooms and a kitchen."

Kiev, by the way, is not the only city in the Ukraine with a Shalom Aleichem Street. There are others named after him in Odessa, Zhitomir, Chernovtsy, Korosten, Fastov, Berdichev and other towns.

Where Did Tevye Live?

When he lived in Kiev, Shalom Aleichem used to spend his summers in a cottage in a place called Boyarka. In his stories he called it Boiberik. His name for Kiev, it will be remembered, is Yegupetz. The fascinating *Tevye the Milkman* stories, with their lyrical descriptions of the Ukrainian landscape and their love for the little man, were written in Boyarka.

There they don't stop with revering the memory of the great writer. Amateur folklore students Vasili Kubrikov, Anatoli Klimenko, Ivan Ivanov and other Russians, most of them teachers, are researching new material on the Jewish writer and his characters.

I was twice welcome when they learned that I planned to write about the places mentioned in Shalom Aleichem's stories. They took me to the nearest village—Zabirye. The road led through a beautiful forest. One of my companions, a young schoolteacher named Ilya Ryzhavsky, asked:

"Do you think this might be the road Tevye used to deliver milk and butter to his rich clients in Boiberik? Here, listen to this!" and he recited from memory:

"I drove through the forest. It was summertime, and although the sun was baking hot, there was shade on either side from the trees; and the smell of the pines. It was heavenly! I stretched out luxuriously on the cart, letting go of the reins, giving my horse its head: Move on, please, you know the road perfectly well. . . . And I sang at the top of my voice, thinking of nothing but the song."

We drove up to an old hut standing by itself at the foot of a hill.

"Tevel lived in this hut."

At the local school, a group of boys ran after teacher Vladimir Gorinovich. I was introduced to him. Though elderly, Gorinovich is still very active, and for decades he has been keeping a chronicle of his village. He is certain that a Jew named Tevel, who lived in Zabirye, was the prototype of Tevye the Milkman. He may be right. Remember Tevye saying ironically: "Would it not be too much honor for me if the world suddenly learned that a man by the name of Tevye the Milkman lived on the far side of Boiberik?"

Some of Gorinovich's neighbors joined us.

"I remember when I was a little girl, my mother used to send me for all sorts of things to Tevel. He was a kindhearted man who helped others whenever he could," said Varvara Oryshchenko, an old peasant woman.

"Tevel had two daughters," chimed in a schoolgirl.

"That's got nothing to do with it," said a boy of 16 or 17. "A writer uses his imagination."

During my short stay in Zabirye, the villagers told me many tales about Tevel and his family. They came very close to the life of Tevye.

A people creates legends in the same way as a writer creates his books.







Illustrations for Shalom Aleichem's novels.

A Meeting with Shalom Aleichem's Niece

My hostess was 70-year-old Gita Shvartser. She lives in Apartment 27, No. 24 Wilhelm Pieck Street, Kiev. Despite her age, she is energetic and has a good memory. Her mother, Broche, was Shalom Aleichem's sister. The writer was very fond of his sister and often visited her in the little town of Rzhyshchev. Gita, though she was very young at the time, remembers those visits.

She showed me letters she had received from the United States from Shalom Aleichem's daughter Marie and granddaughter Bella. Both have visited her.

"My relatives," Gita said, "were delighted to find Shalom Aleichem so popular in our country. Marie was very moved when she learned that her father's books have been published in enormous Russian editions."

A six-volume Russian edition of selected works came out in Moscow about 10 years ago. This was followed by a Ukrainian edition in four volumes. Now preparations are under way for another Russian edition in six volumes. Individual works are published in huge printings.

All in all, in the past 50 years, works by Shalom Aleichem have appeared in 532 printings in 28 languages of the USSR, with a total of nearly nine million copies.

Gita said very little about herself. But this modest woman has been through a great deal. When Hitler attacked the Soviet Union, her husband Menashe and daughter Bronya joined the army. She was left with her younger daughter. Only Bronya returned from the war.

"Bronya still lives with me," Gita said. "Emma lives in Kazan, where she works as a bookkeeper. Her husband, Alexander Vaisman, is chief engineer at one of the factories. They have two children. Mikhail is about to receive his degree in chemistry at Kazan University, and Raya—she's 19—is working and studying."

Shalom Aleichem in Soviet Art

Living at 68 Lenin Street, Kiev, is a great admirer of Shalom Aleichem, the 70-year-old artist Zinovi Tolkachov. He has devoted many years of his life to the creation of illustrations for the classic stories.

I spent a whole day at Tolkachov's and could not tear myself away from his Shalom Aleichem characters. I studied the faces of Tevye, Menakhem-Mendl, Shimel Soroker, Stempenyu, the boy Motel, Reizele. There is no question, as critics have noted, that every painting and sketch by Tolkachov is an incisive portrait of Shalom Aleichem's characters.

During the Shalom Aleichem anniversary celebration some years ago, a very successful exhibition of Tolkachov's art was held in Kiev. I leafed through the book of comments. Engineer Vladimir Rezvyuk wrote: "Tolkachov has a profound understanding of Shalom Aleichem. That is why his work is so convincing and impressive." Among other notes were the following: "Magnificent! I heartily congratulate the artist"; "The charm of Tolkachov's pictures is that they are sincere and true." Tolkachov's illustrations for Shalom Aleichem books have been exhibited all over the Soviet Union.

Many other Soviet artists continue to be attracted to Shalom Aleichem. His portrait was painted as a diploma project by Alexander Kerzhner, a graduate of the Kiev Art Institute. Among the illustrators of his books are Meyer Axelrod, Mendel Gorshman, Girsh Inger, Grigori Kravtsov, Anatoli Kaplan and Semyon Grunko.

In the Tradition of Shalom Aleichem

Another of my hosts in Kiev was the Jewish writer Girsh Polyanker. One of his novels is *Shmai the Brigand*. It is the story of a life-loving, affable fellow who is seldom bored and who manages to save others from boredom. A man of the people, Shmai the Brigand is reminiscent of Tevye the Milkman. Like Shalom Aleichem's hero, he loves a good joke and a wise saying, has a comical story for every occasion and is constantly encouraging people, giving them faith in justice and in the victory of good over evil.

I told Polyanker that what attracted me to his books was the humor, of which there is so much in Shalom Aleichem's writings.

"You see," he said, "Shalom Aleichem has had a terrific impact on Jewish fiction. The traditions he laid down are traceable also in the work of the Soviet era, in men like the late David Bergelson, who wrote *On the Dnieper,* and the poet Perets Markish. He also influenced Lev Kvitko, Itsik Fefer, Meyer Alberton, Joseph Rabin and many others. It's all gone—the world described in his stories. But his work continues to live and thrill people. That is the secret and substance of real art."

Shalom Aleichem once wrote: "I am not very sorry that my life is coming to an end. I have lived long enough, and I have known honor, and, besides, I'm leaving a legacy to the people I love so much."

New Times, New Heroes

In czarist Russia the Jews were not a homogeneous mass. There was hopeless poverty for more than half the population and there was wealth; there were modest toilers and there were people without any steady occupation. Typical of that time was Menakhem-Mendl of the story of the same name by Shalom Aleichem.

He rushed about the streets of Kiev and plunged into all sorts of machinations: He bought and sold estates and forests that he never saw and dealt in millions although he hadn't a penny to his name. Every time he started a new adventure, he'd tell his wife Sheyne-Sheyndl in Kasrilevka: "I'm making a noise, flying, burning, jumping in the fire and growing, growing. . . ." But he himself did not know which way he was growing.

Where is Menakhem-Mendl today? It would be useless to try to find him in Kiev. He has disappeared forever.

In Kiev I made the acquaintance of Isaac Barenboim. He is neither an official nor an academician. Nevertheless, everybody knows him. He builds bridges.

A native of the little town of Voznesensk near Odessa, he was not yet seven when the socialist revolution was born in Russia. That decided his future. Unlike the Menakhem-Mendls, he had a normal boyhood and an uneventful student's life. After finishing school, he went to Odessa and enrolled in a civil engineering institute. In 1934 he arrived in Kiev with an engineer's diploma in his pocket.

During the war, Major Barenboim was with the advance units of the Soviet Army, building bridges and rebuilding those destroyed by the Nazis. Early in 1943 a decree of the Presidium of the Supreme Soviet of the USSR honored him with the title Hero of Socialist Labor for building several bridges in the Stalingrad-Likhaya sector.

Some time afterward, when fighting broke out near Kiev, Barenboim and his unit were transferred to the Ukrainian capital. They began building a bridge across the Dnieper. Although enemy bombers suffered enormous casualties, they kept breaking through. For the Nazis, to stop construction of the bridge would have been like winning a major battle. Hitler ordered bombing raids regardless of cost.

But the work did not stop for a single moment. Thirteen days later the first Soviet tanks rumbled across that bridge. Barenboim was decorated with his second Order of Lenin (he had received the first with the gold star of Hero of Socialist Labor).

After the war, he built several railway and road bridges across the Dnieper; each is unique in its own way.

Kiev is steadily expanding. Communities have mushroomed on the left bank of the Dnieper. This means new bridges are needed.

Isaac Barenboim accompanied me on a tour of a new residential neighborhood, where tens of thousands of people now live. They spend a lot of time getting to the center of the city. To help them, the building trust headed by Barenboim has included a new bridge across the Dnieper in its current five-year plan. Builders have already started work.

The thousands of people at the trust include Russians, Ukrainians, Moldavians, Jews, Armenians, Georgians and Tatars. There are some foreigners, too, learning to build bridges.

Isaac Barenboim is 61, but he doesn't feel his age. In addition to his duties at the trust, he writes technical books. One of his recent works is on the theory and practice of bridge construction.

Hundreds of thousands of Jews live in the Ukraine. Of course, not all wear gold stars in their lapels. But there are many who do. The main thing is, they're all doing the work they like. They have jobs in laboratories or as machinists, study at institutions of higher learning, write books or handle problems of state as deputies to the Soviet parliament.

It's a far cry from the *shtetl* country of Shalom Aleichem's tales. But I think he would have enjoyed taking this journey with me.

Top to bottom: Gita Shwartser, 70, the author's niece; a Kiev garment factory, and Kiev bridgebuilder Isaac Barenboim.









Around the Country



THE ELBRUS ICE CAP

Scientists at the Institute of Geochemistry and Physics of Minerals, Ukrainian Academy of Sciences, have established that the ice cap of Mount Elbrus, the highest peak in the Caucasus, is quite young, only 340 years old. The volcanic mountain still spouts steam, carbon monoxide and sulphur gas. The researchers cut out an 11-ton section of the Elbrus ice cap, melted it in a special unit and analyzed the carbon monoxide produced. The age of the cap was established by the content of heavy carbon isotopes in the carbon monoxide.

WHIMSICAL RIVER

The Shuya River, running from Lake Suoyarvi in the Karelian Autonomous Republic, is the world's only river that changes course 15 to 20 times a year as it flows back into its source. The cause, say researchers, is the periodic changes in the flow of the springs feeding the lake and the river. When the springs are less active, the water level in the lake falls and the river runs back into the lake.

EASTERN SEAPORT

A new port is under construction in Wrangel Bay in the Soviet Far East. Its 65 berths will stretch for eight miles. They will be able to handle ships with a dead weight of 132,000 to 165,000 tons.



FIRST NIGHT

The première of the Fifteenth Symphony of Dmitri Shostakovich took place recently in the Bolshoi Hall of the Moscow Conservatory. The composer entrusted this first performance to his son Maxim, a prize winner in the Second USSR Competition of Conductors.

Shostakovich wrote his new work in two months during the summer of 1971. For the first time since he composed the Tenth Symphony, nearly 18 years ago, he has returned to the pure sym-



CONTEMPORARIES OF THE DINOSAUR

Two pairs of desmans, a variety of muskrat, kept in a closed section of the Khopyor Preserve (Southeast European Russia), have spent exactly a year in captivity, thereby beating all previous records. No zoo collection in the world includes these animals. They are among the oldest on our planet, dating from the time when dinosaurs roamed the earth.

Muskrat fur is much in demand, the reason the desman was almost exterminated by the beginning of this century. Protected, it quickly proliferated in the reservation, which now has 1500. More than 2,000 desmans have been sent to other parts of the country.

HEATING A LAKE

The water of a swimming pool, fishpond, and even a small lake can be heated by means of a special kind of stove developed at the Gas Institute, Ukrainian Academy of Sciences. The underwater stove works on natural gas fed through a flexible hose, producing a powerful torch in the combustion chamber. The lower part of the stove, which looks like a cylinder with apertures, has water circulating in it. Hot water is ejected and cold water sucked in. Waste gases are removed through an exhaust pipe. Up to 95 per cent of the fuel is converted into usable heat.

This is the most economical method for heating liquids since it requires no complicated devices or expensive power sources.

PREFAB POWER PLANT

Construction work on the Young Communist League Hydroelectric Power Station at Saratov, on the Volga River, has been completed. The station is operating at its full design capacity of 1.3 million kilowatts.

The Saratov project, with its mile-long dam, was a first in hydraulic engineering—it was built entirely of prefab reinforced concrete.

EXPANDING LAKES

The lakes of the Ala-Kul lowland in southeast Kazakhstan are encroaching on the land. According to researchers from the Kazakh Academy of Sciences, the surface area of the largest lake, Ala-Kul, has increased by a third since the beginning of the twentieth century, and now is 1,000 square miles. Roughly the same changes have been observed in other bodies of water in this semidesert area.

Investigators have established that the expansion of the lakes is periodic. The most recent pe-



INFLATED STADIUM

The Tallinn Polytechnic Institute in Estonia has a new and unusual stadium. Its roof and walls are made of layered synthetic materials. Compressors inflate the building and maintain the right pressure. Even when the temperature is four degrees below zero outside, it is never less than 40 degrees above zero inside.

An elastic layer of peat and gravel with a special coating serves as foundation for the large structure—it is 243 feet long, 62 feet wide and almost 33 feet high.

This is Estonia's third such stadium.

WOODEN BEARINGS

Promising research in the engineering uses of wood is being pursued at the Dnepropetrovsk Institute of Chemical Technology in the Ukraine.

Wood under pressure, treated with steam at a temperature of a little over 212 degrees F., becomes stronger than steel. Bearings made of such treated wood have a long life and no problem of sand grit, and they use ordinary water for lubrication. This reinforced wood can be produced at one-twelfth the cost of any other bearing material.

MEDICAL RESEARCH IN THE ANTARCTIC

A medical research center has been set up in the Molodyozhnaya settlement of the Soviet Antarctic Observatory. Among other things, it will study man's adaptation to south polar conditions. The conclusions reached will help specialists design dwelling units for polar expeditions and determine the nutritional needs and the daily routine of polar explorers.

LISTENING TO THE BRAIN

Researchers have succeeded for the first time in hearing the electric "code" of an isolated neuron cell of the brain. Using a microscopic tungsten sensor, they penetrated deep into the cortex during a neurosurgical operation and recorded on tape the waves emitted by diseased and healthy cells. In contrast to scientists in other countries, who use electrodes 50 microns in diameter, the Soviet specialists were equipped with a metal hair with a thickness of one micron, enabling them to locate diseased cells with greater accuracy.

Their method will be used as an aid in diagnosis.

phonic form based solely on instrumental music. The four movements follow a traditional symphonic cycle. On the other hand, they reflect the composer's characteristic preoccupation with contrasts, which he uses in a highly individual way—blending themes from the music of other composers (Rossini's *William Tell* and Wagner's *Die Walküre*, for example) into the texture of his work.

POSTER DISPLAY

Soviet and foreign health-education posters were recently displayed in the exhibition hall of the Artists Club in Moscow. The 100-odd placards came from Hungary, Poland, Czechoslovakia, the Soviet Union, Great Britain and the United States. They included contemporary prints and also original posters by Vladimir Mayakovsky, the famous Soviet poet, and artist Mikhail Cheremnykh.

ULTRASOUND SCALPEL

Moscow scientists have developed and used ultrasound instruments to weld bones and cut tissues.

A great deal of preliminary study in laboratories and clinics preceded the 600 ultrasound surgical operations on joints which have already been performed. The new technique, taking over for the conventional scalpel in many cases, is also being successfully used in thorax, pleura and lung surgery, and in operations requiring perforation of the skull.

Researchers are now investigating a new area—the use of ultrasound to weld and cut bones in dental and neurosurgical practice.



ANT ROAD SIGNS

Pavel Marikovsky, an entomologist from Alma-Ata, the capital of Kazakhstan, has established that a small variety of ants (crematogastera) use special road signs as they move.

The ants spray the ground with drops of liquid that has a characteristic smell. The liquid dries quickly and turns dark, forming a chain of dots that clearly mark the insects' route.

FUTURE HOCKEY STARS

Children's hockey schools can be found in nearly every sports club, and there are hundreds of such clubs in the country. The boys who attend these schools the year round get sports uniforms, gear, skating-rink facilities and expert coaching free of charge.

The children's hockey school at the Central Army Sports Club in Moscow is one of the best in the country. It has an enrollment of about 370. Some 150 six- and seven-year old boys are admitted to the school each year after a rigorous selection. After four years in a preparatory group, they go on to the teenage and junior divisions. Finally the best hockey players are invited to play for the club.

Among the hockey stars who teach at the school is world champion Vladislav Tretyak, goalkeeper of the Central Army Club and national teams.

16-STRINGED SOLO

The Borodin Quartet, named for composer Alexander Borodin, recently celebrated its twenty-fifth birthday. Over the quarter-century it has given some 2500 concerts. Just about every important classic and modern chamber music work for four players is in the group's repertoire. Many quartets have been written especially for them. Rostislav Dubinsky, Yaroslav Alexandrov, Dmitri Shebalin and Valentin Berlinsky have reached such a level of ensemble perfection that the listener could well believe he is hearing one 16-stringed instrument, not the music of four individual performers.

riod of growth began about 10 years ago.

The study of this phenomenon has substantial practical value. Fisheries are being developed, highways and communications lines built, new livestock farms set up and irrigation farming organized in the region so scientists must know how the lakes will behave.

LETTER MACHINE

Organizator is the name of a letter-writing machine designed by engineers in Kursk, Central Russia. The inventors first analyzed business correspondence and concluded that it consists of 200 phrases, which they coded numerically for the machine. To send a business letter, you just type the address and dial the desired phrases. The Organizator feeds out a letter, complete with number, date, address and zip code. Production of this novel device will begin shortly.



ARCTIC PARK

The northernmost park in the world has been laid out at the 72nd parallel in the village of Khatanga, on the Taimyr Peninsula. This is the first time trees have been transplanted at this latitude. In recent years, landscapers had tried unsuccessfully to transplant young larches with an accompanying layer of soil. Then 40- and 50-year-old larches with developed crowns were replanted successfully. Of 50 trees, only two failed to take root. Taimyr larches live for 300 to 350 years.

UKRAINIAN ARTIST

Vladimir Golovanov is one of the most versatile artists in the Ukraine. He has traveled widely, and the subjects of his water colors and engravings include the Ukrainian countryside, Siberia, and a number of European cities. Golovanov also does illustrations for literary classics and portraits of his contemporaries.

EUCALYPTUS MEDICINE

A new medicinal preparation, chlorophyllyptus, has been derived from eucalyptus leaves at the Ilya Mechnikov Microbiology, Vaccines and Serums Research Institute in Kharkov.

The drug is effective against staphylococcus germs, which are resistant to antibiotics. It is prescribed for blood infections, inflammation of the lungs, various complications due to staphylococcus infections, and some other diseases.



DYNASTY OF POTTERS

The work of famous ceramicist Usto-Makham Oblakulov is on display at the Fine Arts Museum in Tashkent, capital of Uzbekistan. Oblakulov is the current representative of six generations of potters from the village of Urgut near Samarkand. The dynasty was founded 400 years ago by master potter Usto-Takhtamysh. Usto-Makham took his place at the potter's wheel 40 years ago to learn the secrets of shaping and glazing from his father.

SCYTHIAN MOLD FOUND

Archeologists studying the remains of an ancient Scythian town at the Belsky site, near Poltava, the Ukraine, have dug up a clay mold used by the Scyths. The mold is not intact but is still an important find because it throws light on the technique used by craftsmen to decorate objects in the Scythic "animal style."

The mold was intended for casting a plate bearing the figure of a deer, an ornament on a shield. Ornaments of this kind were known to archeologists working on Scythian burial mounds, but until now there was disagreement on their place of manufacture. Now we know that the Belsky site was one of the main centers.

The town occupied an area of nearly 500 acres, almost as big as Athens. Investigation of this monument of Scythian culture was begun in 1906 by the Russian archeologist Victor Gorodtsov.



X-RAYING METAL

A new instrument called an introscope, for X-ray examination of metal seams, castings and structures, has been designed and tested at the Aktyubrentgen factory in Kazakhstan. The device is compact and reliable.

Blisters and other flaws in metal are usually detected by photography, which requires a good deal of time. The introscope, a combination of X-ray machine and TV camera, permits an operator to check continuously for quality so that any defects can be discovered on the spot.

SURGICAL AID

A combined light-reflector unit and automatically controlled operating table for tuberculosis surgery is being manufactured by the Sverdlovsk medical equipment plant in the Urals.

A TV or film camera can be mounted on the light reflector to photograph the progress of the operation. The reflector also provides ultraviolet irradiation.

The shatterproof glass surface of the operating table makes it possible to take X-ray pictures during the operation.

COSMIC FALLOUT

Every year from two to five million tons of cosmic dust settle on the Earth's surface, say researchers of the Alexander Vernadsky Institute of Geochemistry and Analytical Chemistry.

The scientists compared the quantity of molten cosmic particles that had fallen to the Earth with present-day snow, atmospheric precipitation, sea ooze and old salt deposits. Their findings led them to the conclusion that in the last 500 million years the intensity of fallout of cosmic dust onto the Earth has remained constant.

During this period more than a quadrillion tons of cosmic matter have fallen onto our planet. Large as that figure sounds, it is only one-hundredth of a per cent of the total mass of the Earth's crust.

CONTINUOUS CASTING

An installation for continuous casting of steel was first developed and built at the Donetsk mill in the Ukraine. The Soviet Union has licensed several foreign companies to manufacture it.

Though the inventors have won universal recognition, they are still working on improvements. They have developed and introduced a method that makes it possible to cast three or even four taps at one time without interrupting the flow of molten steel. The method has been given the name tap on tap. It avoids the intervals of several hours previously required to ready the plant for a new supply of metal.

The saving from this improvement is estimated at half a million rubles.

OXYGEN PURIFIED

Experts from Leningrad have observed that purification of industrial effluents can be speeded up by as much as 10 times if the water is saturated with oxygen. A high oxygen content intensifies the activity of the bacterial scavengers that purify the water.

Special turbogenerators are installed at intervals of a hundred feet along the channel. Trials at pulp and paper mills have shown that after effluents are treated with oxygen, the water is just as clear and pure as when it was first drawn from the river.



NEW SPORTS PALACE

Hundreds of workers from the Bolshevik Plant in Leningrad and members of their families have a new palace of sports. An indoor stadium with adjoining soccer field and ice hockey rink cost 800,000 rubles to build, the money coming from the factory's social and cultural fund. The 28 sections of the factory sports club have a membership of 7,000. One thousand additional members are children of the factory staff who attend a children's sports school.

SCIENCE AND SOCIAL PROGRESS

Soviet scientists give their views on some aspects of the current scientific and technological revolution.

NEW STAGE

By Bonifati Kedrov
Philosopher, Director of the Institute of the History of Natural Sciences and Technology, USSR Academy of Sciences

Just when did the scientific and technological revolution begin? Some people maintain that it was triggered by the discoveries in physics which led to atomic power engineering and radio electronics. Others say that what is under way now is a scientific revolution in embryo, that it will be followed by even more far-reaching changes. And still others, whose opinion I share, date the revolution from approximately the middle of our century, when atomic power engineering, cybernetics and automation, cosmonautics, laser engineering, molecular biology and bionics began to gather momentum, and major discoveries were made in chemistry. All these separate streams of development merged into a single powerful movement now called the scientific and technological revolution.

Such a movement presupposes the dialectical unity of the various sciences—natural, technical and social. This problem of unification is not one of theory alone—it has important practical considerations. If the scientific and technological revolution is approached only from the viewpoint of the individual natural science or technical province, we will not be able to see the process as a whole nor direct its course. The Institute of the History of Natural Sciences and Technology has been assigned the task of working out the theoretical foundations of scientific and technical development. We are trying to discover how the natural and technical sciences influence the social sciences, how the reverse process operates and how philosophy affects all the other sciences taken together.

Our goal is to wed the achievements of the scientific and technological revolution to the advantages peculiar to the socialist economic system, to develop on a greater scale our own forms, inherent in socialism, for fusing science with production.

Lenin said half a century ago: "Communism is Soviet power plus the electrification of the whole country." He singled out the branch of technology that was decisive at that time—electric power production. To be sure, he did not mean that if electric lamps lighted up everywhere the country would automatically become communist. He saw electrification as both a technical and social necessity. The most up-to-date technology had to be developed in a Russia famished, ravaged, impoverished, its population predominantly illiterate. It was necessary for a people who had not yet parted with the wooden plow to master the most complicated techniques if Russia was ever to rival those countries in the forefront of cultural and technical progress.

That was 50 years ago. Today Lenin's formula must be amplified: Communism is Soviet power plus complete and timely mastery of all scientific achievements plus control of further development.

Nor must we forget that we are educating a new man, one capable, among other things, of mastering scientific and technical progress. But his accumulated knowledge and ability to apply it practically are not enough: The new man must himself be the driving force behind the progress.

FOR THE GENERAL GOOD

By Alexander Prokhorov
Physicist, Nobel Prize Winner, Editor in Chief of the *Great Soviet Encyclopedia*

Modern science broadens and deepens our world outlook.

We are confronted by a universe once simple and understandable, now complicated and perplexing. We are learning about the existence of new forms of matter. We have reason to believe, for example, that the newly discovered pulsars are the neutron stars whose existence was predicted by Soviet theoreticians, stars made up of matter so compressed that one cubic centimeter weighs more than 100 million tons. Other amazing astrophysical objects and phenomena have recently been brought to light. We are

probably on the way to discovering new laws for the transformation of matter.

The fullest explanation of the world so far has been provided by physics, through research in elementary particles, astrophysics, and so on. It is hard to find a branch of the natural sciences or of production whose progress does not depend on the findings in this field. The study of electrical phenomena in solids and gases led to electronics. The investigation of the structure of the atomic nucleus made possible the harnessing of atomic energy. Research in solid-state physics is the source for a wide range of technical applications, including the development of materials that work at very low and very high temperatures and of new methods of treating materials, specifically the use of electron and laser beams and other types of radiation.

Our scientists' method for the production of synthetic diamonds is being applied on a large scale here. In recent years we have developed procedures for deriving large sapphire, ruby and garnet bars, all materials very important to today's technology.

Modern industry, modern production are inconceivable without complex automatic control systems with a wide range of functions and without the electronic computers integral to such systems.

In turn, new discoveries in mathematics and achievements in electronics are indispensable to the development of automatic control systems. Because of the tremendous complexity of these systems, their bulk and insufficient reliability, we have a new trend in radio electronics—miniaturization. Modern electronics is based on the theory of semiconductors, a field in which Soviet science has made important contributions.

Our scientists originated a new trend, quantum electronics, a little over a decade ago. Now known as laser technique, it has made possible the solution of countless important problems of technology, production and even medicine.

Another interesting recent discovery in the field of lasers is holography, the use of photographic plates to project three-dimensional images. This discovery has important potential for scientific research, instrument building, computer technology and 3-D cinematography. Color holography was originated by Soviet scientists.

Exciting prospects are held out by work on the application of the phenomena of superconductivity, specifically in electrical engineering—for economical electrical equipment and devices, as well as for instrument building and computer technology. The current five-year plan calls for the experimental production of electric energy by the economical method of direct transformation of thermal energy into electricity.

The future belongs to nuclear-electric power production. In recent years in the USSR there has been successful work on high-temperature plasma as part of the search for ways of solving the problem of thermonuclear fusion. Plans for the current five-year period include the building of installations like the Tokomar plant, in which the density of particles and the duration of the maintenance of plasma will be increased 100 and 1,000 times. The increase is indispensable for the creation of a thermonuclear reactor. Apparently a timely subject for research is conversion of the energy released in thermonuclear fusion into electric energy.

But all these are long-term projects. In the meantime the emphasis is on nuclear-electric power stations with reactors using fast neutrons. In these reactors the substance that serves as the nuclear fuel does not burn up but, releasing energy, turns into another kind of fuel. In other words, it is reproduced—a process which opens up a promising future for electric power production. The building of experimental breeder reactors to operate on a commercial scale has already been started in our country.

Understandably, this large-scale application of the findings of science is unthinkable without the development of basic research. It is right there that new knowledge is acquired and new ideas are advanced. An important part in the development of the physics of high-energy particles has been played by the world's largest proton accelerator at Serpukhov, near Moscow. The institute built around the accelerator has grown into an international center where scientists of many countries, the United States and France included, do their work. The Serpukhov accelerator has made possible important research projects that have deepened our knowledge of the microworld. The discovery there of the antinuclei of helium again confirms the diversity of existing forms of matter.

Great prospects have been opened for the physics of elementary particles by investigations at the Siberian Branch, USSR Academy of Sciences.

The scientific and technological revolution is strongly influenced by mathematics. Mathematics and mechanics underlie space research, which was pioneered by the Soviet Union. And space research, in turn, is already yielding tangible economic returns. The practical accomplishments of chemistry are generally known. Biology stands on the threshold of wide-ranging achievements. And what has already been done by biologists is finding application not only in agriculture and medicine but also in light industry and the food and microbiological industries.

The whole of the history of physics bears out the truth that real progress in science is impossible without a materialistic view of the world. Materialist philosophy is the basis of Marxism-Leninism, the theory for the construction of communist society. The scientific and technological revolution and the progress therefrom are not merely technical concepts to Soviet scientists. Revolutionary changes in science imply also the building of a more advanced society with highly developed productive forces, a society in which all working people will enjoy the fruits of science.

MANAGING THE ECONOMY

By Victor Glushkov
Mathematician, Director of the Institute of Cybernetics and Vice President of the Ukrainian Academy of Sciences

Improving the management of our vast economy calls for large-scale application of economic-mathematical methods and electronic computers, office equipment and means of communication. The Ninth Five-Year Plan antici-

pates the introduction of automated control systems for branches, territorial organizations and individual enterprises, a very big, complicated but fascinating project. What is involved, in long-range terms, is setting up a single, nationwide, automated system of economic management and planning.

The first stage of this process is the automated production-management system (APMS). Such systems are being developed now for large enterprises. They have already been installed at plants in several regions, from Central Russia to Siberia. They help eliminate organizational bottlenecks, save working time and raise labor productivity.

The idea is to link up all the separate systems and establish information centers. The effect will be enormous—it is expected that output and, consequently, profits will increase by at least 100 per cent. All data on production will be automatically supplied to the central APMS by the subordinate systems. The preconditions already exist for automatic management systems in the various branches of the economy.

The nationwide program will not be set up nor start operating overnight, of course. But the branch computer centers of ministries are already functioning or are nearly completed. The next job, to be tackled in the current five-year period, is to increase the number of branch centers and establish direct links between them and those industrial plants where automatic management systems are in operation.

Measures are being taken to speed up the training of specialists to service electronic computers. At the present stage there is a growing demand for systems engineers experienced in the principles of organizing an industrywide setup.

It is equally important that cybernetics begin to be used in the educational process. Teaching machines of different kinds, automated classrooms, laboratories and training stands not only facilitate the instruction process but put the students in immediate touch with the scientific and technological revolution. The new principles of production management require new personnel. Not long ago the State Committee for Science and Technology of the USSR Council of Ministers founded an economic management institute. Departments to train specialists in cybernetics have been opened at some universities.

COMMUNICATIONS AND CIVILIZATION

By Edward Arab-Ogly
Candidate of Science (History), Assistant Professor of Marxist-Leninist Philosophy at the USSR Academy of Social Sciences

Mankind is now on the threshold of a single worldwide system of instant and direct communications, using artificial Earth satellites and combining mass media with electronic computers. As far as long-term social implications are concerned, the current stage in the development of communications can be compared to the beginning of speech or the invention of printing. Even in the coming decades, the spread of electronic communications everywhere is bound to have tremendous influence on the way of life and consciousness of people, on social relations and human culture as a whole.

The objective possibilities for the continued development of civilization by means of traditional forms of communications are almost exhausted. Only the spread of instant and direct communications and elementary electronic literacy will enable mankind to make a new step forward in society's progressive development.

Let us look at some facts confirming the pressing need for a new revolution in communications. To make television and telephone communications accessible to everyone on Earth, our planet would have to be covered with a mesh of cable and relay lines. That would call for an inordinate expenditure of materials, labor and time that could be used for other, often much more urgent needs. With space satellites the job is done incomparably more cheaply and quickly. Further, scientists the world over are suffocating under mountains of information, with scientific publications multiplying at such a rate that even cursory examination of them swallows up the lion's share of a specialist's time. It becomes increasingly evident every year that only preliminary processing of information by electronic computers will prevent science from smothering in its own data. Similarly, only the electronic teaching machines will make it possible, in time, to give an adequate higher education to all people, one of the ideals of communism. Many more such examples could be cited. That is why the efforts of Soviet scientists have been directed toward improving the means of communication, determining all the potentialities of the discoveries already made in this sphere.

Even now television enables hundreds of millions of people to be present at lectures by leading scientists, to watch unique surgical operations, to hear concerts of famous artists, no matter where these events take place. Among other things, this front-seat viewing helps eliminate the distinctions between the world cultural centers and the provinces, between town and country.

In the not-too-distant future the videophone will become as commonplace as the telephone. Conferences and symposiums organized at short notice, with the participants in effect present, will be everyday occurrences. Individual instruction at home will be widespread. It will be possible to read newspapers and other periodicals the moment they are published and even to have one's own newspaper made to order. People will no longer be dependent on television as programmed now. They will be able not only to choose among the numerous programs transmitted at a given time but to reproduce automatically recorded transmissions whenever it is personally convenient.

Via TV people will be able to shop or watch amateur films right at home, to buy TV recordings just as books or records are bought today. All kinds of information will be received as easily as the correct time or the weather forecasts are now.

We cannot dismiss the possibility that the global communications system may bring mass-scale standardization of tastes and knowledge. But under socialism this takes on an entirely new function. The broadest strata of the population will be offered the highest achievements of world culture, with consequent development in the personality of the

individual. Everyone, regardless of where he lives, will have equal access to the knowledge accumulated by all mankind and, in turn, directly enrich other people with his individual contribution. Thus will come what Yulian Sheinin, a Soviet scientist, calls integral intellect, and with it an enormous growth in the intellectual potential of every individual.

As with any breakup of traditional concepts and customary ways of life, the prospect of a worldwide system of instant and direct communications causes raptures in some people and unfounded fears in others. Both views are extreme.

In the long run, the revolution in communications is a totality of technical means which do not themselves determine how they will be used by society. Whether this or that discovery will be utilized for or against man's good will depend on society, whose interests will be the deciding factor. Society must be able not only to foresee all the possible implications of the discovery but also to control it, to block its harmful possibilities and make use of its constructive potential. Socialism, and in the future communism, is the type of society that can make maximum use of the revolution in communications for the good of the masses of people.

FOR MAN'S HEALTH

By Vladimir Timakov
Member of the USSR Academy of Sciences,
President of the USSR Academy of Medical Sciences

The accomplishments of the natural and technical sciences have opened up new prospects for the diagnosis, treatment and prevention of disease. The electron microscope has made the structure of viruses visible. Microelectrode techniques enable scientists to investigate the laws governing the central nervous system.

It has now become technically possible to study the living organism, without disturbing its normal activity, by implanting miniature sensors and transmitters. Clinical practice includes also such methods as sounding the heart and blood vessels and registering their acoustic and electrical phenomena.

The restoration of disrupted functions, as with the artificial kidney, resuscitation, electrical stimulation of the heart, and artificial blood circulation are all used widely in Soviet clinics. This is also true of operations on the heart and replacement of the mitral valve with an artificial one. And without the scientific and technological revolution, resolving one of the greatest problems of medicine, the transplantation of organs, would be a hopeless proposition.

Now let us see how the development of modern medicine influences the progress of science and technology. It should be noted in the first place that the Soviet public health system is designed to keep the individual healthy, to increase his capacity for work. It provides a rational, well-ordered system of medical care to the residents of towns and villages. It incorporates hospitals, polyclinics and outpatient clinics. Industry has a special system of health protection for those working in factories and mines and on construction projects. People afflicted with chronic diseases are looked after by specialized outpatient clinics. Regular checkups, which make it possible to detect the earliest stages of a disease, have become routine.

Thanks to the efforts of the Soviet medical profession, along with the constant improvement in working and living conditions, in the past half-century the general mortality rate has dropped by 75 per cent and child mortality by 90 per cent. Socialism created conditions that make the USSR the country with the lowest death rate. Average life expectancy has more than doubled—it is now 70 years. We have eliminated such diseases as plague, smallpox, typhoid fever and typhus and have almost wiped out polio and diphtheria.

The very strong emphasis now on all levels—social, political and governmental—is on the study and development of effective means of protecting the environment. An important part is being played by medicine. Under socialism the problem can be solved, particularly since the pollution of the air, water, soil and vegetable cover is not an unavoidable accompaniment of the scientific and technological revolution. More often than not, it is the result of unwise use of natural resources, of predatory attitudes, of an unwillingness to think of the future.

Antipollution activity is getting a great deal of attention in the USSR. In our country, for example, atomic industry enterprises are equipped with well-developed sanitation systems. Very strict health and safety regulations are in effect and are observed.

The revolutionary changes in science and technology, the increasing control of nature confront medicine with entirely new problems, one of which is people's adaptation to the changing conditions of the environment and of production.

The point is that man's attitudes and physiological characteristics, formed over thousands of years, cannot change as rapidly as, let us say, manufacturing operations, technology and even nature itself. This may lead to a gap between human needs and the environment. The problem of adaptation is especially important in our country, with its great variety of climatic and geographical conditions, where vast areas of Siberia, the Far East and the Far North are being reclaimed.

Research in adaptation, especially as related to conditions in the Arctic, Antarctic and outer space, occupies an important place in the work of the Siberian Branch of the Academy of Medical Sciences.

The problems of memory and emotions present themselves in a new light both now and in plans for future research. As we know, mental labor is taking on increasing importance. People now receive colossal amounts of information through different channels. Therefore development of memory, the extension of the human capacity to receive and retain information, is one of the most important tasks of medicine. The Academy of Medical Sciences and the Academy of Pedagogical Sciences are working out, jointly with the USSR Academy of Sciences, a plan of research for perfecting memory.

Scientific and technical progress in a socialist society creates an abundance of material goods. Equally important, it ensures the conditions that make a long, free, enjoyable and productive life a reality for all the people.

UZBEKISTAN

FACTS AND FIGURES

THE UZBEK Soviet Socialist Republic has more than 10.5 million people—about 60 per cent of the population of Soviet Central Asia—and an area of 173,700 square miles. Tashkent is the capital.

Cotton is the major crop. Uzbekistan supplies 70 per cent of the country's raw cotton (in 1971 almost five million tons) as well as 52 per cent of its silk cocoons, 35 per cent of its Astrakhan pelts and 26 per cent of its rice.

It is one of the major industrial regions of the USSR. Many new industries have been created since the Revolution—machine building, electric power, chemicals, textile engineering.

Before 1917 only two per cent of the Uzbeks could read and write, now there are 9,000 schools. Technicians are trained in 106 specialized secondary schools. Specialists with a higher or specialized secondary education total 370,000, more than in all of czarist Russia.

In 1920 Lenin signed a decree founding the Central Asian University in Tashkent. It was Uzbekistan's first institution of higher learning. The republic's 40 schools of higher education now have a student body of almost 230,000.

Problems of nuclear physics, economics, biology, geography are studied in the several institutes of the Uzbek Academy of Sciences.

In 1926 there were only two Uzbek women engineers and technicians and 16 women doctors and medical assistants. At present 165 out of every thousand Uzbek women are graduates of higher or specialized secondary schools.

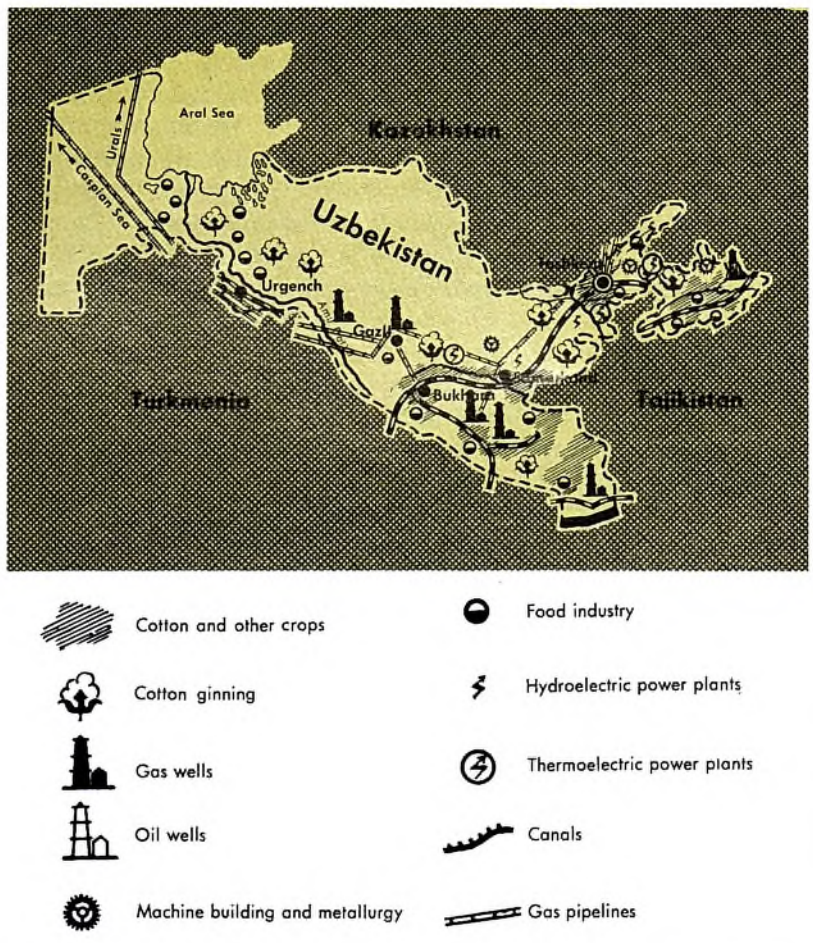
Women doctors make up the great majority of doctors in all the union republics. Of Uzbekistan's 12,300 practicing physicians, 60 per cent are women.

There are 59,000 women teachers in the republic.

Almost 220,000 women work in industry, building and transport, 943,000 in agriculture, 168,000 in education, science and public health.

There are 141 women in the parliament of the republic, one-third of all the deputies. The 34,640 women in the local Soviets make up almost half the total number of deputies.

There are 172 newspapers in circulation, 100 in Uzbek. More than 2,000 books are published annually in a total printing of more than 31 million copies (18.5 million copies in Uzbek).



COMPOSER

YOU WILL NOT FIND Dilorom Saidaminova listed in any musical Who's Who—yet. Now 28, she is just at the beginning of a very promising career. She lives in Tashkent, the capital of Uzbekistan, and writes both serious and popular music. The Philharmonic Orchestra of Uzbekistan recently played her first symphony and first piano concerto, and a quartet was broadcast over the radio. Her songs are in the repertoire of popular singer Batyr Zakirov. The Khamza Drama Group, which performs in Uzbek, has incorporated her music into the children's play *Zolaikho or the Wonder-Working Girl.* She has a commission from the Navoy Opera and Ballet Theater for a one-act ballet. With all that, Dilorom is a professor at the Tashkent State Conservatory.

She was born and grew up in the old part of Tashkent. The district, separated from the new city by a maze of adobe huts, led a life of its own. A celebration in one house was a celebration for everyone. So the impression was that a constant festival went on there, with improvised music played on two-stringed dutars. At home (Dilorom's mother had been a music student) the compositions of Chopin, Tchaikovsky and Shostakovich were often played.

Dilorom loved to sing and dance, and her mother was the first to spot her talent. The youngster herself was quite certain, when she began studying ballet at the Tashkent Young Pioneer Palace, that she wanted to become a ballerina. She also studied music with her mother and was always composing and improvising. She explains this now by saying she was a romantic dreamer like all children.

Then came music school, followed by the conservatory, where she studied piano and composition, later doing graduate work. Despite the formal training, Dilorom remained a dreamer. Everything excited her imagination, and she found beauty everywhere.

"Good music is free of language barriers," she says. "I love the imagery of Dmitri Shostakovich, Benjamin Britten, Gustav Mahler, George Gershwin." Her own works are not Oriental, but international.

While music is her most absorbing interest, she has a number of others. Beautiful, with a good deal of charm, she is also an affectionate wife and mother who runs her household smoothly and efficiently. English is her hobby.

DILOROM SAIDAMINOVA

By Nikolai Yeryomchenko

Photographs by Vsevolod Tarasevich



Last October Dilorom Saidaminova, professor at the Tashkent Conservatory, was invited to join the Uzbek Union of Composers. Here she is congratulated by members of the union presidium and (above) by her husband, Albert Shiganyan. Dilorom's interest in music began when her mother played the works of Chopin, Tchaikovsky and Shostakovich at home. Her early training included ballet lessons at the Tashkent Young Pioneer Palace. George Gershwin, Benjamin Britten and Gustav Mahler are some of her favorite composers.



The traditional grace before meals at the home of Dilorom's parents. She herself is an atheist, but she respects the beliefs of her elders. Top right: With her son Timur at Tashkent Airport. They were on the way to Yerevan for the funeral of her husband's father. Below: Teaching polyphony to her class of third year students at the conservatory. Below right: Teaching is a creative process, and expressive mimicry and gestures help.









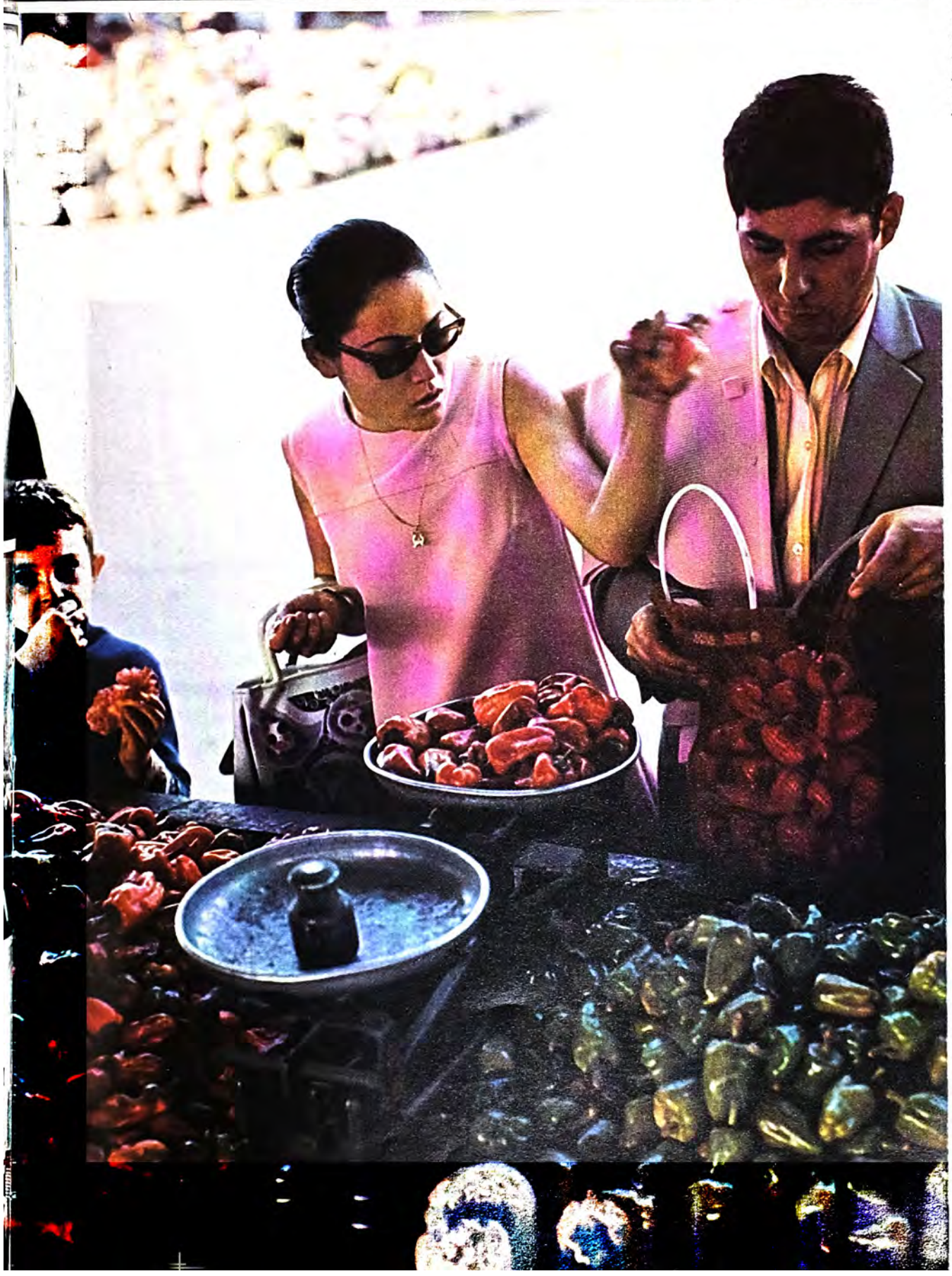
The family on the way home after a festive occasion. Top right: Albert Shiganyan, her most demanding audience and severest critic, also teaches music. He is a violist. Dilorom composes both serious and popular music. Her first symphony and a piano concerto were performed by the Uzbekistan Philharmonic Orchestra, and her songs are in the repertoire of a well-known Uzbek pop singer. Bottom right: The Saidaminovs are a big and close-knit family. Dilorom's brother Akmal, an engineer at a Tashkent plant, and his wife Gulnara have just brought home an addition to the family, a daughter.



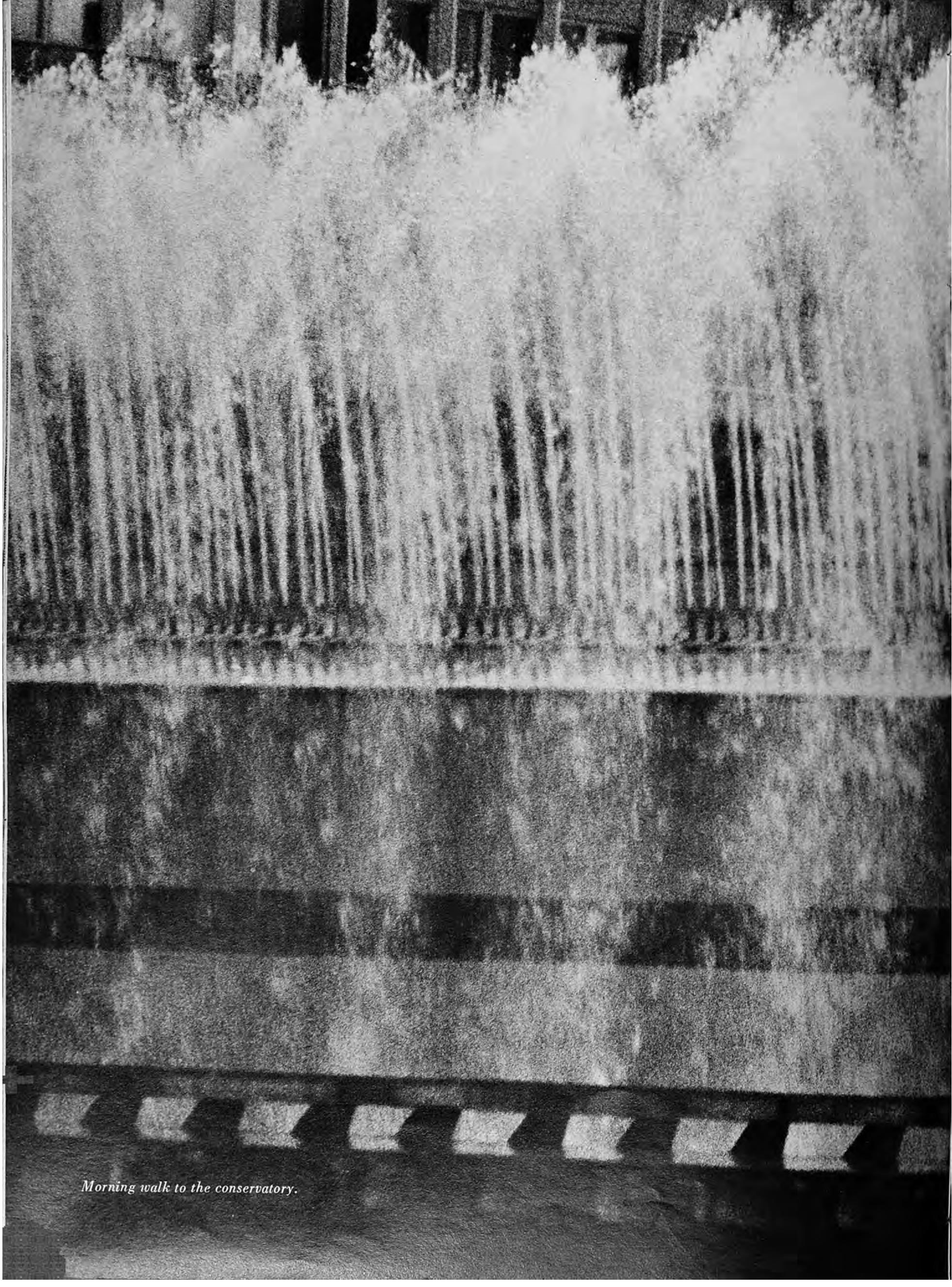








The composer in the role of housewife. Shopping with her husband at the collective farm market in the old city. Top: En route to see her sister-in-law and newborn niece.



Morning walk to the conservatory.



The Soviet Symphony



Albert Tsessarsky graduated from medical school at the beginning of World War II and joined a guerrilla detachment. He was parachuted to the site of his first surgical operation, performed in an unlighted dugout with earth flaking from the ceiling. Tsessarsky's wartime experiences were the theme of *Notes by a Guerrilla Doctor*. His other books include *Maxim Grekov-Seleskeridi, Actor and Soldier*; *Confession*; *What the Boy Said* and the collection *Romantic Tales*, from which this story is taken.

By Albert Tsessarsky

MOSCOW, March 29, 1942. Early morning. Haggard, bearded and badly in need of a haircut, I was walking along the street. My heart beat so my chest hurt, and I couldn't breathe. I didn't seem to recognize the houses and couldn't make out the numbers. I kept bumping into pedestrians skirting queues that stood silently in front of food stores, and almost missed the gray two-story house.

There I was, alive and kicking, looking at the black windows crisscrossed with paper strips. All I had to do was walk up and knock. The heavy oak door would creak open and . . . and then it would happen, the thing I had been thinking about all the time, all those terrible weeks.

"Alexei!"

Alyona stood in the doorway, holding on to the jamb, her face paling. Why aren't you laughing the way you used to, Alyona? Why are your lips trembling?

"You didn't expect me?"

"Come in."

"No, I can't. Please come out. I have no time, I have to go back to my unit. Are you going to work? I'll walk along with you."

She said nothing. Her fingers gripped the doorjamb—they were a bloodless white.

"I have to . . . I have to ask you . . . Alyona. . . ."

"I'm on the night shift, but I . . . I have some business downtown. I'll be right out."

It was sunny, warm and quiet in the doorway. Sparrows hopped about and chirped on a tree nearby. Maybe there was no point in asking. It was all so very long ago, before the war.

She came out in the very same light, loose-fitting coat, squinting in the sun. Forcing a smile, she asked,

"You fighting in the supply convoy?"

"The food's better there."

"What's the beard for—to scare off crows?"

"To lure the girls."

"Tell me about your heroic exploits."

"I don't feel like it, there were too many."

We wandered through the city, turning down side streets, cutting through yards, crossing lots, talking, talking about nothing, trying to joke.

A captain in a cavalry jacket, peering over horn-rimmed glasses with bulging eyes, stopped us almost apologetically:

"Can you use two tickets? I've been called back to my unit unexpectedly."

Tickets? A concert? Music? Did such things still exist?

The captain smiled at us:

"Take them. Shostakovich's Seventh Symphony. First performance."

. . . "I'm tired, Alexei. Let's rest in the hall."

Alyonushka, is it really you sitting next to me in this huge, dimly lit hall, alongside a cold marble column? She bent forward a little; her eyes, opened wide, were very black. Just like then, long ago, when there was no war yet. . . . But I didn't want to remember anything. What's the difference why you're here now with me? . . . Our "chance" encounters between lectures. Glances over other people's heads at the institute parties. The trip to the mountains that last summer. . .

The symphony's peaceful opening melody wrapped itself around me and carried me back to the past.

* * *

. . . "How high we've climbed, Nikolai Nikolayevich! What are those white chips there on the slope?"

"Huge logs, my dear. They just seem small from here. They're being hauled down the dry river bed to a sawmill."

"And what's that, lower down, the pink patches?"

"Those are blocks of marble. There's a marble pit there."

"You know everything."

They were both above me, on a green mountain ridge, almost floating in the sky. I was messing around below with some brushwood, trying to get a fire started, and,

of course, couldn't. The branches just smoked and smoldered, making me cough out my annoyance. Then that magnificent Nikolai Nikolayevich, the head of our mountain-climbing group, bent over the pile of brushwood. A few magic motions, and up shot little tongues of flame. They danced in Alyona's laughing eyes.

"Poor Alyosha, you can't do anything!"

We were the same age, Alyona and I. Nikolai Nikolayevich was older. Beside him I felt myself so small and ridiculous, I could have jumped into the abyss right there before her eyes.

"Nikolai Nikolayevich, please carry Alyosha across the stream or he'll surely drown!"

And she stood there laughing, making fun of me, unattainable.

Then, on a later date, one fall night, closed in by the slumbering stone buildings of a Moscow street:

"Alyona, let's be real friends."

"Oh, how boring!"

"I'll always be there to help you."

"Who said I needed help?"

"How do you really feel about me, Alyona?"

"The way I do about all children."

We stood silent. The shuffle of somebody's feet resounded hollowly. Muffled talk reached us from an open window, and a steam engine whistled close by. She looked startled, then broke into a smile. And my heart ached so.

. . . Suddenly that shrill horn in the orchestra with its smug and insolent tune. The Nazis. War! And the kind blue sky overhead, Alyona's lighthearted laughter, the little tragedies of my youth were all again so far away.

. . . The unit I was sent to had begun retreating from the border some two weeks before. The men were worn out, ragged and bitter. A deep pain hollowed their eyes as if they were ill. Only two days at the front, but it seemed to me I already knew and understood everything. We were simply fighting badly—retreating when we could hold on, lying low when we should attack. So I kept sticking my head out of the trench though there was absolutely no need to, and when we attacked, I fired away and shouted though I could see nothing. But all the while I was hoping no one would notice how difficult the first three steps were, that my legs felt like lead and my heart was standing still.

One day the commander came into our crowded dugout, sat down on the plank bed and, looking at no one in particular, began in a tired voice:

"To consolidate our position, we must dislodge them from the high bank across from here. But that's impossible unless we silence their machine guns, and the place is practically bristling with them. Every approach is closed off."

He lighted a cigarette, and a heavy silence came down on all of us.

"What we need," he continued, "is a volunteer."

It took me only seconds to picture myself a hero, blowing up the enemy headquarters singlehanded and disrupting their plans. I would die, but our people would take the offensive and the fascists would take to their heels. Alyona would learn all about it from the papers and radio, and cry.

"Comrade Captain," I began, my voice choking with emotion and pride.

As if he hadn't heard me, he scanned the faces turned toward him and asked:

"How about you, Lobanov?"

Lobanov was the quietest one among us. His languor and sluggishness were always getting on my nerves. And of all people, he was being sent on a mission that called for fervor and heroism! Instead of me! Even though he looked at the commander with that listless eye of his, asking in a kind of surly mumble:

"What do I have to do?"

"You see, we've been raking the other bank with mortars at random without any fire adjustment. To attack before we knock out the machine guns is a waste of men. In short, here's what you have to do. There's an oak on the other side, at the foot of the slope, at the very edge of the water. It's very tall—the top juts over the slope and probably gives a good view of their positions. What we need is a spotter to climb that tree before we attack and help us pinpoint their guns. You'd have to hold out for about half an hour."

"I see."

"Check the transmitter. You'll leave as soon as it gets dark. Who do you want for a partner?"

The thought that I was being left behind, that even here they thought I was useless, was unbearable.

"Comrade Captain, but why . . . I volunteered. . . ."

The captain sort of shrugged his shoulders.

"You? What do you say, Lobanov?"

He gave me an indifferent glance.

"All right. It doesn't matter."

It was 2 A.M. when we finally crawled up to the stream. The sky was overcast and the black water seemed motionless. The opposite bank was miles and miles away—there wasn't a sound from there.

Lobanov stared into the night a long time, then he said: "Devil take them. Not a sound. But just try to move and they'll plug you."

I wanted to make fun of his fear, but my voice failed me. I suddenly realized I was afraid of dying. My body, warm and alive, in a few minutes might grow cold and still. People would forget my face, my voice. They would go on living, listening to the silence of the night. There in the dark, where no one could see my face, when there were only seconds left to turn back, I felt such an overwhelming terror, I could hardly hold back a moan.

Lobanov sighed and, bending low, headed slowly, lumberingly toward the water. Moving sideways and clumsily, he went into it with what seemed to me a deafening splash and immediately vanished in the night. I rushed after him and nearly knocked him over—he was standing knee-deep in the water close to the bank, looking at me. Crossing the silty, boggy bottom was like an endless journey. The water kept rising higher and higher. We were soaked through and getting very cold. I wished something would happen, that they'd open fire, anything but the awful silence.

Lobanov finally reached the opposite bank and lay down on the ground.

"What's the matter?" I whispered.

"I'm listening. No point in looking for trouble."

He's scared, flashed across my mind, and I felt a sudden surge of courage.

"Come on, Lobanov!" I exclaimed and started climbing the slope toward the tree.

Muttering something under his breath, he started after me, puffing and panting.

The tree was a good one, it branched out low over the ground.

We had hardly gotten ourselves settled in the branches, when a noise reached us from nearby. Somebody was coming down the slope, slipping, swearing in German as sand and gravel rolled under his feet. Another man, up above, laughed and said something in a low voice. We sat rooted to our perch. The German headed straight for our tree. Then, gripping a bottom branch, he started to pull himself up. The worst possible thing had happened. The enemy had chosen the very same tree for an observation post. I turned my head to Lobanov. He was calmly pulling a dagger out of his boot top. Just as the helmeted head rose through the foliage, Lobanov struck. A groan, and the body crashed noisily to the ground. Someone shouted. Then came a long submachine gun burst, and a white flare shot upward. For just a fraction of a second the bank was lit, and I could see several helmeted figures rushing around below, almost directly under us.

"Now what do we do?" I asked.

But Lobanov sat motionless and silent, a dark splotch in the branches, like a big night bird.

"Lobanov, do you hear me? They know we're here!"

Explosive bullets began crackling all about us.

"You alive, Lobanov?" I asked again.

"Sure," he drawled. "Relax, maybe they won't get us."

But I had already lost control of myself.

"Lobanov, we've got to get out of here while it's dark."

"That's out. Our men will be here soon."

"Soon my eye! There isn't a sign of the dawn."

He was plain crazy. We'd be killed any minute now. To die so stupidly!

"Lobanov, Lobanov!"

He kept silent. More and more shots rang out. Our side of the river also opened fire. And soon gunfire was being exchanged along the entire line.

"Our side opened fire to give us a chance to get out. Come on while there's time!"

Again silence. But I couldn't leave him either. Something chained me to him, something much stronger than my need to run. That was what made me desperate.

I could already make out the silhouettes of the fascists, who had dug in at the edge of the slope and were obviously waiting for daylight to finish us off in one burst of fire.

There was a loud splintering and rasping nearby, followed almost immediately by a curse from Lobanov.

"What's wrong?"

"The transmitter's smashed, a direct hit."

My spirits perked up:

"Then there's no longer any point in staying here."

He didn't answer at first, but then he said: "Yes, I guess we might as well go back."

We climbed down, stepped over the dead Nazi and made a dash for the stream, the broken transmitter dangling from Lobanov's shoulder.

"Chuck the damn thing, what do you need it for?"

He began fastening it to his back: "Oh, no. Try and prove afterward that it wasn't in good condition when we dropped it."

In the water I finally felt safe again.

"I hope you're not sore at me for jabbering up there and bothering you."

"You'll get used to it," he replied as he waded on.

But that was the moment when the fascists caught sight of us and let go with a fusillade of bullets. The water around us began to boil. Mortars from our side spoke up. Suddenly Lobanov staggered, stopped in his tracks and began wobbling strangely to one side. The transmitter began slipping into the water. I rushed up.

"You hurt?"

Slowly, disbelievingly, he shook his head.

"I don't think so. Hold it, just a second. . . ."

But he went on wobbling, and I caught him in my arms just before he went under. Day had broken, and for the first time I could see his gray eyes, glazing now, and his roundish, kindly face.

Lifting him on my back, I started out slowly and laboriously toward our bank.

They were shooting at me, but I didn't care any more.

Two days later we started to pull back again.

. . . There was something in the symphony that brought back that night I got my lesson in courage. I didn't say anything to Alyona. but I knew she was recognizing, too, what I was hearing. And when the violins joined in, I could feel her heart wrung with pain. The whole world was suffering. Yet there was no despair in the music. Rather, there was that very Lobanovlike quiet persistence that guided us through suffering and death and meant one thing only—victory! Our victory!

. . . A cold damp wind was blowing from the woods. My fingers, numb, refused to obey me. I just couldn't get a grip on the round, white, skull-like stone. It slipped from my fingers and rolled noisily down the embankment. I hunched down, but no threatening shout or rasp of a bullet followed. I looked back under my arm. No, he hadn't noticed anything. He had turned his back to the wind and was lighting a cigarette.

We a hundred Russians building the road were doomed. When someone dropped of exhaustion and couldn't work any more, he

was led from the embankment across a snowbound field at the edge of the woods and shot. At least one almost every day. Sometimes a shot would be followed by a drawn-out cry, and the quick burst of a submachine gun would silence it. But more often it was a single shot, a hollow echo from the woods, and silence. Without straightening up or looking around, we went on carrying and laying stones. But I kept count of the shots out there at the edge of the woods.

Every day we were getting weaker. We no longer felt even the gnawing hunger. Tomorrow we wouldn't have the strength to lift a rock. No, we couldn't wait!

From the first moment I had come to—after the shell shock—and found myself behind barbed wire, I had thought of Lobanov constantly. I knew what he would have done.

Now the time had come. But I mustn't miss. That one with the big nose and empty eyes was mine. Like a wooden-legged robot he kept marching back and forth. Now he was coming back. Twenty steps left. I would then be right next to that sharp-edged stone. The other two would also be hit at the same moment. But what if they weren't? What if the others lost heart? Just a few more steps. I laid my hand on the stone. If only I have the strength!

"Stone 'em, comrades!"

An endless, ghastly silence while the fascists stood wavering and then crumpled to the ground. An avalanche of stones fell, and from behind a turn in the road came the rattle of submachine gun fire, the thud of boots. . . .

It was our second day walking through the forest. There were three of us. Victor and I were carrying Grisha, who had a chest wound, on a makeshift stretcher—it was an old army coat. He was wheezing and moaning. I also carried an enemy submachine gun with 23 cartridges in the clip. We were headed east, toward our own lines. All about us were woods, snow and silence.

Whenever we stumbled, unable to fight the terrible exhaustion, we would lay Grisha on the ground and make a little fire.

The smoke curled quietly upward. An ash-colored squirrel ran across the branches overhead. Grisha followed it with his eyes:

"It's March, there's a smell of grass in the air. The squirrels will turn red soon."

Victor pulled out a crust of bread from under his shirt and stuck it in Grisha's hand.

"Eat your dinner."

Grisha was the oldest, going on 30. He had a daughter already.

"Boys, if I die, look after my little girl. Help her grow up."

I couldn't stand it.

"Stop that talk, Grisha, we'll get to our lines soon and you'll get well."

But Victor was smarter than I was, or older:

"Let him be, Alexei."

"You see, boys, her mother, my wife, is a good person. A very good one. But, in a year or two she'll marry again, start living a life of her own again. She's a very beautiful woman. Look after my daughter."

"Don't worry," Victor said.

"Tell her about me. She's a big girl—eight years old. She'll understand, she'll remember everything. And about that squirrel . . . tell her . . . she's always lived in the city, never saw one. . . ."

Then he started to confuse things and mumble, and we couldn't make out what he was saying. Delirium probably. We picked him up and started off again.

The fourth day we reached a looted, half-burned-down village. A little wrinkled old woman in a very stiff leather coat and huge, torn felt boots came running out of a hut still standing at the edge of the village. She immediately began yelling at us:

"So you've come! In full parade! Why didn't you come marching down the road?"

"Hold it, hold it, Mom," Victor interrupted her, waving his arms. "Who are you?"

"Who? Who? . . . They call me Aunt Dasha."

"This fellow is wounded, Aunt Dasha."

"You don't say! I must have gone blind. You didn't even have the brains to wait in the woods till it got dark. The front lines are close by! There are Germans all over the place! What can I do with him in the daytime? Oh, you! What are you standing there like that for? Carry him into the hut."

We carried him in and laid him on a wide bench. His eyes were shut, he was muttering incoherently and moving his fingers weakly. The old woman took a close look at him and put a cup of water to his lips. Without opening his eyes, he started drinking greedily and noisily, shuddering with every gulp.

The old woman turned to us:

"What are you standing there for? Lie down in the corner. Listen, when it gets dark, you'll take that path through the woods. It's a long one, but keep going straight without turning off. When you pass the ravine, move carefully, behind trees, the Germans will be close by. By morning you'll reach a swamp. Stay in the woods during the day, at night head right across the swamp. It's not too bad—you can get through. On the other side you'll come to our lines."

I looked with amazement at this fussy little old woman.

"How come you know all that, Mom?"

"You must think you're the first hero I'm seeing through here, yes?" she retorted, screwing up her eyes.

"And what about Grisha?"

"Our women will come at night, and we'll carry him to the woods. We've got a lot of cellars dug there. Now go to sleep and stay out of sight!"

. . . Victor was shaking me. The moon, shining through the window, shed its light on the round-shouldered old woman. She was sitting at Grisha's side, swaying to a lullaby:

"Sleep, sonny dear, sleep, my eaglet. Get back your strength. The snow will melt soon, the sun will warm you, and you'll quench your thirst with birch juice. You'll be on your feet again and dance merrily across the green. Sleep, little one, sleep."

We bent over him. He opened his eyes and gave us a long serious look.

Victor held my shoulder in his strong grip.

"Don't worry, we'll be back."

I was in Moscow for only one day, just a few hours.

Then the music. It's amazing what music can do to a person. I looked at Alyona. Her eyes were riveted on the conductor, but she sensed my glance, nodded quietly and smiled.

The finale was coming. Soon, very soon, all the wind and string instruments would merge into a strong, radiant melody.

Just then something unusual happened on the stage. An elderly man in black, an attendant probably, came out from behind the orchestra. He bent over one of the musicians, then another, gesturing and whispering. They shrugged their shoulders and went on playing. Why was he interrupting them? Had something happened? All we could hear was heavy blows fusing with the mighty roll of the finale. Kettledrums? No, explosions. Bomb explosions. Fascist planes had gotten through to Moscow. An air raid warning pierced the music.

But the finale had been born. It was fighting, forcing its way through the scream of the bombs. Nothing could stifle the music. It was ringing in everybody's heart. Not a person left the hall. At last—the final, crashing chords.

Everybody rose, and the bombs, sirens and whistles outside were drowned in the thunderous applause. Shostakovich bowed awkwardly.

I turned to Alyona:

"My time is up. I have to go."

"I'll wait for you, Alyosha."

I took a last glance over my shoulder. I would never forget that scene—the hall one great murmur, the people in their coats and sheepskin jackets flowing from the rows, and Alyona standing there motionless in the pushing and jostling, following me with her shining eyes.

By Igor Zotikov
Doctor of Science (Geography)
Glaciologist

The basis of international cooperation on this continent is the Treaty of 1959. The Soviet Union and the United States are among its present 16 signatories. All these countries have pledged to use Antarctica exclusively for peaceful purposes. Any and all undertakings of a military nature, such as setting up military bases and fortifications, conducting military exercises and testing any type of armament, are banned on the territory of the seventh continent. Nuclear blasts and development of radioactive materials are also prohibited; Antarctica has been declared a nuclear-free zone.

The men at the polar bases include experts from countries that are not engaged in independent Antarctic exploration. For example, scientists of Czechoslovakia, the German Democratic Republic, Hungary and Rumania are permanent members of Soviet expeditions. Reciprocal exchange of specialists has been established between the USSR, the USA, Britain and Argentina.

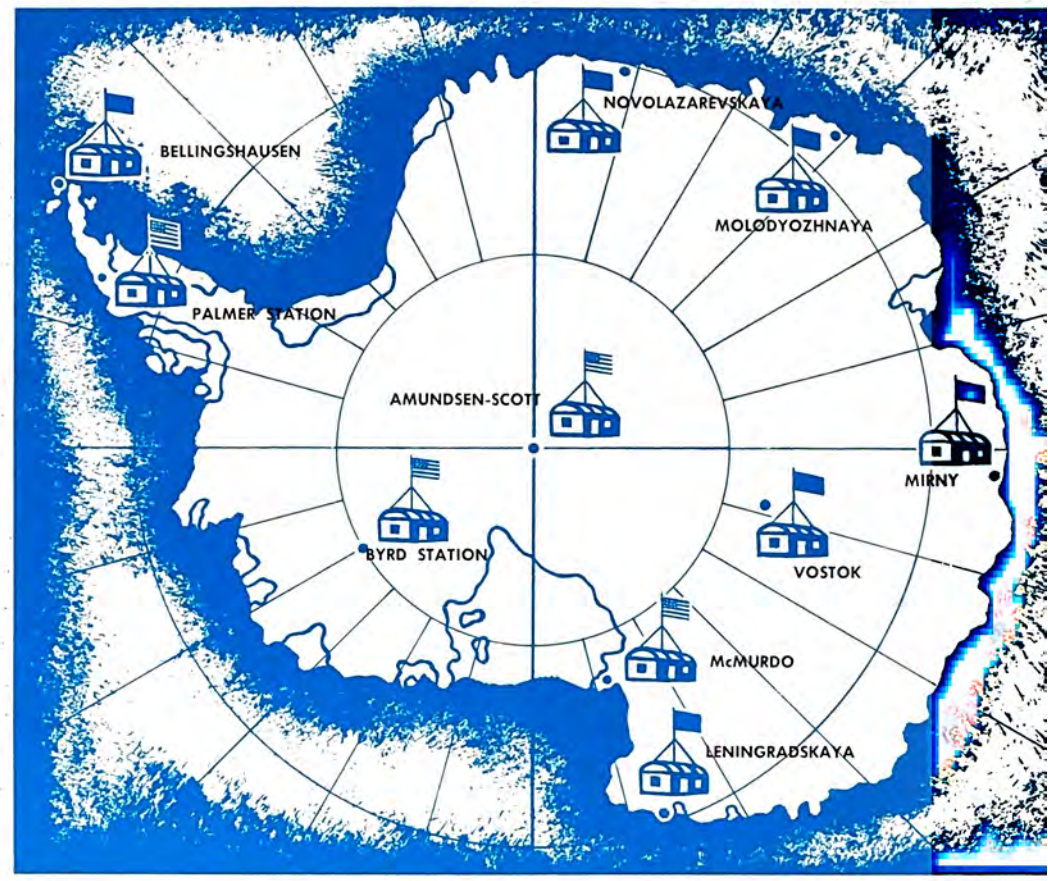
The USA, France, Australia and the USSR have coordinated their Antarctic research programs for the next 10-year period. Soviet and U.S. scientists will conduct inland observations, and Soviet and French researchers will make a joint expedition deep inside the continent, to the Vostok Station; U.S. stations will supply the expedition with fuel.

Soviet scientists are now generalizing the results of international probing of the frozen continent. A two-volume* Atlas of Antarctica *has been issued in the USSR, the first such publication. It covers practically everything known about the continent. The atlas was compiled by nearly 20 research institutions and some 500 experts. Twelve of the latter, all participants in Antarctic expeditions, were awarded the USSR State Prize for 1971. They include eminent polar explorers Hero of the Soviet Union Yevgeni Tolstikov, editor in chief of the atlas, and Alexei Treshnikov, director of the world's only Arctic and Antarctic Institute.

ANTARCTICA

Model of Cooperation

Last year was the first of a ten-year program called the International Antarctic Glaciological Project. It outlines the collaboration of the United States, Australia, France and the Soviet Union in the exploration of the frozen continent, continuing what has been called "the greatest peacetime activity in man's history."



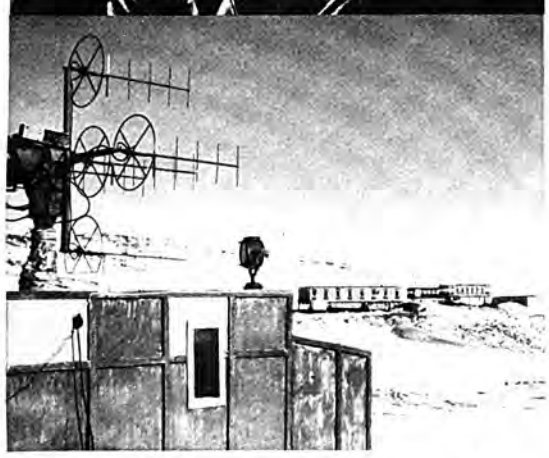


ANTARCTICA



Vostok Station recorded the lowest temperature on the planet, minus 126 degrees Fahrenheit. Below: Seismologist Boris Belikov says 99 per cent of polar researching is just plain hard work.





Molodyozhnaya Station. In the background is the radar installation to track meteorological rockets. Below: Guests from the Vostok Station visit Mirny and are met with the traditional Russian welcome—bread and salt. Second from bottom: Every so often, polar passengers reverse the usual procedure and carry the plane. Bottom: Driver-mechanic Alexei Parshin is on a tractor-drawn sledge train trek.







AT THE VERY BOTTOM of the globe, where the meridians converge on the South Pole, lies a mysterious land, Antarctica. That remote continent is called the Earth's cold factory with good reason: It is a kingdom of ice stretching over an area of five and a half million square miles. Its volume is nearly six million cubic miles. Antarctica holds 90 per cent of the world's freshwater reserves.

It is a high continent, with an average elevation above sea level of more than 8,000 feet. Its giant ice cap creeps from the center of the land toward its fringes at a rate of six and a half feet a day and slides into the ocean. Huge lumps of icebergs break away at the edge of the coastline. Logically, the ice should be thinning out by degrees, but the atmosphere keeps freezing new sections of water.

Almost no soil can be seen except for a few places, mostly on the coast, where on mountain ridges, in barren rocky valleys and on isolated mountain peaks black patches pockmark the ice. There's not a blade of grass or a twig of greenery even in midsummer. The air temperature in the center of the ice plateau at times drops to below minus 126 degrees Fahrenheit, and the wind velocity often reaches a hurricane force of 125 miles an hour. It is not surprising, therefore,







greatest peacetime activity in man's history."

The map of Antarctica was studded with flags of all colors, marking the location of stations set up by the different countries. They stretched all along the perimeter of the ice plateau, with some in the central part of the continent: the American at the South Geographic Pole, and the Soviet at the South Geomagnetic Pole and at the Pole of Inaccessibility.

At these stations, meteorologists, glaciologists and geophysicists carried out a wide range of investigations the year round. Geologists occupied land sections that were free of ice, and biologists settled in the coastal zone.

The meteorologists made observations of the heat exchange between this huge refrigerator of our planet and the surrounding space, studied atmospheric processes over Antarctica, their role in the general circulation of air masses over the Earth, investigated the effect of Antarctica on the progress of basic meteorological processes not only in the Southern Hemisphere but also in the Northern.

Glaciologists had the opportunity to do field studies of the largest accumulation of ice on earth, equivalent to the great ancient glaciers. They established the height of the ice cap with planes. During incredibly arduous months, sledge-and-tractor traverse parties determined the thickness of the ice sheet. It was found to be more than 14,000 feet in the central parts of Antarctica. Valleys and gigantic mountain ranges were hidden under the ice cap.

Geophysicists studied electromagnetic phenomena in the upper atmosphere and in the near-space environment characteristic of the

that well up to the fifties Antarctica remained a blank spot on the map, in the full sense of that expression.

IGY International Cooperation

A concerted assault on the secrets of the seventh continent began in 1957 as part of the International Geophysical Year (IGY). The ambitious research program included the comprehensive exploration of Antarctica. The manpower and material resources of many nations were marshaled for this program of international cooperation, which Hugh Odishaw, a prominent American explorer, described as "the





Mirny is the Soviet capital of Antarctica. The round structure is a fuel tank. Below: At Mirny. Edward Kozlovsky (with hat) and American scientist Pryor Madison.



Robert Scott's shack. He died in the attempt to reach the South Pole first. Below: At Mirny. The flags of the countries whose scientists are working at the settlement.





Antarctica is being painstakingly measured, weighed and probed. Below: Unloading equipment, food, tractors and planes from the Soviet diesel ship *Ob*.

southern polar region. Geologists looked for information that could add to our understanding of the history of the Earth, particularly the theory of continental drift.

As a result of this wide range of studies, unique scientific information was amassed, and geographical and geological maps of the continent compiled. About 300 geographical features on these maps were given Soviet names. The observations resulted in new approaches to many questions regarding both present glaciation and the origin and melting of the great ancient continental glaciers of Europe and America.

In the course of these explorations of Antarctica, the participating nations established the admirable tradition of sharing results and exchanging specialists. It was begun by the American Gordon Cartwright, who spent a year at the Soviet station at Mirny, and Soviet meteorologist Vladimir Rastorguyev, who worked one winter at the Little America Station. The practice has continued: Each year an American scientist comes to work at a Soviet base and a Soviet worker at an American base.

The fruitful IGY contacts formed the basis for a most significant international document—the Antarctic Treaty. Signed on December 1, 1959, it determined the future of the entire continent as a territory for exclusively peaceful uses. Under the treaty the participating nations renounce all territorial claims on Antarctica and declare it free for scientific exploration. So the coldest continent of the Earth has become a site of warm human relations and successful scientific cooperation.

Visiting American Colleagues

In 1965 I had the opportunity to spend a whole year at McMurdo, the main U.S. base in Antarctica. I also visited other American bases —the South Pole and Byrd. I wanted to explore the Ross Ice Shelf, the biggest of the floating glaciers of the world, and to do some work in the valleys of Victoria Land, where Lake Vanda is situated. Its surface is always covered by many feet of ice, while at a depth of 197 feet, the water has a temperature of 77 degrees Fahrenheit. And, of course, I wanted to get to know my American colleagues and study their research methods on the spot.

It was good to feel the friendliness of all the Americans I lived and worked with.

I received invaluable assistance from Dr. Albert Crary, leader of the American research program in Antarctica, who spent a lot of time showing me regions of interest. It is always easier to explore glaciers with a man who knows the area.

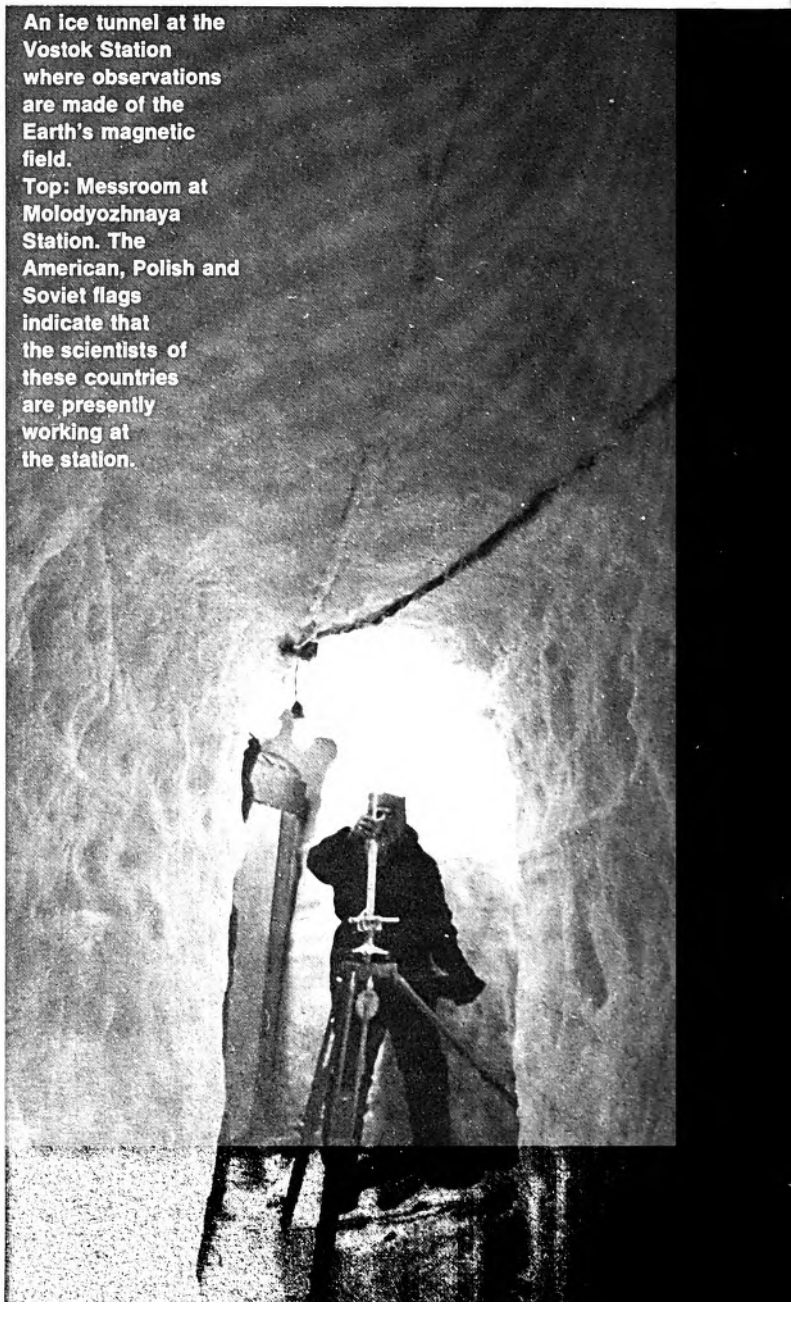
In my first month at the base I could speak almost no English. It was summer, a short, inclement, Antarctic summer, which I did not want to waste, so I immediately got down to work. I would have had a very hard time had it not been for Dr. Morton Rubin, who, a few years earlier, had spent a year at the Soviet Mirny Station. He was the only man at the base who knew Russian. But Morton did more than help me break through the language barrier. As a glaciologist, I often had to dig holes in the snow and bore holes in the ice. It was hard work, but Morton voluntarily shared it with me. Gradually I made progress in English, and my circle of friends widened.

I found life at McMurdo, despite surface differences, surprisingly like what went on at Mirny. The relations of the men, the good humor which helped us carry on through the long winter, the behavior in similar situations were all wonderfully similar. The American scientist Dr. George Meyer, who spent that winter at Mirny Station, had the same impression. I remember the following incident. Dr. Crary and I flew to Byrd Station, located on the ice plateau a few hundred miles from McMurdo. At the entrance to a hut we started to talk to a group of the men who had come out to meet us. A lively conversation ensued about the investigations under way. Suddenly a tractor-trailer loaded with fruit crates arrived at the station. The crates had to be stowed away at once to save the fruit in that freezing cold. Everybody there broke off the scientific talk, lined up and started passing the heavy crates along. The first trailer was already unloaded when a second arrived, then a third. When we finally went in for coffee and took off our wet jackets, I felt quite at home, though in Antarctica my home was at the Mirny base.

That was a few years ago, but I still have very clear, warm memories of my friends. I am still involved with Antarctic exploration and find it very gratifying that the exchange of scientists between our countries in Antarctica has never been interrupted, that every year four-engined Hercules planes fly to our Vostok and Mirny stations, that the Vostok base has in effect become a permanent visiting place for American scientists who carry out the same research program as the Soviet Union.

Last year the Coordination Council of the International Antarctic Glaciological Project endorsed a plan of work for the next decade under which the United States, France, Australia and the Soviet Union will study Antarctica in a single program. The cooperative efforts of scientists from many different nations will continue in the ongoing exploration of the white continent.





An ice tunnel at the Vostok Station where observations are made of the Earth's magnetic field.
Top: Messroom at Molodyozhnaya Station. The American, Polish and Soviet flags indicate that the scientists of these countries are presently working at the station.

QUERIES FROM READERS

QUESTION: Could you outline the history of the city of Kerch in the Crimea? I'm sure it'll be of interest to many. (John Sanders, Miami Beach, Florida)

ANSWER: Kerch is on a peninsula of the same name, between the Sea of Azov and the Black Sea, and is part of the Crimean region of the Ukrainian Soviet Socialist Republic. It has a population of 130,000.

Kerch does have an interesting history, going back 2500 years. It is on the site of ancient Panticapaeum, the capital, in the fifth century B.C., of the Kingdom of the Bosporus, one of the great powers of antiquity. It fell in the thirteenth century to the Tatars, who ceded it to the Genoese in 1318, when it became known as Cerchio. The Turks took the city at the close of the fifteenth century. A peace treaty between Russia and Turkey at the end of the eighteenth century made it part of the Russian state.

Kerch is an inexhaustible treasure house for archeologists. Shortly after the Revolution, excavation work began in the area around the city, and it is still going on. Digging has to proceed carefully because the ground often yields priceless discoveries. For instance, builders excavating the foundation of an apartment house recently turned up a marble slab with a dedication to Aphrodite, the goddess of love and beauty. Deep-sea divers working in the Kerch Strait came on the remains of ancient sunken vessels and fragments of sculptures and earthenware. On the outskirts of Kerch are the ruins of the old fortress town of Ilurat, which in the beginning of the Christian era was destroyed by fire.

Present-day Kerch is an industrial center of the Crimea. The sea is important to its economy. Kerch is still famous for its dynasties of fishermen although the occupation has been thoroughly modernized. At the fishermen's service today are seiners, refrigerator trawlers and floating fish canneries whose products are shipped to all parts of the USSR and abroad. Kerch is also a major commercial port at the crossroads of the Crimea, the Sea of Azov and the Caucasus.

Iron ore deposits are nearby: A big metallurgy plant was built in the early five-year-plan periods. Kerch has, in addition, a pipe foundry, a shipyard and other industrial enterprises.

The city is the third largest cultural center in the Crimea (after Sevastopol and Simferopol), with the Azov and Black Sea Institute of Fisheries and Oceanography and a branch of the Odessa Institute of Technology; metallurgy, machine-building, civil engineering and medical schools; a theater, movie houses, a branch of the Philharmonic Society and a TV center; the country's oldest archeological museum, with exhibits depicting the history of Kerch and the Kerch Peninsula.

The modern history of Kerch is also packed with events. In the Civil War its citizens put up a courageous fight against the White Guard and interventionist forces. The confusing labyrinth of the Kerch limestone quarries, dug up long before, served as reliable cover for guerrillas both in that period and in World War II, when the city was occupied. The Nazis put hundreds of peaceful old people, women and children to death in the catacombs with poison gas, leveled all the industrial plants and demolished the seaport, schools and hospitals. All but 15 per cent of the dwellings in Kerch were destroyed.

Fierce fighting raged in the outskirts, but finally, in April 1944, as a result of daring amphibious operations, the last Nazi was driven out of the city. Scars left by shell fragments and bullets can still be seen on some of the walls. And salvage boats continue to find live enemy mines on the sea bottom.

But the ruins are gone: Kerch has been fully restored. An obelisk overlooks the city from Mithridates Hill (named after the Pontic king), and an eternal flame burns at its base in memory of those who gave their lives to liberate Kerch.

QUESTION: Is the game of checkers popular in the USSR? (L. Deenik, Rockford, Illinois)

ANSWER: It is, with both grownups and children, and it's played everywhere—at home, in courtyards, in clubs and even on trains.

The oldest and most active checkers center is Moscow. Way back in 1827, Russia's first instruction book on the game was published—the author was a famous chess player, Alexander Petrov. Russia's first checkers championships took place in 1894.

The founder of the Soviet school of checkers is Vasili Sokov. Sokov was killed at the front near Leningrad in 1944, at the age of 32, but he had already made a substantial contribution to the theory of the game.

Every country has its own checkers system. The 64-square game has been played in Russia for centuries, but we stage annual tournaments in both this system and in the 100-square version, which is more popular in Western countries.

The USSR affiliated with the World Checker Federation in 1956, and two years later a Kiev engineer, Iser Kuperman, triumphed in the challengers tournament in Rotterdam and went on to take the world title away from Canadian Grandmaster Marcel Delorier. The world crown has remained in the USSR ever since, worn successively by Iser Kuperman, Vladislav Shchogolev and now by Andris Andreiko of Riga.

QUESTION: How does a teenager earn spending money? Can he hold a part-time job?

ANSWER: There are many different ways he can earn money. Here is one:

City schools and factories jointly organize work teams of seventh to tenth grade pupils for jobs lasting from a month to six weeks during the summer vacation. The work period is limited to allow for a holiday before the start of the fall semester.

Also, many factories open special training shops, where teenagers learn simple operations and then go on to more skilled jobs.

Rural schoolchildren are also organized in work teams. They take care of sections of dairies, vegetable or stock farms, or orchards specially assigned to them. Some are even trusted with tractors and combine harvesters.

In addition, teenagers take care of forest areas and their inhabitants and plant saplings. They join building teams and are given various helper's jobs to do on construction sites.

A teenager can also get his own individual job. Special employment agencies send applicants to fill temporary vacancies in factories and offices. High school students are also welcomed as part-time workers for postal and other home-service deliveries. There is no danger of overworking. Labor laws protect adolescents. They are permitted only a short workday and no night or overtime work.

However, not many teenagers hold jobs in our country, nor are they encouraged to by their parents. On the other hand, the teenager's wish to help society is welcomed and fostered. That is why the Young Pioneer and Young Communist League programs include volunteer work. Teenagers often help repair their schools, look after the trees, bushes and flower gardens in the schoolyards and turn out en masse for subbotniks (volunteer work for the state on days off).

A number of teenagers who hold paying jobs donate their earnings to various public funds.

QUESTION: What are the laws for private ownership of firearms in the USSR? (A. I. Veraldi, Middletown, New York)

ANSWER: Under Soviet law, only citizens in certain professions are allowed to have firearms—and these are more often rifles rather than smooth-bore guns. Legal proceedings can be instituted against those who unlawfully keep and make guns for personal use.

Firearms are issued to comparatively few people, for example, to geologists on field trips, to professional hunters, to members of the militia. A person can also be brought to court for negligence in the care of firearms. If, say, a pistol is stolen and later used for criminal purposes, its owner is also guilty for allowing the weapon to be stolen.

The unlawful possession, making and selling of firearms can mean up to two years of imprisonment or one year of corrective work. In lighter cases, a violator is fined up to 100 rubles.

Keeping sidearms is not a criminal offense except when they are carried on the body, made, or sold. But in those areas of the country where sidearms are part of the national dress (among the highlanders of the Caucasus, for instance), or where they are used for professional hunting (for example, in the Far North), people may legally carry them on their bodies.

Finally, a word about smooth-bore hunting guns. They can be bought in the stores, but one must be a member of an amateur hunting club and must know all the safety and hunting regulations.

NO MATTER WHAT the eating occasion, you will always find on the Tajik table, and in Central Asia generally, varieties of spicy relishes and raw vegetables—tomatoes, cucumbers, greens, onions—served whole or cut in fancy shapes (2, 7).

PILAU

This is the most popular Tajik national dish (3 and 7). While rice is always the main ingredient, there are many versions of pilau, including pilau with roast or boiled lamb or mutton, with fish, eggs, dried fruits, nuts, or vegetables. The following recipe serves four.

½ lb. rice
¾ c. butter
1½ lb. roast lamb or mutton, cubed

Wash the rice, put into 2 c. boiling salted water, boil until almost soft enough to eat. Rinse in cold water in a colander. Cook the rice and butter in a covered pot, over a low flame, 40 minutes. To keep the rice from sticking to the bottom of the pot, add a very thin flat cake of unleavened dough or a few slices of raw potato, which can be eaten later with the pilau. Heat the lamb or mutton separately; combine with the rice in a serving dish. Or stew the meat in the rice and butter mixture if you prefer.

SHASHLIK

Shashlik (4), a favorite dish of the Caucasus, is also popular in Central Asia. In Tajikistan it is served with the national bread—flat cakes of unleavened dough—and whole tomatoes and lots of greens. The following recipe makes two to three servings.

1 lb. leg of lamb or mutton cut in bite-size pieces
marinade (salt, pepper, 2 minced onions,
1 T. vinegar)



1

Marinate the meat in a covered pot in a cool place for three hours. Drain the pieces and stick them on metal skewers. Roast over hot coals 15 to 20 minutes, turning slowly. Remove the meat from the skewers and serve with spicy tomato sauce.

PASTRY STRAWS

Pastries in the East are usually sweet and rich. Housewives like to make these light and fancy pastry straws (1).

3 egg yolks
1 T. powdered sugar
pinch of salt
1 c. melted butter
1 T. sour cream
½ c. milk
2 T. cognac
2½ c. flour

Mix ingredients in the order given above, adding the flour little by little to make a stiff dough. Roll out the dough very thin, cut into strips 5 inches long and 2 inches wide. Braid the strips or make roses from them. For roses, cut three dough circles in graduated sizes, and center one circle on another, the largest at the bottom, the smallest at the top. Press the center in to form a shallow pastry cup. Scallop edges of circles with a slight pressure of the thumb to simulate petals. Dip the roses (or braids) in boiling butter, drain in a sieve and sprinkle with powdered sugar.

SAMBUS TAIDUR

Sambus Taidur (3), a mouth-watering delicacy, is a triangle-shaped puff pastry filled with lamb or mutton and sprinkled with sugar.



2



5

TAJIK CUISINE



1. *Fancy pastry straws are shaped to the individual taste.*
2 *and 5. Tajik cooks stress the decorative qualities of vegetables.*
2. *Sambusa Taidur, puff pastry triangles with lamb or mutton.*
3 *and 7. Pilau can be rice plus anything from eggs to dried fruit.*
4. *Shashlik Dushanbe, lamb or mutton cubes roasted on a spit.*
6. *Narib-Shura, roast lamb stuffed with vegetables and nuts.*









Manned Space Stations

BY VLADIMIR SHATALOV

General Shatalov's three flights in outer space give him ample authority to comment on aspects of the space program. What tasks do Soviet cosmonauts have now? How does the training of spacemen today differ from earlier practice? These are the questions Shatalov deals with in his article.

WHAT ARE the main problems of cosmonautics today?

In the field of space medicine, the most urgent are the changes in the human body resulting from prolonged weightlessness, exposure to radiation and other factors.

Designers of life support systems meant to operate for long periods must be specially concerned with reliability and safety. They must answer such questions as: Are the functions distributed rationally between manual and automatic systems? Are these systems as efficient as possible?

Obviously solutions will be worked out gradually as the duration of manned space flights increases.

The progress of cosmonautics in the United States in the last decade is much respected here in the Soviet Union. The Mercury and Gemini space programs in many ways resembled the Vostok, Voskhod and, to some extent, the Soyuz programs. Later, of course, U.S. space engineering concentrated on landing astronauts on the Moon (the Apollo program).

Space research and exploration developed in the Soviet Union in several directions. With regard to studies of the Moon and the planets, our efforts were concentrated on developing and building automatic systems that would bring us the pertinent data and answer important questions.

The tasks we set ourselves here have been fulfilled. We obtained samples of lunar soil. For more than 10 months we explored the surface of the Moon with an automatic self-propelled vehicle, Lunokhod 1. The flights of our Venus probes were successful. Mars 2 and 3 probes were placed in orbits around Mars, and the descent capsule of Mars 3 made a soft landing on the planet's surface.

In the sphere of manned flight the main task was to set up long-term orbital stations. Our first spaceman orbited the Earth just once. Then came flights of one, three and five days, followed by the first spacecraft rendezvous, joint flights and maneuvering, the first walk in space, perfection of linkup and approach systems, the first experimental station and a transfer in space from one ship to another—all of these the bricks of which a new edifice is being built.

Why do we work so hard and so stubbornly? The explorations of the planets are very important. But even for life on Earth we need long-term orbital stations because they can help us solve a broad range of problems through medico-biological, physical and geographical research; hydrological, meteorological, astronomic and radioastronomic observations; study of the Earth's natural resources, and scientific-technical experiments.

Orbital stations will eventually be used as bases for refueling, assembly and repair of spacecraft, primarily interplanetary ships.

After the first experimental manned orbital station, made up of the Soyuz 4 and Soyuz 5 ships, Soviet scientists created the Salute, the first long-term orbital station. The crews of both the Soyuz 10 and Soyuz 11 took part, each with its own tasks.

In recent years space engineering has become much more complicated. The number of tasks has grown, and the character and range of problems we encounter have changed.

As a result, training methods have changed too. The major emphasis for the initial flight was on giving the cosmonaut confidence in his craft and helping him work under conditions of weightlessness. The first flights showed that on the whole weightlessness is tolerable. But with an increase in length of flight, substantial changes do take place in the human body. Apparently there is a biological time limit for manned flight in outer space. What is it? We still do not know.

In the 18-day flight of Andrian Nikolayev and Vitali Sevastyanov on Soyuz 9, a number of problems were solved. Later, on the Salute station, the crew of the Soyuz 11 tested methods and equipment to help spacemen maintain their fitness during a lengthy state of weightlessness. According to data supplied by ground control, the Soyuz 11 crew felt quite normal. And we were certain the readjustment on returning to Earth would be approximately the same as for the Soyuz 9, though the Soyuz 11 flight lasted 23 days.

The entire training of spacemen before the flight was based upon the longer period in space.

With every new result, we must correct our practice, discard wrong concepts and adopt new ones. Here is an example. The Fourth International Symposium on Basic Environment Problems of Man in Space was held last year in Yerevan. Top specialists in space medicine and biology discussed a broad range of problems, many of which relate to the training of cosmonauts. With each new start, there is an increase in the psychological and physical demands made on people preparing for space flight. On the long-term orbital station—and we spoke about this at the symposium—a considerable share of the load is carried by the man who builds the station, selects a program of experiments that conforms to the external conditions, carries out observations and analyzes the information obtained. He makes the decisions in unforeseen or emergency situations, handles the on-board systems, communicates with the outer world, does the necessary work—repairs, tuning up, adjusting of apparatus. Such a full schedule of activities for the cosmonaut also demands special training.

We know that with every flight, there is an expansion in the program of exploration and experiments to be undertaken by the men. This and a number of other problems connected with the operation of new, complex systems require that the volume and methods of training be substantially revised. That is to be expected. Many of the problems have become clearer and do not require such strenuous training as before. But others still remain hazy and demand a cautious approach. For example, even the amount of the physical loads in flight and the methods used to keep the cosmonauts physically fit need further study. A cosmonaut may be compelled to occupy himself with a number of different exercises during the flight to maintain fitness. Is this a correct approach? And how much does this emphasis cut into time for experiments and research? Such problems and hundreds of others require thorough investigation and corresponding changes in training methods, and that is what we are working on now.

The training program should not be expanded infinitely. Like other people, cosmonauts can work only so many hours each day. Therefore doctors, taking into account the latest data, go along with a certain shift of emphasis in this training.

BORIS SPASSKY COMMENTS



ONE OF MY MOST INTERESTING GAMES at the 1971 international tournament in Goteborg was with Spanish Grandmaster Arturo Pomar. This game was played in the last round, when I was third on the scoreboard, half a point behind Ulf Andersson and Vlastimil Hort. A win at the close of the competition would give me little hope of catching up with the leaders. I could count on that only if both Andersson and Hort lost to Czerniak and Jansson, respectively.

I decided to dispense with illusions, to play calmly, without thinking of the outcome or worrying about a possible draw.

QUEEN'S GAMBIT
Goteborg, Sweden, 1971

White—A. Pomar	Black—B. Spassky
1. P-Q4	P-Q4
2. P-QB4	PxP
3. N-KB3	N-KB3
4. P-K3	P-K3
5. BxP	P-QB4
6. N-B3	P-QR3
7. O-O	P-QN4
8. B-K2	B-N2
9. PxP	. . .

I realized at this point that my opponent was not looking for complications. In the opening, after taking Black's Pawn, White offered an exchange of Queens. I did not object.

9. . . .	QxQ
10. RxQ	BxP
11. P-QR3	. . .

It is more forceful to move the Pawn to R4 rather than to R3, since after 11. P-QR4 Black will have to be most careful to avoid landing in a worse position.

11. . . .	QN-Q2
12. P-QN4	B-K2
13. B-N2	O-O
14. QR-B1	QR-B1
15. K-B1	KR-Q1
16. P-R3	K-B1
17. N-QN1	N-Q4

The position is almost symmetrical, and White has no reason as yet to be anxious about the outcome. The simplest sequence now is 18. RxR, RxR; 19. R-B1, trying to exchange the Rooks. Instead of this natural maneuver, White goes on playing without a precise plan, permitting Black's Knights to occupy important positions. Evidently the Spanish grandmaster believed he would draw the game without difficulty.

18. QN-Q2	N(2)-N3
19. N-N3	. . .

White's careless play results in a serious miscalculation. Now Black gets his real chance for a win. White can still continue 19. RxR, RxR; 20. R-B1, or even simply 19. N-QN1, protecting the QB3-square from a possible intrusion by Black's Knights.

19. . . .	N-R5!
20. B-Q4	N(Q)-B6

The raid into the enemy camp proves fairly promising. White already faces serious difficulties.

21. BxN	RxRch
22. BxR	NxB

It is obvious now that Black is going to have two Bishops against his opponent's two Knights, because it is impossible to continue 23. B-B2 in view of the unpleasant 23. . . . N-R7.

23. B-K2	NxB
24. RxRch	BxR
25. KxN	. . .

Black's position is noticeably better. If he succeeds in enhancing the activity of his Bishops, White can hardly survive. With my next move, I prepare for P-K4 so as to continue B-K3 later.

25. . . .	P-B3
26. N(B)-Q4	P-K4
27. N-B6	B-Q3
28. N-B5?	. . .

A decisive error. White would do best to employ wait-and-see tactics, while trying not to let his opponent ready his Bishops for action. It is possible, for example, to play 8. N(B)-R5, planning to continue N-B5 or even P-K4 with the subsequent K-Q3, which would leave White the hope for successful defense. Now, however, it's all over.

28. . . .	BxN!
29. PxB	B-N2
30. N-N4	. . .

If Pomar replied 30. N-R7, counting on queening his QB-Pawn, I would gladly meet him halfway. After 30. . . . BxP; 31. P-B6, BxRP; 32. P-B7, K-K2; 33. P-B8=Q, BxQ; 34. NxBch, K-K3 Black would have an excellent chance for a win. I do not see how the Spanish grandmaster could prevent me from creating passed Pawns on both the K- and Q-side.

30. . . .	K-K2

It is also possible to continue 30. . . . BxP. However, I decide first to strengthen the positions of my pieces to the maximum before tackling my opponent's Pawns.

31. P-B3	P-QR4
32. N-R2	B-Q4
33. N-B3	B-B5ch
34. K-Q2	K-Q2
35 P-KR4	P-B4
36. P-N4	P-N3
37. PxP	PxP
38. P-R4	P-N5
39. N-N5	K-B3
40. N-Q6	B-Q4
41. NxP	BxP
42. N-N7	KxP
43. N-K6ch	K-B5
44. N-N9	B-B3
45. NxP	P-N6

The passed Pawn supported by the King and the Bishop gives Black an easy victory.

46. N-B6	K-N5
47. P-R5	P-N7
48 K-B2	K-R6
49. K-N1	B-B6

Resigns.

U.S. Ggovernors in the Soviet Union



MEETING PREMIER ALEXEI KOSYGIN

SEEING SIGHTS AND VISITING PEOPLE

A DELEGATION of governors from the United States, the most representative in the history of Soviet-American relations, paid a 10-day official visit to the Soviet Union last year, arriving in Moscow on October 9. They were invited by the Council of Ministers of the Russian Federation, the largest union republic both in population (130,079,000) and territory (6,591,100 square miles). The eight governors: Warren E. Hearnes of Missouri (head of the delegation), Marvin Mandel of Maryland, Dale Bumpers of Arkansas, William G. Miliken of Michigan, John A. Love of Colorado, Stanley K. Hathaway of Wyoming, David Hall of Oklahoma and Luis Ferré of Puerto Rico, were accompanied by Special Assistant to the U.S. Secretary of State for Liaison with Governors Abram Manell, and director of the National Governors' Conference on Relations between the Federal Government and the States Charles Byrely.

In addition to a tour of Moscow, the governors visited Leningrad, Kiev, the capital of the Ukraine, and Tbilisi, the capital of Georgia. Leonid Solovyov, Deputy Foreign Minister of the Russian Federation, made the trip with them.

On October 18 the delegation left Moscow by plane for Bucharest. Before leaving, they were interviewed by SOVIET LIFE correspondent Ted Rukhadze.

Photographs by Vladimir Akimov





The delegation of American Governors had an hour-long meeting with Premier Alexei Kosygin. During their 10-day stay in the Soviet Union they visited Moscow, Leningrad and Tbilisi, capital of the Georgian Republic. Leaving the Lenin Mausoleum in Red Square (above); a stop in Cathedral Square on their Kremlin tour (left).

After traveling in the USSR for a week and visiting the cities of Moscow, Kiev, Tbilisi and Leningrad, I am impressed with the sincere desire of the Soviet people to achieve and maintain world peace.

With 20 million casualties in World War II alone, the people of the USSR fully understand the human and material cost of war.

The announcement of President Nixon's coming to the USSR for a summit meeting with Soviet officials has been well received here. Although there is some apprehension, there is also considerable confidence that the meeting will be productive.

We were not scheduled to meet with Prime Minister Kosygin, but he received the delegation of American Governors, and our discussion lasted more than an hour.

The Governors have received a warm and friendly welcome from all the officials of the Soviet Union we have come in contact with. There is every indication that the relationship between our two countries is improving.

Stanley K. Hathaway
Governor of Wyoming





Leningrad. Governors John Love of Colorado (left) and Warren Hearnes of Missouri with the Aurora *in background. The guns of the cruiser signaled the beginning of the October 1917 Revolution.*
Top: Alexander Sizov, the Mayor of Leningrad, telling the Governors about the city's long-range development plan.
Bottom: The Governors visit a fourth grade class in one of the Kiev schools where English is taught from the second grade on.

Our visit to the Soviet Union has served to help us understand the aims of the Soviet people with greater clarity. We appreciate the friendliness and hospitality shown us during every minute of our visit.

The Soviet people and their government have shown great initiative and originality in the solution of the serious economic problems they have faced. Their intelligent and far-reaching vision in planning their cities to make them livable and efficient is an approach that can be used elsewhere to face the urban crisis that menaces the world. They have retained the beauty of old buildings and traditions and have merged them with the modern and efficient.

There is no reason why we cannot work together, helping each other in the solution of problems, while respecting the right of each other to be true to his principles so as to assure a world of peace and understanding. Our visit, the warmth of our reception and the opportunity to meet each other personally, we are confident, will help to achieve these ends.

Luis Ferré
Governor of Puerto Rico



It is with both satisfaction and regret that I leave the Soviet Union. Satisfaction and gratitude for the warm, friendly way our hosts received us, and regret that we had only nine days for all the questions we wanted to ask, all the points of interest we wanted to see.

I leave realizing the ideological differences that exist between our two countries, but more importantly, I understand more than ever the urgency of mutual understanding as a vehicle for world peace. Next spring a Soviet delegation will visit the United States. Its members will have an opportunity to see American methods and, hopefully, understand the philosophy of our system. This kind of exchange is only a beginning, but I honestly believe we have entered a new era. I hope this delegation of U.S. Governors has made a contribution.

Warren E. Hearnes
Governor of Missouri
(Head of the Delegation)

My trip to the USSR has given me a better insight into the feelings and desires of the people of this nation. There has been great progress made in rebuilding the cities after the destruction and suffering that was endured by the people as a result of the great war. Our two peoples have never engaged in a conflict with each other, and it is my great hope and the hope of the American people that this will never

happen. Our two great nations must move in the direction of mutual understanding and peace, otherwise the whole world will suffer. The opportunity now presents itself for our leaders to accomplish this if the feeling and desires are sincere.

I am confident that we can move in this direction because our mutual interests require lasting peace in the world.

Marvin Mandel
Governor of Maryland



At the Georgian Agricultural Institute the distinguished American guests were photographed with a student ensemble that does folk dancing in the traditional dress. The Georgian national dances, done at fiery tempo and with acrobatic virtuosity, make an extraordinarily dramatic spectacle.
Below: The chief architect of Kiev (in the center) takes the Governors up to Vladimir Hill for a panoramic view of the capital of the Ukrainian Republic.



also for other reasons, I am convinced that the people truly seek peace. I hope, and have renewed confidence, that this is true, for above all it is vital that the American and Soviet people avoid the ultimate tragedy of confrontation. I hope to return to the USSR and will look forward to greeting and returning the hospitality to our counterparts of the USSR when they come to America.

John A. Love
Governor of Colorado

I will always remember with deep gratitude the warmth and hospitality extended the Governors of the U.S. by the people of the Soviet Union.

The progress we saw everywhere in the fields of housing and transportation, education and planning was most impressive, and this progress is properly a source of great pride by the people.

I was moved by the great vitality of the people, particularly in restoring the buildings and priceless objects which have been such a rich part of their history.

When one visits the memorial cemetery at Leningrad, the necessity for peace is dramatically felt.

There is a reserve of friendship between the people of the Soviet Union and the people of the United States. We must develop and build on this until peace is securely preserved.

Dale Bumpers
Governor of Arkansas

As I leave the Soviet Union after a brief but intensive trip, I have many impressions. First, those officials and citizens I was privileged to meet were very warm and hospitable. Second, I believe we of the USA tend to forget the tremendous toll that the two world wars exacted from the Soviet people. Partly as a result of these tragic losses, but

President Nixon has called for a generation of peace; Prime Minister Kosygin, in the meeting with us during our visit to the USSR, discussed the new five-year plan, which, he said, was a plan for peace. All of this, in addition to the warm reception we have everywhere received, bodes well for the future.

William G. Miliken
Governor of Michigan

The wonderful memory of this trip to the USSR will be with me the rest of my life. I am tremendously impressed with the great energy and enthusiasm of the Soviet people. The reception we received has been warm and friendly. The questions we asked were answered without hesitation.

In my travels across the USSR I have found that the Soviet people desire peace just as we in the USA desire peace. I feel that our trip may help to play some small part in better understanding and peace in the world.

It is important that the USSR and the USA have respect for each other. We are both great nations, and our friendship will mean peace in the world.

May we all continue to work for world peace.

David Hall
Governor of Oklahoma

NEXT ISSUE





Moldavia is featured in June, continuing our series on the union republics. The Chairman of the Moldavian Council of Ministers has written an article highlighting the republic's past and present, and summarizing its plans for the future. This is followed by a sociological study made by the Moldavian Academy of Sciences documenting the changes in the social structure of the population since Moldavia became a Soviet republic. The picture is rounded out by an article on the Bendery silk mill's amateur song and dance ensemble. The story of these weavers who have won national fame epitomizes life in Moldavia today.



More than 50 years ago the Komsomol, at its first congress, decided that its primary objective was "the active participation of youth in the revolutionary construction of Soviet Russia." This is still its purpose. The Komsomol is the patron of hundreds of youth construction projects. One is Kamaz, the Kama Auto Plant in Tataria. One of the major construction projects of the Ninth Five-Year Plan, Kamaz is a whole complex of factories that will be manufacturing 150,000 trucks and 100,000 diesel engines a year. Two articles and interviews with the Deputy Minister of the USSR Automobile Industry and some of the construction workers will introduce our readers to the young people who came from all over the Soviet Union to build the plant and a new city around it.



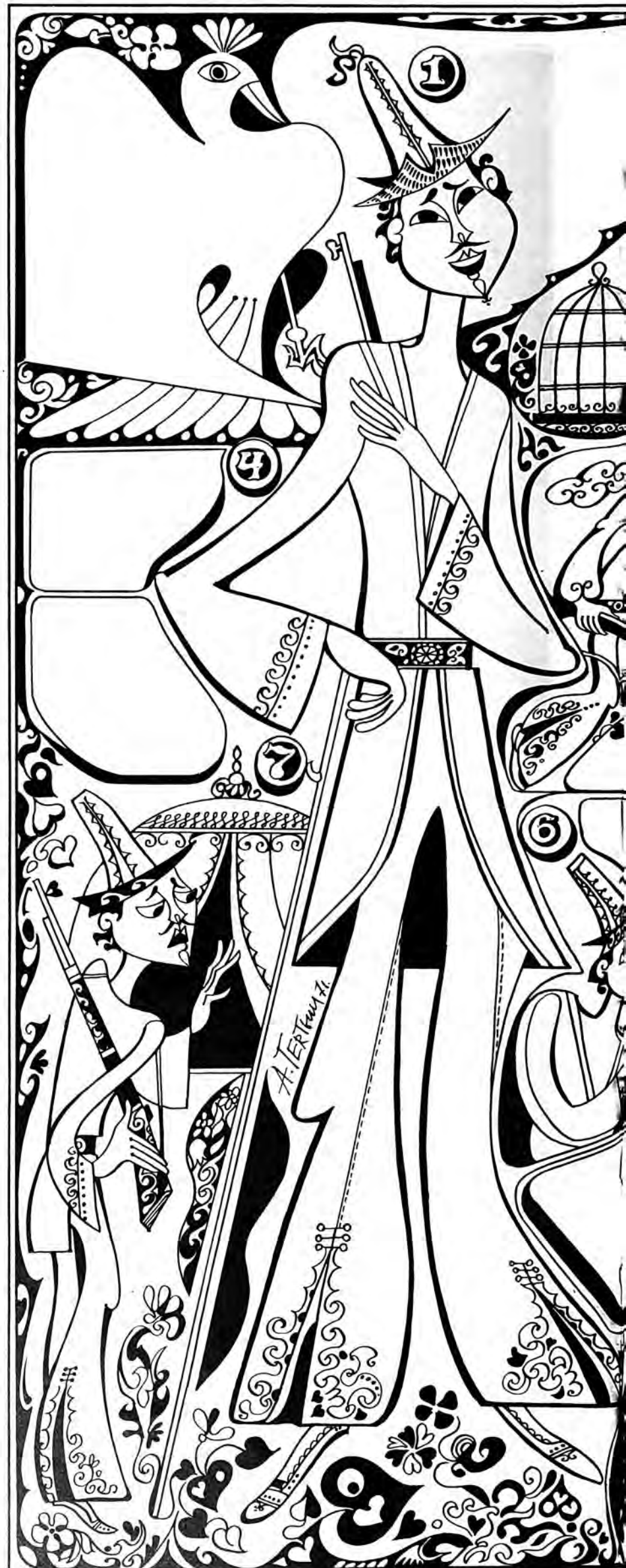
To be cut off from all of humanity because you are unable to hear is bad enough. What is even worse is to be considered incapable of education. That is how it used to be before it was discovered that the deaf could learn. It was not until the eighteenth century, however, that the first school for the deaf was opened. An article by Ilya Gitlitz describes how highly skilled doctors and teachers and the proper social conditions are today making it possible for the deaf to live a normal life.

For most people a trilateral infarct at age 62 would spell the end of an active life. For Academician Axel Berg it was the beginning of a totally new one. Two years later he headed one of the main schools of Soviet cybernetics. An article about this remarkable rejuvenation in June.

An article by a member of the editorial staff of the youth newspaper *Komsomolskaya Pravda*, interviews and facts and figures present a picture of the countrywide rally of 2500 students gathered in Moscow to share their experience and exchange information on their activities in the community.

COMING SOON

Man and his environment





THE LOST BIRD ZYMYRYK

From Kirghiz Folklore

Illustrations by Alexei Tertyshnikov

ONCE UPON A TIME there lived a khan. Among his most treasured possessions was a wise Bird of Omen named Zymyryk who could prophesy the future. Every morning this bird told him what went on and what would happen in the wide world.

One fine day Zymyryk disappeared, and the khan was most unhappy. He sent his bravest horsemen, called *djigits*, searching everywhere. But the *djigits* could not find the wonderful bird. They returned empty-handed.

Sadder than ever, the khan summoned his people and told them: "I will give half my kingdom to the man who brings my Zymyryk back.

These tidings traveled far and wide and reached the ears of Bekjal, the son of a slave. Bekjal took his gun and went searching.

On his way he met six mountain goats. Removing his gun from his shoulder, he took aim, but the mountain goats begged him in human voices: "Do not shoot us, good youth, for we are not goats but human beings."

The young man, marveling, lowered his gun. "What turned you into goats?" he asked.

This is what they told him: "Like you, we were walking down this road when we saw a big white tent. Inside the tent a table was laid out with all kinds of delicious foods. But no sooner had we partaken of this feast, than we were transformed into goats. Beware of that tent, young *djigit*. Do not go into it, do not taste the food, or you will suffer the same evil fate as we did."

Bekjal listened carefully to the mountain goats. But as he went on his way and saw the white tent, he could not resist going in.

In the empty tent on a white tablecloth were dishes so tempting that Bekjal thrust aside the warning of the goats.

No sooner had he made himself comfortable on the carpet, than an old witch appeared, picked up a handful of earth and after mumbling something, flung it into Bekjal's face. That very instant the youth was transformed into a mountain goat. He darted out of the tent and ran as fast as he could until he reached a white palace. There he paused by the road.

Out of the palace came a beautiful maiden. When she saw the mountain goat, she knew what had happened. "Surely this is no beast but a human being," she told herself, "and it was my own evil mother who transformed him into a goat." She picked up a handful of earth, murmured a few words, and flung it at the goat. Bekjal instantly became a young man again. The maiden invited the handsome youth into the palace and feasted him as if he were a king. Bekjal told her about the lost bird.

"I know where you can find him," said the maiden, "if you dare."

"I can do it," said Bekjal boldly.

Impressed by his courage, the maiden decided to help him.

"Then do as I tell you," she said. "Soon you will come to a tall poplar tree. Hide there and watch for the evil dragon. When you see it, climb the tree and shoot. If you do that, you will save the fledglings of the Giant Bird. But don't miss if you want to live. The next day the black Giant Bird will come and repay you for your good deed. She'll take you to where the Bird of Omen is hidden."

Bekjal thanked the girl, said good-by and went on his way. When he reached the tall poplar, he did exactly as he had been told.

"One good turn deserves another," said the Giant Bird to Bekjal. "Ask anything you wish, and I shall do it for you."

"I beg you to carry me across the mountains, over the thick woods and the great sea, and show me where I can find the Bird of Omen."

The Giant Bird said good-by to her little ones. "Keep your eyes shut," she warned Bekjal as they started off, "or your head will go round and you'll fall to earth. Don't open your eyes till I tell you to."

When a great city loomed into view, she said, "The Bird of Omen was kidnapped by the princess of this city. All the court is asleep at this hour. You must walk boldly into the city, and in the palace you will find the magic bird. The princess wears a gold bracelet. Slip it gently off her hand so that you may make a gift of it to the maiden who sent you here. She will then be your bride."

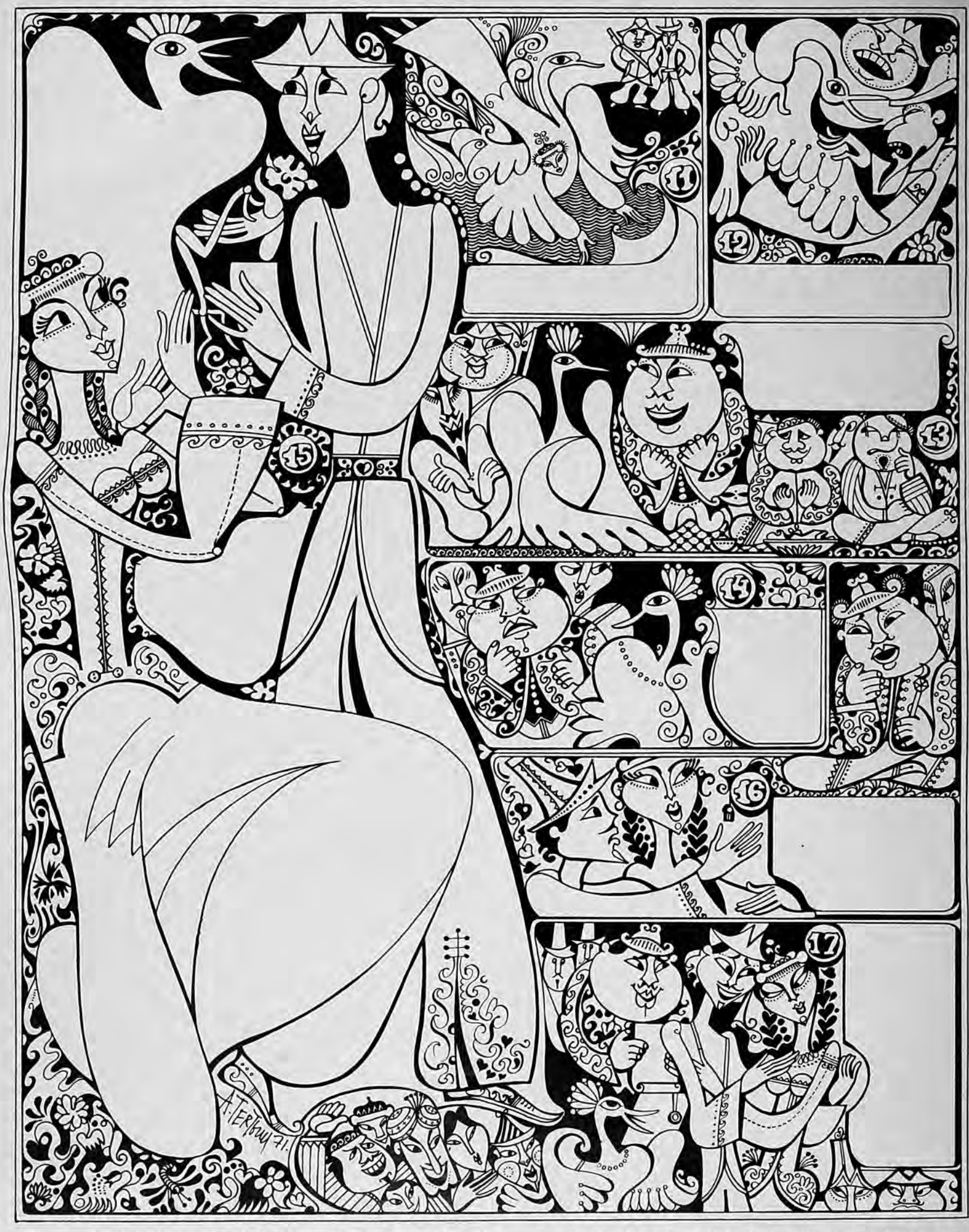
Bekjal walked into the city and entered the palace. There he found the sleeping princess with the bird at her side. He seized Zymyryk, slipped the bracelet gently off the princess's hand and returned to the Giant Bird.

Under the poplar they said good-by. Bekjal climbed on the back of the Bird of Omen and soon reached the palace where the beautiful maiden lived. He gave her the bracelet, and together they flew off to Zymyryk's master, the khan. On the way they stopped to rest on the shore of a lake, close to the spot where the khan's two sons were hunting.

Seeing the Bird of Omen, the two princes decided: "Surely we won't let Bekjal, the son of a slave, win half our father's kingdom and have nothing for ourselves. We had better kill him."

They galloped over and dismounted.

"Look, Bekjal," they said, "you're younger than we are. Will you take our horses to the lake for water?"



Unsuspecting, Bekjal went off with the horses. The khan's sons followed stealthily and pushed him into the water.

The two villains decided to kill his bride, too, because they were afraid she might give them away. But just as they came near her, she plunged into the water and turned into a swan.

The khan's sons now snatched Zymyryk and galloped off.

The khan was beside himself with joy when he saw his beloved bird. He called the people together, held a great feast and pronounced his sons rulers of two neighboring cities.

Zymyryk perched in his former place, but he did not utter a word though every morning the khan begged him to prophesy.

One day Bekjal, together with his bride, who had saved his life, came into the city. No sooner did they appear than Zymyryk spoke up.

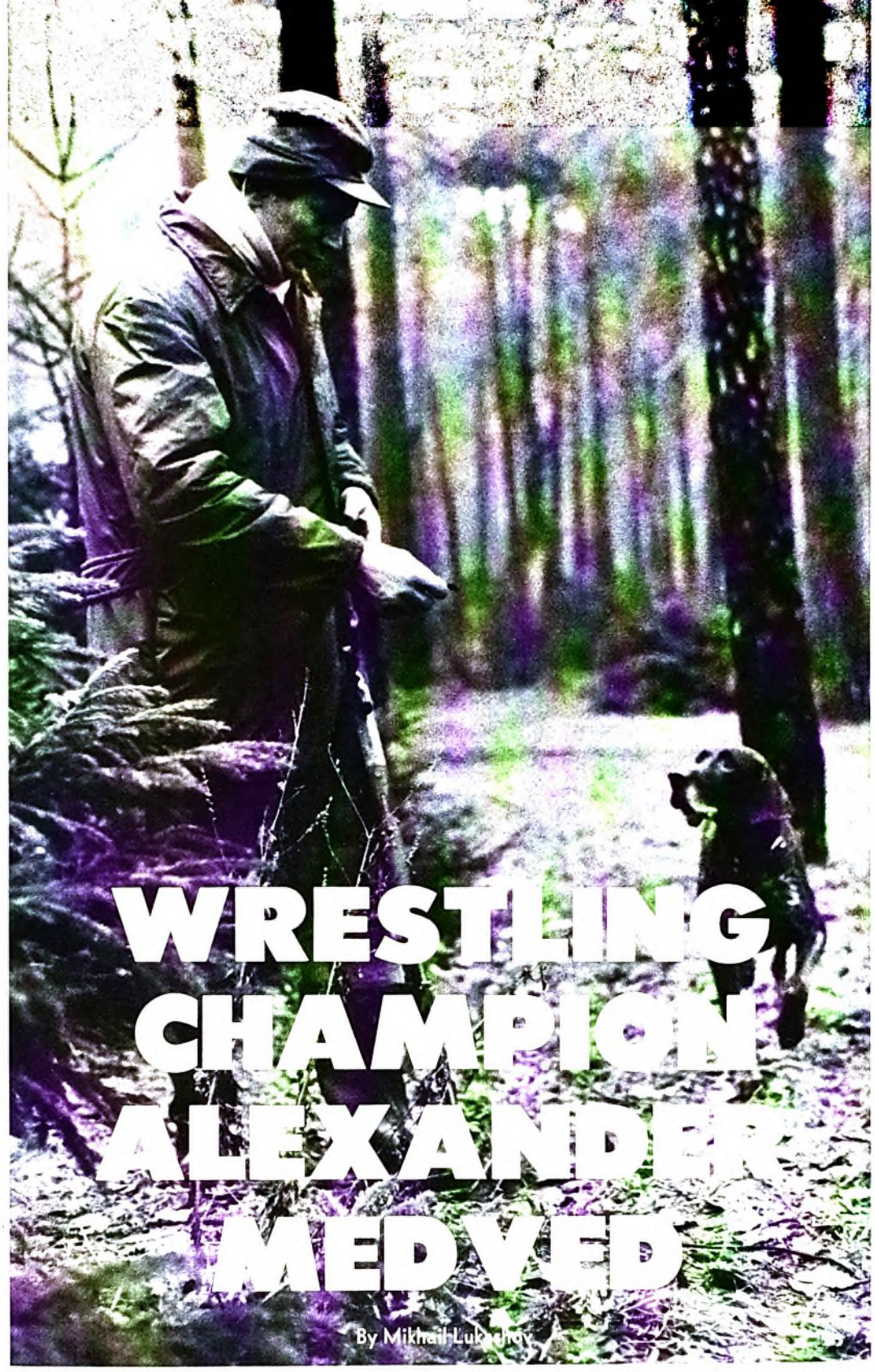
"This young man is the true hero," he said. "He's the one who found me."

The khan was overjoyed to hear the bird speak. He asked Bekjal many questions. And Bekjal told him the whole truth.

Soon the news spread far and wide that it was Bekjal, the son of a slave, and not the khan's sons who had found the Bird of Omen.

The khan was forced to keep his word and give half his kingdom to Bekjal. His two sons were left with nothing.

And Zymyryk was now better than ever at predicting what would happen.



WRESTLING CHAMPION ALEXANDER MEDVED

By Mikhail Lukashov

HOW MANY amateur matmen are there who can tackle opponents outweighing them by 150 pounds? That was exactly what Soviet heavyweight Alexander Medved faced, in the person of Chris Taylor, when a free style wrestling squad from the USSR made a tour of the United States in March 1971.

Even the judges couldn't establish Taylor's weight. When he got on the scales, the pointer turned all the way to the end and stuck there. They had to be satisfied with the American matman's statement that he weighs about 400 pounds. But Taylor has other advantages—his strength and his technique. He moves somewhat slowly when he's away from the mat, but on it he's transformed.

"We know that Taylor is a unique wrestler," said Honored Trainer of the USSR Boleslav Rybalko, head of the Soviet national squad. "It will take something special to beat him, and I think Alexander Medved has it." And he had, though in this difficult bout he was compelled to be not only a matman but a weightlifter as well.

After two wins against Taylor, Medved caught a cold traveling from city to city, so that in the last match, in Chicago, the coach wasn't happy about letting him wrestle. But Alexander insisted, and chalked up a third victory over his extraordinary opponent.

Medved lives in Minsk and has been defending the sports colors of the Byelorussian Republic for the last 15 years, but he was born in the Ukraine, near the old town of Byelaya Tserkov, in 1937. His father, an unusually powerful man, was from a family of foresters. Alexander was fearless and strong for his age. And the work in the woods and at home was excellent training. He even tried to compete with his father hacking apart knotty oak stumps.

The future champion's wrestling career had an unintentional beginning in the armed forces. Lining up a group of recruits, among them 19-year-old Alexander, a broad-shouldered lieutenant asked: "Any of you wrestlers?" Never having tried this sport but confident of his strength, Alexander yelled: "Here!"

"You come along with me for a training bout," said the officer, happy to find himself a partner. This session, however, was their first and last—in the opening minutes Alexander pinned his commanding officer to the canvas.

Soon after that he began training regularly, starting with Greco-Roman wrestling and sambo,* and often making the top three in his matches. But real success came his way when he pitted his strength in the catch-as-catch-can (freestyle).

At the time, this type of wrestling was the newest sport in the country. In the first USSR championship, in 1945, participants had only a hazy notion of how catch-as-catch-can wrestling operated abroad. And perhaps for that very reason, an original style, aggressive and dynamic, was developed.

In scanning the lists of the USSR's first champions in this event, participants in sambo, the Georgian national event *chidaubo,* Armenian *kokh,* Azerbaijanian *ghyulesh* and others can be found. Like sambo, the newborn Soviet free style wrestling became a blend of wrestling events of many peoples. One of them contributed powerful leg holds, another fast tripping, a third the leg grapevine, and so on.

No wonder then that the appearance of the Soviet free style wrestling stars on the international mat was a real sensation. At the 1952 Olympic Games in Helsinki, the newcomers grabbed top place from the Turkish sportsmen, who had had a long and unbroken reign in this event. And though two years later the experienced Turks managed to capture the team victory at the world championship, pushing the Soviet matmen back into second place, a finish was put to what had been a traditional monopoly. In 1958 Soviet wrestlers again showed themselves to be the world's best, and if subsequently they have ever had to occupy third place, that was considered a major failure.

Taking part in a national meet for the first time 15 years ago, Alexander fought on an equal footing with the country's former champion, Alexander Trisberg, ceding the victory to him on points only. Though Medved placed only tenth at the time, the late Roger Coulon, president of the International Amateur Wrestling Federation, exclaimed after seeing him in action: "That man will be a champion!"

A year later Medved moved up to sixth place, taking revenge on his conqueror of the year before. In 1959 he captured the bronze medal at the USSR People's Games, and in 1961 took the national title for the first time, having brought about what amounted to a revolution in the wrestling tactics of heavyweights.

Even now, after 15 years of wrestling, Medved seems much more like a basketball player or even a gymnast. But at that time the victories of this compactly built young man over the strongest matmen looked impossible. Alexander bore very little resemblance to the huge, not very agile kings of the wrestling mat. He didn't crush his opponents by mere strength or weight. Speed, cunning, polished technique, along with a big bag of holds, each of which he has perfect control of—these are all part of his style.

Medved was invited to join the national team, which became a real academy for the young sportsman. He had to compete in the 1961 world championship, held at Keiō University near Yokohama, Japan, against famous matmen who had become walking legends. The newcomer confidently paved his road to the finals, but on meeting world and Melbourne Olympic champion Hamil Kaplan of Turkey, he managed only a tie.

To emerge in top place, Medved had to win against another Olympic champion, Wilfried Dietrich of the Federal Republic of Germany. And though even a tie with Dietrich would have given him second place, Alexander aimed at nothing less than victory. He started the bout by taking big risks so that in the final minutes Dietrich managed to get on

* See the June 1971 issue of SOVIET LIFE for article on sambo wrestling.

top of his opponent, winning the match on points and, with it, the championship title. Medved came out with the bronze medal.

Because of the change in the limits of weight divisions, he appeared in the 1962 world championship in Toledo, Ohio, in the light heavyweight class. That is when the newspapers said that "the light heavyweights overshadowed all the earlier contestants with their polished technique." In every one of his three encounters, Alexander pinned his opponents. Iran's Jalam Takhiti, world champion and Olympic gold medalist, was advancing toward the finals just as confidently as Alexander. The bout between these two favorites would determine the winner. And a tie was good enough for the Iranian because in that situation the scales would decide the match. The lighter of the two becomes the champion —that's the rule. Takhiti, who was a little lighter than Medved, staked everything on that rule. Making the tie, he dropped into the arms of his fans, completely exhausted. But the scales had a surprise for the Iranian. In his struggle for the victory, Medved had worked so hard that he came out weighing one and three-quarters pounds less than Takhiti.

And that's how Alexander joined the company of the world's wrestling elite and stayed there.

In the last decade he has participated in all the world championships and Olympic Games, yielding first place only once. His collection of awards includes



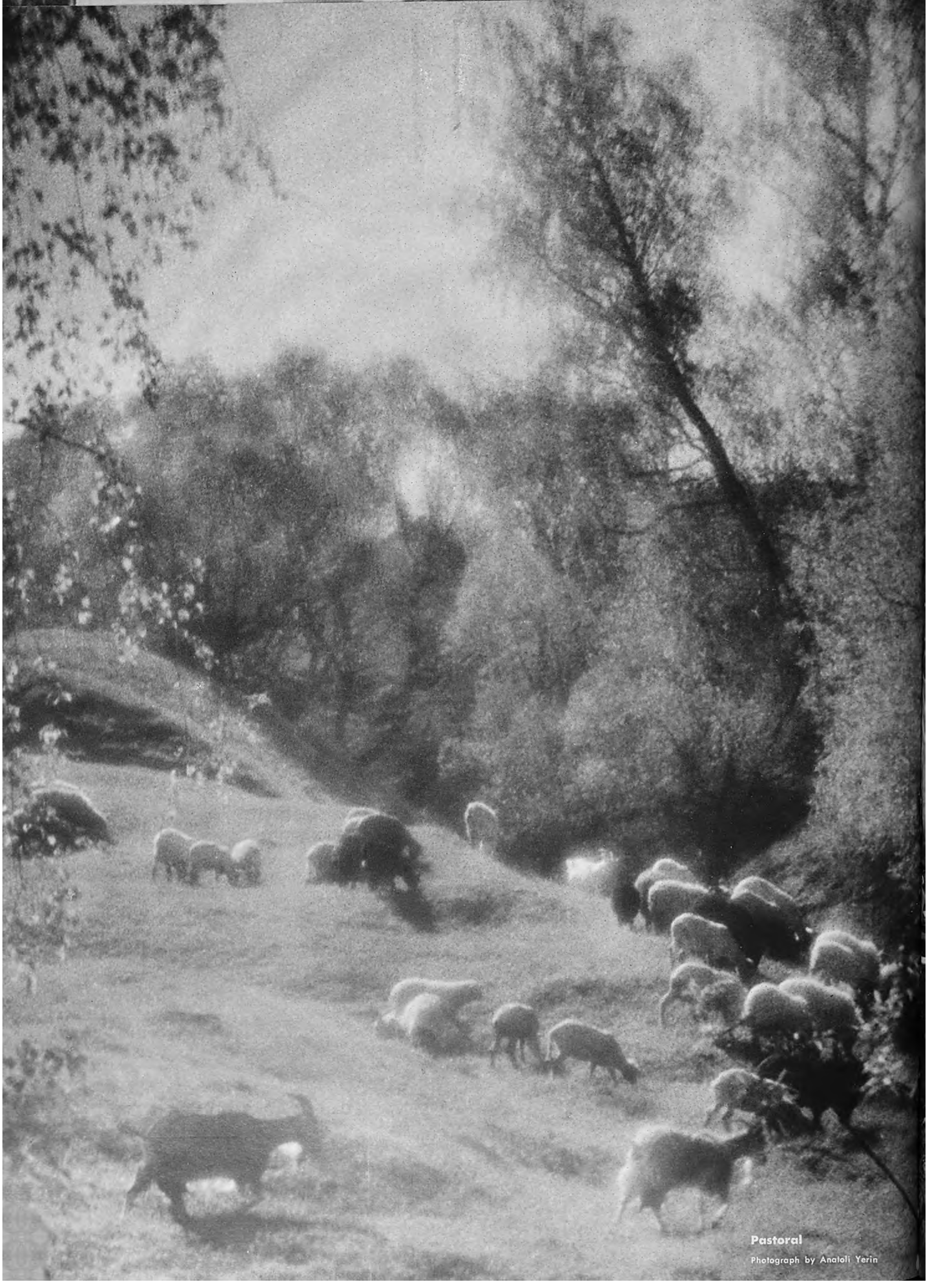
two Olympic and three European gold medals, along with seven gold medals, one silver and one bronze medal earned at world title meets.

Medved is unquestionably one of the most striking figures in the history of amateur wrestling, but to think that his interests are centered exclusively on sports would be a mistake. His participation in dozens of major contests didn't keep him from getting a higher education. Now Medved teaches at the Minsk Radio Technical Institute and is completing his dissertation for a candidate's degree.

The sports career of the 35-year-old champion is about to be rounded out. He has already announced that he will compete for the last time at the coming Olympic Games. It goes without saying that it won't be easy to find a replacement when he retires. But we suppose that our coaches, with some 300,000 free style wrestlers to choose from, will manage to locate his successor.



Training for free style wrestling—the idea is not to get pushed into the circle. Alexander Medved, winner of two Olympic gold medals, is the second man from the left. The newly developed Soviet free style wrestling is an amalgam of the styles of many national groups—Georgian, Azerbaijanian, Armenian and others.



Pastoral

Photograph by Anatoli Yerin

SOVIET LIFE

JUN 30 1972

KAMAZ—GIANT AUTO PLANT

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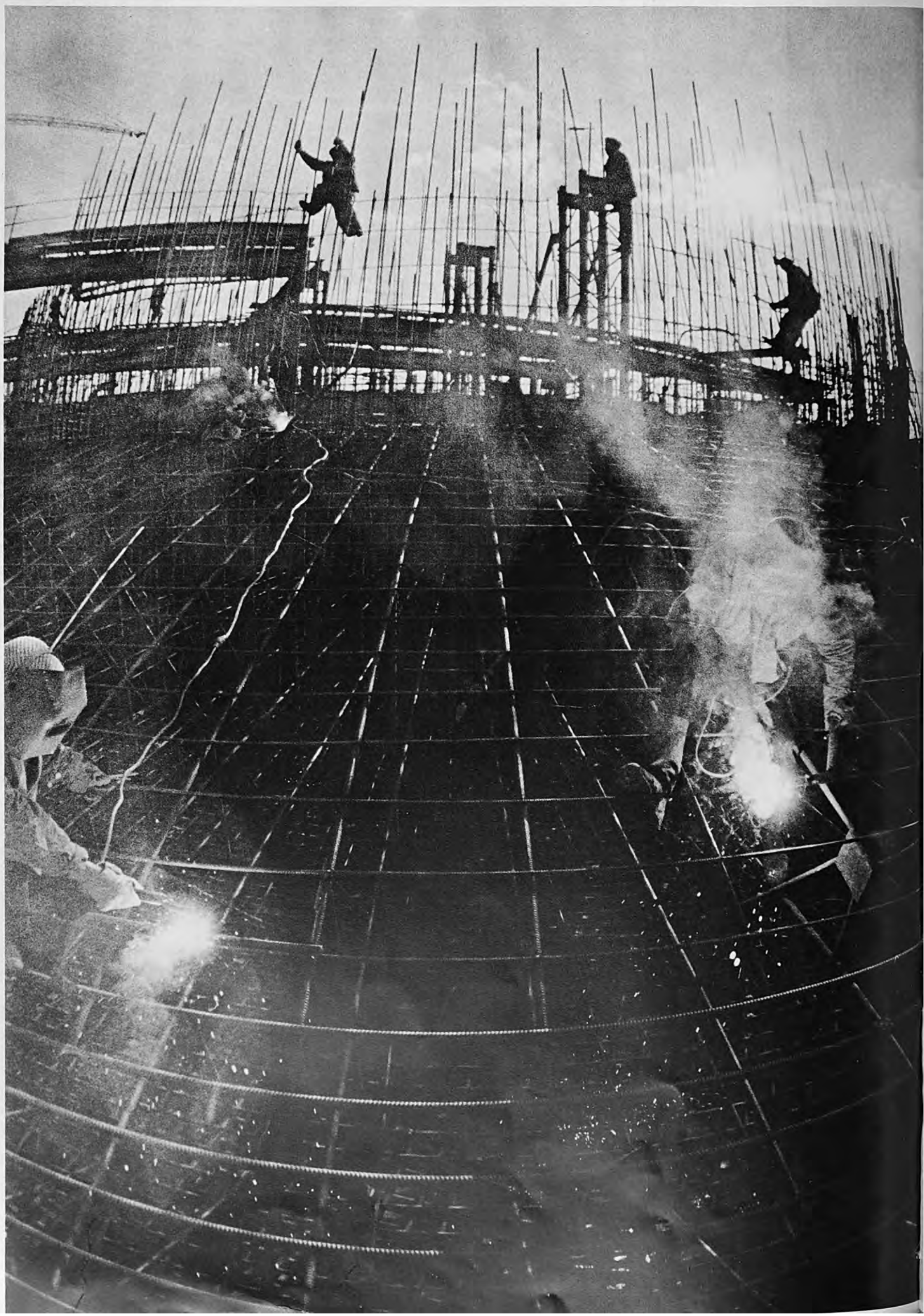

KAMAZ: A NEW CITY TAKES SHAPE

MORE THAN A CONSTRUCTION PROJECT

See pages 20-27.

EDITOR'S NOTES

TRADE UNIONS IN A SOCIALIST SOCIETY

OUR regular readers will remember that the entire November 1971 issue was devoted to the structure and activities of Soviet trade unions.

But we have new people subscribing to SOVIET LIFE all the time. Besides, we could not possibly hope to foresee all the queries readers would have.

Judging by our mail, readers are very much interested in the place and function of trade unions in a socialist society. The questions all seem to stress, as they naturally would, the points of difference with American trade union theory and practice, those elements which run counter to the reader's own ideas and experiences. This is particularly evident in the questions that John Carrid of Illinois, William Fenkelstein of New York and others asked. Even the requests for more details about trade union activity seem to be prompted by the desire to understand this difference.

This is not surprising. Considering the basic differences in our social systems, we would expect American readers to have difficulty understanding the specifics of our way of life.

Not so long ago the fifteenth congress of Soviet trade unions took place. In his speech, Leonid Brezhnev, General Secretary of the Communist Party of the Soviet Union, said: "One of the basic distinctions of Soviet trade unions is that they take a direct and active part in the development of society, in raising production and increasing its efficiency, in economic management."

Why do they? Because we have no private ownership of the means of production. They are owned by the entire society, hence, all its members are interested in making them more productive.

The trade unions are the biggest of our mass organizations. They unite more than 98 million people, almost every person employed. Of this total, 62 per cent are industrial workers.

But this figure is not the only thing that determines the leading role of workers in our society. The cultural and political level of the working class has risen and with it the prestige which this class enjoys and the influence it exerts. The working class is the leading force not only in material production, but also in the development of socialist democracy. This class makes up the bulk of the trade union membership and acts as the decisive force in the advance of Soviet society toward communism. One should bear in mind this important feature of our trade unions. The interests of our workers (and, correspondingly, their trade unions) and the interests of society, which owns the means of production (factories, mills, railroads, mineral wealth) coincide, because the state and its ruling Communist Party express the interests of all the working people, who also run the state through their representatives in the Soviets. Therefore, the function of the trade union in our country is altogether different than in the West. Its primary task is to exert every effort to raise living standards as rapidly as possible. That can be done only by more efficient production. Hence, concern for production is actually concern for man.

This explains why our trade unions have so important a place. For example, they take a most active part in drawing up plans for economic development because they represent those whose efforts will decide whether the plan targets are met. As for management of production, here, too, through permanent production conferences, workers' meetings, and rationalizers and inventors societies, the trade unions are involved in concrete decisions concerning automation and mechanization, expanding capacities, economizing funds and raising labor productivity.

From the story about the construction of an automobile plant on the Kama River in this issue and from the portraits of the people building it, the reader can get a picture of the broad participation of Soviet workers in every sphere of activity. Practically all of these workers are, as I said before, trade union members.

The role of our trade unions in production matters is evident since it, so to speak, lies on the surface. But there is another side of their activities, which is not immediately evident but is no less important. By drawing rank-and-file working people into the management of the economy, the trade unions teach them to solve economic problems. They help a man spot little things in big things, and vice versa, in other words, to realize the importance of his work for the whole country's economy, to think in countrywide terms.

That is why Lenin called the Soviet trade unions a school of management, a school of communism.

Typical, in this connection, is the desire of the ordinary workingman not only to enlarge his scientific, technical and occupational background, but also to understand how the whole economy operates, what the place of each enterprise is in the complicated economic structure. The trade unions help him fulfill that desire by organizing economics schools, classes and series of lectures on a factory, city and regional scale.

The importance of this type of trade union activity can be judged by the speeches of the delegates to the Fifteenth USSR Trade Union Congress. Incidentally, more than half of the 5,000 delegates were workers directly engaged in production. The delegates reported on the achievements and problems of their respective enterprises, suggested ways of improving work and shared experience. In their speeches you could feel the care of a thrifty owner, the owner not sim-

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EDITOR'S NOTES

ply of an enterprise but of the whole country.

However, the activities of the trade unions and those of government economic bodies and departments are by no means identical. The forms and methods of work are different. For instance, L. Borovskaya, a weaver at the worsted mill in Chita and a delegate to the congress, wrote in *Pravda* that her experienced shopmates, responding to a trade union appeal, took over the patronage of vocational school trainees who were getting their practical experience in that mill. There is a widespread movement in the textile industry (and in other industries, too), to adopt this kind of patronage. Not only do the seasoned hands help their younger charges master the craft, but they pass on their life experience to these young people, teach them responsible citizenship. The enterprises compete with one another in this worthwhile undertaking.

Another widespread movement is what we call socialist emulation. The idea here is for, say, the staffs of enterprises of a particular industry as well as for individual workers or teams to vie with each other and see who will meet production quota's faster. The progress and results of this movement are given wide coverage in the press. Its participants exchange experience and new methods of work. There are no secrets and unhealthy rivalry. On the contrary, the achievements of the front-rankers become available to many collectives, with the result that the winner is the national economy as a whole.

Since socialist emulation is a public movement, the trade unions, not the government, assume responsibility for it. The local trade union committees publicize helpful experience and encourage the best workers both materially and morally.

I. Khacharadze, an adjuster at the automobile plant in Kutaisi, Georgia, and a delegate to the congress, had this to say in *Pravda:* "We fellows with time-and-labor-saving ideas got together once and decided to pool our efforts to solve various technical problems. This joint work had a tremendous effect. It multiplied our efforts by some 30 to 40 times. I've come to the congress to change ideas with my fellow rationalizers."

Here again the trade unions play a leading role. They popularize new ideas and technological achievements. They organize societies for technological advancement on factory club, city and regional levels. Invention bureaus, set up everywhere in the country, also function with the financial assistance of the trade unions. This does not mean that the government is not involved in these projects; what it means is that the workers help to improve the country's technology through their own organizations, the trade unions.

The trade unions, in turn, are the guardians of the rights of the rank-and-file workingman. The possibilities here are unlimited, both for the whole country and for the individual enterprise or institution. Laws on working conditions in factories and offices are adopted with the immediate participation of the trade unions. At the disposal of the unions are social insurance funds running into billions of rubles (this year, for instance, they add up to 20 billion), for pensions, sick leave and other welfare benefits. At factories and offices the trade unions control management on matters of labor legislation, safety regulations, medical service, industrial hygiene, work quotas and wage rates. They distribute housing and vacation accommodation vouchers (most of the country's health resorts and tourist centers are run by the trade unions). They also run the many workers clubs and subsidize amateur activities (musical ensembles, art and drama studios, and the like). This issue carries a story on the amateur song-and-dance ensemble of the silk mill in Bendery, Moldavia.

As you see, the concern of the Soviet trade unions for the economic progress of the state and for the satisfaction of the material and cultural needs of the working people are inseparably connected. This is their characteristic feature.

"YOU WILL HAVE TO CONTINUE OUR WORK"

Excerpts from Leonid I. Brezhnev's Speech at the USSR Congress of Students

I WANT to tell you how happy I was to accept the invitation to speak at your congress. Meeting the younger generation, which represents the future of our country, is always pleasant for me. This applies especially to you, the militant vanguard of our wonderful Soviet students. . . .

The resolutions of the Twenty-fourth Congress pass on to Soviet young people the baton of scientific, technological and social progress. The congress urged the young people of the Soviet Union to march in the front rank of the movement to achieve more efficient production and greater cultural growth, to establish communist standards in our life.

And, of course, comrades, this all applies to you Soviet students, too. . . .

We have here the future leaders of industry, heads of research institutes and enterprises of vital importance to the country. In our midst are the future educators of new generations, the creators of new cultural values. It is you who will carry on the work started by the generation of the October Revolution, the work continued by the generation of the first five-year plans, the fruits of which were heroically defended from the enemy by the soldiers of the Great Patriotic War. . . .

Today nearly five million of our students are at institutions of higher learning and nearly 4.5 million at specialized secondary and technical schools.

We can now say with justifiable satisfaction that, by and large, the system of training personnel established in Soviet times satisfies the country's requirements and makes it possible to provide all sectors of material production and cultural life with highly skilled experts. . . .

But, of course, comrades, there is still much room for improvement in our higher education. We spoke of this at the Twenty-fourth Congress of our party.

Science and its practical application to life are developing at such a rate that a good deal of what is newly discovered is often obsolete before it finds its way into textbooks and class lectures. It is quite fairly said that a person who graduated from college 15 to 20 years ago and did not continue his self-education finds himself lagging hopelessly behind these days. But this also means that work must go on efficiently and continually as well in further improving the content and methods of teaching in the higher schools and in strengthening the material and technical basis of higher and technical schools. . . .

It is a great pleasure to me to tell you that the Central Committee of the party and the Soviet Government, in accordance with the Directives of the Twenty-fourth CPSU Congress, made an important decision the other day that provides for substantial improvement in the material and housing conditions and amenities for students of higher and specialized secondary schools. What is planned, more specifically, is to increase stipends for students of higher and specialized secondary schools. Construction of a large number of student dormitories, considerable improvement of medical, sanatorium, resort and public catering services, and the expansion of sports facilities are also envisaged. The state will allocate in the current five-year period an additional 1.5 billion rubles for higher stipends, and a greater number of students will receive them. . . . But, comrades, no matter what agencies or institutions concern themselves with improvement of the higher school, success will not follow if you students yourselves do not decisively contribute to that end.

Speaking realistically, your social responsibility as adults begins at the moment you enter the higher school. For student days mean preparing for the morrow, not simply awaiting it. This is already seen in today's bright and event-filled life, creative, intensive endeavor and active public work.

According to the dictionary, the Latin word *studens* means one devoted to learning. Indeed, the primary task of the student is to learn. This is clear to all. However, the concrete application of this concept has not remained immutable, and in our day it changes with a rapidity never before experienced. How to learn, what to learn, how to select and how to master the essentials in the ocean of information relating to our professions? All these are by no means rhetorical questions. . . .

It is important, absolutely necessary, to study thoroughly the course material in an institution of higher learning. But this alone is not enough. You must constantly perfect your knowledge, cultivate the habits of a researcher, augment your theoretical knowledge. Without this it is hard to find one's bearings in the growing volume of knowledge and flood of scientific information.

The learning process at institutions of higher education depends more and more on the student's independent activities, much like a researcher's. It has become common practice for students to work in research groups and seminars; competitions and exhibitions of research works have become more popular than ever. And this is very good. . . .

Comrades, your teachers help you acquire knowledge and develop the qualities necessary for a Soviet specialist. . . .

A prominent scholar, a teacher worthy of the name, repeats himself in his pupils. The pupil assimilates the ideological beliefs of his teacher, his attitude toward work, his scientific erudition, his methods of work. Be worthy of your teachers, friends. Give them the greatest joy the teacher can have: realization of the fact that his pupil has surpassed him!

In a few words, friends, Lenin's watchword: "Learn, learn and learn!" remains for you today the most important and timely slogan of life!

However, we cannot, nor have we the right to, forget Lenin's other appeal: to make sure that the process of study develops side by side with the process of communist education. Naturally, in practice these two processes should merge into one. But that does not happen by itself. It has to be kept in mind and worked at constantly, both in the course of teaching and in the organization of public activities at institutions of higher learning. The party and Komsomol organizations at higher educational establishments play a tremendously important role in this. . . .

There are not, and cannot be, matters of minor import where educational work is concerned, dealing as it does with what is most complex and responsible—molding the souls and characters, steeling the hearts and minds of the builders of the future! . . .

We are vitally interested in making sure that every student grows into a person with a clearly expressed social outlook, an individual who cannot imagine being outside the collective. This, as we know, is achieved by a good and businesslike organization of volunteer work. In recent years the level of public activity in the higher school has risen markedly. The party and Komsomol organizations must see to it that this activity is purposeful, diverse and interesting. Forms of volunteer work have been found, and are successfully developing, that enable young men and women to test their abilities in different areas of labor and sociopolitical activities while studying at college. . . .

I should also mention such a comparatively new form of Komsomol independent activity as student building teams. In my opinion this form of finding and mobilizing the energies of the students and their activities fully meets the requirements of our times and of the young people themselves. Over a million young men and women have gone through the school of the "third semester" (labor). Participation in student building teams has sown excellent seeds in the souls of young people, and they are germinating well.

The work of these teams proves once again that the participation of students in community activity is not playing at independence but is a sound and useful activity which gives a great deal to young people, cultivates a feeling of responsibility in them, brings them the respect of society. . . .

Dear friends, the student period is a short one—only five to six years. Yet its effect lasts a lifetime. What you acquire during these years is a pack which does not lie heavy upon you. On the contrary, the more you know and experience, the more confident you feel.

The years of study will go by, you will pass the state examinations and present your diploma projects, and credit tests and projects will be left behind. But the completion of studies is just the beginning of your working careers. Wherever you go to work, you will bring with you what the student years generously gave you, namely, ideological conviction, depth of knowledge, love for your profession, loyalty to your great homeland.

May the spirit of your student youth always live in your endeavors, undertakings and dreams. May the flame in your hearts never cool. May your thoughts be clear and noble.



A session of the USSR Congress of Students at the Grand Kremlin Palace.

STUDENTS TAKE THE FLOOR

A student dorm without all-night arguments and discussions would be a sad anomaly. Wouldn't it be a good thing if we could bring that vigorous exchange of opinion to a larger, wider audience? That is the view of the USSR Congress of Students, which met in Moscow in October 1971.

Discussion on the congress agenda at the Kharkov Agricultural Institute.

FACTS AND FIGURES

Approximately five million students study at the 812 higher educational institutions in the country. About 700,000 of them study evenings and two million by correspondence. All diplomas are the same, no matter where the study takes place.

Some 4.5 million young people are enrolled at 4,250 specialized technical and vocational schools, where they are being trained for 450 trades and professions.

The largest number of students in the country, 886,700, are enrolled at pedagogical and general institutes; 563,100 are studying various machine-building and instrument-making specialties; 520,400 are in institutes training top economists.

Women make up 48 per cent of the Soviet student body. They constitute 66 per cent of the students at higher pedagogical, art and cinematography schools. Sixty per cent of future economists and lawyers are women.

Students who pass their examinations with excellent marks receive a stipend 25 per cent higher than the usual. Those who pass their examinations with excellent marks for several terms running and are active in the school or general community win special scholarships named after outstanding scientists or artists. The most honored is the Lenin scholarship. Five thousand students in the country receive these special scholarships.

The Soviet student body is multinational. There are 2,716,300 students among the 129,015,000 Russians in the USSR, 620,400 students among the 40,753,000 Ukrainians, 147,500 students among the 9,194,000 Uzbeks and 129,200 students among the 9,052,000 Byelorussians.

Some 25,000 students devote their free time to work at student design offices. They fill millions of rubles' worth of orders from industrial plants, research institutes and other organizations.

About 600,000 students do research in the student scientific societies. In the years 1969-1970 some 4,000 innovations they developed were used in industry. Students received 600 inventors certificates and 300 patents, and published 7,000 scientific papers.

Soviet students take an active part in the country's political life; 1,026 have been elected deputies to the Supreme Soviets of the union republics and to the local Soviets.



IMPRESSIONS

Our correspondents Boris Berman and Igor Rudin met with some of the students at the congress.

Khabiba Faizibayeva came to Moscow for the congress from the city of Leninabad (Tajik SSR), where she is an English major at the Pedagogical Institute. She is head of the education division of the institute's YCL organization. For excellence in her studies and in community work, Khabiba won a Lenin scholarship, the most honored of such awards in the Soviet Union.

"What are your impressions of the congress, Khabiba?"

"I have learned many things about my fellow students from the other republics. I was particularly impressed by the speech made by Leonid Brezhnev and by the great confidence our society has in us students. It goes without saying that the resolution adopted by the party and government to improve the financial and living conditions of students concerns each of us and is gratifying."

"What did the congress mean to you personally?"

"This has been, of course, a great event in my life. The fact that my friends chose me to speak about our problems from the rostrum of the Grand Kremlin Palace hall was a great honor."

"And what are these problems?"

"In the first place, I myself have been a member of a student research society from my first year and am now working on a project that interests me greatly —'Organizational Ability of the Individual.' I told the delegates of the congress all about our institute's research society, which has a membership of more than 500. Most Tajik students do a lot of research work. They are active in all kinds of competitions on problems of social science and the international youth movement. Not everything comes off without a hitch, of course. After I spoke, many students from other cities came up to me during the recess and told me how research was organized at their schools. They also gave me some good advice. These get-togethers in the lobby were very useful, and the contacts established there enriched us all and promise to be very helpful."

Agabai Khaldiyev came from Turkmenia. He is an excellent student, has a Karl Marx scholarship and is chairman of the student research society in the Russian Philology Department at the Ashkhabad Pedagogical Institute. He is in his third year.

"Will you tell us, Agabai, what impressed you most in Leonid Brezhnev's speech?"

"What he said about the students of the thirties and forties and their extraordinary sense of responsibility and social commitment. In my opinion we students of the seventies have much in common with them. Being a commissar of our institute's building team, I can testify to that. The

social commitment of our students was demonstrated not just in their work on the construction sites. In our free time we organized a summer camp for so-called problem adolescents. They lived and worked with us, we organized games for them and all kinds of competitions, we tried to develop in them a love for books. As a result many difficult teenagers found out that learning was important, and now many of them have entered vocational schools. This project was good for us, too. After all, we are future teachers."

Vladimir Ryda, a fifth year student at the Kharkov Machine-Building Polytechnic Institute, holds the Honorary Badge of the YCL, the highest award of the Young Communist League.

"What good qualities do you think your comrades have?"

"In the first place, they all know what they want. It is my opinion that they will make not merely well-trained engineers but specialists with a creative turn of mind. And of course they will be all-round educated people.

"And another thing. My fellow students are very persistent and determined young people. They don't shy away from problems. They willingly undertake all kinds of jobs. During the four summers I spent on the student building teams, I had time to see this for myself. No matter where they work, whether it's laying a high-voltage line in Western Siberia's Tyumen Region or building houses and schools in our Kharkov Region, they work hard and well. They study hard, too."

Kuralai Akkushakarova, member of the central committee of the YCL of Kazakhstan, is a fifth year physics student at Kazakh University in Alma-Ata.

"How would you characterize the congress?"

"Competent and concrete. It was well organized. We are going to study, to analyze and apply everything we heard there. The congress also gave us the opportunity for a very interesting exchange of YCL experience at higher educational institutions. I was particularly interested in a project where a student undertakes to prepare one applicant, a worker or farmer, for the entrance examinations."

"What amateur art activities do you have at your university?"

"We have a student club, The Seven Muses, composed of dancers, musicians, singers and reciters. They often give amateur concerts at the factories and collective farms of Kazakhstan. At another club, In the World of Science, students meet with prominent Soviet and foreign scientists and hear about the latest scientific and technical findings. They make reports and write research papers. There is a club, called The Club of Interesting Meetings, that invites outstanding people of the republic to speak. Really heated discussions often take place there on choice of profession and on problems of economic development. If I weren't so busy here I could tell you about the Optimist musical ensemble and our amateur theater, lecture bureau and sports club."

THE MODERN STUDENT— SKETCHES FOR A PORTRAIT

BY INNA RUDENKO

Member of the Editorial Board of the newspaper *Komsomolskaya Pravda*

SITTING in the press box, I had a good view of the long white-columned hall of the Grand Kremlin Palace. The building where the Soviet parliament usually holds its sessions was at the disposal of the 2500 students who had arrived for their national congress. At the moment it reminded me of an institute or university lecture hall.

I listened closely to the speeches made by the young people. Gradually, from them and from the examples and facts they cited, I was able to draw a mental portrait of the contemporary student. At first my picture seemed to be a heterogeneous assemblage, but then common traits began to reveal themselves more clearly.

A passion for knowledge, independence of thought, a striving toward full awareness of oneself as a citizen of the Soviet Union—all this was quite typical both of those who took the floor at the congress and those who had chosen them and sent them there as delegates.

The young man who was speaking called at our editorial office before the congress convened. His name is Alexander Kruzhalov, and he is the secretary of the Young Communist League committee of the Urals Polytechnic Institute in Sverdlovsk. Alexander told us how he had spoken at the scientific council of his institute and, on behalf of his fellow students, had presented for discussion some concrete suggestions to improve the educational system. The professors (and there were some prominent scientists among them) listened to Kruzhalov attentively and agreed to consider his suggestions.

Now at the congress Alexander told the other students of the experiences of their Sverdlovsk counterparts. Student self-government is a subject that interests everyone, participation in the work of the faculty councils is a matter of major importance. Students are not satisfied with guardianship and regulation—with all due respect to their instructors, they believe that they have the right to participate in the life of the institute or university on equal terms with the teachers. This is an attitude to be welcomed. A student who is interested only in passing his examinations will never make a really good specialist.

Georgi Nikolayev, rector of the Moscow Higher Technical School, shares that view. This educational institution is one of the oldest in the country and has a very good reputation. Its graduates have always been considered the cream of the engineering crop. However, it is no simple matter to live up to such a reputation, especially since life today makes such great demands on the graduates of higher educational institutions. As the rector said, the school has a history of graduating specialists with a broad background. This tradition is still very much alive. Interest, for instance, in socioeconomic subjects has increased at the school, and the work of student design offices keeps expanding.

How such offices function was described in detail at the congress by Palmira Mičiulete, a student at the Kaunas Polytechnic Institute in Lithuania, where her comrades had filled more than 1,000 orders sent to the institute from all parts of the country. A third of all the Lithuanian collective farms have new and modern electrical systems, and many schools, hospitals and boarding houses have been built to student designs.

It is clear, then, that the activities of our students go beyond the walls of their institutes. Nor is it mere coincidence that finds the people often choosing students to represent them in lawmaking bodies, from the local Soviets right up to the Supreme Soviet of the USSR. They know that a young person, particularly a student, is a bundle of energy, persistence and unbounded enthusiasm.

Pyotr Bukreyev, a broad-shouldered young man from the Kuban Agricultural Institute in the city of Krasnodar, took the floor next. Pyotr was elected deputy to the Territorial Soviet not too long ago, and he told the delegates what he, a legislator, had been able to do for the students of the Kuban. He visited almost all the higher educational institutions in Krasnodar Territory, paying particular attention to their student canteens and hostels. Now he will present his suggestions and recommendations for better student housing and service facilities at the coming session of the Territorial Soviet.

Zainutdin Tadzhiyev, another student—he is a deputy to the Supreme Soviet of Uzbekistan—is concerned about traditions in the making. In his republic's parliament Zainutdin and his colleagues talked to hundreds of old people, who personify the unhurried wisdom of the East, and the young, who want to march in step with the times. Then they worked out concrete suggestions. At a session of the Uzbek Supreme Soviet not long ago the student-deputy argued for construction of new wedding palaces and made some other suggestions which will soon be considered by the parliament of the republic.

Zainutdin does not like to talk about himself. All I learned from him was that he is 27, the son of a shoemaker and a philosophy major. Getting his studying done is not easy. His major is a difficult one, and his legislative activities take up much of his time. But that's today's student. He is eager to commit himself to what he can learn and utilize for the general good.

Times change. Alexander Herzen, a Russian writer and democrat, once called the student years a period of "theoretical knowledge and practical ignorance." Now this characterization is an amusing anachronism, particularly when you hear, for example, that Moscow students who took construction jobs during their summer vacations did work valued at 72 million rubles.

The summer holidays have been called, unofficially, "the third term" for a long time. A building team is also a kind of educational institution where young men and women amass experience. It should be understood that joining a building team isn't easy. Enrollment is competitive here too. There are usually more young applicants than are needed for jobs in the desert or the taiga. So the problem of organizing this movement in a more rational way was also discussed at the congress.

And the congress indeed seemed to confirm everything that scientists say today about the accelerated maturity of the younger generation. That is, spiritual acceleration, for the young people sitting in the hall of the Grand Kremlin Palace were adult and independent, perfectly clear about what they are after. This generation does not require any guardianship or supervision. To put it simply, what it needs is comradely help.



Commemorating Franklin D. Roosevelt

A public meeting dedicated to the memory of the late U.S. President Franklin Delano Roosevelt was held recently at Friendship House in Moscow. It was attended by representatives of science and the arts, diplomats and members of the U.S. Embassy staff.

Honorary guests included Academician Ivan Maisky, diplomat and historian, and General Pavel Batov, outstanding military leader and chairman of the Soviet War Veterans Committee.

An exhibition in the lobby featured books by American and Soviet authors on Roosevelt's life and work: Robert E. Sherwood's two-volume *Roosevelt and Hopkins: An Intimate History* translated into Russian; reminiscences by Elliott Roosevelt, the late president's son, entitled *As He Saw It*; a collection of Soviet documents entitled *Teheran—Yalta—Potsdam* and others.

Georgi Arbatov, corresponding member of the USSR Academy of Sciences and director of Institute of U. S. Studies, spoke of Roosevelt's achievements. The late president's name, he pointed out, is linked with the establishment of diplomatic relations between the United States and the Soviet Union in 1933, the joint struggle against fascism, and other major events in the history of Soviet-American relations. Roosevelt was a realist who held that differences in ideology need not impede the establishment of friendly relations.

Among others who spoke about the late president as a statesman and a man were Nikolai Yakovlev, Doctor of Science (History); Alla Masevich, vice president of the Institute of Soviet-American Relations, and Valentin Berezhkov, editor in chief of the magazine *USA: Economy, Policies, Ideology*. Berezhkov was an interpreter for the Soviet delegation when the Soviet, American and British heads of government met in Teheran in 1943.

Second Tashkent Film Festival

Tashkent, the capital of Uzbekistan, was host last month to film workers from Africa and Asia at the Second International Film Festival. The aim of this event, held under the motto "Cinema Art for Peace, Social Progress and Freedom of the People," is to discover and encourage the best films, develop cooperation among cinematographers and strengthen international friendship. In addition to African and Asian film makers, the festival participants include prominent cinematographers from other continents, and representatives of the United Nations and other international organizations.

The Tashkent festival is not a competition; no prizes are awarded. This is because the degree of development of the cinema varies throughout Africa and Asia. While Japan and India, for instance, have long-established motion picture industries, a number of other countries are just beginning.

Each country is invited to submit one full-length film and several shorts. Incidentally, films that have been shown at other festivals are welcome, too. Cinematographers from Europe, North and South America and Australia are asked to submit films on the life of the African and Asian peoples and their struggle for national independence.

EVENTS

Soviet Union At the Seattle Fair

The Soviet Union will participate in the International Trade Fair scheduled to open in Seattle, Washington, in August—the first time in 20 years that it is represented in a commercial international show of this kind in the United States. The last time was at a fair in Oklahoma in the late 1950s. Since then the two countries have exchanged cultural exhibitions on a non-commercial basis.

The aim of the Soviet display in Seattle, according to Vladimir Pavlov, is to illustrate Soviet export possibilities. Pavlov is a deputy head of the USSR Chamber of Trade and Industry (the new name for the USSR Chamber of Commerce), which organizes exhibitions in other countries.

Several Soviet foreign trade associations will take part in the fair. These include Techmashexport (chemical, printing, pulp and paper, textile, electronic and electrical engineering equipment), Sudoimport (seagoing and fishing ships) and Soyuzpushnina (furs).

Transistors, photoelectronic multipliers, integrated circuits, the Kvant-9 laser unit for diamond-tool drilling, a microplasma welding unit and an automated electric arc-welding unit will reflect the high standard of Soviet technology.

Soviet-made self-lubricating plastics and high-strength glass will also be shown. Scale models of the *Cosmonaut Yuri Gagarin,* the flagship of the Soviet research fleet; the 300-ton Bogatyr floating crane and the Kometa hydrofoil, which recently completed a cruise around Europe, will be on display.

A wide assortment of consumer goods is being packed for the Seattle fair. They include cameras, radios, men's and ladies' watches, hunting guns, crystal and china, toys, furniture, fabrics, and silver and amber articles. Collections of semiprecious stones and minerals, hand-woven rugs and china articles will also be sent to the United States. Wines, brandies, Russian vodka and Ukrainian gorilka are listed, too.

Martiros Saryan Dies

Famous Soviet artist Martiros Saryan died in Yerevan on May 5, at the age of 92. His name is associated with a whole epoch in the development of the Soviet Union's multinational art. He set the pace for modern Armenian painting and influenced several generations of artists in other republics as well.

Saryan lived in Yerevan since the early twenties. His art portrays the life of socialist Armenia—its working people, musicians, writers, poets.

He worked with equal success in still-life, epic and landscape painting, and his canvases are perfect in composition, daring and original.

Saryan held the titles of People's Artist of the USSR and Hero of Socialist Labor and was awarded the Lenin and State Prizes for his works.

Trade Union Congress

Five thousand delegates representing 98 million trade union members attended the Fifteenth Congress of Soviet Trade Unions held recently in Moscow. There were 137 guest delegations from 103 foreign countries and 9 international organizations.

Leonid I. Brezhnev, General Secretary of the CPSU Central Committee, greeted the delegates on behalf of the party. "The Soviet trade unions have come here," he said, "as a generally acknowledged, great and influential force of Soviet society, steeled in the struggle for socialism. By their deeds the unions have proved that they have been and will continue to be a reliable support for the party, the decisive organizers of the masses in building communist society." In recognition of the services of Soviet trade unions in shaping a new life, Brezhnev announced, the Presidium of the USSR Supreme Soviet had decorated them with the Order of Lenin.

The main report was delivered by Alexander Shelepin, Chairman of the All-Union Central Council of Trade Unions, who detailed the unions' activities since the Fourteenth Congress (1968) and outlined prospects for the future. The major task of the trade unions, Shelepin emphasized, was to participate still more actively in the achievement of socialism's chief goal—the fullest satisfaction of the material and cultural needs of the working people. The unions, he said, should step up their efforts to organize socialist labor emulation, to fulfill production plans, to increase the efficiency of production on the basis of scientific and technical progress.

The delegates' discussion covered all aspects of current trade union activity. Among other things, they stressed the opportunities of the unions for improving living and working conditions and social welfare benefits, extending cultural and rest and recreation facilities, developing tourism, physical culture and sports.

The congress elected new delegates to the Central Council of Trade Unions, which consists of 495 members. Alexander Shelepin was re-elected chairman.

Lenin Prizes

The awarding of Lenin Prizes for 1972 took place in our country on April 22, the 102nd anniversary of the birth of Vladimir Lenin. The prizes are given annually for the best achievements in the fields of science, technology, literature, art and architecture.

Among the recipients this year were the producers and cast of the screen epic *Liberation,* a series of five films about the Second World War.

One of the prizes in architecture went to Nikolai Tomsky, the dean of Soviet sculptors, for the Lenin Monument erected in Leninplatz, in the heart of Berlin.

Lenin Prizes were also awarded for outstanding accomplishments in basic research—mathematics, physics, chemistry, physiology, geology—and in industrial management and control.

All in all, 11 prizes were awarded for work in the field of science and technology, and 8 in literature, art and architecture.

U.S. Oil Industry Experts in Moscow

A group of oil industry experts from Texas, headed by James Havey, state director of international trade and chairman of the international division of the National Association of State Development Agencies, spent five days last month in Moscow. The delegation included Harold D. Owen, president of Gearhart-Owen Industries; Travis Phillips, senior vice president for international operations of Halliburton Services; J. L. Joplin, president and chairman of the board of the Oil and Gas Supply Company; William R. Henry, manager of international operations for Daniel Industries, Inc.; G. T. Lamberson, export manager for the Johnston Division of Schlumberger Technology Corporation, and others.

"This is the most representative group of American oil industry experts that has ever come to the Soviet Union," Havey said. "Some Texas companies have already had contacts with Soviet organizations, but for most of the members of our group this was the first trip to the Soviet Union."

The purpose of the visit, according to Havey, was to study Soviet oil-extracting methods and to investigate ways and means of cooperating in developing the oil industry.

While in the Soviet capital, the Texas experts met with representatives of several ministries and trade organizations. They talked with people from the USSR State Committee for Science and Technology, the Ministry of the Oil Extraction Industry, the Ministry of Geology, the Chamber of Trade and Industry, and the following foreign trade associations: Mashpriborintorg, which deals with the export and import of instruments, automation equipment and electronic computers, Techmashimport, which imports equipment for the oil and chemical industries, Mashinoimport, which imports power-generating, oil-extracting and oil-refining equipment, and Litsenzintorg, which deals with the sale and purchase of licenses on inventions and renders engineering services.

THE NEWSPAPER MILLIONS READ

Sixtieth Anniversary of "Pravda"

By Oleg Ignatyev
***Pravda* Commentator**

THE MASTHEAD reads: "Organ of the CPSU Central Committee. Founded by V. I. Lenin on May 5, 1912." This year *Pravda* will be 60 years old.

The newspaper's address is Pravda Street in Moscow. The building houses both editorial offices and printing press. Let us begin our tour with the museum and the first issue of the paper.

It began publication in 1912, in the dark days of czarism, when reaction was at its peak in Russia. Lenin and the Bolshevik party he had created worked under the most difficult conditions, underground. The small newssheet *Pravda (The Truth)* appeared on May 5.

Through that paper the party and Lenin, its leader, talked to workers and peasants, preparing the forces that would overthrow czarism and take power from the landlords and capitalists. Lenin taught that the Bolshevik newspaper must not only be a collective agitator and propagandist but a collective organizer. *Pravda* became such a paper. It helped lay the ground for and carry through the October 1917 Revolution.

Lenin was not only the organizer and editor of *Pravda* but its most active contributor. Between 1912 and 1914 the paper carried more than 280 of his articles. On the eve of the October Revolution, his contributions were even more frequent; from February to October 1917 they appeared in almost every issue. Among them were such crucial articles and speeches as "The Tasks of the Proletariat in the Present Revolution," "The Dual Powers," "The Tasks of the Revolution," "The Crisis Has Ripened."

After the Revolution, Lenin paid no less attention to *Pravda*. Busy with the leadership of the party and the country, with the effort to beat off the White Guards and interventionists, with the economic reconstruction of the country, he found time to watch the work of the paper and to write for it. In 1923 *Pravda* published his last works, devoted to socialist construction: "Pages from a Diary," "How We Should Reorganize the Workers' and Peasants' Inspection. Recommendation to the Twelfth Party Congress," "Better Fewer, but Better," "On Cooperation," "Our Revolution. Apropos N. Sukhanov's Notes."

The 60 years of *Pravda* re-create the history of the Socialist Revolution, the organization of the world's first socialist state, socialist construction and the heroic struggle against the imperialist invaders. The issues of the 1930s are permeated with the enthusiasm of the first five-year plans, when the Soviet people were creating their industry, building factories and electric power stations, organizing collective and state farms. *Pravda* of 1941-1945 describes the war fought by the entire people against the Nazis. Subsequently the paper followed the progress of economic rehabilitation, the construction of the giant hydroelectric projects on the Volga and the Angara, the development of the virgin lands, atomic research, outer space exploration.

The Soviet people today are carrying into effect the Ninth Five-Year Plan of Economic Development, the plan for raising living standards worked out by the Twenty-fourth CPSU Congress. *Pravda,* as always, is right there to record these efforts, to publicize the experiences and innovations, to criticize the inefficiencies and bottlenecks. You can hear the voice of the people when you read the newspaper—workers, collective farmers, scientists, writers.

The first issue of *Pravda* was printed in an edition of just a few thousand. Today the average circulation is 9.6 million.

The paper's present editor in chief is Mikhail Zimyanin, member of the CPSU Central Committee. Byelorussian by nationality, a teacher by profession, he taught, directed a school, then did Young Communist League and party organizing in the Byelorussian Republic, held the post of first secretary of the YCL Central Committee of the republic, secretary of the Communist Party regional committee and second secretary of the Communist Party of Byelorussia. He came to work for *Pravda* in 1965 after serving as Deputy Foreign Minister of the USSR. He is chairman of the board of the Journalists Union of the USSR.

Each morning at 11 the editorial board gathers to plan the issue. The paper has 6 pages and 20 departments (15 domestic and 5 international), so each department has to fight for space. In making their selections, the editors consider variety of subject matter, importance of material, geography (the newspaper must reflect the life of the whole country), literary merit and length.

Since *Pravda* is a party publication, it devotes considerable space to party activity and Marxist-Leninist theory. Exchange of experience, accounts of the best Communists, criticism of party inadequacies—all are reflected in the dispatches and stories.

Pravda receives about 1300 letters from readers daily. They are handled by a staff of 50, the largest of the paper's departments. These letters are a major source for topics.

Readers ask for advice, give their opinions of articles, make requests and complaints, offer suggestions that sometimes have national significance.

What happens to a reader's letter, say, a letter complaining about inadequacies in a service industry? The letter department will prepare it for publication (every day *Pravda* carries a page or so of readers' letters) or will direct it to local party organs for further consideration and followup. Sometimes in response to a reader's letter the paper will send a correspondent to report right on the spot. Like other Soviet newspapers, *Pravda* has a permanent section for followups of readers' letters and other copy carried by the paper.

Pravda organizes discussion of the most important party and government documents. Thus thousands of readers took part in the discussion of the draft Directives of the Twenty-fourth CPSU Congress for the Ninth Five-Year Plan. Some of their proposals were published. All their recommendations and criticisms were then forwarded to the planning agencies.

On the central staff of the editorial offices in Moscow are 150 journalists. Add to that the 50 *Pravda* correspondents all over the country and the 40 in other countries.

When the sun rises in Kamchatka, the Far East and Eastern Siberia, it is still the middle of the night in Moscow. We therefore have to prepare two editions. One comes out in the evening, and its matrices are forwarded by plane to different parts of the country. Pages are sent by telegraph, by facsimile transmission, to 14 places, including Khabarovsk, Novosibirsk, Tashkent and Kiev. The paper is printed from matrices in 42 Soviet cities and reaches all readers the same day. The night edition is also sent to a number of cities by facsimile transmission.

When foreign colleagues visit the *Pravda* editorial offices, they most always want to know whether the paper is a paying enterprise. Yes, it is. And since it is a party publication, all proceeds go to the party.

MOLDAVIA TRANSFORMED

By Pyotr Paskar

Chairman of the Council of Ministers
of the Moldavian SSR

OUR REPUBLIC has been described as a flowering garden. Through the efforts of our people, with the disinterested and steady assistance of the fraternal republics, Soviet Moldavia—an equal among equals—has been transformed. In the years of socialist construction it has changed into a land of advanced industry, intensified agriculture and elevated cultural standards.

The republic's economy is developing at an unheard-of pace. From candlelight to complete electrification—that is the distance covered by the Moldavian people in the period of Soviet power. The per capita production and consumption of electric power in the republic today are substantially higher than in many advanced European countries. The capacity of the Moldavian thermal power station alone is now 1.6 million kilowatts. It will reach 2 million by 1975.

A backward, miserable region in the past, once described by a chronicler as "a company on the road of all calamities," Moldavia today can point to a highly developed industrial potential: 550 enterprises equipped with the most up-to-date machinery. Industrial production is now 58 per cent of the republic's gross output. Back in 1940 it was seven to eight per cent. This astonishing increase in industrial development was possible only under Soviet conditions and thanks to the Leninist national policy of the Communist Party, to the friendship and mutual assistance of all the peoples of the USSR.

A perfect example of the fruitful relationship among the republics is the history of the Moldavian thermal power station. Representatives of 32 nationalities cooperated in its construction. Some 200-odd enterprises and design offices from all over the Soviet Union helped draft the project and manufacture its equipment. Experts from the Russian Federation, the Ukraine, Byelorussia, the Baltic and other republics lent their help in the building of many food, engineering, cement and light industry plants.

Every kind of commodity is shipped to Moldavia from every part of the country. The Russian Federation sends metal, automobiles, tractors, excavators, lubricants, farm machinery, fertilizer, paper- and metal-cutting machine tools; the Ukraine, anthracite, plates and sheets, tractors, pipes; Kazakhstan, nonferrous metal; the Transcaucasian republics, equipment for the wine making industry; Byelorussia, sawn timber and trucks; the Baltic republics, excavators and other items.

In return, Moldavia ships industrial products to the other republics. In the countrywide division of labor it is one of the major economic areas for output of canned foods, wine, refined sugar, vegetable oil and tobacco. Such branches of industry as electrical engineering, instrument making, machine building, metal processing and cement making are well developed in our republic. So is the manufacture of intricate and often unique items—extrathin wire in glass insulation, various types of electromagnetic and ultrasonic flaw-detectors and sealed explosion-proof pumps. All these items are in great demand both in our country and abroad.

Significant changes in agriculture parallel our industrial progress. Today the collective and state farms of Moldavia are large-scale, economically sound enterprises. They produce a healthy proportion of the nation's industrial crops, grapes, and other fruits, vegetables and livestock. We have set up agricultural-industrial complexes where produce is raised and processed. We have also established a network of dairies, poultry farms, intercollective farm livestock-fattening complexes and intercollective farm building agencies.

Present-day Moldavia is a republic of total literacy and high cultural standards. We now have eight higher and 48 specialized secondary schools and dozens of research centers. On the staffs of our national Academy of Sciences are 5700 researchers.

People in many countries have applauded the skill of our touring Zhok Folk Dance Company. People's Artist of the USSR Maria Bieshu, a peasant's daughter from the village of Volontirovka who became a soloist of the Moldavian Opera and Ballet Theater, is called the "Moldavian nightingale." She was named the world's best Madame Butterfly in an international competition in Tokyo and drew rave audiences in Bulgaria, the United States and other countries.

Our Flueras folk orchestra and Miorica and Mercisor ensembles play to appreciative music lovers here and abroad. Films produced by the Moldavia Film Studios, books by such noted writers as Yemelian Bukov, Andrei Lupan, Ion Chebanu and Bogdan Istru and paintings by Ilia Bogdescu and other artists have also become well known.

We have an efficient and free system of medical care that keeps expanding year after year. There are some 6,000 doctors and more than 20,000 paramedical workers in the republic today. Thanks to major social changes, the average life span in our country is now 70-odd years.

At its session at the end of last year the Moldavian Supreme Soviet approved the republic's five-year economic development plan for 1971-1975. As many as 148 new industrial enterprises are to be built in this period.

Our plan envisages the solution of major social development problems and a substantial rise in living and cultural standards. Our real per capita income will increase by about 34 per cent. The gross income of Soviet Moldavia will total 5.2 billion rubles, a figure 50 per cent higher than in the previous five-year period.

Sizable allocations are scheduled for housing. New apartments and better living conditions will be provided for more than 700,000 of our citizens. Standing on the ground of a new and solid present, the working people of Moldavia confidently look forward to the promise of their future.

the mold SSR

What changes have come about during the Soviet years in the social composition of Moldavia? What direction are these changes taking? Sociologists of the Moldavian Academy of Sciences undertook a comprehensive study dealing with these questions.

THE MAJORITY of Moldavians did not begin to reap the benefits of socialism until 1940. That was when the severed eastern and western parts of their country were reunited and it became a union republic. All the more noteworthy, therefore, are the changes that have taken place in all areas of Moldavian life in the 30-odd years since.

Industry and the Working Class

The level of development of Moldavia's productive forces had been very low. The tempo of industrial progress has so accelerated that output has multiplied 1900 per cent. Employed in industry, construction and transport today is 26 per cent of the republic's labor force, with the number growing rapidly, especially in the most promising, technically sophisticated sectors of heavy and light industry.

This change is illustrated by the following comparative table:

Number of Workers
(per cent)

Sector	1940	1967
Heavy Industry	16	39.6
Light Industry	9	29.7
Food Industry	55	24.9
All Others	20	5.8

The percentage of workers employed in the traditional food industry sector has declined sharply although its volume of output continues to rise steadily. Where primitive production was the rule in 1940, modern techniques prevail today.

Sociologists say that characteristic of the republic's working class in the present stage is the stability of its industrial core and the consistent push to raise qualifications. Some 73,000 workers acquired a new trade or profession and improved their qualifications in 1965; the figure rose to 93,000 in 1966, 112,000 in 1967 and 132,000 in 1968.

The general educational level of the workers also continues to improve. In the last six years, the number of workers with a higher education has grown 2.2 times, and the number with a secondary education 2.4 times. For example: Of the 470 workers of the Steaua Rosie factory in Kishinev now studying, 120 go to evening institutes, 150 to technical schools and 200 to schools for working youth. Another 600 workers are taking advanced training courses. To summarize, 40 per cent of the factory personnel are studying.

The sociologists sought out the reasons for workers returning to textbooks. The main ones, they concluded, are: to acquire better qualifications, hence, higher pay; to change the old trade for a more absorbing and more interesting one; to learn enough for more active participation in things social, political and cultural so as not to lag behind one's shopmates.

Another indicator of the qualitative changes in the republic's working class is the increase in creativity. The number of workers with time- and labor-saving ideas and the number of inventors and participants in volunteer design offices keep rising. For instance, the ranks of inventors and innovators have tripled in the last three years.

Agriculture and the Peasantry

How has the peasantry changed? First of all, the nature of farm production in the republic has undergone a radical transformation. Collectivization has changed the peasantry from petty commodity producers and small landholders into a new socialist class —collective farmers—with its economic foundation in common effort and collective ownership of the means of production. The result is that the division of peasants into social strata according to property—well-to-do, middle and poor (the latter category was the absolute majority prior to 1940)—no longer exists.

Of course, certain property differences still remain. A family's income depends on a worker's qualifications and knowledge, on his attitude and his initiative. But there are no class distinctions here, no exploitation of other people. Moldavia's collective farms are big, scientifically run, economically sound and very profitable. The 550-odd collective farms in the republic today have an average 11,000 acres of land and 40 tractors and other equipment. Collective and state farms specializing in growing grapes, vegetables and fruit are being developed particularly intensively.

The expansion of mechanized labor from year to year also boosts the number of skilled collective farmers. These people are farm machine operators and maintenance experts, occupations which were nonexistent here prior to 1940. Collective farmers with high qualifications now make up 20 per cent of all the people engaged in agriculture.

The general educational level of the rural population has also risen substantially.

Education and the New Specialists

The increased number of specialists is one of the most noteworthy of the social trends in present-day Moldavia. Sociologists cite these facts and figures: Where 10 years ago there were 80,000 specialists with a higher or secondary education, the total now exceeds 160,000. The number of specialists with a higher education has also more than doubled.

This table indicates the social origins of the present student body:

	Institutes	Technical Schools
	(per cent)	
Industrial workers, children of workers	15	32
Collective farmers, children of collective farmers	36	50
Office workers, children of office workers	49	18

The Republic Tomorrow: Trends and Prospects

Socialist planning makes it possible to change and improve economic ratios and, consequently, the ratios of social composition as well. This is a general principle for all our republics.

The data of economic development plans are the foundation for the forecasts of Moldavian sociologists. They conclude that the republic's urban population will be 50 per cent larger by the end of the current five-year plan period (1971-1975); close to 200 new industrial enterprises will be operating in Moldavia in the seventies; the rate of industrialization will be much higher in the republic's southern area, with its predominantly rural population.

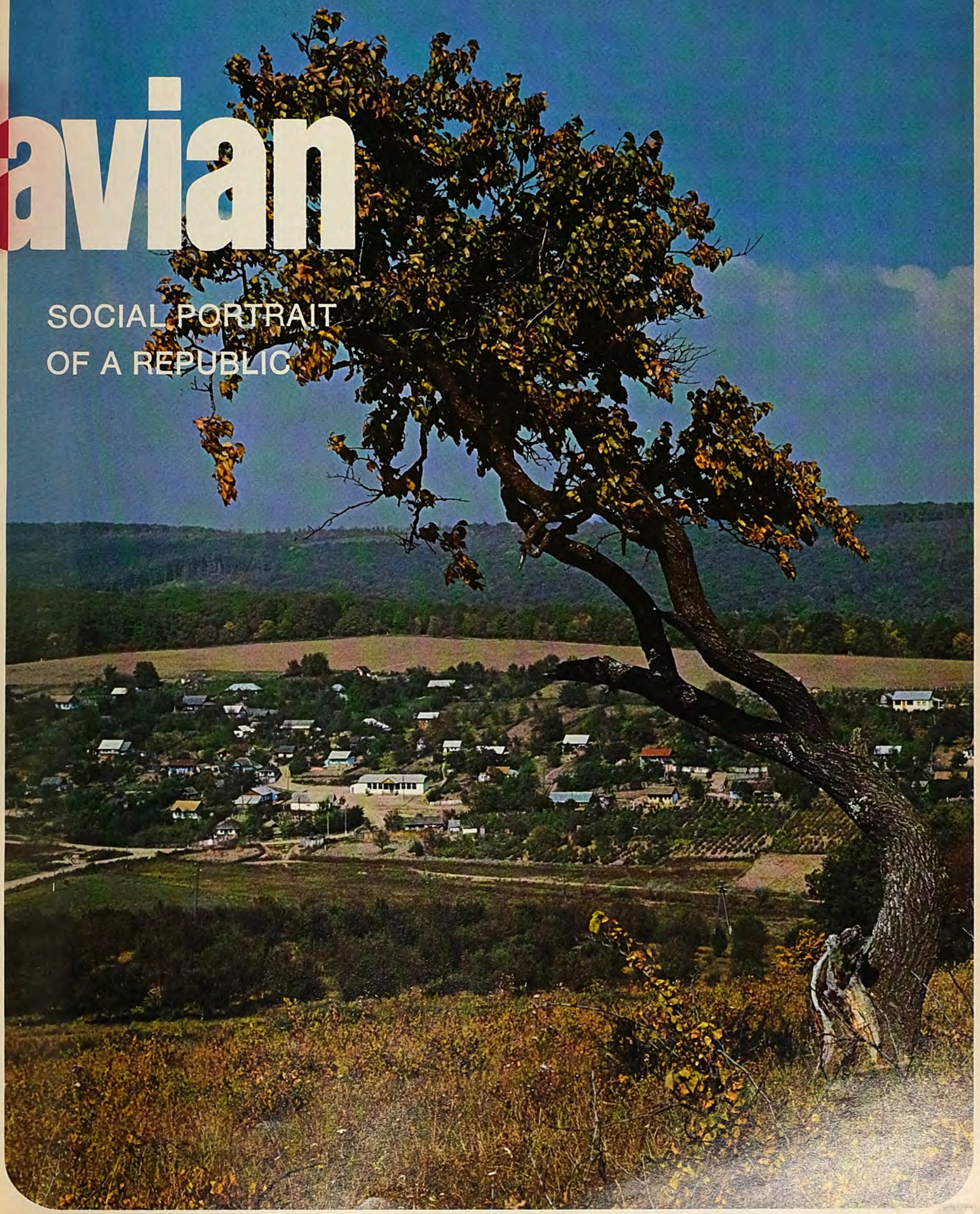
Under socialism the direction of development of the social structure of society is based on scientific theory that presupposes the planned development of social relations on every level, down to individual production collectives.

In the last few years many enterprises in Moldavia have worked out their own comprehensive plans for social development, backed up by practical, concrete projects. For example, such a plan, elaborated by the Beltsy fur factory, provides for reconstruction of the plant and the automation of the main production line and auxiliary processes. The volume of output will rise sharply with the same number of workers but with a larger proportion of skilled personnel. The plan calls for completion of the various advanced training courses by more than half the 1200 workers within the next three years. In this period more than 100 workers will graduate from technical schools and institutes and augment the ranks of specialists.

According to the estimates of economists, by 1980 the number of people in industry will rise by 75 per cent, in transport by 155 per cent and in trade by 119 per cent. A further substantial increase of intellectuals in all spheres of activity is also anticipated.

avian

SOCIAL PORTRAIT
OF A REPUBLIC





BY MARINA KHACHATUROVA

Photographs by Fred Grinberg and Boris Kaufman

All 52 members of the Priyeteniya Song and Dance Company work in the silk mill, the town's major industry. The company trains its own performers. A potential singer or dancer is required to take three to five years of preparatory training.


INVITATION
TO THE
DANCE





All set for rehearsal. Below left: ensemble dancers Sonya Shtyrbu, seamstress, and Vladimir Bolshakov, metalworker. Below right: starring dance couple Larissa and Victor Shestachenko.





BENDERY, Moldavia, is the kind of town you like to live in for a while. It is pleasant, green, its climate mild: In winter the temperature rarely falls below freezing, and in summer the heat is moderated by the proximity of the full-watered Dniester.

The biggest factory in Bendery is the silk mill. It employs 6,000 people, 1300 of them men. This imbalance, however, creates no sociological problem, since there are some 20 other factories in town. The silk mill was opened in 1953, and its workers are correspondingly young, the average age being 25. The mill grounds stretch for quite a way on the outskirts of Bendery and include housing, schools, kindergartens, and a palace of culture, which is actually the subject of this article.

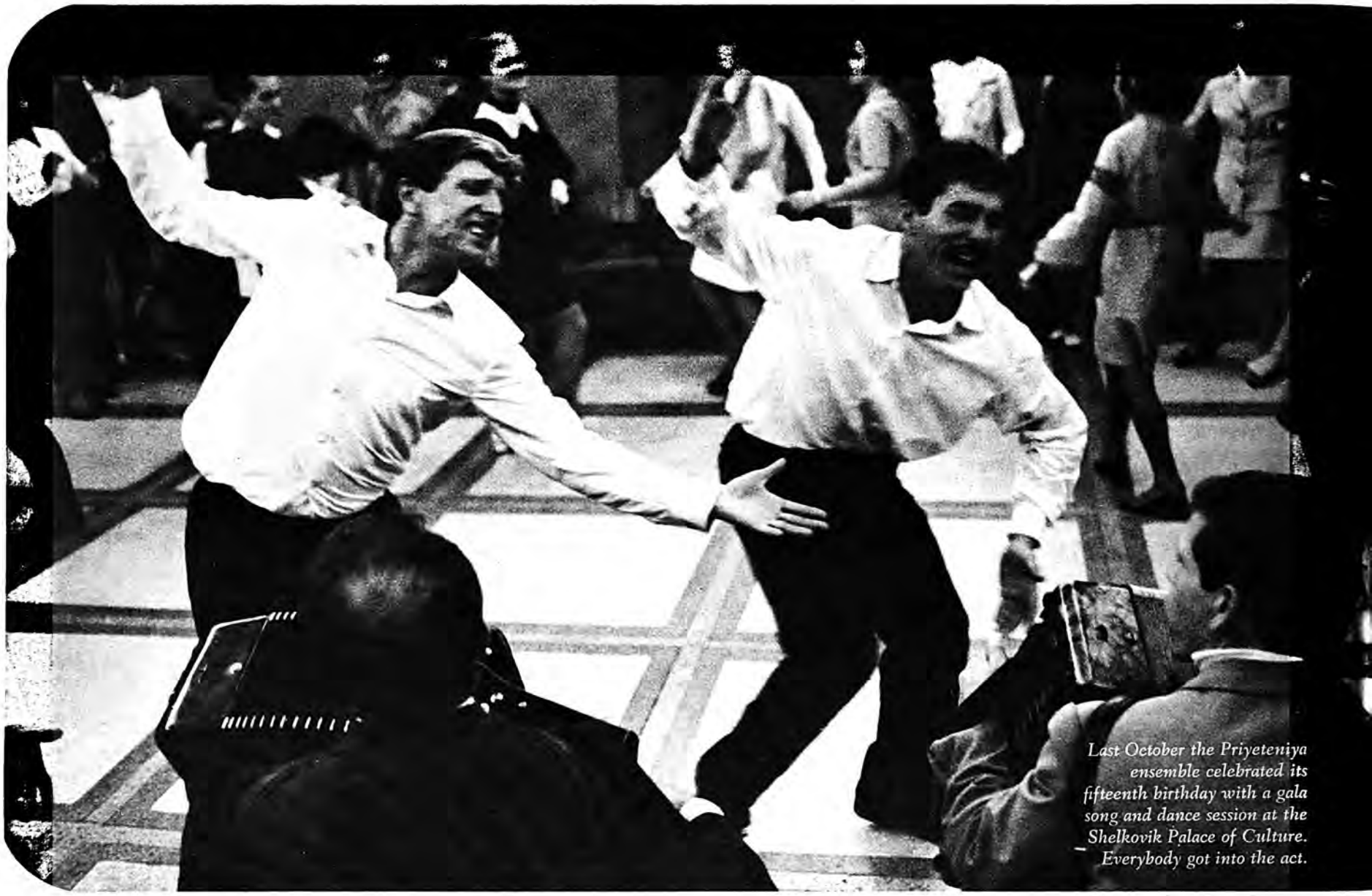
The Shelkovik (Silk Worker) Palace of Culture, in addition to lecture rooms, a library and rooms for various other uses, has an auditorium for 610 and a summer concert hall for 1200. It has 15 paid instructors for a large range of activities, among them a song and dance company, a Moldavian folk instrument orchestra, a brass band and a Theater of Miniatures (Sketches). These are for adults. For children there are an applied arts group, a puppet theater, a children's variety stage company, a chorus, and a ballet studio for junior, intermediary and senior groups. Aside from habitués, the atmosphere of comradeship and devotion to the arts draws many random visitors to the palace. In the last talent show, some 2,000 persons—every third employee at the mill—took part.

Priyeteniya Spells Friendship

No festive event at the palace of culture goes without the Priyeteniya—Moldavian for friendship—People's Song



A Russian folk dance. The ensemble has a repertoire of Moldavian, Russian, Gypsy and Gagauz dances, as well as foreign favorites.



Last October the Priyeteniya ensemble celebrated its fifteenth birthday with a gala song and dance session at the Shelkovik Palace of Culture. Everybody got into the act.

This amateur company has reached such a high level of artistic competence that its leading performers have been invited to join professional ensembles. They refuse the flattering invitations, preferring to dance just for the fun of it.

and Dance Company. Last October it celebrated its fifteenth anniversary, and was awarded the title Honored Ensemble of the Moldavian SSR on the occasion. The skill of this amateur company has reached professional level. Its fame has spread beyond the borders of Moldavia. The Priyeteniya has appeared in other republics of the Soviet Union and even abroad—in the German Democratic Republic and in Denmark. It has given more than 800 concerts, attended by 500,000 spectators at least, and is an invariable contributor at all town and republic holidays. The company performs several times a month in Bendery and the neighboring villages.

All of its 52 members work at the mill. Their average age is 21 or 22. However, there are 13 veterans who have been with the company since it was formed. The company trains its own successors; there are 71 dancers and 30 singers in its preparatory group. After three to five years of training four times a week, a singer or dancer is admitted to the company proper.

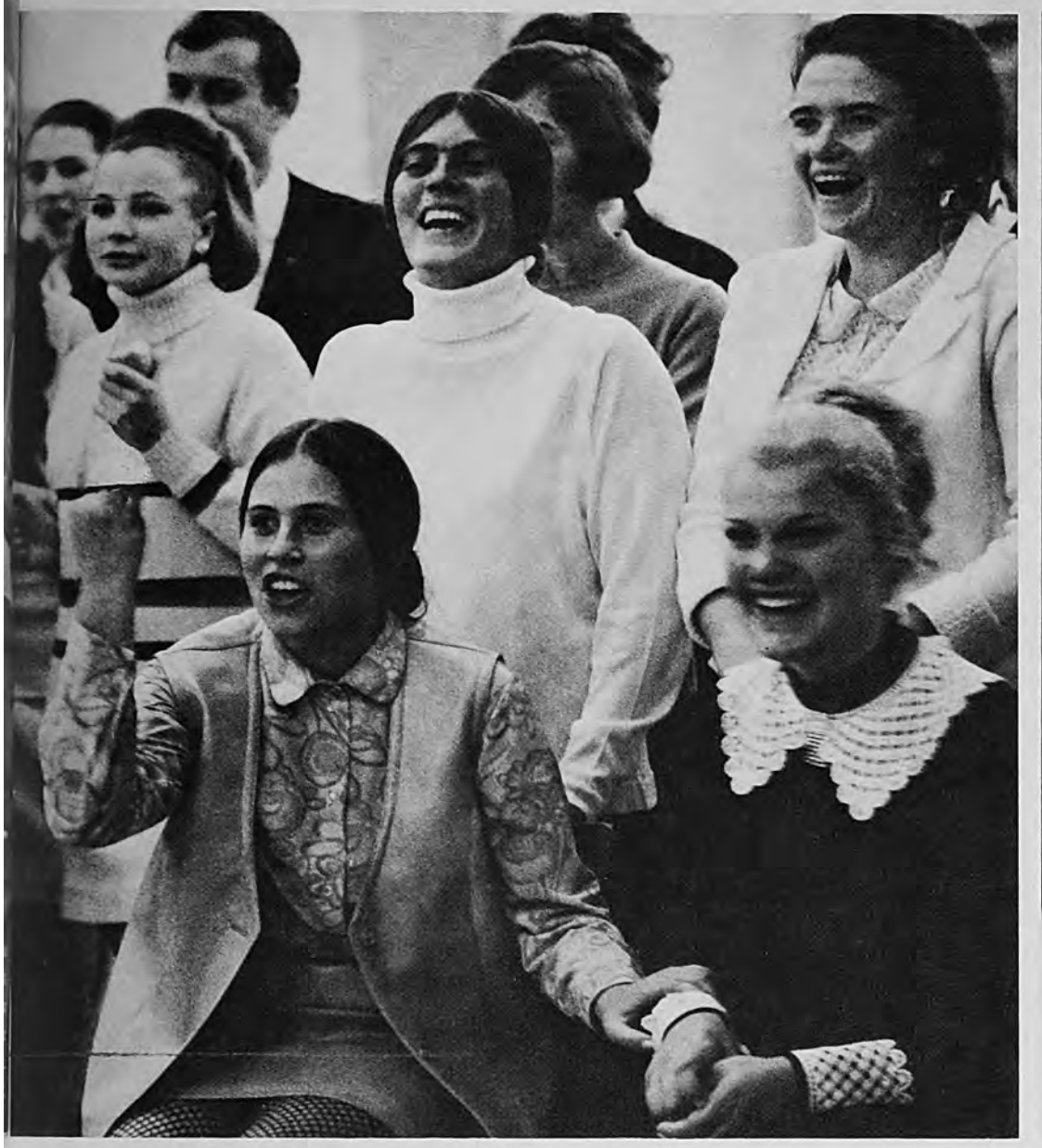
At the request of the residents of the district, the company organized children's dance groups. The 70 children, 6 to 15 years old, are taught by soloists of the company, headed by their director Tamara Zaritskaya. They also teach the preparatory group. The children are enrolled without preliminary examination or competition. The only prerequisites are a good figure and the desire to learn to dance. After two months of preparation, the novices take a simple test in elementary dance movements. Those who pass are enrolled in the preparatory group.

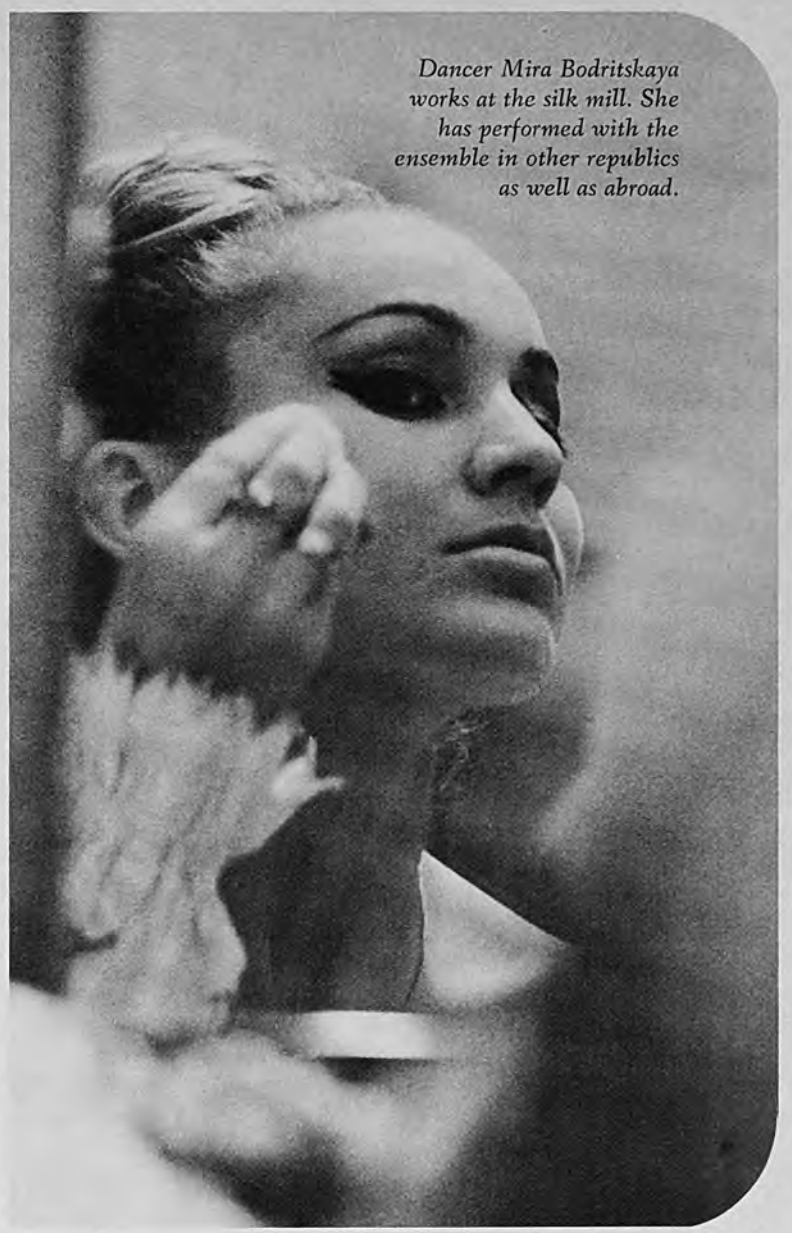
The main and preparatory groups begin rehearsals with classical exercises at the bar. The strong emphasis is on classical training as a foundation. Later on the pupils are cast in dance numbers. At the insistence of the dancers, rehearsals are held five times weekly. Only during the three summer months are their weekends free.

"Why Do I Dance and Sing?"

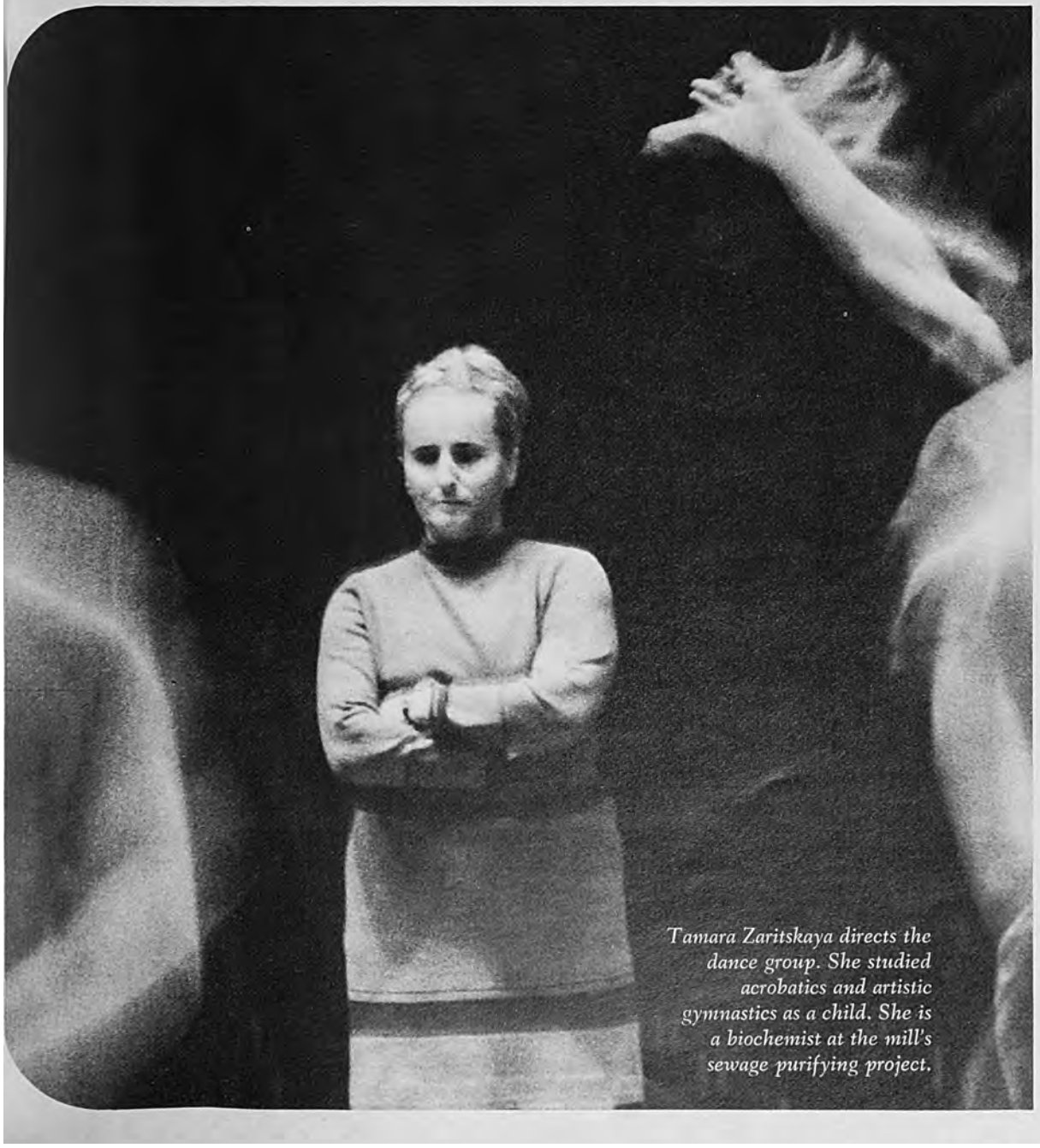
It's impossible to imagine the Priyeteniya without two of its mainstays—orchestra conductor and choirmaster Yevgeni Zaritsky and his wife Tamara Zaritskaya, who directs the dance company. Yevgeni, a professional musician with an absorbing interest in folk music, travels a great deal through the countryside, recording Moldavian songs and arranging them for his vocal ensemble. Tamara is a senior biochemical engineer of the silk mill's biological sewage purification station. Very much a dance enthusiast, she studied acrobatics and artistic gymnastics as a child.

For the Zaritskys, music, dance and song are not merely forms of art called upon to grace our lives but qualities inherent in man. Not surprisingly, their only son, 17-year-old Sasha, plays several instruments. However, he does not intend to be a professional musician, preferring to study the humanities. Like his parents, he spends all his leisure at the palace of culture. As a matter of fact, the palace has become second home to many workers at the silk mill. Its doors are open from 10 A.M. to 10 P.M. daily, except Tuesday. Young people, even those uninterested in the arts, like the palace for its constant stir and activity.





Dancer Mira Bodritskaya works at the silk mill. She has performed with the ensemble in other republics as well as abroad.



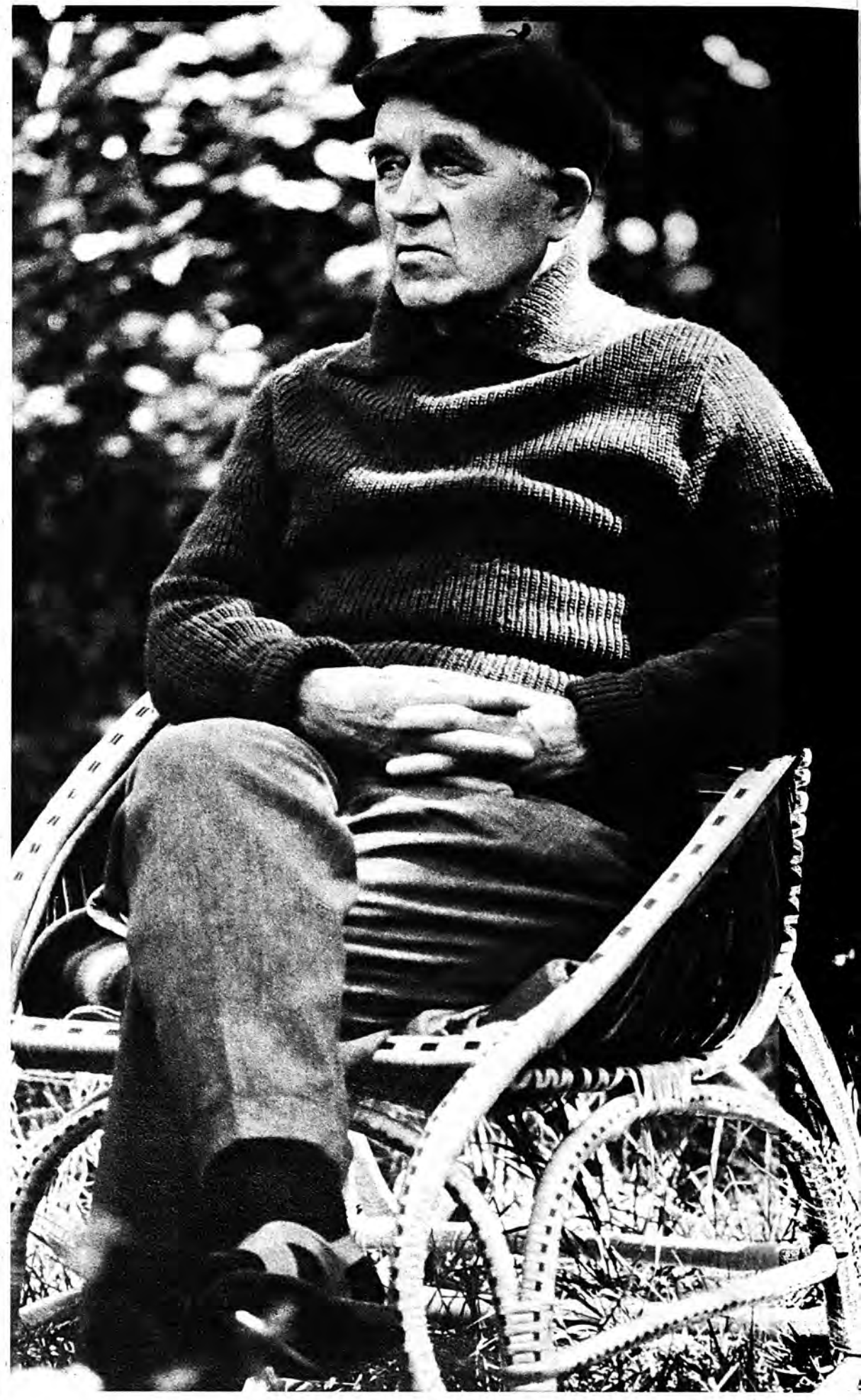
Tamara Zaritskaya directs the dance group. She studied acrobatics and artistic gymnastics as a child. She is a biochemist at the mill's sewage purifying project.

The Priyeteniya, like every other company, has its stars—Larissa and Victor Shestachenko (there are several married couples in the company), Sonya Shtyrbu, Vladimir Bolshakov and Masha Teklya. Some of them have been invited to join professional companies and have refused. One of the best soloists in the company, weaver Larissa Shestachenko (she is now a controller) was several times asked to join the State Zhok Folk Dance Company. To the question: Why did she turn down so flattering an invitation? Larissa said, "I don't want it to become my job. I want to dance for the pleasure of it."

The trade union committee and the mill management help the company and the palace of culture's activities generally in every possible way. They try to stimulate and satisfy the demands of the mill people for art, to encourage their aspiration to be not only consumers of culture but also its creators. The silk mill, says director Alexander Kislyakovsky, gives the palace 20,000 rubles a year. The trade union committee allocates 12,000 more, and box office returns from movies, plays and dances add another 30,000 rubles. Tickets to these events are so low—30 kopecks—as to be purely token.

The repertoire of the Priyeteniya is made up of Moldavian, Russian, Gypsy and Gagauz songs and dances, as well as of songs and dances of other republics of the Soviet Union and countries abroad. The company performs theme dances and dance scenes, a fact which testifies to its high professional mastery. When you see these amateur artists perform, the word "amateur" applied to them assumes a new meaning.

THE MAN WHO DOES NOT AGE



On the night of June 19, 1956, Axel Berg, Deputy Minister of Defense and a member of the USSR Academy of Sciences, suffered a trilateral infarct. Doctors fought for his life a year and a half and triumphed. Death retreated.

If he had been told then that two years later, at the age of 64, he would head one of the main schools in Soviet cybernetics, that in another four, at the age of 68, he would kiss his newborn baby daughter, and that at 70 he would become a Hero of Socialist Labor, he would have laughed it all off.

By Irina Radunskaya

author of *Mad Ideas,* about physicists, and *The Transformation of Engineer Garin's Hyperboloid,* about the creation of lasers, published in many countries.

ACADEMICIAN AXEL BERG

NOT the years, counted from the date of his birth, but what he accomplished in his many years of activity is the measure of his service to his homeland, society and science. Not the years he lived but the constant unflagging fervor of his heart distinguishes him as a man. Not a quiet, ordered existence but a life of attack, struggle, quest and passion characterizes his nature. The sea, science, people, all these are his world."

These lines are from an article written on the occasion of Axel Berg's seventy-fifth birthday.

The Sea

A few impersonal lines about midshipman Axel Berg, born in 1893, can be found on page 412 in a Russian reference book on the navy published in Petrograd (now Leningrad) in 1916. He graduated from a naval corps course with a gold badge and fluent in English, French and German. He accepted the 1917 October Revolution without hesitation, and when the Civil War broke out and British ships blockaded the young Soviet Republic on the Baltic Sea, Berg served first as a submarine navigator and then as commander. The future scientist's scholarly interests were shaped in those years. In the fall of 1919 he enrolled at both Petrograd University and the Polytechnic Institute.

From experience on a submarine, Berg learned how important radio communication was for the navy and decided to study radio engineering. He enrolled at the Naval Academy (Department of Electrical Engineering) and in 1925 was one of its first graduates in radio engineering and communication.

While still a student, Berg wrote his first textbooks in that field, did major research studies and produced articles which are still pertinent today.

His many years of theoretical and practical work in the navy earned Berg general recognition. He is known not only as a remarkable scientist but as an excellent organizer of wide-scale scientific research.

Berg made a signal contribution to victory in the Great Patriotic War. As a result of his work, Soviet submarines entered the war equipped with the most up-to-date hydroacoustic equipment. During the war Berg was appointed Deputy People's Commissar of Electrical Engineering and Vice Chairman of the Radar Council under the State Defense Committee, thereby becoming the head of still another major branch of industry. It was in those years that he was awarded the Order of Lenin and the Order of the Patriotic War.

Cybernetics

The trite saying, "Every cloud has a silver lining," once again proved true in Berg's case. When he found himself in a hospital ward with an ailing heart, Berg gave serious thought to the durability of the human organism, shifting the problems of biological reliability to the sphere of engineering. From then on he pushed tirelessly the need to elaborate a theory of reliability and devoted all his energies to the creation of durable and failure-proof machines, mechanisms and electronic devices.

His notes for that period are strongly reminiscent of his wartime and postwar diaries: the same tension, the same passion, the same sense of purpose. The only thing that changed was the area of research. No longer was it radar, which had so recently occupied his thoughts. Now it was cybernetics.

Only scientists with a wide range of knowledge in such diverse fields as electronics, mathematics and information theory could tackle cybernetics. But encyclopedic scientific knowledge is a rare phenomenon nowadays. Our century demands of scientists a narrowly limited specialization for a very particular end. The time has long passed when the words physicist and chemist defined the field a researcher works in. In our day it is not easy to find a scientist engaged in wide-ranging studies, a man with an all-embracing outlook and great scientific erudition. Cybernetics called for precisely that brand of scientist.

When the USSR Academy of Sciences in 1959 faced the problem of finding the one person who could coordinate the work in cybernetics, its presidium came to the unanimous decision that the Council for Cybernetics under the presidium of the USSR Academy of Sciences should be headed by Axel Berg.

And Berg holds the post to this day.

"We are doing an important job," he writes in his diary. "But at the same time I feel dissatisfied with myself because I'm doing so little independent work.

"For a long time I have been thinking about what I ought to do. What should I do about the scientific plans I've nurtured since youth? Maybe it's too late to make further plans? My life is approaching its end, but I feel no slackening in my energy and my desire to work. I have always held that it is never too late to begin again. That was exactly my thinking in 1918, when I decided to retrain and entered the university."

Berg wrote 10 years ago: "My mother and maternal grandfather were long lived: Mother died at the age of 82, grandfather at 89. I have their constitution so I still have another 20 years to go. I can accomplish a lot in that time. True, my capacity for work will gradually diminish. In the last 20 years, however, I've done quite a bit, which means that 20 years is a good stretch of time. So there's a point in resuming work just as before. In those days I kept a very close account of all my working hours, and that helped me economize on time."

In only a few years, up to his neck in work, Berg mastered the latest findings in mathematical analysis. He probed into operational calculus—so important for a scientist's practical work—which has been developed considerably in connection with pulse circuit computation.

Berg tackled cybernetics fully equipped with a mathematics background. Largely because of his energy and enthusiasm, not only mathematicians but philosophers, economists, engineers, biologists, doctors and teachers were drawn into the work of solving the sophisticated problems of this new science.

For his outstanding services in science and engineering the Soviet Government honored him in 1963 with the title of Hero of Socialist Labor.

Just as today he calls on technicians and psychologists, physicists and doctors to pool their efforts on cybernetics problems, so at the dawn of radio engineering he considered an alliance of technicians and mathematicians a must in that field.

He wrote:

"The tasks electrical engineering faces are so vast and the possibilities so enormous that no one person can embrace them all. The day has passed when one individual can combine the functions of a computer, theoretician and design engineer. The time has come for collective creative endeavor. One must learn to find points of contact with associates, one must be able to organize collective work, where a good engineer and a good mathematician can rely on each other."

During his many years of research and teaching, Berg created a Russian school of radio engineering which deservedly bears his name. Now he can also be called the founder of the Soviet school of cybernetics.

He has the talent, outstanding, as in all his endeavors, of combining research with public activity. He has always been an active member of many scientific and technological societies and has served on the editorial boards of many journals.

Berg loves life, loves people, loves art, literature and sports. The years have forced him to ease up on tennis and skiing, but there is still chess. Of Berg, more than of anyone else, it seems to be true that he has no time to age.

AUTO PLANT ON THE KAMA

Lev Vasilyev, Deputy Minister of the Automobile Industry of the USSR and general director of the Kama Auto Plant project, answers a correspondent's questions.

Q. What is Kamaz going to be like?
A. A complex of plants, which will build 150,000 trucks a year plus 100,000 diesel engines. The complex will have an enormous capacity. The output of the forging presses, for instance, will equal that of seven of the country's present automobile plants. The complex will include 150 different buildings.

Q. It's more than a year since the Twenty-fourth CPSU Congress listed Kamaz among the major projects of the Ninth Five-Year Plan. What has been accomplished so far?
A. The foundations for most of the buildings have been laid, and some buildings have already been started. The picture changes literally every day—we're putting up 800,000 rubles' worth of construction daily, and soon the figure will increase to one million. Time is pushing us. The first section of the repair and tool-making plant is scheduled to start operating this year.

We still have a great deal of basic work to do. We must lay 155 miles of highways and 75 miles of railroads on and around the site and install almost 620 miles of pipelines for sewage, water and so on.

We've made a good many technical innovations. A lot of time and money was saved, for instance, by putting traditional monolith foundations on piles. This eliminated the need for digging deep pits and enabled us to lay the foundations for equipment at the same time. It saved us 1,000 men and over 16 million rubles in the construction of the automobile assembly section and the engine plant.

We are also using the newer techniques in housing construction. Buildings are being put up by assembly line methods, and finishing work is automated. The city around the plant will be one of the most modern in the country. By the way, the population is already 80,000 so we have to move ahead even faster on housing than on industrial construction.

Q. Would you give us a picture of the Kama truck?
A. It will be a nine-ton job. The two-axle tractor with one-axle semitrailer will carry 16.5 tons, and the conventional truck with two-axle full trailer, 17.5 tons.

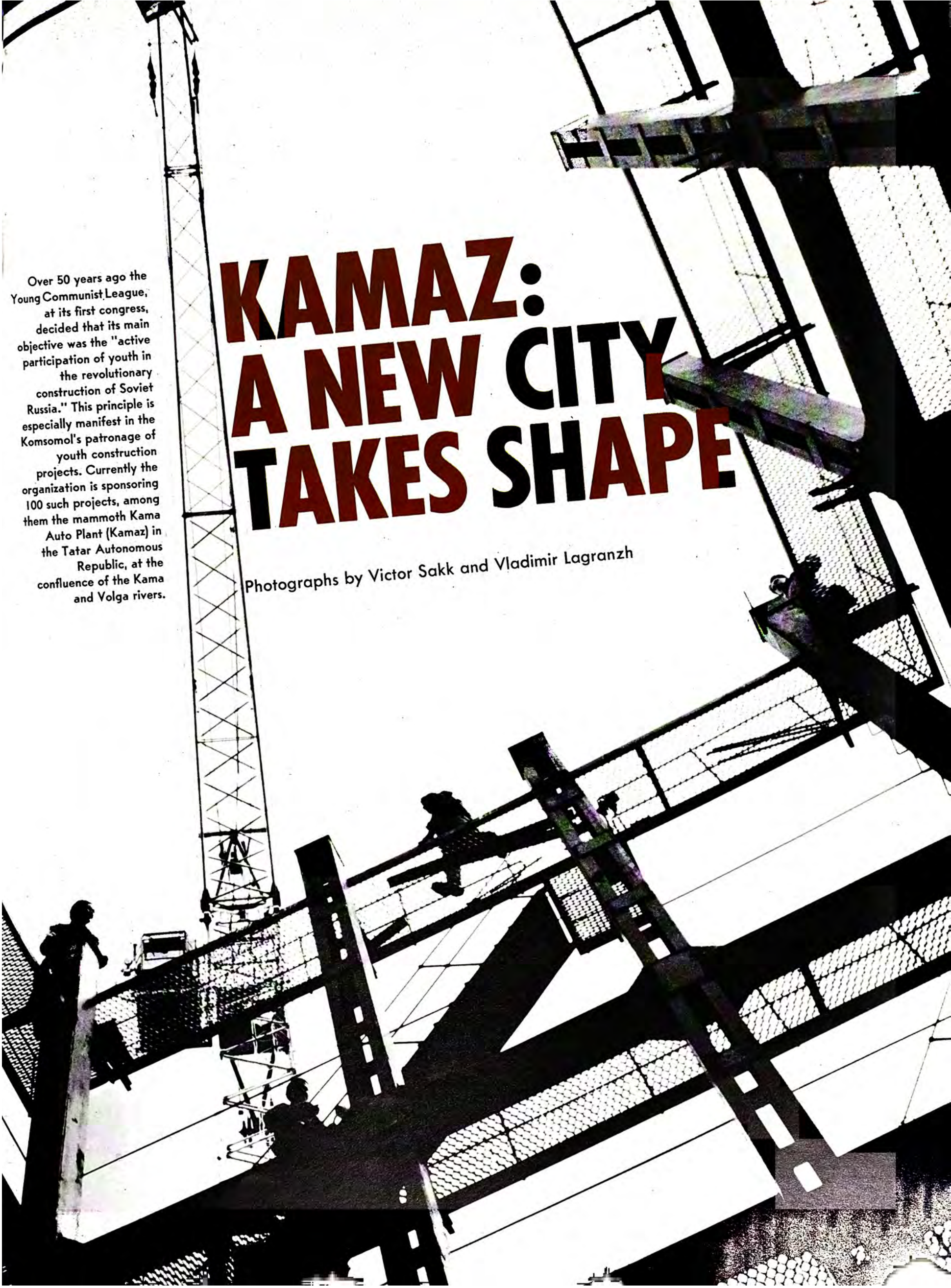
The truck was designed by the Likhachov Plant in Moscow. It's powerful, reliable, fast—it does 55 miles per hour fully loaded—and has already been tested on all kinds of roads and under all sorts of climatic conditions. The first vehicle of the series should be off the line in 1974.



KAMAZ: A NEW CITY TAKES SHAPE

Photographs by Victor Sakk and Vladimir Lagranzh

Over 50 years ago the Young Communist League, at its first congress, decided that its main objective was the "active participation of youth in the revolutionary construction of Soviet Russia." This principle is especially manifest in the Komsomol's patronage of youth construction projects. Currently the organization is sponsoring 100 such projects, among them the mammoth Kama Auto Plant (Kamaz) in the Tatar Autonomous Republic, at the confluence of the Kama and Volga rivers.







The builders of Kamaz see more than tire tracks in open country in the Tatar Republic. The picture they envision is a modern city, new Naberezhnye Chelny, built around a mammoth auto plant.

By Boris Rubanenko
Doctor of Science (Architecture)
Director, Central Research Institute
of Experimental and Standard Housing Design

PLAN FOR A NEW CITY

Naberezhnye Chelny, the city surrounding the Kamaz construction project, now has a population of about 80,000. We are building a completely new city to accommodate 250,000 people in four years.

There were good reasons for choosing the site of the plant—first of all, a convenient and cheap waterway. The Kama and Volga rivers connect this point on the map with all the industrial areas of the Volga. Also, there are substantial building facilities nearby, provided originally for the construction of the Volga Auto Plant in the city of Togliatti. Last but not least, Tataria has the necessary manpower resources.

What will the new city look like? Part of the old city, consisting mostly of small one-story houses, will be covered by the future Kama Reservoir, and on the shores of this man-made sea blocks of multistory apartment houses will be built. Adjoining the old city is Kamges, the township of the Kama hydroelectric station—a complex of five- and twelve-story houses for the builders of the station and Kamaz. Nearby, construction of the city center has begun. You can already see the outlines of a skyscraper hotel and other public buildings, and housing is going up. Each year 8,000 new apartment units will be ready for occupancy.

So we have the three areas—the old city, Kamges township and the new city. All these will form future Naberezhnye Chelny, which will stretch along the Kama Sea.

The city will be cut by four parallel thoroughfares that will connect with the industrial complex, the recreation area, the river and railroad terminals, and the port. The basic transport facilities will be high-speed streetcars and buses that bring people to their jobs in 20 to 30 minutes. The first streetcar line will begin operation this year.

For the private cars of local citizens there will be outdoor parking lots and underground or semiunderground garages about 200-300 yards from their homes. There are also plans for multistory motels.

Comfort and convenience are built into the design of the city. It will have wide green walkways and a variety of apartments for different-sized families and for various tastes.

Rooming houses will consist of individual units for two to five occupants.

The emphasis is on the functional, but without sacrifice of the esthetic. Administrative buildings, stores, hospitals, educational and sports complexes, and more apartment houses will be grouped in centers. There will also be a main city center with a communications building, Wedding Palace, palace of culture, theater, museum, library, several large department stores and restaurants.

Schools, kindergartens, small stores and cafés will be located in the neighborhoods, close to where they're needed.

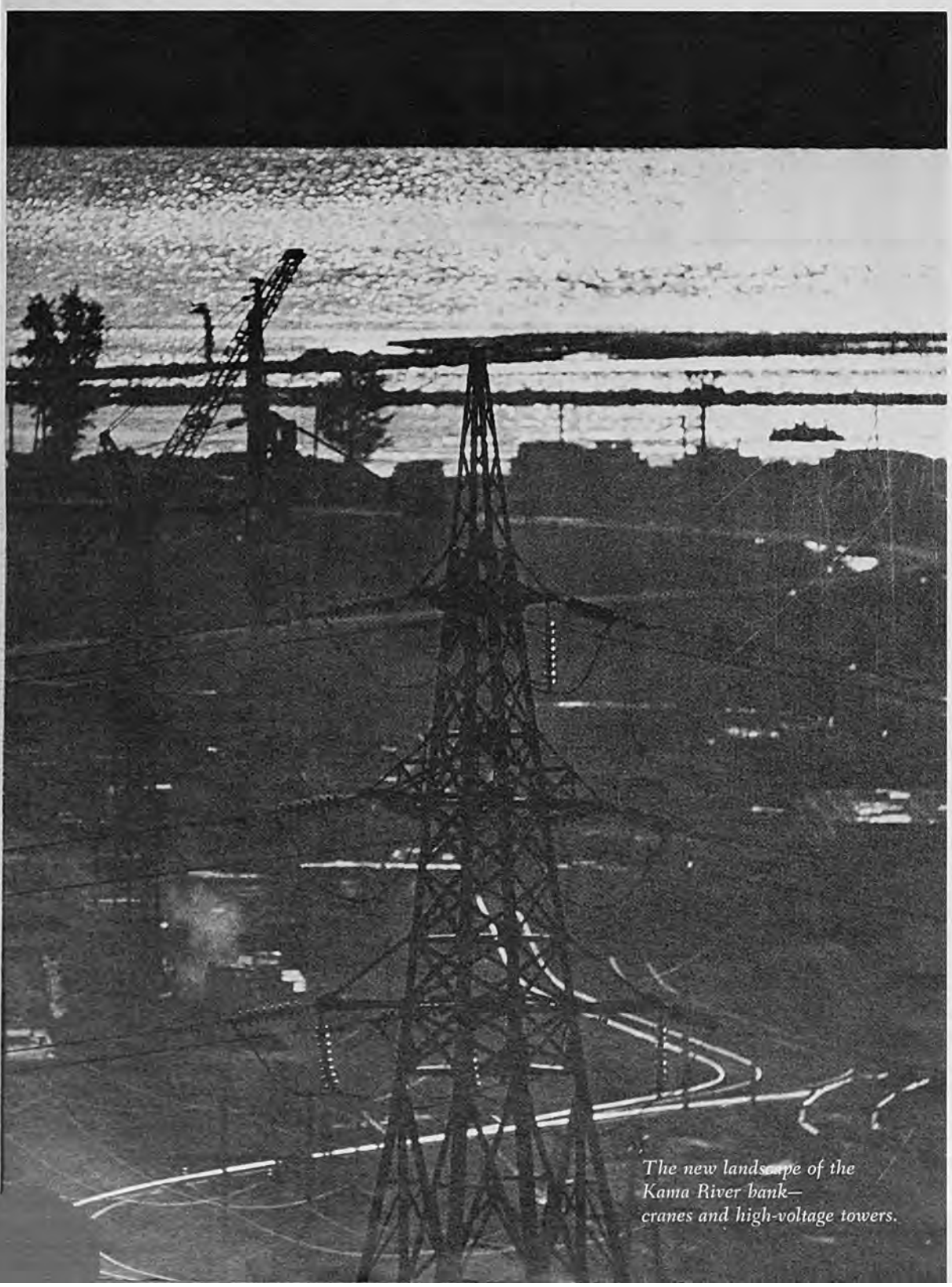
Walkways will connect residential areas with parks, which will merge in turn with the forest zone. There the city sports center, with stadiums and beaches, will be located.

The system of centers, the architectural diversity in housing and public buildings, the favorable geography—all these will give Naberezhnye Chelny a quality and character of its own.





Alexander Frolov, assembly worker on the big project, is from Byelorussia.



The new landscape of the Kama River bank—cranes and high-voltage towers.

YOUNG BUILDERS

More than 40,000 young people are working on the plant project. They are of different nationalities and backgrounds, and their reasons for coming here are equally varied.

Grigori Korovin, Russian, fitter and YCL organizer of a youth building team at the concrete plant:

"I am 24 and was born in the city of Shadrinsk east of the Urals. I served in the army and then worked as a fitter. When I heard about the construction of the Kama plant, I got my friends together—I was afraid I might be lonely on my own—and came here. I want to be part of a big, important undertaking. They elected me to a YCL post, so I'm also getting some organizational training at the same time. The young people here are very energetic and self-sufficient, and it's interesting to work with them.

"When we finish building the plant, I'll stay here—I have the right trade."

Mikhail Fadeyev, Mordovian, electric welder at the repair and tool-making plant:

"My background is quite simple and ordinary. I am 22 and before coming here, I was a fitter in Novokuibyshevsk. I always wanted to work in construction, but there were no interesting projects in my city so I asked for a job in Naberezhnye Chelny. I started as a carpenter and went to a welding class at the same time.

"When Kamaz is finished, I'm going to a civil engineering college."

Lyubov Ryzhikova, Russian, cook:

"I'm from Smolensk. I finished secondary school there and took cooking classes. For a long time I've wanted to join some youth construction project.

"I think my trade is just as important as, say, a builder's, especially since most of the workers here are young, unmarried, and with almost nobody to cook for them. So they need me."

Natasha Zayika, Ukrainian, bricklayer:

"I'm from Voroshilovgrad Region. I finished a 10-year school there and went to a trade school. Frankly speaking, I didn't want to go anywhere. But I got a letter from a girl, a friend of mine. She had left for the Kamaz project and was a concrete layer there. She described things so vividly that I got jealous and decided I had to keep up with her. I'm a bricklayer here, and though I like my new trade, I'll change it eventually. I'm still young. Right now I want to see how good I can be at this work."

Galya Isupova, Bashkirian, primary school teacher:

"Last year I finished a teachers college in Chelyabinsk, in the Urals, and immediately came here. I could have gone somewhere closer to home—teachers are in great demand where I live. But I think there is more scope for creativity here. Over there in the Urals I would be teaching in a school with established traditions. I would have to conform. In Naberezhnye Chelny we begin from scratch, teaching included. Several new schools, with all the modern conveniences, are being built right now, so it will be a pleasure working here."



Kamaz is not the first construction site Alexei Orlov has worked on, but he likes it best and has an idea he may stay around when the job is done. The project has attracted people from all over the Soviet Union.





Many of the 40,000 young people on the project study by correspondence at the Kazan Construction Engineering Institute. The city grows with the auto plant, but faster. Right: Skeleton of the heat and power plant.

COUNTRYWIDE PARTICIPATION

By Victor Yaroshenko
Novosti Press Agency Correspondent

We landed in Naberezhnye Chelny at night. A bus rolled up to the airport building, and my fellow passengers got into it—young women and men with knapsacks and suitcases.

For a while the bus wound past solid log houses and tall gates with awnings, but then we moved into another world of five-story and twelve-story houses, shop windows and a big movie theater. This is the headquarters of the Kamaz builders. People here don't put up temporary housing and barracks, nor do they pitch tents. Right from the start they build comfortable apartment houses.

The cranes at the docks in Naberezhnye Chelny unload barges from every part of the country—building materials from Russia, tufa and marble from Armenia and Georgia, polished wood and glass door panels from Byelorussia, kitchen units, electric ranges and furniture from the Soviet Baltic republics, metal structural elements from Kazakhstan, brick from Udmurtia and Bashkiria, pumps from Azerbaijan. Trucks built in Byelorussia and the Ukraine speed down the concrete highways. In a word, the whole country is helping to build Kamaz.

Panorama

The surprising thing about Naberezhnye Chelny is the scope of it all, though you don't notice it at first.

I went to the construction site with Sasha Somov, a 23-year-old from Moscow who drives a concrete truck. We drove through the township fast and came to a plain cut by the highway, with fields of grain on one side and grassy meadows on the other. This, Somov told me, was where the central section of the new city would be.

Ahead we saw a large fleet of road-building machines.

"They're working on the second lane of the superhighway," commented Sasha. "It'll join the old city with the new one and with the automobile plant."

The road climbed a hill and ran between the cable supports of a partially built streetcar line. We drove on till the road ended in a forest of scaffolding marking the construction site of the repair and tool-making plant. At the other sites—forging press, foundry, diesel and assembly buildings — whose grounds stretched to the very horizon, the builders were laying foundations.

Somov quickly dumped the load of concrete into a special container and picked up speed on the way back. We were now going through the new city. There's a good deal of talk about it in Naberezhnye Chelny even though it is still only on charts and blueprints.

But there is a network of supply roads and a multitude of cranes over an area of 40 square miles. Excavators dig and all kinds of machines rattle around. And to make all the planning real, there are two houses almost completed.

"In a year or a year and a half," said Sasha, "the new city will be linked with our township."

Builders

They came here from all over, set up trailer towns, paved roads with gravel, and built newspaper stands, canteens, a club, a platform to show movies. Their new address, they told relatives, was "Builders City, Naberezhnye Chelny, Tataria."

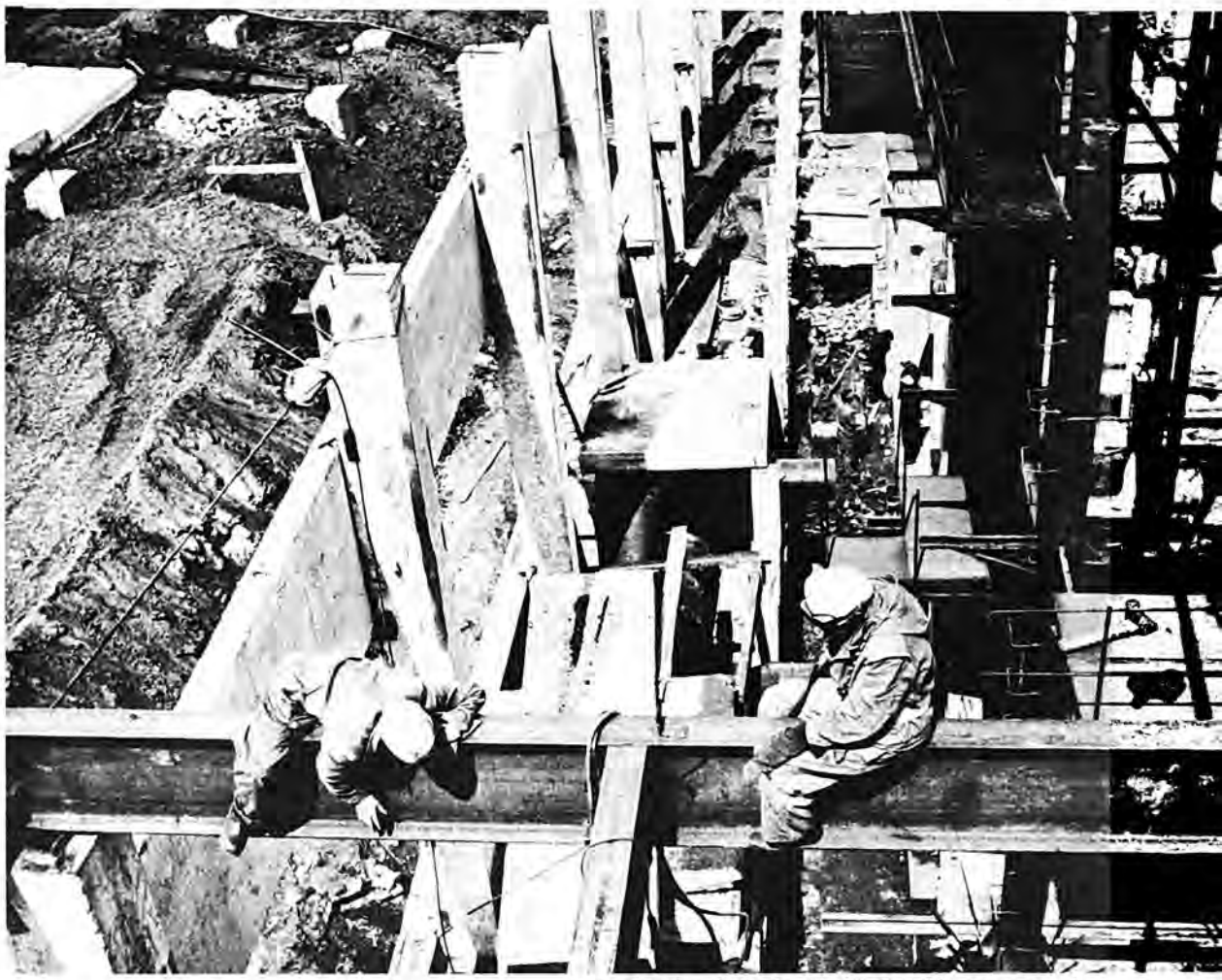
Valeri Sosnitsky and Vyacheslav Yegorov came with experience in building Togliatti, Tashkent, some of the new neighborhoods in Moscow. Their trailer is very pleasant—a warm room with a refrigerator, a radio, a table completely covered with books.

Valeri and Slava are old friends. They lived in the same house in the Byelorussian city of Baranovichi. Their fathers served in the same tank regiment in the Great Patriotic War, then worked side by side, and the sons studied in the same school.

Slava is somewhat older and left for the army earlier. After the earthquake he joined a YCL building team in Tashkent. The friends met again in Togliatti, and since then they have been together.

"You might think we'd be tired of construction projects. It's hard work, but we like it," said Slava. "When we're through here, we'll go to the Soviet Far East. A new city is going to be built at Komsomolsk-on-Amur, and our team will be transferred there.

"There are all kinds of people. Some like a settled life, others like to move around—that's us. It's not just wanderlust—we're not tourists, we're workers. We build cities, our trade is important to people."



The Rainbow Club

Lyonya Samurgashyan grew up in Yerevan and worked as a machine operator at an electrical engineering plant from the time he was 17. But one day he went to the plant YCL committee and asked for a job at Kamaz. It was November when he arrived, and there was sleet on the ground. Several days later he started working. He felt at home with his job—instrument technician. A month later he went to Yuri Titov, YCL secretary of the project, and asked for a room he could convert into a studio.

"I want to use my spare time for metalworking," explained Samurgashyan.

The secretary said he could have thought of something more useful, but gave him some space anyway—a former kitchen in one of the rooming houses. Lyonya himself wrote "Rainbow Club" on the door.

The club includes all kinds of people—an artist, a bricklayer, a carpenter, an electrician, a house painter, an architect. Though the group is young, the members have already helped YCLers build an outdoor movie theater, called Yunost (Youth), in their spare time. The building façade is adorned with a 20-foot metal relief made by Samurgashyan. Club exhibits attract wide attention.

"Maybe I'll become an artist," said Samurgashyan. "But meanwhile I have to get some experience and learn how to handle problems, shape up as a personality."

They Came to Stay

When the new plant is fully operative, it will employ tens of thousands of people. Many of the present construction workers will change trades, become turners and metallurgists, automatic machine adjusters and milling machine operators, fitters and drivers at the factory.

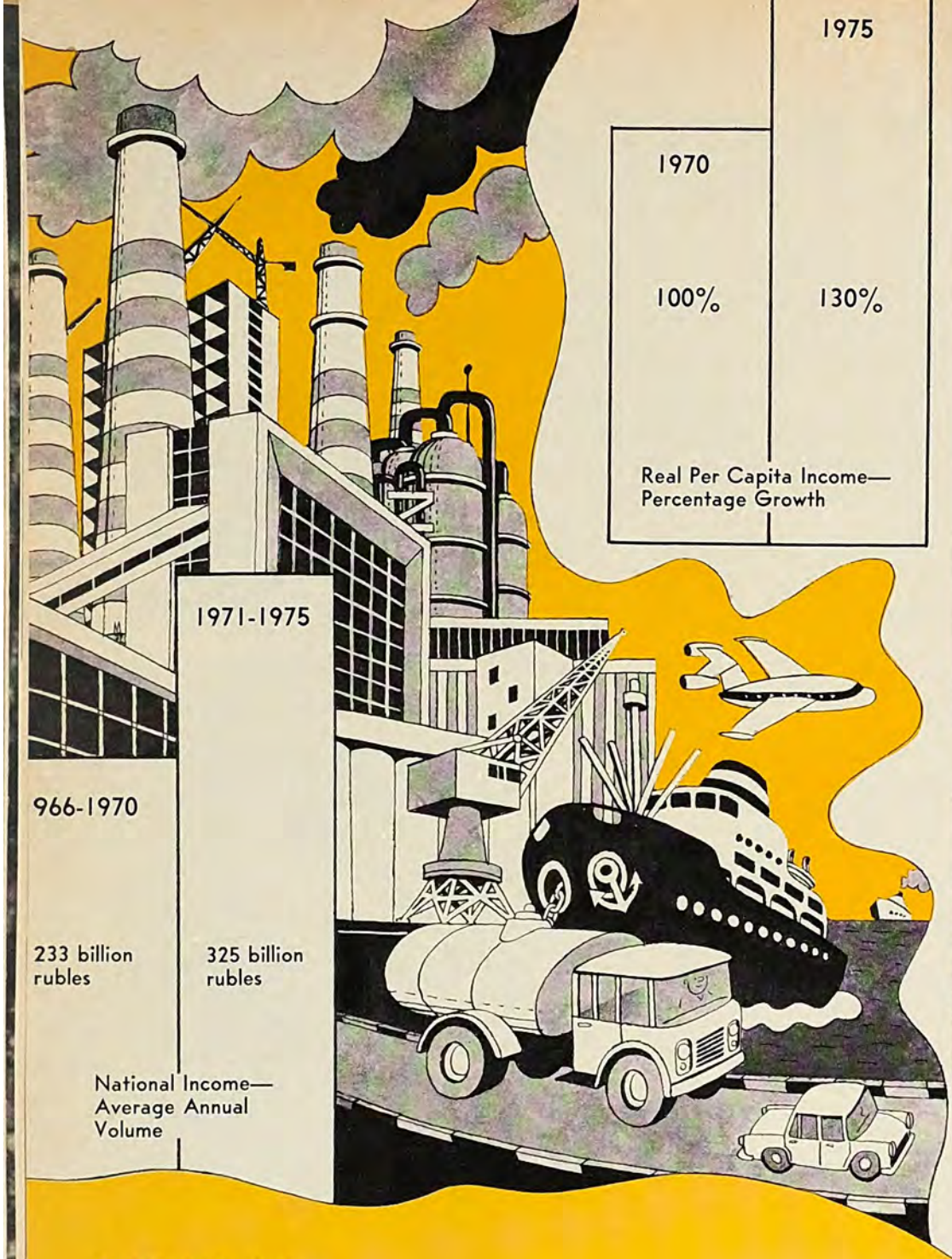
Almost everyone here ties his plans to the future of the project. And to realize this future as quickly as possible, the young people do their best. At 6 A.M. groups of young men and women hurry to buses taking the teams to their worksites. Drivers run their dump trucks from pit to construction area and rush back, trying to save precious seconds. In a hot kitchen a girl moves quickly from stove to window, hardly giving herself time to see whether the boy who smiled at her yesterday is there again today.

They are not just building an auto plant—they are building their future. For example, I was told this story:

A young fellow put the following question to the local administration at a workers' meeting in Naberezhnye Chelny: "What is being done to save the trees in the construction area?"

An approving hum of voices came from the hall. The evasive answer about "inevitable losses" and "groves of shade trees being planned" satisfied nobody. There were shouts of "Let's save what we have."

That's the way they see it—not the bare girders of a new city, but the buds and branches of life already rooted there.







In 1971-1975, 90 million workers will receive pay increases.

By Nikolai Buzlyakov
Doctor of Science (Economics)

NATIONAL INCOME AND LIVING STANDARDS

TO ACCOMPLISH a substantial rise in living standards is the main task of the Ninth Five-Year Plan of Economic Development (1971-75). Part of the over-all plan is a sequence of goals, for each of the five years, and the practical steps required to meet them. Long-range social planning is possible under socialism because the national income, which determines living standards, is also planned. If we can forecast the growth of national income, we can also forecast the rise in living standards. Let us consider this aspect of economic development. But, first, a few words on what we mean by national income.

The Fruits of Labor

Every country produces material values. Their total cost constitutes the net social product. Material values produced earlier are also used in the process. Some of them, such as raw materials, fuel, and electricity, are used up and completely incorporated in the cost of the values produced. Others (machinery, equipment, buildings) are only partially incorporated because they are used over and over again.

The crucial factor in production is man and his labor. That is what makes for growth in the values produced. Therefore, if we deduct from the net social product the material expenditure of previous years, we have only the newly produced value in its pure form. This will be the national income (for a year or for five years).

In the Soviet Union, only the sphere of material production (industry, agriculture, transport, and so on) is regarded as contributing to the formation of national income. As for the nonproductive branches of the economy, their incomes are formed by a redistribution of the income created by material production. The nonproductive branches do not increase the quantity of material values—they merely render services for which they are reimbursed.

The national income, then, is ensured only by material production. It is the only source our society can draw on to meet all the needs of its citizens and to boost production.

In the Interests of the Working People

Since we have socialist ownership of the means of production (factories, land, equipment, and the like), the national income belongs completely to the working people and is distributed in their interest.

It is divided into two parts—the consumption fund (about three-fourths of the net sum, used to meet current needs) and the accumulation fund (one-fourth of the net sum,

used basically to expand production). This distribution of the national income is the optimum ratio between growing current needs and the expansion of production facilities to meet future needs.

Soviet working people get most of their share of the net social product in cash—the pay of industrial, professional and office workers and collective farmers, pensions and all kinds of social benefits. Part of their share of the net social product is in kind. Examples are the items they raise in their personally owned kitchen gardens and orchards (this is true primarily for collective farmers), free or cut-rate services rendered by state-owned hospitals, sanatoriums, vacation resorts, preschools and other educational facilities.

We have a high and stable rate of growth of national income. In the Eighth Five-Year Plan period (1966-70), for example, the national income grew by 41 per cent. Its absolute growth was 77 billion rubles, or 15.4 billion a year.

In 1971-1975 the national income is to grow by 38.6 per cent. The average annual total will be 325 billion rubles, as against 233 billion in the preceding period. This constitutes a solid foundation for the goals of the Ninth Five-Year Plan.

The primary goal of socialism is, and has always been, a steady rise in living standards. But for a long period it was necessary, in some measure, to limit appropriations for that purpose. Of first importance was the need to allocate funds for the development of heavy industry, the base of the country's general development, including higher living standards.

Advanced Socialism

Today ours is an advanced socialist society. We have all the economic, sociopolitical and cultural conditions to ensure a substantial rise in living standards. Under advanced socialism the productive capacities and creative initiative of working people are afforded greater opportunity for development.

The plan targets to boost living standards are ambitious but also realistic because they are based on expanded production. The main ratios for the country's economic development have been adapted to that primary task. Provision is made for a redistribution of social resources, and this will lead to major structural changes in the country's economy.

A very important indicator reflecting the change in priorities is the increase in the portion of the national income used for consumption. In 1975 the national income will be 365 to 373 billion rubles, including a consumption fund of 272 to 278 billion rubles. The growth in the consumption fund in 1971-1975 will be 75 to 81 billion rubles, as against 57 billion rubles in 1966-1970.

Another index is the amount invested to increase the material and technological base for the output of consumer goods and raw materials for their manufacture, and for expansion of the social services. For instance, in 1971-1975 129 billion rubles are to be invested in agriculture by the state and collective farms. This is as much as in the two previous plan periods (1961-1970) put together. Eight and seven-tenths billion rubles —almost twice as much money as in the previous five-year period—is being appropriated for the development of light industry, and about 14 billion rubles will go to the food, meat-and-dairy, and fish industries. Such channeling of resources means increasing the output of consumer goods at higher rates than the output of the means of production.

Main Indicator

The most significant figure, however, is that for real per capita income, which during the Ninth Five-Year Plan period will increase by more than 30 per cent.

Most of that additional sum will come from higher pay. The wages of industrial, professional and office workers will increase primarily as the result of the growth of labor productivity and work skills. But they will also rise because of increases in minimum wages.

Pursuant to the Directives of the Twenty-fourth CPSU Congress, the wages of railroad workers and farm machine operators were increased on July 1 of last year. This year there will be wage increases for everybody working in the Soviet Far East, Siberia and the Urals, and for preschool and school teachers and physicians throughout the country. Beginning in 1972, all workers, instead of just certain categories, in Western Siberia, the Urals, parts of Soviet Central Asia and Kazakhstan will receive higher pay than for similar work in the European part of the country. Such increments are also scheduled for certain areas of the Soviet Far East and Eastern Siberia. All told, some 90 million workers will be affected, and the average monthly wage of industrial, professional and office workers will grow by 22.4 per cent in 1971-75.

The pay of collective farmers will rise by 30 to 35 per cent, a rate higher than for industrial, professional and office workers. Farmers' income will be further boosted by the increased proceeds from their kitchen gardens and individually owned orchard plots.

Public Funds

Another important source for higher living standards is the public consumption funds, which come mostly from the state budget, partially from the collective farms. They provide cash payments and benefits to every citizen whatever his work may be.

Public consumption funds account for about one-fourth of the individual's real income. In 1971, the public received from them 68.6 billion rubles in cash grants, benefits and services. During the Ninth Five-Year Plan period, public consumption funds will grow by 26 billion rubles, and will reach 90 billion rubles in 1975. About 60 per cent of the total is used for the education and daily needs of the younger generation and for the disabled of every age.

The current plan period will see a substantial increase in appropriations for preschool facilities and for the education and training of specialists. As much as 430 to 450 rubles are spent annually for each child at a preschool institution, and over 120 rubles per student at a general school (170 rubles at an extended-day school). Each student in a specialized secondary school costs the state 480 rubles a year; the cost per college or university student is 870 rubles.

In 1971 year-round nurseries and kindergartens cared for 9.5 million preschool children. More than five million children spent the summer at various juvenile vacation facilities. During the current plan period, preschool institutions will be built for an additional two million, bringing attendance at these facilities to 11.2 million. By 1975 one child out of every three (in towns, one out of every two) will be going to kindergarten or nursery school. Parents pay only a part of preschool costs (from 10 to 25 per cent), the rest comes out of the public consumption funds.

The educational system is in for extensive changes with the shift to 10 years of compulsory schooling. In 1971-1975 additional schools will be built for at least six million children. There will be a substantial growth in the number of preschool boarding facilities in rural areas, as well as extended-day schools. In 1971 these schools had 5.6 million students; in the current plan period the figure will increase by 1.7 million.

There will be continued development of higher and secondary specialized education. More specialists will be trained in new branches of science and technology—nine million in 1971-1975 as against seven million in the previous period. About three-fourths of the students at colleges and universities will be paid stipends. In September of this year the stipends of students in specialized secondary schools will be increased by 50 per cent, and those of college students by 25 per cent.

The Social Approach

The incomes of less affluent families will be increased by various means. The Soviet state has been consistently effecting such changes in the course of socialist construction; the intent is to bring the population closer together in terms of per capita income. Minimum wages of industrial, professional and office workers, as well as of collective farmers, have gone up faster than the average wages. People who earn the minimum wage pay no taxes; those who have three nonworking members in the family pay 33 per cent less in taxes than people with identical incomes and fewer dependents.

Families with lower incomes get more welfare benefits from the public consumption funds. They pay nothing to keep their children in nurseries, kindergartens and extended-day schools; they get free accommodations at sanatoriums, vacation resorts and Young Pioneer camps. The current five-year plan schedules additional support to families with a large number of children, fatherless families, and those in which per capita income is lower than a specified monthly sum per member. Also planned is an increase in the amount of paid leave for looking after a sick child. Women workers will be entitled to additional benefits.

The Directives of the Twenty-fourth CPSU Congress call for another rise in pensions. July 1 of last year there was an increase in the minimal old age pensions of industrial, professional and office workers and collective farmers. At that time, the retirement provisions for collective farmers were revised to conform to those for workers. By 1975 the pensions to disabled industrial, professional and office workers will rise by an average of 33 per cent, and pensions to families without breadwinners will increase by 20 per cent.

Health and Recreation

Public consumption funds pay for public health services and for rest and recreation facilities. Last year the number of physicians in all specialties increased by over 30,000 and the number of hospital beds by almost 70,000. Inpatient service was rendered by 26,000 hospitals with 2,780,000 beds (an average of 110 beds per 10,000 of the population). The number of doctors rose to 700,000 (more than a quarter of all the doctors in the world), and the number of para-

medical workers to two million. Treatment in polyclinics and hospitals is paid for from the public consumption funds. Every day of a patient's hospital stay costs the state six to seven rubles—this amount covers the services of doctors and other medical personnel, meals, use of equipment.

In the Ninth Five-Year Plan period, the number of hospital beds will reach three million. Construction of large specialized hospitals and clinics will be extended, and more ambulances and increased appropriations for hospital meals provided.

In 1971 some 23 million working people and their families rested or were treated at every type of vacation and health resort. Over 19 million children and teenagers spent the summer at Young Pioneer and school camps, children's sanatoriums and tourist centers, or were sent by children's institutions to summer cottages in the countryside. The present plan calls for vacation and health resorts for 150 million people, 50 per cent more than in 1966-1970. A substantial number of accommodations at sanatoriums and vacation resorts and Young Pioneer camps are provided for workers and their families free of charge or at substantially reduced rates (as low as 30 per cent of the total cost).

Price Stability

To keep pace with the growth in family income, there will be more goods and services available. Retail trade will increase in the five-year period by 64 billion rubles, and will amount to 218 billion rubles by 1975.

One of the noteworthy features of the new five-year plan is that, despite the high rates of growth in income, retail prices will not go up; in some cases they will even go down. Between 1966 and 1970, retail prices and charges for services remained, on the average, the same throughout the country. In the first year of the present plan, retail prices of a number of consumer items went down, and as a result, people saved a total of 800 million rubles. Rents have not gone up, nor have charges for electricity, gas, telephone services, postage, the cost of movies, concerts and other entertainment. Transport fares are still the same. A ride on the Moscow subway costs five kopecks, or about five cents.

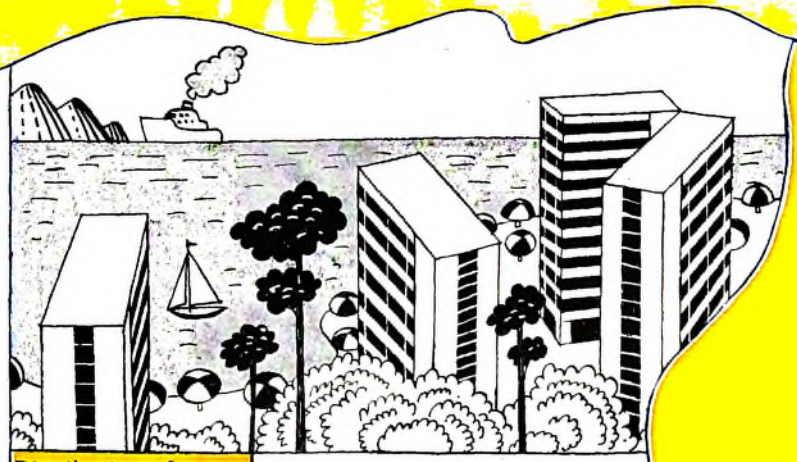
Construction of urban housing and cultural facilities has increased in the current five-year period. In 1971-1975 the plan calls for building 6.2 billion square feet of housing, 667 million more than in the previous period. About 60 million people will move into new or better apartments. In our country, rent comes to only four or five per cent of family income.

The figures for 1971 show that the targets of the Ninth Five-Year Plan are being reached. National income grew by about six per cent, and over 80 per cent of this growth came from greater labor productivity. During the year industrial output increased by 7.8 per cent instead of the 6.9 forecast. Gross agricultural production was eight per cent higher than the average annual level in 1966-1970.

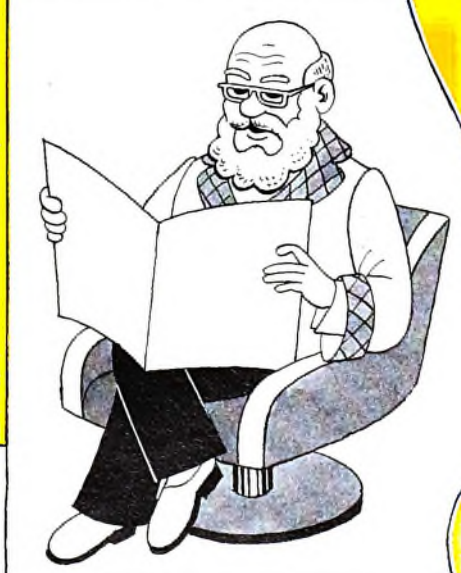
These production gains made possible the rise in living standards mapped out for 1971. Some 19 million people received higher wages and larger pensions.

The plan for 1972 calls for higher rates of production growth. The latest figures available for this year indicate that a solid foundation is being built for the ambitious social program of the Twenty-fourth CPSU Congress.





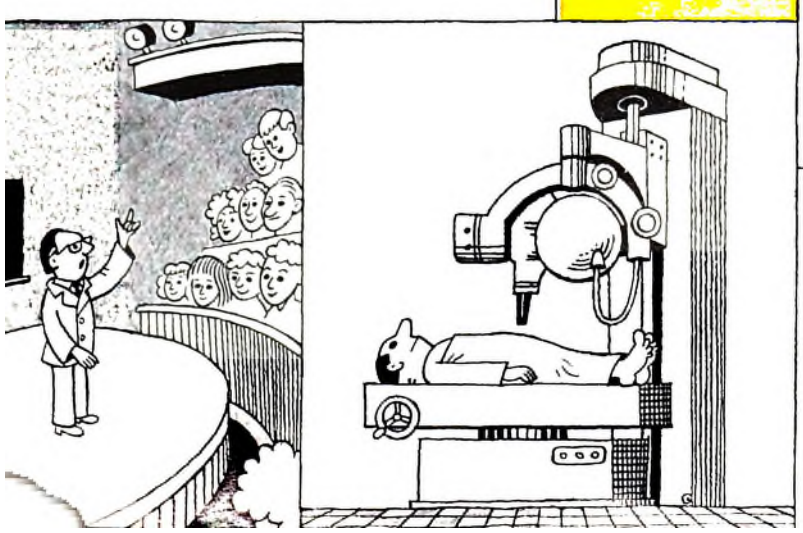
Distribution of Public Funds
1. Housing
2. Schools.
3. Sanatoriums and vacation resorts.
4. Pensions.
5. Preschools.
6. Medical care.
7. Universities and institutes.





In 1971-1975 60 million people will move to new or better apartments.







LEISURE TIME— THE SOCIOLOGIST'S VIEW

By Igor Kodarev
Sociologist

A recent study was made of the way the residents of several Soviet cities spend their leisure. Among the group of scientists involved was the author, who here gives a summary of his findings.

TODAY'S CITY is a jumble of accelerated work rhythms, crowds of people, sophisticated technology and an endless flow of information. That is why it is so important that our leisure activities help us to restore our emotional equilibrium.

Under socialism, leisure time is used creatively to advance development of the individual. It is a time not only for rest and recreation but for cultural and intellectual improvement.

These days it is not always easy to differentiate between work and leisure. Is your hobby—knitting, say, or gardening or amateur radio—rest or work? We often get much more pleasure from sports or amateur art activities than from seeing a spectacular but essentially superficial performance. Since the activities allow free play to intellectual and physical powers, the participant justifiably regards them as salutary recreation.

According to Soviet sociologists, cultural recreation breaks down into three types of activity. First, educational: reading, attending lectures, meetings of debating clubs, popular science films; second, cultural entertainment: games and sports, radio and TV programs, walks in the park, visits to clubs, movies and theaters, dancing parties; third, hobbies: amateur art, music, theater, photography and film making, model building.

The data from seven cities in different areas of the Soviet Union* show that on the average, people spend their spare time as follows (in hours per month):

Self-education and reading	30.0
Going to shows (movies, theaters, stadiums)	9.5
Taking care of children	9.0
Study in schools and refresher courses	8.5
Seeing friends	8.0
Hobbies (stamp collecting etc.)	6.5
Radio and TV	6.0
Home games	5.5
Community work	3.5
Listening to lectures; debating	2.0
Sports	2.0
Music, dancing	1.0
All other activities	17.5

These are general figures, of course, and do not give a complete picture. But a few comparisons can give us some insight into their significance.

Two Eras

A study on the distribution of leisure time in 1923 and 1924, as against the data compiled above, shows that today people's leisure is more diversified and the cultural benefits are greater.

First of all, there is less difference now between the ways men and women use their spare time. In the early twenties, women spent 150 per cent more time than the men on household chores, while in 1959 this figure dropped to 30 to 50 per cent. In 1923 and 1924 men spent twice as much time on self-education as women, while in the early sixties both sexes spent the same amount of time studying. In the earlier years men's artistic and cultural activities took up twice as much time as women's; between 1959 and 1961 this difference narrowed considerably.

Recently the Central Statistical Board of the Russian Federation and the Institute of Economics under the Siberian Branch of the USSR Academy of Sciences studied the ways in which residents of Krasnoyarsk Territory (Siberia) spent their leisure time. They found that the spare time gained from the shorter workday and from improved municipal services and city transport facilities gave the men 34.8 hours per week and the women 21.5. Of their leisure time (16.2 hours for men and 9.2 for women) the lion's share was spent in cultural recreation: 9.2 hours (men) and 6.7 hours (women).

Studies made at the Chelyabinsk Iron and Steel Mill in the Urals showed that 48.8 per cent of the workers' families had private libraries, 96.6 per cent subscribed to newspapers and magazines and 38 per cent were regular readers at public libraries. Reading is the most popular form of recreation in the Soviet Union.

A comparison of the way leisure time is spent by residents of Pskov (USSR) and Jackson, Michigan (USA) shows that Pskov people spend more time in educational pursuits than their Jackson counterparts.

Diversity

The variations in the ways different strata of the Soviet population spend their spare time are disappearing to a great extent. However, this process does not tend to standardize individual inclinations, artistic tastes and independence in choosing forms of recreation. Differences will remain, largely because of man's psychological makeup and cultural level.

Sociological studies indicate that the what, how and why of spending leisure time in the Soviet Union depends, at present, on people's education, sex, age, community activity and environment. For instance, in the city of Kazan (capital of the Tatar Autonomous Republic, Middle Volga), it was found that between 1962 and 1966 the women read more than the men, the young read more than the old and the unmarried more than the married. In Krasnoyarsk Territory, workers with a high level of education apportion their spare time more thoughtfully and show a desire to improve upon their education. Men workers who have between five and nine grades of schooling spend 300 to 400 per cent more time on studies than those who have only a primary education. And those who have a secondary and uncompleted higher education spend more than twice the time on studies than those who have not finished secondary education.

Of course, the way people spend their leisure depends largely on local, geographic and climatic conditions, national cultural traditions, specifics of economic development and type of city they live in (from newly built cities to capitals with populations running to a million). For example, it is hard to imagine a city in Estonia forgoing its traditional song festival; or a community of Central Asia without its cotton harvest holiday, or a town in Central Russia without its early spring pancake-eating fests. These and many other national holidays, games and customs give a unique flavor and national color to the leisure of people in different parts of the country.

Soviet society aims at the harmonious development of man. One of the means to this end is leisure that is clearly beneficial. The Directives of the Twenty-fourth Congress on the plan for the country's development between 1971 and 1975 include measures for improving recreational facilities, covering new theaters, movies, stadiums, clubs, libraries, people's universities and other such facilities instrumental in raising the general cultural level.

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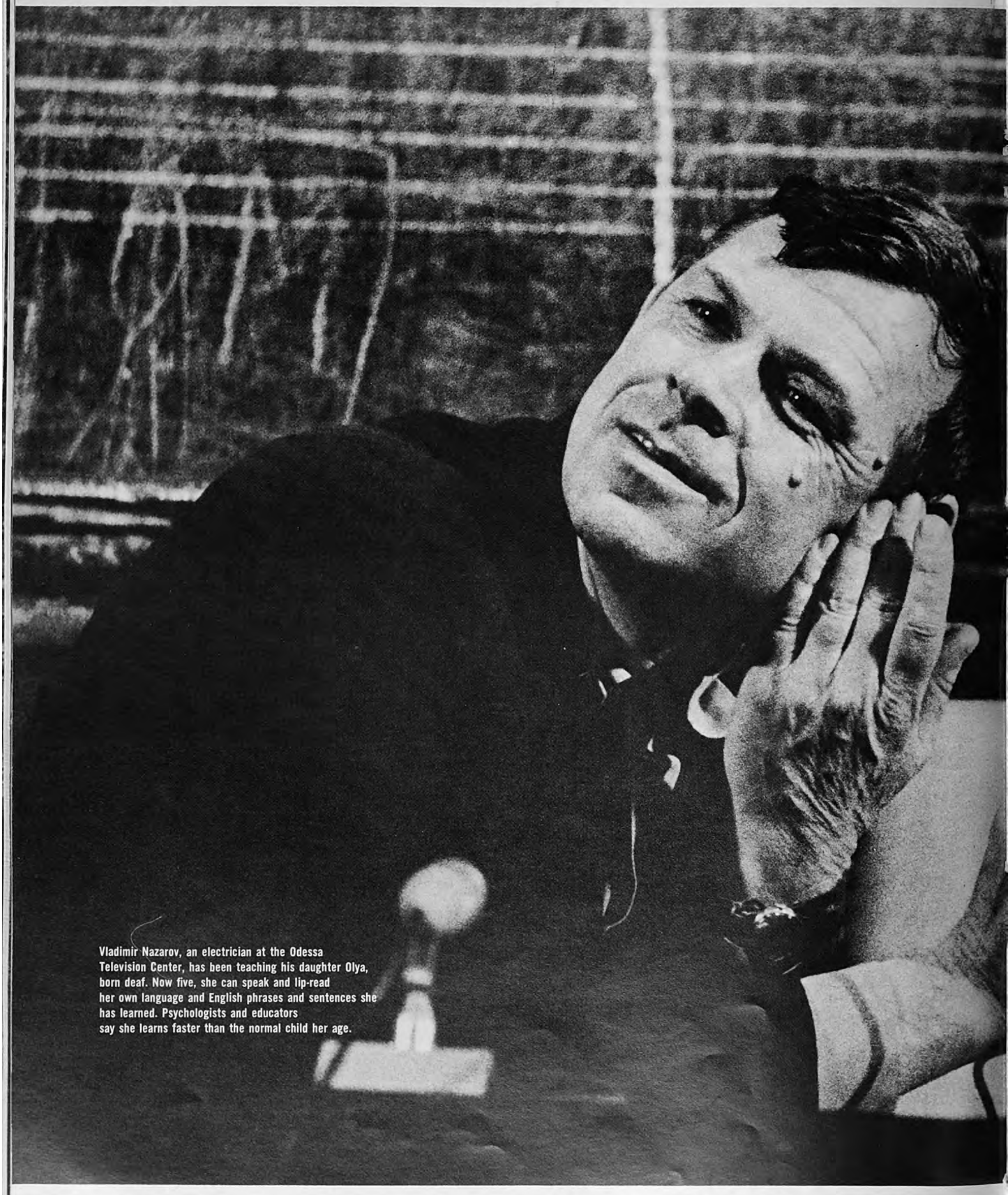
* Yerevan, capital of the Armenian Republic (Transcaucasus); Novo-Kuznetsk, industrial center in Western Siberia; Novosibirsk, a big city in Siberia; Kostroma, regional center on the Upper Volga; Sverdlovsk, industrial center of the Urals (on the border between Europe and Asia); Krasnoyarsk (Eastern Siberia); Norilsk (extreme north of Eastern Siberia).



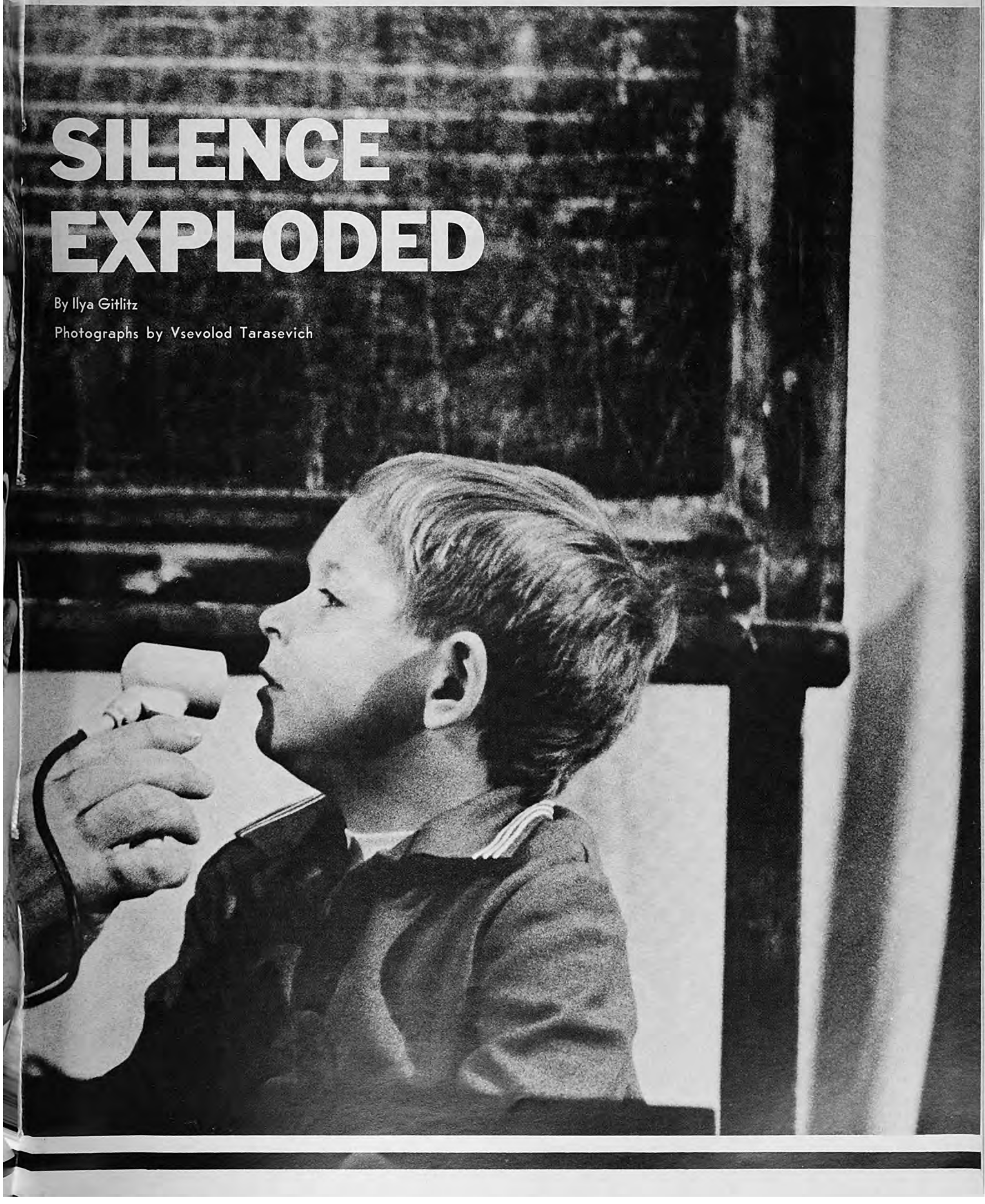
Vladimir Nazarov, an electrician at the Odessa Television Center, has been teaching his daughter Olya, born deaf. Now five, she can speak and lip-read her own language and English phrases and sentences she has learned. Psychologists and educators say she learns faster than the normal child her age.

SCIENCE, THE SCHOOL AND THE FAMILY WORK TOGETHER TO CORRECT NATURE'S MISTAKE.

SILENCE EXPLODED

By Ilya Gitlitz

Photographs by Vsevolod Tarasevich



The home environment is where deaf-mute children, like children generally, do their earliest and most crucial learning. But formal and carefully graded instruction is given at special kindergartens and primary schools. There they learn hand speech—dactylology, and go on to written and oral speech.

THERE ARE 35 million deaf people in the world. They live in double silence, their own and the one that surrounds them. Only four senses guide them. Deafness, a leading psychologist has said, is one of nature's cruelest tests of human adaptability.

Early Training

A baby is born. To his parents he is the most precious being in creation. They watch his development. After a time they are seized by anxiety. The baby seems to spend too much time sleeping. He doesn't hold his head properly. There isn't a sign of baby prattle.

From her mother the wife hears that she, too, was slow to speak. But the young parents are not comforted. They consult the doctor, and their worst fears are confirmed —their baby was born deaf. They see him now as a deaf-mute, for only by hearing human speech can he learn to speak himself. It is a terrible blow, but they know they must summon all their courage to help the child. Can they help him? Yes, by patient teaching.

Many Soviet psychologists and teachers of the deaf believe that education should begin at the earliest possible age and that the teaching must be done by both the parents and special institutions.

The old practice was to wait until the little boy or girl was three years old and then place the child in a special kindergarten or preschool home. Parents felt helpless in the face of their child's handicap. They did not know how or what to teach.

It is a different story today. Parents are eager to learn the methods used by child defectology specialists so that they themselves can do the teaching. And the results are very heartening.

A striking example is Vladimir Nazarov, an electrician at the Odessa Television Center, who began teaching his deaf-mute daughter Olya when she was no more than nine months old. This father was in close contact with the staff of the Moscow Research Institute of Defectology.

He began by teaching the little girl to play with blocks and a ball and then had her hold a balloon to feel the vibration. Gradually, in preparation for systematic instruction, he trained the child to focus her attention.

Soon all the objects in the house had little signs with their names. By this means of definition Olya learned to read and write—and at an earlier age than most children. Nazarov's hardest job, however, was to teach her to enunciate and to read spoken words by observing lip movements. It took several months of effort before Olya, to the joy of her parents, was at last able to say "Mama."

Her father approached Olya as he would any physically normal child. Pointing to an object, he would explain what it was—"This is a ball"—and then describe it—"This is a red ball."

Olya is five years old today. Not only is she able to read, write and do a little arithmetic, but she can speak and can understand when spoken to by following the movements of the speaker's lips. If we are to believe child psychologists as well as special teachers for deaf-mute children, Olya is more advanced mentally than many normal children her age.

There are more than 1,000 parents in the Soviet Union today using the Nazarov method.

Although a great deal of work is done with deaf-mute children at home, most handicapped youngsters are taught at the special kindergartens in every big Soviet city. There qualified teachers give them elementary instruction using dactylology and then go on to writing and oral speech.

After four years at such a kindergarten, where board and instruction are free, the handicapped child is ready for school.

Which School?

The choice of school—regular or special —depends on the extent of the handicap and the parents' wishes.

There are two types of special schools, one for those born deaf, the other for the hard of hearing and those who became deaf in later years. This division has made for the most effective teaching.

The handicapped child is examined by a panel of doctors and educators, who recommend the type of school where she or he is likely to make the most progress.

The special schools generally have dormitories and provide board so that pupils can stay for the school week or the entire term. Tuition, board, textbooks and hearing aids are all free. These schools cost the state three times as much as those for normal children.

Deaf children are taught the same subjects as all boys and girls. But they get an additional two hours daily for enunciation and elocution in specially equipped audio labs.

Some parents insist that their children, despite the handicap of deafness, be admitted to normal schools, and their wishes are respected. Ildar Ibragimov, for example, is in the fifth grade of a school in Obninsk, a town in Central Russia, and has been doing well in all his subjects and making top marks in English.

Another handicapped child, Inna Tsipis, was transferred from a school for children who are hard of hearing to a regular school in 1970. She was admitted to the sixth grade after going through the fifth in one summer. The child has made excellent progress, her only difficulty is that when the teacher faces the blackboard, Inna cannot read her lips.

The other pupils are considerate of their handicapped schoolmates. "They understand," says Ildar, "and they try hard to pronounce each word very distinctly."

Whatever school the deaf child goes to— regular or special—he gets the necessary background to go on to a college or a technical school or to enter the world of work.

Equal Opportunities

"Wonderful, friendly fellows, intelligent, with purpose. At the beginning of our acquaintance, of course, I couldn't always follow what they said, but it wasn't long before I was able to understand their speech." That is what cosmonaut Alexei Yeliseyev



told us about two of his fellow students at the Moscow Bauman Higher Technical School, one of Russia's oldest schools. Forty of its students are totally deaf.

There was a time when colleges were not too eager to take deaf students. However, at the insistence of the trade unions, the Ministry of Higher and Specialized Secondary Education and the Ministry of Health adopted a resolution listing 300 subjects in which instruction at technical schools and colleges must be open to the deaf. Not that any allowance is made for deaf applicants—like everybody else they have to pass the competitive entrance examinations.

In addition to pensions paid to them from birth, deaf students get a monthly maintenance scholarship 50 per cent higher than that of other students. They also have priority in dormitory accommodations. If there is a sizable group of deaf students at a single college, they are entitled to an interpreter or a special instructor.

A college for the deaf in the small town of Pavlovsk near Leningrad gives training in artistic decoration, polygraphy and law. It was in this very town that the first school for the deaf in the whole country was founded in 1806. It was attended exclusively by children of the highest nobility. But even they had no chance to go on with their education.

In 1970, Mir Publishers put out a mathematics book, *Combinatorics*, by Marshall Hall, an American professor. The book was translated by Sofia Shirokov, a worker's daughter who had become almost totally deaf as a result of a childhood illness. She graduated with honors from a Moscow secondary school for the partially deaf and applied for admission to the Bauman Higher Technical School, but was turned down because of her poor sight. She next applied to the physics department of Moscow University, but since physics requires good hearing, the ear specialist declared her ineligible and recommended that she enroll in the mathematics department, which she did.

To say that Sofia Shirokov had a hard time studying would be a gross understatement, for to misinterpret a single word in a mathe-

These are ninth grade students in Moscow Special School No. 101 with their teacher Valentina Statsenko. A film about these children, "They Will Talk," was shown at the congress of the World Federation of the Deaf in Stockholm some years ago. The film's optimistic note is justified. The children talk without difficulty and can lip-read with ease.





Four-year-old Lena Yarovaya lives in Voroshilovgrad. Though she was born deaf, she already reads, writes, speaks and lip-reads. The child is being taught by her mother Alina, who works in the building trades.

matics lecture could mean missing the whole idea. But Sofia stubbornly pursued her goal. At the university she learned French and Italian and later, after developing an interest in the history of mathematics, studied English on her own.

A Place in Production

When an international conference on the problems of deaf-mutes was held in Rome 14 years ago, the delegates from several countries argued that the most suitable employment for deaf-mutes was as artisans in small shops.

For today's world the question must be asked: Can deaf-mutes master the complex trades of modern production? The answer is Yes.

There are, for example, 2500 deaf-mutes employed at 20 machine-building plants in the Soviet Union; 90 per cent are skilled workers. Groups of the deaf, from 20 to 500, are working in many big factories. The Moscow Vladimir Ilyich Electric Engine Plant employs 200. Among the veteran deaf-mute workers at the plant is Vladimir Kabanov. He had occasion during World War II to speak to the American President's personal representative, Wendell Willkie. Mr. Willkie was being taken around the plant. At Kabanov's machine he saw a red flag with the figure 400 and asked to know what it meant. He was told that Kabanov had done four days' work in one shift.

"Isn't that exploitation?" asked the American visitor.

When his question was translated, Kabanov replied: "My fellow countrymen are fighting against German fascism. The deaf are exempt from service. My battlefront is the shop where I work, and I am fighting for victory here."

Many of the deaf-mutes at this plant are engineers, designers, draftsmen. Chances for advancement are open to deaf persons wherever they work. There are 32 deaf-mutes taking a correspondence course at the Polytechnic College. Twenty are getting electromechanical training at a technical school, and 21 are going to night school.

The plant has a special board to help deaf-mutes. It is administered by Maria Shibalina, who was raised in a deaf-mute family and has experience with special problems and needs of the deaf-mute.

Whenever there are more than 20 deaf-mutes at an enterprise, management is required to hire a staff instructor. There are approximately 1,000 such instructors working in Soviet plants.

Deaf persons are in a wide range of professions. They are architects, scientists, economists, teachers and lawyers. Valentin Dmitriyev originally qualified as a design engineer, a field in which he earned an advanced degree. Later he took up French, acquired an excellent command of the language and started doing literary translation. He has translated Beranger's songs and plays by Anouilh, among other works. He is now a member of the Union of Soviet Writers.

Shakespeare in Gestures

The Theater Studio of Mimicry and Gesture, with a company of deaf-mute young people who had spent four years studying drama under expert tutelage, was founded in Moscow several years ago.

A drama without speech! Many theater people were doubtful of its future. Their misgivings have disappeared. The company has played in many cities of the Soviet Union and abroad to audiences of more than a million. The visitors book has comments in Russian, Ukrainian, English, French, Danish, Italian, Kazakh, Serbian and other languages: "Sincerest thanks for your show," "Unforgettable," "We are amazed by what we saw," "The Shakespeare performance is magnificent."

Shakespeare's *Twelfth Night,* with which the theater opened, still graces its repertoire. There have been changes in the cast but not in the production.

In 1967 this theater for the deaf received a stage of its own from the Society for the Deaf. The theater seats 800, and performances are given nightly.

The repertoire includes plays by Alexander Ostrovsky, Maxim Gorky and Johann Schiller.

Among the actors who have won favor with both public and critics are Vasili Bondov and Marta Grakhova. Bondov, 40, is the company's oldest actor. He used to be an engraver and took part in amateur theatricals at a club for deaf-mutes. When the studio theater was founded, he was one of the first to join. His performance of Miller in Schiller's *Kabale und Liebe* is outstanding. Marta Grakhova, who plays Louisa in this same drama, joined the studio after finishing school. She is also one of the company's stars and some time ago had roles in two movies. She married an engineer not long ago who has normal hearing.

Another professional theater for deaf-mutes was recently founded in the Ukraine and given the poetic name *Raduga* (Rainbow).

Champion Hurdler

The golden kids was what American newspapermen called the Soviet team that took part in the Tenth International Olympics for the Deaf in Washington. The Soviet sportsmen, making the best showing, carried off 35 gold, 18 silver and 9 bronze medals.

Four of the gold medals and one silver went to Vyacheslav Skomorokhov, now well known in the sports world. He made the finals of the 400-meter hurdles at the Olympic games in Mexico. In Washington Skomorokhov ran the same race in tough competition with American contestants and came in first.

"It was in Washington that I decided the 400-meter hurdle was just the thing for me," said Vyacheslav.

This young man became deaf in early childhood. He went to school in Odessa. After graduating, he returned to the little Ukrainian town of Starobelsk where he was born. He became interested in sports at 19 and amazed his trainer when he covered 100 meters in a race without upsetting a single hurdle.

Although Skomorokhov's speed and technique were good, few believed it possible for him to become a top-flight athlete, especially in running, where so much depends on reaction to the start signal. And how can a man react to the firing of the signal when he is deaf? Skomorokhov learned to tell when the gun went off by keeping his eye on his rivals. It took him several months to catch that right moment. In 1965 he won the Soviet 200-meter hurdle race championship. He has run in several track and field meets where the USA and the USSR competed and made an excellent showing.

Like any other athlete, he has had both victories and setbacks. But in whatever contests he took part, he had to muster the grit and the courage to surmount an additional obstacle—the handicap of deafness. Perhaps that is his greatest victory.

Methodologically different approaches to the problem of consciousness and human mental activity have been revealed with particular clarity in the last few decades. On the one hand there is a dialectical-materialist understanding of the theory of unconscious forms of mental activity and, on the other, various interpretations of Sigmund Freud's psychoanalytic concept and its modifications. This article describes the response of Soviet scientists to the problem.

By Filin Bassin, Vladimir Rozhnov and Maria Rozhnova

PSYCHOANALYSIS AND T

PSYCHOANALYSIS was founded at the turn of the century by Sigmund Freud (1856-1939), an Austrian neurologist, and at first its application was purely medical. The word "psychoanalysis" was created to denote a special method of psychotherapy used to treat neurotic patients. Its chief aim was to find the causes for a patient's suffering that were hidden from his conscious mind.

At the time Freud undertook the treatment of neuroses, there was no real understanding of the nature of these maladies. They were defined in a purely negative way—as disorders that could not be traced by existing methods to any organic disturbance of the nervous system or, consequently, to objective physiological phenomena. The characteristic complaints of all neurotic patients include a sharp reduction in the capacity for work, heightened irritability, inability to concentrate, feelings of tension or fear, insomnia, depression, frequent headaches. The objective symptoms of neuroses are also very varied. They may have the character of disorders of the cardiovascular system, hypertension, spasms of the stomach and of the intestine, disorders of the sexual function, stuttering, loss of speech, temporary blindness.

Freud supposed that each of these neurotic manifestations was based on some strong emotional tendency or desire, which, for various reasons, could not be consummated in behavior and was therefore forced out of the patient's conscious mind, but nevertheless continued to exert a morbid influence on it. According to Freud, for the patient to recover he had to become aware of the desire again. For this purpose Freud worked out a variety of methods (interpretation of dreams, slips of the tongue, jokes, etc.) with which he tried to probe deep into the mentality of his patients in order to reveal the causes of the clinical disorders they were afflicted with.

In his theory of the origin of neuroses Freud attributed a special part to instinctive desires that had been suppressed in early childhood. The two most important ones, according to him, are the instinct "for ever closer union" (the sexual instinct) and the instinct for destruction (the aggressive instinct).

Both strive to be satisfied, but since they are often inhibited by existing standards of morality and prevailing social values, they do not always find a natural outlet in behavior and are forced into a special, so-called unconscious level of the human psyche. The more they are repressed, the stronger is their unconscious influence on the desires and behavior of an individual. In a crisis—for instance, the death or serious illness of a relative, an unhappy love affair, financial difficulties, conflict situations at work or at home—the repressed desires become active and result in neuroses. Freud regarded so-called sublimation, a situation in which the "psychic energy" of the repressed desires stimulates mental activity and creative art, as a more favorable outlet for these instincts, though also of a neurotic kind.

Freud later made use of his theory to explain such social phenomena as religion, art, the history of peoples and cultures, manners and morals. Thus he extended the purely biological approach to the interpretation of the mechanisms of human mental activity to explain such social processes. According to his theory, such phenomena as social injustice and war have the same biological basis as human behavior, that is, the suppression of inborn instincts, desires and emotions.

The picture of human nature drawn by Freud is not only fundamentally wrong, it is also profoundly immoral. If, for instance, a person commits a crime, according to Freud, it is only in response to the inescapable demands that come from the very core of his being. Society is to be faulted only because it has established ethics so demanding that they cannot be met. The many tragedies in the lives of nations and individuals, according to psychoanalysis, are simply evidence of the fact that the assimilated standards of morality constantly force natural impulses deep into the unconscious.

This peculiar legitimization of the animal element in man, an element he cannot do away with, has undoubtedly helped to justify and spread immoral behavior, because Freudianism has exerted, both through fiction and scientific literature, a very wide influence on the minds of several generations. Therefore psychoanalysis and the theory of man's subordination to his primitive desires that follows from it is, to a certain extent, responsible for the spiritual emptiness, degradation and barbarism so widely represented in the present age, for the crimes committed at Lidice, Oradur, Khatyn and Oswiecim.

The inadequacies of orthodox Freudianism with its purely biological approach were so obvious that they compelled some of Freud's followers to revise certain principles. Thus in the 1940s neo-Freudian trends developed. Such reformists as Karen Horney, Erich Fromm and Harry Stack Sullivan vigorously refute Freud's pansexualism (the concept of eroticism as the leading motivation) and emphasize social, cultural and historical factors in molding personality. They also criticize Freud's principles as applied to investigation of clinical disorders. At the same time the neo-Freudians preserve the essence of psychoanalysis, namely the dominance of the unconscious over the conscious mind.

Although they point out the scientific flimsiness of Freudianism, Soviet scientists do not by any means derogate everything Freud did. His early clinical work posed important psychological problems, most particularly his work on the unconscious, the hidden motives for human behavior, and the part played by this factor in the clinic. Freud turned the attention of other scientists to the complexity and importance of man's inner world, his intimate emotional experiences, suppressed desires, conflicting aspirations, and to the sometimes tragic contradictions between the desired and the "proper."

Besides, Freud treated his patients by relating the clinical disorder to its supposed cause. With his great powers of observation and fine clinical intuition, he had valid reasons to stress the importance of emotional experience in the development and cure of the disease. He gave the patient hope for recovery once "things were straightened out" in his heart and mind.

However, having undertaken to elaborate a number of serious problems, Freud and his followers failed to comprehend their essence. Freud's theoretical structures based on a priori hypotheses, metaphors and parallels—sometimes very odd ones—created a number of myths about the work of the brain. The widespread notion that only psychoanalysis could determine the nature of unconscious mental activity delayed for a long time the scientific elaboration of this important section of psychology, psychotherapy and psychiatry.

Soviet science assumes that an understanding of human mentality and behavior can be achieved only with due consideration for both the biological and social nature of man. At the same time it is aware that social activity is dominant in the formation of the human mind, because the individual's world outlook, personality and abilities are formed in the family, at school, and in work and social activity. Efforts to comprehend and transform the world foster the development of the human personality and reveal new facets. But we cannot really probe human mental processes without investigating the laws that govern the work of the brain, the organ of this activity. Therefore neither the study of the activity of the human mind, nor an analysis of the unconscious forms of mental activity are sufficient to elucidate the laws that govern human behavior. Man can be understood only as an active personality, as a psychophysiological entity in which all the complexity and peculiarity of his innumerable ties with the world are reflected.

An approach to man from these standpoints, dictated by a Marxist-Leninist interpretation of the world, underlies our understanding of the humanities and medical science.

The conditioned reflex theory of Academician Ivan Pavlov is fundamental to our

THE THEORY OF THE UNCONSCIOUS

modern clinical practice in physiology and psychology. It is basic to a scientific understanding of the integrity of the organism when its functions are disturbed. It has created the theoretical prerequisites for studying the influence of the central nervous system on various physiological and pathophysiological processes. On the basis of Pavlov's theory, several important principles have been elaborated for a general concept of biological control. The theory has served to reveal in detail the complex influence of higher nervous activity on human physiological processes.

Studies by both Soviet and foreign researchers have elucidated the very complex character of the functions and structure of the human mind, while the progress of medical thought has proved the importance of the emotional factor in clinical treatment of diseases.

To understand all these influences and relationships, we must acknowledge the reality of the unconscious mind or, to put it in other terms, the reality of those specific forms of mental activity that remain beyond the borders of the conscious, but at the same time are an indispensable mechanism of man's purposeful behavior.

This unconscious activity of the human brain plays a particularly important part in cognitive activities. A tremendous volume of information is assimilated and processed by the nervous system without any participation by the conscious mind. Its use, for instance, in scientific and creative work is what we call intuition. The products of this activity, concealed from the consoious mind, usually appear in the form of "inspirations" that seem to come out of thin air.

Unconscious mental activity also plays an important part in the origin and cure of disease. Therefore Soviet scientists do not allow the artificiality of psychoanalytic interpretations of the unconscious to deter them from observing certain specific sides of the human psyche. They continue to work on the theory of unconscious forms of mental activity.

Work in this field, now being done at a number of our research institutes (the Institute of Psychology of the Georgian Academy of Sciences, the Institute of Neurology of the USSR Academy of Medical Sciences, the Department of Psychotherapy of the Central Institute for Advanced Medical Training, and others) uses methods and theoretical concepts that do not always coincide. Basically however their investigations have much in common, since their purpose is to substantiate the reality of the unconscious mind as an important psychophysiological factor, and to deepen the understanding of the specific laws governing unconscious mental activity, both under normal conditions and in the clinic.

Data obtained in investigation of the unconscious forms of higher nervous activity make it possible to reject what the psychoanalytic concept has so persistently been trying to maintain, to substantiate what the theory of psychoanalysis has rejected and, lastly, to draw attention to some features that this theory has been ignoring.

Here are a few examples.

We know that the contradictory relations between the conscious and the unconscious mind have been reduced by psychoanalytic theory to a single tendency—antagonism. This involves, among other things, the idea of forcing unacceptable tendencies and desires out of the conscious mind and the idea of symbolism (dreams, slips of the tongue, slips of the pen) as the chief method used by the unconscious to escape the prohibitions imposed by the conscious mind.

Soviet scientists, opposed to this one-sided approach, offer their own explanation of the interaction between conscious and unconscious mental activity. It includes not only the mutual inhibition, but also the cooperation that is the basis for such varied forms of normal behavior as education, the development of psychological automatism, development of work habits and use of intuition. The conscious mind always takes the leading role in this process under normal conditions. For psychoanalysis the conscious and the unconscious are like two uncommunicating or barely communicating fields, while Soviet scientists maintain that what at a given moment appears as a conscious mental phenomenon may later reveal itself as unconscious, and some time after appear again in its primary aspect.

Soviet scientists oppose the interpretation—typical both of orthodox Freudianism and all its latest versions—of conscious and unconscious mental activity as two heterogeneous elements. They argue against those who strive to represent the unconscious as standing above the conscious mind, to proclaim the supremacy of instinct over reason, and in this way, regardless of their good or evil intent, open the door to the cult of violence in all its forms.

Soviet researchers have done considerable psychological, cybernetic, logical and mathematical work in the field, enough to specify our ideas if not of the concrete mechanisms of the brain that trigger unconscious activity, then at least of their inner logic which makes adaptive behavior possible in both its conscious and unconscious forms.

Psychoanalysis has rejected experiment as a method of studying unconscious mental activity, while in our country the experimental method of analyzing such activity has moved to the foreground. This is evident in the wide diversity of Soviet research. Thus, for instance, our scientists have studied the dependence of dreams on a person's physical condition, the possibility of apprehending speech during sleep, the ability to wake up spontaneously at a given moment, the part played by the unconscious mind in scientific and creative work, particularly in dramatic acting. By reason of this versatile experimental work, it has become possible to convert the unconscious, despite all the zigzags and paradoxes of its earlier history, into an unbiased research problem.

The unconscious mind manifests itself in quite a new light under the influence of so-called posthypnotic suggestions (including an analysis of the obstacles artificially created during the experiment to implement these suggestions), as well as under other experimental influences in a state of hypnosis. It is interesting to note that in the beginning of his studies Freud used hypnosis to probe the unconscious of his patients—his so-called hypnotic catharsis method. But he gave it up, and with it an experimental foundation on which the study of the unconscious forms of mental activity could be based.

The differences between a scientific and a psychoanalytic approach to the problem of the unconscious mind can be observed, for instance, in the interpretation of the causes of various neurotic disorders. The psychoanalytic school tries to explain them by the far-fetched principle of symbolism (symbolic expression of the content of repressed memories through the language used to denote the human physiological system). Actually such disorders, as a rule, are the result of autosuggestion based, as Pavlov pointed out, on the physiological reactions typical of the nervous activity and psyche of neurotic patients.

The differences between the two schools manifest themselves just as distinctly in the interpretation of the so-called psychological defense. This is an important mechanism of adaptive behavior that supplements the mechanisms of physiological defense described in detail by Pavlov and his followers.

For instance, a woman suffering from hysteria that will free her from an unpleasant visit or from work she does not like feels the onset of paralysis. For the psychoanalytic school this may serve as an example of the symbolic "language of the body." The part played by autosuggestion in the origin of similar functional disorders has been described in many works of the Pavlovian school.

Psychological defenses are usually expressed by a change in the individual's psychological orientation—in his ideas, opinions and judgments. Such a change usually occurs as a result of some failure or difficulty a person has encountered. It transforms his subjective emotional attitude toward either the objective situation or himself. In either case, the change in the psychological orientation can be protective, intended to weaken the negative psychological or physiological consequences of an unpleasant event or to heighten one's ability to surmount the obstacle actively. If such a protective change does not occur because of the sluggishness of the psychological orientation, the situation becomes subjectively insoluble for him. In this case the negative psychological and physiological effects of unpleasant emotional experiences may become chronic and resist even special treatment.

With the use of truly scientific methods, the complex problems of the unconscious mind lend themselves to solution by psychologists, psychiatrists and psychotherapists.

Abridged from *Communist*, the theoretical and political magazine of the Central Committee of the Communist Party of the Soviet Union.

YOUNG PRESIDENTS VISIT THE SOVIET UNION AGAIN

Photographs by Vladimir Akimov

Between September 23 and October 6, 1971, a group from the YPO (Young Presidents Organization) visited the Soviet Union. It was the second YPO visit to study our country's economy and its prospects. The first was reported in the December 1970 issue of SOVIET LIFE. In the two weeks the group toured seven cities and four union republics. All 47 members said that they had broadened their knowledge of the country and its people considerably. The cities they liked best were Irkutsk, ancient Tbilisi, the capital of Georgia, and Bratsk, a typical new Siberian town.

Leningrad. The tour began here with a look at the Peter and Paul Fortress, St. Isaac's Cathedral, the fountains at Petrodvorets, the Russian Museum, the Hermitage, and the suburban palace museums at Pushkin and Pavlovsk.

The splendid interiors and the masterpieces of the Hermitage fascinated the American tourists.

"How were you able to protect the Hermitage collection during the war when Leningrad was blockaded?" Academician Boris Piotrovsky, the museum director, was asked.

He told them of the really heroic job the attendants did, despite the hunger and cold in the besieged city, to preserve the part of the collection that had not been evacuated before the blockade to the deep rear in the Urals.

"We are thrilled by everything we've seen here," said Oscar Gerber, head of the YPO group.

At the Wedding Palace the Americans saw a civil marriage ceremony.

The room rang with the radiant and solemn "Hymn to a Great City" from Glière's ballet *The Bronze Horseman.* There were flowers, much kissing and tears in the eyes of some of the women. The American visitors were touched.

It was not easy to break through the thick ring of relatives and friends clustering around the newlyweds, but energetic Oscar Gerber did. And, on behalf of his fellow travelers, he congratulated Natasha and Boris, students of the Leningrad Institute of Technology.

The Americans were given a warm welcome everywhere. The Vaganova Ballet School was partly under repair, but the group was so interested in the Soviet system of training dancers that Valentin Shelkov, the director, asked them into his small makeshift office. They crowded in and proved the wise Russian saying, *"V tesnotye, da nye v obidye"* (The more the merrier).

"Our school is 223 years old," he said, "and it has trained almost all the dancers who have glorified the Russian ballet—Anna Pavlova, Vaslav Nijinsky, Mikhail Fokine, Galina Ulanova, Natalya Dudinskaya, Vakhtang Chabukiani, to mention a few. All the leading ballet dancers of the Kirov Theater are our graduates. So are our teachers."

"Do many children try to get into your school?"

"Oh, yes. We get from 1500 to 2,000 applicants yearly. But only 80 or 90 qualify. At examinations we pay special attention to the child's natural gifts and physical appearance."

"What is your tuition fee?"

"Tuition is free. Moreover, students from the sixth grade up receive state stipends. One-third of our students are completely state-maintained."

"Is any advanced special training required?"

"No, we admit children from the age of 10 without any training. We believe that it is far easier to teach than to reteach. What we look for is a feeling for ballet."

"Unfortunately, three days were far too few to get to know Leningrad and its people. But those we met were very amiable, and we are very grateful to them for their cordiality," said the YPO group on leaving the city.

Irkutsk. They arrived in Irkutsk, capital of Eastern Siberia, at the height of Indian summer. The leaves on the trees were beginning to turn, the weather was dry and there was plenty of sunshine.

Irkutsk is 310 years old, venerable compared to its nearest neighbor Angarsk, which is only 20, or Shelikhov, which is still younger. Modern buildings tower alongside old mansions and churches. The public gardens and parks are full of strollers. Irkutsk's Teacher Training Institute is one of its seven higher educational institutions. The population numbers 450,000 and every fourth resident is a student.

"Why are there so few policemen?" the Young Presidents asked.

"We don't need many," replied Deputy Mayor Dmitri Kuznetsov. "Violators of public order are taken care of by the people themselves."

The American tourists were struck by the variety of architectural ensembles in Irkutsk. Many architects have been testing new ideas there.

Among the interesting and handsome buildings are the Drama Theater, the Musical Comedy Theater, the Philharmonic and the Young Spectators Theater, built in the old Russian style. The "cosmic" style of the Circus testifies to its recent origin.

On the left bank of the Angara, not far from the dam of the Irkutsk Hydroelectric Power Station, a big academic scientific center has grown up in the last decade. It has institutes for geochemistry, organic chemistry, terrestrial magnetism, the geography of Siberia and the Far East, the physiology and biochemistry of plants.

After the sightseeing, the Americans were invited to the City Soviet of Working People's Deputies.

"Dear Ladies and Gentlemen," Mayor Nikolai Salatsky greeted them. "We are very glad to have you in Irkutsk. I have just come back from your country, where I visited the states of Washington and Alaska. I brought back pleasant memories. We, too, shall do everything we can to make your stay in Siberia both interesting and fruitful."

"Mr. Salatsky, how do you fight air pollution?"

"We haven't built a single new boilerhouse in the past five



The visitors from the United States have a get-together with newspapermen at APN headquarters in Moscow. NOVOSTI

years, and we have torn down 47 of the old ones. Those remaining are gradually converting to liquid fuel. Soon the sky over our city will be absolutely clear. Some 12 miles from town, in the taiga, a big thermoelectric power station is going up. It will provide us with all the heat we need."

"Will taxes have to be raised to meet the city budget?"

"No. Individual taxes keep going down, not up. Anyway, they play no essential role in the city budget. We increase the budget at the expense of our industrial enterprises."

"Mr. Mayor, we saw many handsome old buildings. Are they protected by the city?"

"All monuments of value are protected by the state. The City Soviet allocates funds for restoration and repairs. We also take care of our wooden architectural monuments. Our city planning keeps them specially zoned."

A question on young people's political activity and their participation in the country's labor effort was answered by Valentina Lukyanenko, a deputy to the City Soviet.

"Siberia," she said, "is a country of young and energetic people. That is why so many of our big construction projects are called YCL and youth sites. The Bratsk Hydroelectric Power Station, that giant of world energetics, was built by very young people, most of them YCLers. There were thousands of applications for construction jobs on the Angara River sites. 'We want to build the future,' was the main reason the applicants gave. Among the YCL-youth sites are the Korshunov Mining Complex, the largest in Siberia, the Aluminum Works in Shelikhov, the Ust-Ilim Hydroelectric Power Station and the Khrebtovaya–Ust-Ilim Railway. In the summer of 1971 students of Irkutsk formed a 5,000-strong team of builders. Aside from the money (a student can earn from 150 to 400 rubles a month), young people join the student teams so they can strike out on their own and see what they are capable of.

"Many of the young people there are deputies to city, regional and republic Soviets.

"But if you think that young Siberians are ascetics, interested only in work, you are laboring under an illusion. Our cities ring with laughter and songs on student holidays or when amateur festivals are on.

"Every institute and factory and village club has its own jazz band, dance company and the like. The Academic Chorus of the Irkutsk Medical Institute is known throughout the country and abroad.

"In short, it is impossible to imagine Siberia today without the active and industrious youth."

The American visitors were especially interested in Lake Baikal.

"What measures are being taken to keep the waters of this unique lake pure?"

Gennadi Filshin, Assistant Chairman of the Irkutsk Regional Planning Committee, replied:

"The lake is a matter of very particular concern. Recently the Central Committee of the CPSU and the USSR Council of Ministers adopted a special decision on the protection of Lake Baikal and its natural resources.

"One of the measures requires efficient purifying devices at the Baikal Cellulose and Cardboard Plant. New capacities at these factories will be opened only when we are sure the purifying devices are in perfect operating order.

"Parks and preserves have been laid out in the forests around the lake. The fairways of rivers falling into the lake are cleared of timber, and no rafting is permitted. An enormous stretch of country around the lake has been declared a national park.

"Leningrad architects are designing a tourist zone for the southwest shore of Lake Baikal. It will have mineral springs, a zone of dead volcanoes, rich hunting grounds, tourist camps and hotels.

"Lake Baikal is a national asset, and we want to preserve it for coming generations."

The next day a special plane carried the American group to the capital of Siberia's power network, the city of Bratsk. They flew 370 miles over taiga, rapids, woods, mountains, and hunting and lumberjack settlements.

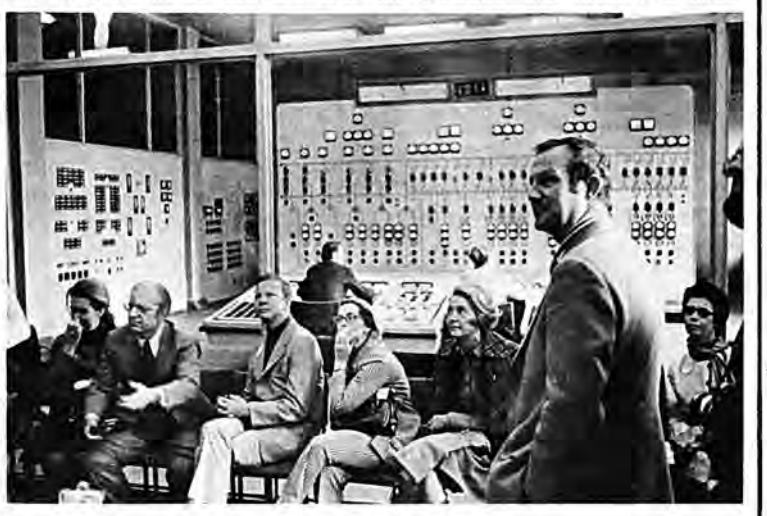
The Young Presidents saw the Bratsk Hydroelectric Power Station (4.1 million kilowatts) and the town which has risen in its vicinity. Some 155 miles from Bratsk, a third hydroelectric station of the Angara cascade, the Ust-Ilim, is going up. In all, there will be four stations with an over-all capacity of 70 billion kilowatt-hours a year along the Angara.

In the past five years Bratsk has changed beyond recognition. It has swimming pools, palaces of culture, modern hotels and



leningrad Near St. Isaac's Cathedral. Their tour included the Hermitage and the suburban palace museums at Pushkin and Pavlovsk, a Wedding Palace where they saw a civil ceremony and the 223-year-old Vaganova school, alma mater of many ballet greats.

bratsk Dam and control panel of the Bratsk Hydroelectric Power Station. A special plane took the Americans 370 miles across taiga, rapids and mountains to the big power project. They went on to Baikal, the world's deepest lake and perhaps the most beautiful.





a bobsled track. Old-timers remember back to 1954 when there was nothing there but the tents of the first builders.

The concluding stage of the Siberian tour was a visit to Lake Baikal.

The highway wound in and out of towering trees, under whose leafy crowns nestle summer houses and villages.

"The woods are like those in Canada," said Frank E. Cochran of Oklahoma.

The deepest lake on Earth, Baikal is also one of the highest, its chilly waters lie 245 feet higher than famous Lake Geneva. It holds 20 per cent of the world's fresh water.

As many as 336 rivers feed into it, and the only river issuing from its mighty embrace is the Angara. In the middle course of this river lies a rock called *Shaman-kamen*. According to legend, the angered Baikal threw this rock at its only daughter, the Angara, when she wanted to join her beloved Yenisei.

In the village of Listvennichnoye, the group visited the Institute of Limnology and the Lake Baikal Museum where specimens of the flora and fauna of the lake are displayed. Of the 1700 species of animals and plants inhabiting the lake, two-thirds are to be found nowhere else.

On leaving Irkutsk, the Americans said, laughing: "We are so loaded with pleasant impressions that the plane won't be able to take off."

Tbilisi. They spent three days in Georgia. On the evening of their arrival in Tbilisi, while their colleagues were sightseeing, the Jewish members of the group attended services in the city's synagogue and talked with members of the Jewish community.

The narrow medieval lanes of the old part of the city, the golden domes of the churches, the minarets of mosques and the houses overhanging the mountain river like swallows' nests were all very unusual and new to the American visitors. No wonder Mr. MacKaye lost his way.

"Of course, there was no risk of my becoming a Robinson Crusoe," he said later, "but my plight was pretty amusing. Finally I stopped a car. The Volga drew up alongside, and its owners, a young couple, finding that I was a visitor in Tbilisi, invited me to see the city from their car. My new guides knew English well, and that tour was a real discovery of the capital of the Georgian Republic for me."

In the conference hall of Hotel Iveria, where the party stayed, they met Irakli Mikeladze, Deputy Chairman of Georgia's State Planning Committee. He explained how Georgia's economy had grown in Soviet times. More than 1500 big new automated enterprises had been built. Development was around heavy industry and machine building, its key branch. Ferrous and nonferrous metallurgy came into being in Soviet times. The republic has a highly developed mining industry. It exports more than 2,000 items to 67 countries. As for agriculture, Georgia is a flourishing area of subtropical and tropical crops, vineyards and orchards.

"Our talk with Mikeladze and the directors of two big Tbilisi enterprises, the champagne winery and tea factory, which we visited, was very profitable," said Oscar Gerber.

The champagne winery is one of the biggest in the Soviet Union. Its products are exported to Great Britain, Belgium, the Netherlands and several of the socialist countries.

It has an output of 10 million bottles of champagne a year, which brings the country millions of rubles.

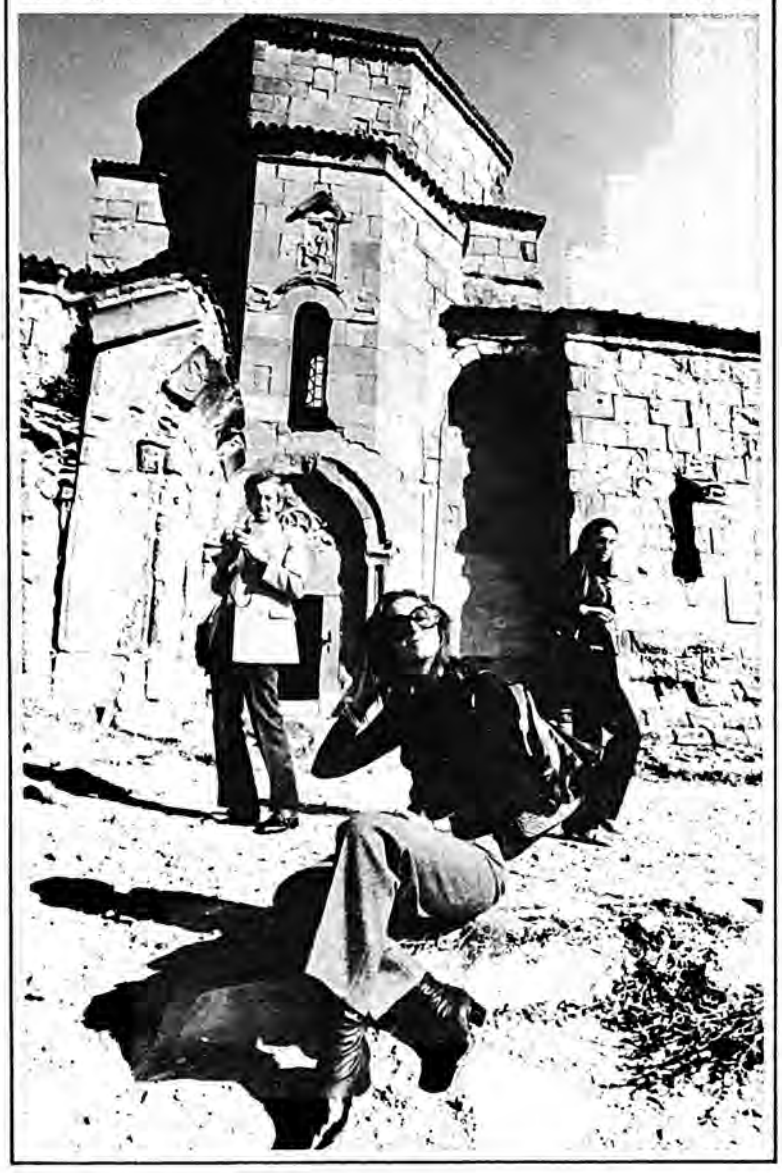
The next evening the Americans visited the home of Egnate Pipia, the well-known Georgian surgeon. It was a merry gathering, with toasts offered in English, Russian and Georgian.

Since the group was pressed for time, it broke up, one busload going to the new building of the university, the other to the old building of the Georgian Museum of the History of Arts. In Mtskheta the group got together again.

Since this was Georgia's ancient capital, it contains such fine monuments of medieval Georgian architecture as the eleventh century Svetitskhoveli Cathedral. Six miles from Mtskheta stands the famous Djvari Cathedral, built in 586-604 on the rocky top of a mountain. It ranks with the world's finest samples of early medieval architecture.

"I shall be happy to come back to Tbilisi, and this, I assure you, is not only my opinion, to see what I missed this time. Thank you for your friendship, for your warm cordial reception," said Charles M. MacArthur on leaving Tbilisi.

tbilisi The Young Presidents were charmed with the exotic Georgian capital and its unexpected blend of the medieval and modern. They went through two profitable enterprises, a tea factory and a winery that exports champagnes to Great Britain, Holland and Belgium.



Moscow. During their four-day stay in Moscow the members of the group saw the sights, went to shows, visited museums, and had several business meetings at the State Committee for Science and Technology of the USSR Council of Ministers and the Institute of U. S. Studies of the USSR Academy of Sciences. On October 4 they were guests of Novosti Press Agency, where they met leading journalists. Most of the members of the group thought the meeting at the news agency, during which a large range of questions were discussed, very interesting.

Summing up their journey, Oscar Gerber said:

"Now we know that most people in the United States have wrong ideas about what is going on in the Soviet Union. My own greatest impression is surprise. I was surprised by everything I saw in your country."

Characteristically enough, the Americans were surprised not only by the innumerable historical and artistic sights they saw in Soviet cities (in this case their surprise was based on esthetic excitement) but also by the Soviet way of life (here their surprise was founded on genuine revelation). As Oscar Gerber said:

"Now we know that the Soviet Union is a living country. We know how its people live, how they do business, how they rest, what their feelings are."

"My strongest impression was seriousness," said Mr. Ferre. "I mean, I was impressed when I saw that the Soviet people are very serious about the work they are doing. The Soviet Union is a large country and a very dynamic one. It is living and moving. As far as I understand, it is moving without stop. That was a great impression, to see the country in movement."

It goes without saying that impressions, like tastes, are different for different people. However, all the members of the YPO group agreed that their trip was fruitful not only for the entertainment, but also for the business contacts. Proof was Oscar Gerber's statement that next year's YPO Seminar ought to be held in the Soviet Union again.

"It would be a good thing," he said, "for the grownup children of the Young Presidents to visit the Soviet Union as well. I feel sure that it would be very interesting and useful for everybody concerned."

QUERIES FROM READERS

QUESTION: What progress and what results have been made to convert the vast dry regions around the Caspian and Aral seas into agriculturally productive farmland with water from three rivers, the Ob, Yenisei and Irtysh, all of which now flow northward to the Arctic Ocean? (Mrs. Sandra Holmstrom, Port Huron, Michigan)

ANSWER: The first step in this major hydraulic engineering project, to channel part of the water of Siberian rivers to the dry regions around the Caspian, has been taken. Besides irrigation, this project will supply water to industrial plants in these regions.

Early this year the Irtysh-Karaganda Canal was opened to traffic. The Irtysh River in Siberia, which ran northward, has given up part of its waters. Diverted to the southwest, they now flow to the large industrial centers of Kazakhstan, irrigating the arid steppes of the republic en route.

The canal is 300 miles long and has 14 dams, 13 reservoirs, dikes, and water dividers. Twenty bridges span the canal. Here is a noteworthy technical item: To make the Irtysh water flow to Central Kazakhstan, it is being raised 1600 feet by 22 pumping stations.

Builders will soon extend the canal to Dzhezkazgan, the center of the republic's nonferrous metallurgical industry.

Currently, several more projects are being evolved. One is for the construction of a 2300-mile canal that will also carry part of the flow of other northern rivers (the Ob and the Yenisei) to the Kazakh steppes.

One of the next issues of the magazine will deal in detail with the use of the waters of the northern rivers for the southern part of the country.

QUESTION: Why are there no monasteries in the USSR? (Gloria Bret)

ANSWER: You are misinformed. There are dozens of functioning Russian Orthodox, Buddhist, and Armenian Catholic monasteries in the Soviet Union.

Here are some of them: the Pokrovsky Convent in Kiev and the Pochayevsky Monastery in Ternopol Region, the Ukraine; the Zagorsky Monastery near Moscow and the Pskovsko-Pechorsky Monastery in Pskov Region, the Russian Republic; the Voznesensky Monastery in Moldavia; the Svyato-Dukhovsky Monastery in Vilnius, Lithuania; the Zhirovitsky Monastery in Grodno Region, Byelorussia.

All the monasteries are maintained by the contributions of believers. Each monastery has its own rules.

QUESTION: What happens to unwanted children and orphans? (T. Nickolson, Richmond, Virginia)

ANSWER: They are brought up in children's homes or are adopted.

First, about the children's homes. These are for orphans or children whose parents cannot look after them because of illness. Children who have no father are also accepted at these homes, with the understanding that the mother can take the child back at any time.

The homes are completely supported by the state and provide all the conditions for normal study and recreation. The children either study at the home or at regular schools in their district. The homes have their own libraries, gyms, and facilities for music, drawing and other study groups. But no matter how fine the conditions at the home are, the children do miss the warmth and kindness of a real home. In some measure families living nearby make up for this. They visit the children in the homes, and the children stay with them on holidays and during vacations.

Now about adoption. Any Soviet citizen over 18 (except mentally deranged and retarded people) whose earnings are sufficient can adopt a child. Children of 10 and older are adopted only with their consent. The potential parents file an application for adoption, which is examined by the proper health and education agencies. If the applicants are accepted, they get a letter of recommendation to the local Soviet. That body accepts or rejects their request.

QUESTION: Are Soviet citizens acquainted with Jules Verne, H. G. Wells, Leonardo da Vinci and Galileo Galilei?

ANSWER: Certainly. What's more, the collected works of Jules Verne and H. G. Wells can be found in almost every home library, not to speak of public libraries.

Jules Verne is one of the favorite authors of our schoolchildren. Our film studies have produced screen versions of his *Captain Grant's Children, A Captain at Fifteen, The Mystery of the Island, Twenty Thousand Leagues Under the Sea.* The Soviet Union has put out four editions of the author's collected works. Jules Verne is among the 10 most popular foreign writers in the Soviet Union.

Here, as everywhere else, H. G. Wells is considered the great science fiction writer of the twentieth century. The first translations of his works appeared in Russia almost immediately after they were published in England. In 1909 the first comprehensive (for those times) collection of his work was published. Incidentally, this collection was the first not only in Russia but in the whole world. As for circulation, his books are among the most popular. Wells visited here three times and met with Lenin and other public figures and writers.

Our children learn about the great Italian medieval scholar Galileo Galilei in the sixth grade, when they study the history of the Middle Ages, and in the senior grades, when they study physics and astronomy.

For those who want a firsthand acquaintance, Soviet publishers put out Galileo's selected works in two volumes, as well as some of his works in single volumes.

Leonardo da Vinci, the great Italian artist and scientist, is also a familiar name to us. Acquaintance with the life and work of this scientist, inventor and artist begins at school. The Hermitage Museum in Leningrad displays his *Madonna Litta* and *Madonna with Flower.* Monographs on Leonardo da Vinci are published. And bookstores all carry reproductions of his paintings.

QUESTION: We would like to hear about your cars, the ones most produced for common use. (Mr. and Mrs. John Swoffer)

ANSWER: Everybody is interested in cars these days. Our men are no exception (and so are women, quite often). The most popular are compact cars. The compact auto plant in Moscow and the Izhevsk Auto Plant in the capital of the Udmurt Autonomous Republic produce the Moskvich. The latest model is the Moskvich 412, a four-door 75-horsepower job known to many people in other countries for its performance in the London-Mexico international auto rally.

The Volga Auto Plant in Togliatti on the Volga (it was built with the participation of the Italian company Fiat) makes the five-seater Zhiguli. A reliable, comfortable and undemanding machine, it has a 62-horsepower engine and can do 90 miles an hour. Though the plant is still under construction, it is already turning out 900 cars a day.

The Zaporozhye Auto Plant in the Ukraine builds the Zaporozhets. This is a small two-door four-seater car with a 45-horsepower air-cooled engine that is very convenient for winter driving. These cars handle well and are quite strong; they are adapted for both hard-surface and dirt roads and are therefore much in demand in rural areas.

QUESTION: What is a park of culture and rest?

ANSWER: A park of culture and rest is an ordinary city park in which one can sit and relax, stroll in cool and shady lanes, look at flowers, play tennis, volleyball, basketball, hear an interesting lecture, see an exhibition and go to an outdoor theater.

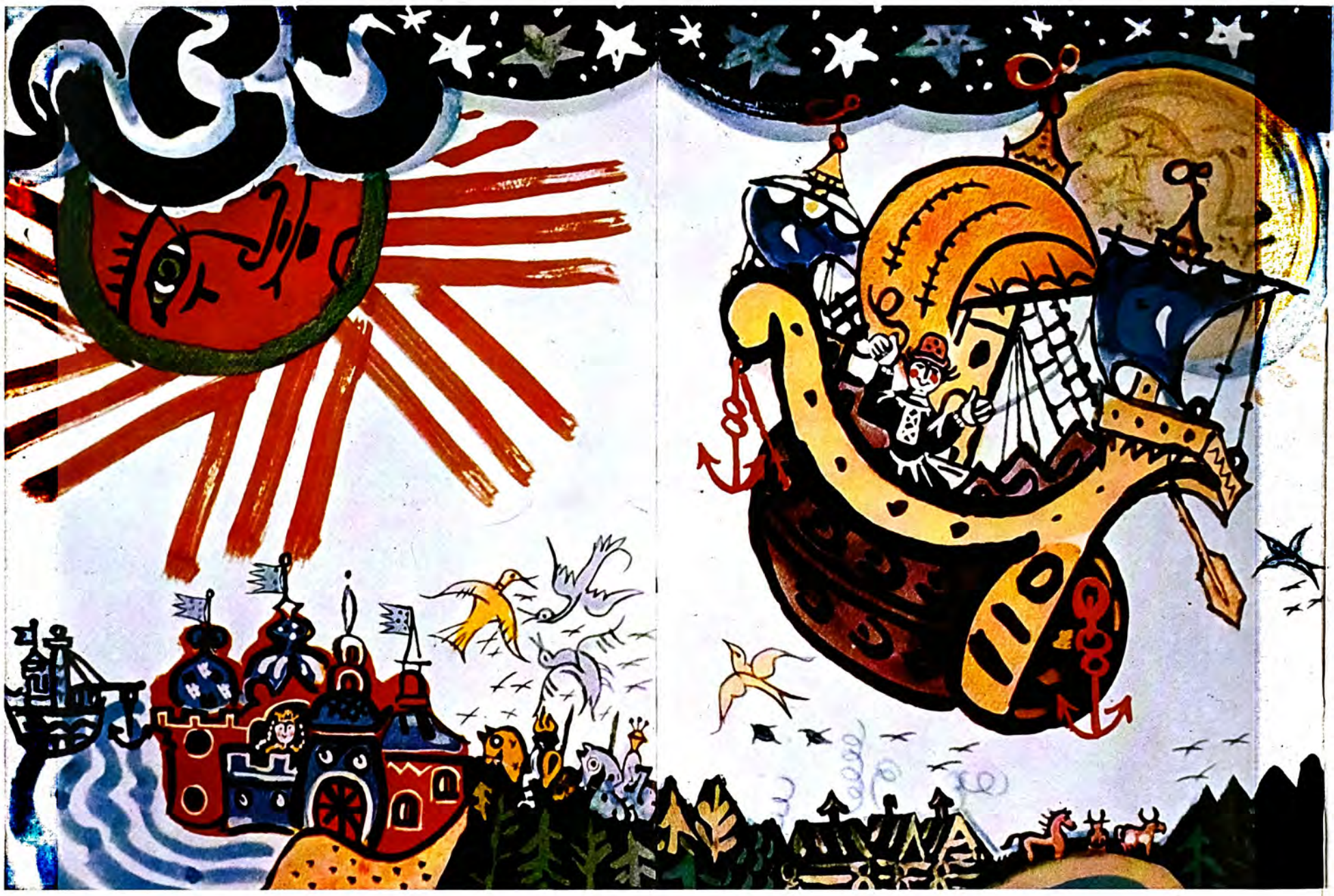
They have restaurants and cafés and dance floors.

Every Soviet city has such a park, and large cities like Moscow, Leningrad and Kiev have several.

Every year "Best Park of the Country" contests are held, with over 1,000 parks of culture and rest participating.

QUESTION: How do Soviet women feel about cosmetics?

ANSWER: Soviet women use cosmetics, pretty much as women do the world over. The big Soviet department stores and numerous specialized stores sell face powder, lipstick, perfume, lotions, face creams. There are beauty shops in all Soviet cities. It is not expensive to keep well groomed. A hairdo costs about 80 cents, and a manicure 33 cents.



Miles and Miles Away, *a fairy tale. Illustrated by Tatyana Mavrina.*

BOOKS FOR CHILDREN

By Konstantin Piskunov
Director of Detskaya Literatura (Childrens Literature) Publishing House

LITERARY GIANTS like Maxim Gorky and Vladimir Mayakovsky were our first models in the effort to begin building a Soviet children's literature 50 years ago. The objective was to publish truly serious juvenile books, and we tried to interest our most gifted writers, artists, journalists and scientists. Our intent was frankly educational—to instill in our young people humanism and internationalism; love of country and of work for society's welfare; respect for older people; honesty, courage and persistence to accomplish worthwhile goals.

Detskaya Literatura is the largest of the country's 100 publishing houses for children's literature. It was founded in 1933 on Maxim Gorky's initiative. We publish books for readers from two to eighteen.

Our publishing enterprise has been called a virtual encyclopedia—the subjects we handle and the types of books we issue are so wide-

ranging. We publish novels, novellas, short stories, poetry, plays on contemporary themes, folklore—epic tales, legends and fairy tales—books by the classic Russian writers as well as those of the other peoples of the Soviet Union, foreign classics, popular science books. In the last five-year period (1966-1970) we published 3,147 titles in a total printing of more than 700 million copies.

Foreign literature is translated from more than 25 languages. The best of world literature is published for teenagers—Shakespeare, Byron, Schiller, Balzac, Heine, Hugo, Molière. Such favorites as Jonathan Swift's **Gulliver's Travels,** Daniel Defoe's **Robinson Crusoe**, the fairy tales of Hans Christian Andersen, Charles Perrault, Jacob and Wilhelm Grimm, books by Mark Twain, Jules Verne, Charles Dickens, Sir Walter Scott, Jack London, Cervantes, and many other writers are published in very large editions. Our children are also great readers of the Russian classics—the works of Pushkin, Lermontov, Nekrasov, Gogol, Leo Tolstoy, Turgenev and Chekhov.

One of our important endeavors is to help popularize science by producing science fiction and publishing contemporary findings, the history of scientific development, works related to problems and projected solutions.

We commission some of the best Soviet artists to illustrate both fiction and popular science.

Children's Book House, one of our divisions, which studies and keeps abreast of the interests of young readers, helps the family and school to guide children's reading. This division has a children's science library, reading rooms and changing book exhibitions. Its staff issues reports and bibliographic reference books and does critical and research studies.

Tales *by Alexander Pushkin.*
Illustrated by Vladimir Konashevich.







Top:
White Duck, *a fairy tale.*
Illustrated by
Ivan Bilibin.
Tyupa, Tomka and Magpie.
Written and illustrated by
Yevgeni Charushin.
Center:
Ole-Lukoye
by Hans Christian Andersen.
Illustrated by
Victor Pivovarov.
Fairy Tales for Children
Illustrated by
Yuri Vasnetsov.
Bottom:
Tale of Moonlight
by Natalia Gernet.
Illustrated by Alexander
and Valeri Traugot.
Stories for Children
by Gennadi Snegiryo.
Illustrated by
Maya Miturich.
A Hero of Our Time
by Mikhail Lermontov.
Illustrated by
Dementi Shmarinov.











EURASIA

By Irina Raksha

"A horsewoman swept past on her foaming steed across the Altai steppes. This is how I first met 17-year-old Irina Raksha," wrote poet Mikhail Svetlov in 1963. "She was at that time as much a writer as I am now a horseman."

Irina's characteristic quality is untiring movement. Had she been awakened in the dead of night and told: "The polar bears in the Arctic Ocean miss you," she would have asked, pulling on her boots at the same time: "What's the best way of getting there—by air or train?"

A Moscow schoolgirl, then a virgin-land enthusiast, then a student in the script department of the USSR State Institute of Cinematography, she published her book of stories* Meet Me in Transit *when she was still a student in 1965. Her second book,* The Ring Was Rolling, *was recently published by Sovetskaya Rossiya. Some of Irina's stories—("Indian Summer"), "A Letter," "Believe It or Not" —were adapted for feature films.

Irina Raksha contributes regularly to newspapers and magazines. We offer our readers one of her stories taken from* Literaturnaya Rossiya *weekly.

IN PUSHKIN SQUARE, on a wall wet with rainwater dripping from the eaves, he saw the sign at last: "Typist, fourth floor, Apt. 8, Korneyeva, entrance in courtyard."

Quickly he climbed up the gently rising steps of the dark staircase, steps which had once been white. The high windows on the landings were foggy with dust, and the place smelled of cats. He didn't like such old houses. This wasn't his idea of what a Moscow house, especially one in the center of the city, should look like. He climbed, shifting his suitcase, from one hand to the other, expecting once again to hear the usual: "No, no, young man. I have my own clients, and I'm overloaded with work. Why don't you try on Tverskaya. There, maybe. . . ." And on Tverskaya they had told him, through the safety-chained door:"My dear man, did you say 'today'? I'm swamped. You're in a hurry? Everybody's in a hurry these days. A sign of the times!"

He had hardly pressed Korneyeva's doorbell, when he heard a voice:

"Who are you looking for?"

A woman in a beret and a black coat, a full shopping bag in her arms, was coming up the stairs.

"Korneyeva."

She stopped and looked at his bushy fur hat, his coat and fur-lined shoes.

"And who are you, please?"

"Shulgin," he replied simply. "I'm looking for the typist."

"Ah." Losing interest, she climbed the remaining few steps to the door. "I keep intending to take that sign down. Only it's mounted with bolts." She rummaged in her handbag. "She's not around."

He was disappointed.

"Perhaps you could suggest someone. . . ."

"Don't think so. Don't think so." She finally found her key, jingled it and began unlocking the door.

He picked up his suitcase, there was nothing more to wait for.

"You see . . . ," the woman continued. She clenched her hands, the door would not unlock. "You see, she died. Last winter. Damn this key."

"Let me try," he suggested.

"Please do, that yellow one. I'm always having trouble with it."

He took a look at the key and, with hardly any effort, straightened the shank.

"There you are," he muttered and hurried down the worn stairs, wondering where he should go next. There must be some kind of typing office in Moscow. Why should a person have to spend a whole day hunting all over the city when there was so much to be done and only one day to do it in? He had reached the third floor when he heard a voice:

"I say, young man." The woman was leaning over the banister. "Have you got much there?"

"Much what?" He was puzzled.

"To be typed."

He shrugged his shoulders. "Just one notebook."

"Then come on up," she said and disappeared.

It seemed that luck was with him! He raced up to the fourth floor and walked through the open door.

It was dark in the hallway.

"Come here," she called gently from the dark. "Here, follow my voice. I'll open the door in a second."

A dim light appeared. It seemed far away, and he went straight toward it.

The high-ceilinged room he entered dazzled him. It was all hung with pictures in gilt frames. There were showy dishes and bric-a-brac everywhere—on the grand piano, the sideboard, the table.

"What does anyone need so much stuff for?" he wondered. Then he noticed a map above the table. Two hemispheres, like two blue eyes intently looking into the room.

"Sit down, please." She disappeared behind a wardrobe. "You must be hot with such a warm hat."

He didn't answer.

"I'm not really a typist," she said, from behind the wardrobe, "but anyway, show me your manuscript." And she reappeared again, now looking quite young, about his age, in a white blouse, with dark bobbed hair, something like his first schoolteacher. "What are you doing on the floor there?" She watched him rummaging about in his suitcase. "Here, sit down."

He wanted to move but was afraid of breaking something.

"Never mind," and he handed her the notebook. "If I knew it was such a problem in Moscow, I would have had it typed at home in the office."

"And where is home?" She opened the notebook.

"Aktash in the Altai Mountains. Ever hear of it?"

She didn't wish to hurt him:

"I think I did once . . . over the radio."

"That's right. There was a program about it last month. We made a pledge."

"Your handwriting is quite legible."

"I always thought so."

"And it's not a technical text."

"No, it isn't." He watched her expression. "Actually . . . it's poetry." And he blushed.

But she didn't laugh, didn't even smile. She smoothed down her short hair and, meeting his anxious glance, said seriously:

"Fine. Leave it. Come back day after tomorrow. Do you need three copies?"

"Day after tomorrow?" His heart sank. "But I need it today."

"Now listen here, young man." Suddenly she looked like the the woman on Tverskaya. "That's not possible." She started unpacking her bag, taking out a loaf of bread, a carton of cottage cheese, a bottle of milk. "You have 40 pages there, and I'm no typist. I just wanted to. . ."

"Give it to me." He took a quick step forward. "Give it to me." And he took the notebook from the table. "And I thought you really. . ."

"Don't get so upset." She pushed her bag aside. "No one will do it for you in one day."

"Never mind." He pushed the notebook into the suitcase. "I'll manage somehow."

"Wait a minute. I'll try. I have no classes tomorrow. I don't promise to do it fast, but call me at nine."

He gave a sigh and from his squatting position, looked up at her.

"Here's my phone number." She bent over a sheet of paper at the piano. "I'm only doing this because of Mother. She would have. She always helped people out."

He followed her down the hall. It was brighter there now. A ceiling light was on.

She opened the door and let him out onto the landing.

"My name's Zhenya." And she smiled. "Aren't you hot in that hat?"

"Don't lose my notebook," he warned.

She laughed and shut the door. But her laughter seemed to ring up and down the stairs. "Why did she keep harping on my hat? Just an ordinary hat of badger fur."

He strode along the broad, spring street toward the telegraph office, past the statue of Yuri Dolgoruki. In the distant Altai Mountains there was deep snow, and here the asphalt was nearly dry and puddles glittered under the gratings around the trees. How often while working in Aktash and even before, studying in Tomsk,

no, even before, when he was a boy in the village of Srostki, had he dreamed of going to Moscow. He'd read about it, learned a lot, had seen pictures. He'd heard all sorts of things. But to see it with his own eyes, to walk the streets of Moscow on his own two feet! In the square where the statue stood, well-fed pigeons bustled about. With great composure they perched on the shoulders of the founder of Moscow. In the Altais, the pigeons were wild and mostly white. When a pair of them alighted on freshly plowed soil, it was a sight to see.

Huge buildings surrounded the Moscow City Soviet. It pleased him to recognize them. Now those were houses for you! Those were what he called houses. He wondered who lived in them. Curtains on the windows. A window open there. Probably very fine people. Suppose he, Vasya, were to go in, get acquainted with them, talk about this and that. They would be interested to talk to an engineer from the provinces. In Aktash you could walk into any house, and you'd be sure to find a welcome. But this foolish and absurd impulse only made him sad. Here in Moscow he was a stranger, everything was cold and indifferent. He knew that he loved Moscow, but Moscow didn't love him. It didn't even know of the existence of a certain Vasya Shulgin from the Altais, who walked its streets and even had his own grievances against the capital. Several grievances in fact. The editors wouldn't take his poetry. Didn't even want to look at it, said that it had to be typewritten. The Mayakovsky Museum was closed. And the worst blow of all—the ministry refused to supply them with new drilling machines.

He had had a hard time getting himself sent on this business trip. Chief engineer Lashkov hadn't gone himself but had agreed to send him, a young specialist, because he was so sure there would be no difficulty, what with the stepped-up mining quotas that had been endorsed by the general meeting. And now look what he had come up against! He had trudged and pleaded and argued. In all the offices he had put the papers down on the desk and then taken them back in a huff: "Let me have them!" Then he rode up in the elevator to a next higher floor. And on the sixteenth, after coming out of one more office, he stopped in the corridor and scowled out the window. Down below, in a bluish haze, he saw Moscow, so big and tranquil, and stretching ever so far. He was struck by the unusual sight, and forgetting all about his worries, he came up closer, leaned with his palms against the glass and stood a long time, looking down. He thought that was probably what birds, flying in flocks or even singly, could see looking down: the wreaths of smoke, the snow-covered squares, the people. Then he went off to other offices to try to get his drilling machines. But he didn't argue any more. He kept looking out of the big, clear windows, wondering: "How can people sit and work here when there is such beauty to see out of the windows?"

Finally, at the central board, they said: "All right, you'll get them in the third quarter!" Too bad, of course, that it would have to wait until the third, but still it was something. All he had to do now was to telephone Lashkov in Aktash and ask him what to do next.

He couldn't walk as fast here as he usually did. He kept running into people's backs or bumping someone going in the other direction. And looking at the crowds of people, he wondered why there were so many walking around doing nothing! And this was just one street. And in all of Moscow? Well, suppose you left out those who had come on business trips. They were all busy. You could also forget those who were retired, they had earned a rest. Although, take that lady with a dog in her arms, she could still put in a day's work. Even at their mine. She could be on duty at the entrance gate—even that would be useful. And the rest? Were they all on vacation? If all of them went back to their jobs this minute, think of all the good that would come of it!

He recognized the Central Telegraph Office from a distance. It was a dark building with a bulging front and a blue globe like the eye of a cyclops. And Vasya Shulgin, pleased with himself, made for the underpass.

Zhenya carried the heavy typewriter from the window sill to the table and took off the canvas cover. It was a sturdy, old Continental. She ran her fingers over the keys. All the things that had been typed on it over a whole lifetime! Articles and what not.

She lit the table lamp though it was still daytime, and got out the paper. She recalled that the last thing she had typed was a lesson plan in the third quarter. She ruffled the pages of the brown notebook. Written in a bold hand on the first page was: "V. Shulgin." A strange fellow. She estimated that at 20 kopecks a page, it would make nine rubles. She inserted the first page—three copies—into the typewriter.

In the telegraph office it was tidy and light. There was a long row of sparkling tellers' windows. A woman's loud voice could be heard from time to time: "Nalchik, Booth 17." It was very hot. She was right, what was her name? . . . Zhenya, about the hat. He took it off and put it on top of the suitcase.

He had to wait a long time to get through to Lashkov. An hour or two. It was a hard job to contact Aktash—too many intermediate stages. First they would get through to Barnaul, then Biysk, then Gorno-Altaisk, and only then in Aktash would telephone operator Lyusya wind the handle of her telephone set for a long time to wake up the chief engineer, asleep at home. Because Aktash was in another time zone, and everyone was asleep now, except for the mine in the mountains where the night shift was working.

"Tbilisi, Booth 8." Quite a few calls going through to Tbilisi. And in Aktash Lashkov, so as not to awaken his wife, would get up carefully on hearing the ring and, standing in his bare feet in the corridor, would say in his usual quiet voice: "I'm listening." He got calls day and night. A mine is a mine after all. But this would be Moscow calling, and he would be glad to hear the voice of Vasya, the young specialist. And this specialist would disappoint him. And then Lashkov would practically weep into the mouthpiece: "Vasya, how could you? Why the third quarter? If it were at least the second or in May." And then he would tell him: "You know what, you go to Burakov. He'll help right away." Then Vasya would sigh and say: "It's Burakov who said that we'll get them in the third quarter." And Lyusya the operator would, of course, be listening in and worrying. Lyusya, Lyusya, with her sighs and glances. Whenever they met in the dining room or on the street, she blushed. Funny girl.

The typewriter clattered crisply in the room. The glass drops of the chandelier tinkled overhead. With a shawl across her shoulders, Zhenya was typing rapidly, without a glance at the keys, intent on the lines:

In winter the Chuysky Mountain range
For festive sunups its dawns exchanges,
Then April with birches and lilacs gay,
In summer its peonies all the way. . . .

She typed, more and more excited. The verse seemed to light her up inside. The lines flowed one after another. In the sideboard, behind the glass door, a china figurine of a Japanese man nodded as if a distant wind from the Altais were wandering about the room.

In the orchard the titmice warble with glee,
And I sit o'er my notebook till I hardly see.
Then comes a horde of creeping scamps,
Who screw out the red apples, as if they were lamps.

The page was coming to an end. She stopped typing and went on reading. Finally she inserted a new page, making four copies this time. One for herself, sorry that she hadn't thought of it before. And again her eyes stared into the notebook, as into his soul:

With viburnum and berries the garden's aflower.
It showers not long—only half an hour.
And then the rainbows spray the sky,
Like water from hoses aiming high.

He left the telephone booth in a lather. It all happened as he had foreseen. The only difference was that Lyusya found the chief engineer not at home in bed but in the office at the mine. And he didn't weep into the mouthpiece and didn't want anything, only exhorted Vasya not to worry but to get home as soon as he could, there was so much to do before the third quarter.

In Gorky Street it was already evening, the windows and street lamps were lit. This morning Vasya had driven in a taxicab along this street to the House Museum of Mayakovsky. Getting off in a little side street beyond Taganka Square, he stood for a long time opposite the house, the suitcase at his feet. It was a pinkish, two-story, quiet house, with trees trembling bleakly behind the iron fence. Vasya knew all about the house. Well at least everything that could be found in books. And now the house was there, looking at him with its row of dark windows. The weather was cold and misty as in early spring. People on the morning shifts hurried past. Vasya walked quietly into the yard and on the glass of the locked door read: "Tuesday, Thursday and Saturday from 12 to 2." And today was Monday.

He turned away, then back to face the house, looking at the slumbering windows. Two of the windows on the second floor, those at the end, used to be Mayakovsky's study. Vasya knew what kind of desk stood there by the windows, what armchair and green table lamp. Once this lamp was lit in the evenings, making the window glow with a greenish light, like an aquarium. In front of the house grew linden trees, their branches sharp against the gray sky. Vasya looked at them and suddenly saw Mayakovsky. He was standing in the wind, among the bare trees, his hands in his overcoat pockets, thinking about something. He was standing quite close to Vasya, the wind ruffling the collar of his coat. And so they stood in thought opposite each other—Vasya in his warm, fluffy hat and Mayakovsky, only he was somewhat taller and of black granite.

A wide stream of car lights flowed down the smooth asphalt of Gorky Street. Vasya thought he'd better eat, he had forgotten about dinner in the hurry of the day. But now the restaurants must be

full, and, of course, he would have to wait a long time. And there were still things he wanted to do this evening, so he walked into a big food store and bought some Lyubitelskaya sausage. Leaving the central board, very upset, he had stepped into the travel agency and bought a ticket for 12:20 A.M.

Zhenya was sorting out the sheets on the grand piano. First, second, third and on top of the copies, the brown notebook. The fourth copy she hid in a drawer of the desk. It was already nine. She listened anxiously for the telephone to ring, but it did not. At first she wanted to put on her gray dress with the mink collar. But that might be overdoing it. Better the black dress with lace. But that made her look thin. Maybe the blue one? She went through the dresses in the closet as if turning the pages of a book. And certainly high-heeled shoes. Improved the posture. She got out the black dress, tried it on and looked at herself in the sideboard mirror. Zhenya had no false illusions about her appearance. Beside her own image, she saw Mother's old Japanese figurine. He looked at her, nodding his china head reproachfully. Zhenya was put out and stepped away. "What's wrong, why am I doing all this? He'll call any minute, and I look like an idiot. And what a face."

But he had no intention of phoning. He was walking past the typist sign, through the archway, into the well of the courtyard, now so quiet and full of ice, crisp under his feet. He was not calm, he even upbraided himself. Now this stranger of a woman had read every line of his, knew his every thought. And why had he bothered about it at all? It was feeble verse, that was clear. It was only Lashkov and his wife in Aktash who could listen to him all evening long, and at home in the village, too. But what ever made him think that the publishers would like it? Why, they were swamped with just such notebooks from all over the country. He had seen whole piles of them in the bookcases. No matter, he would pick it all up now, pay for it and leave.

At the door he took off his hat and rang the bell.

As he entered the room, Vasya looked at Zhenya's face to see whether she had liked his poems. But in the same white blouse, just as she was in the morning, she moved gracefully around the furniture, trying to avoid his glance, and Vasya understood at once that things were bad.

"Here, I made three copies for you."

They stood on opposite sides of the grand piano.

"Of course, there may be some mistakes," she said softly, without emotion. "You'll have to read it through. I didn't have time. It came out to 38 pages."

He opened his suitcase on the floor.

"Excuse me a minute," she said and walked out.

He packed it all into the suitcase, barely managing to squeeze the lid shut.

"So that's that," she said returning. "Let's have some tea."

"She feels sorry for me," he thought. "It's hardly worth the trouble. My plane leaves at 12:20."

She beamed and said happily:

"Why, that's a whole eternity! Take off your coat. I'll brew some at once." The teakettle was in her hands.

But he picked up his hat:

"Don't bother. I put the money over there. . . ." He broke off, because he saw that her hands had fallen lifelessly on the table, and she had somehow shrunken. "I do have time, of course, that's true." He shuffled from foot to foot. "But it's not necessary. We hardly know each other."

She smiled and said gently:

"What do you mean we hardly know each other? Remember how well you said it there: 'Green and pink the days glide over the world, the stumps beneath the bench like birch baskets stand.' Or 'More and more I do believe that stories must come true.'"

This was the first time he had ever heard someone else reciting his poetry. It was so unexpected and so pleasant that at once it became warmer and cozier in the bright, high-ceilinged room, with the bric-a-brac and the curtains. The tea things were tinkling in the hands of the little teacher.

"I have tea from Korea, it's with jasmine blossoms. I'm sure you never drank such tea. My friend's husband is a cameraman, and he travels all over. So she treats me sometimes."

They sat at the round table under the chandelier, drinking tea with jasmine blossoms.

"That glass holder hasn't been used for a long time," she said with a sad smile.

He held it, large and warm, in the palm of his hand and listened to her.

"I envy people who can travel. I've never been anywhere, except for practice teaching I once did in a village school." She gave him some jam. "Last summer I promised to go with my pupils to the Volga but couldn't because of my mother." Her hands were small and quick. "I have 32 of them."

"Is it hard?"

"Not exactly. A few days ago someone tore the map of Eurasia. We'll have to hold a meeting. Of course I know who did it. There is one daredevil of a boy in the class," and she laughed. "We were writing a composition yesterday, and do you know what he thought up?" She went to the window and looked through a pile of notebooks. "Listen to this: 'The pessimism of Pechorin, his cynical attitude toward things sacred and his cold skepticism bear the mark of rational meditation.' Can you imagine? And not a single mistake!"

"I was also a daredevil." He smiled, his spoon rattled in his glass. "And I was a poor student. As for Eurasia, somehow since childhood it always seemed to me to be a yellowish, humpy camel that had lain down in the blue sea."

Thoughtful, she sat down at the table. He looked at her. The hairdo and the white blouse were so right for her.

"Do you know what the kids call me in school?" And she laughed: "Yevgesha, that's what they call me, really."

He looked at the piano.

"You must be quite a pianist?"

"No, I don't play." Her face became serious. "It's for remembrance."

"Your mother played?"

"No, it was Father who played, before the war. I never heard him. More tea?" She ran her hand over the china teapot.

"Yes, please," he said happily. "Wonderful tea. First time I ever tasted it." She poured carefully. He wanted to cheer her up. "On the whole, I like it in Moscow. I see they're very fond of animals here, even carry them about in their arms." But she remained silent, and he added: "Dogs will soon forget how to walk."

She smiled: "For you it's a laughing matter. But I really did want to have a cat for a pet."

"A cat? An ordinary cat?" He frowned. "No, it's better to have a dolphin. It's all the vogue now to train dolphins." And he smiled mysteriously: "Better still, let me send you a snow leopard from the Altai Mountains, how about it?"

She laughed into her palm, just like a little girl. Again he noticed the two large hemispheres behind her, staring into the room straight at them. And somewhere there in the right-hand brown pupil was his Altai, his mine.

Vasya Shulgin got up.

"Well, it's time for me to go." He smiled.

She also got up. Her cup clattered on the table. She asked somewhat hesitantly:

"You're going just like that? And what about your poems?"

He walked toward the door, trying not to bump into anything. "The poems?" He shook his fur hat and sighed: "Do you call that poetry? It could hardly be worse."

Anxiously she watched him put on his coat.

"No, I'm serious." And she came nearer to him. "You should show them to the editors, really."

He laughed, putting on his muffler.

"Some other time maybe." He picked up his suitcase.

"Why some other time? If you want me to, I can do it for you. I have a copy."

He was embarrassed.

"Why should you?" He tried not to look at her beaming face and her large, excited eyes. Turning away, he said: "Don't scold him too much. The one who tore the map. He did it accidentally."

Zhenya shut the heavy door behind him and ran to her room. Everything was different there now. The walls seemed to have moved apart, and each little trifle had grown more distinct and acquired a voice. She lowered her hands onto the lid of the piano, saw her reflection in its dark polished surface and for the first time in her life, perhaps, regretted that she could not play.

Vasya Shulgin strode along the frosty street. Everything was lit up as if for a holiday. He felt good. Sadly he thought that in two hours he would be gone. For the last time he would see the city far below, all sprinkled with little lights, like a campfire that had not been put out. And then all night a dark horizon would keep flowing toward him till at last dawn would appear above the snow. He walked past the bright show windows and the building entrances. Lines of verse fell into place, springing into being in time with his walking, and they went something like this: "The city slept, hazy and wondrous. And at night into fleecy flocks of clouds the jet plane flashed off like a match from a box." He should stop and write it down. But lines of verse were born in him so often, and he wrote them down so seldom that it was hardly worthwhile doing it now. "But the city did not waken after the busy day. It just turned over under the plane's wing and glided away." Along the nearly deserted street Vasya Shulgin moved toward the center, to the very heart of Russia, to Red Square. He had been thinking about this during the day but had decided to come for the first time at night, when it was still, when the towers were lighted up and one could hear footfalls clearly and the chimes of the clock.

The ice was crisp underfoot, and in the dark sky over the roofs the moon glided, as bright and clear as in his village. And all around shone the myriads of honeycomb windows. Each one with its own life. But among them there was one where he was known and would be remembered, where he could come and have tea. Just as at home in the Altai Mountains.



Around the Country

DESALINIZATION

A desalinizing unit based on the ion exchange method has been developed by a team at the Moscow Plastics Research Institute. The unit, known as Rodnik 3, is simple to install and operate, and economical to run. It is now being tested in the Black Sea. Control is automatic, and the fresh water it produces is transparent and pleasant to the taste.

NUCLEAR-POWERED CHEMICAL PLANTS

Nuclear power stations of large capacity may in time become major producers of chemicals. Georgian scientists, in collaboration with their Moscow and Latvian colleagues, have already worked out a technique that uses gamma rays to produce various polymer materials.

A special unit known as the "indium-gallium circuit" offers excellent prospects for applying the technique.

INDUSTRIAL DIAMOND

Soviet geologists in the Far North have found a new variety of diamond, yakutit. Though it looks like slag, it is as hard as the more conventional diamonds and can drill all types of rocks.

MINERALS IN GLACIERS

Mountain glaciers in the southern and southeastern regions of Kazakhstan store many billions of cubic feet of water plus a number of valuable minerals. Scientists of the Kazakh Academy of Sciences have discovered millions of tons of potassium, sodium and calcium preserved in the ice.

PREHISTORIC SKELETON

The complete skeleton of *ginaterium levius*, the terrible beast, as some scientists call it, will soon be on exhibit at the Paleontological Museum of the Institute of Zoology in Kiev. The bones of the prehistoric animal were found near the village of Gusyatin, Ternopol Region, the Ukraine.

This is the second discovery of its kind in the world. A *ginaterium* skull dug up earlier in Bavaria is on display in the British Museum



TAIGA MEDICINES

Staff members of the Khabarovsk Medical Institute, Soviet Far East, have collected 235 formulas for traditional medicines used by the Nanaians, Udes and other peoples who live along the Amur River. Among them are a poultice of freshly mown grass for treating rheumatism and radiculitis; a tonic brewed from the antlers of a young red deer, containing nearly a quarter of the elements in the periodic table, and the bile of bear, wild boar, sazan and bream—considered a universal remedy.

Ginseng, eleutherococcus, magnolia and other plants of the Far Eastern taiga are used as medicines in many countries, including the United States, New Zealand, Libya, Guinea, Nigeria and Iran.

FOOD PRESERVATIVE

A technique for manufacturing ionol, a highly effective new food preservative, has been developed in Riga, the capital of Latvia.



Ionol is a synthetic antioxidizer that has also been used successfully in medicine to inhibit the cell aging process. Tested on mice, it prolongs their life by 50 to 100 per cent.

WORDS PER SECOND

Georgi Zagorelsky, a young researcher at Leningrad University, has designed a new typewriter, the Gezotype, that works at phenomenal speed.

It is operated by three sensors on the surface of a small box. The typist draws his or her finger across one of the sensors in a particular direction, producing an electric signal that corresponds to a particular letter. Experiments have shown that with this method anybody can type at the rate of 400 letters per minute using one finger and, after a little practice, 800 letters per minute with two fingers. Since only a few people can type even 550-600 letters per minute on a conventional ma-



PREFAB APARTMENTS

Architects of the Moscow Standard and Experimental Design Institute have launched an interesting experiment in Southwest Moscow—building a block of 16-story apartment houses of standard prefab components. The technique makes it possible to choose a variety of styles and to reduce construction time considerably.

Building agencies throughout the country are now using standard prefab elements. Structures incorporating them are going up in Moscow, Leningrad, Kiev, Severomorsk, Frunze, Tashkent and a number of other cities.

TUNNELER

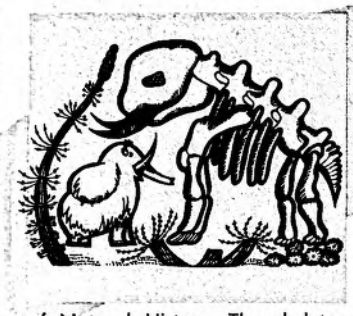
The Mining Institute at the Siberian Branch, USSR Academy of Sciences, has designed a pneumatic drill for building access tunnels to underground communications lines. Externally, the new drill resembles a rocket with a hose attached to the tail for delivery of compressed air. It moves forward underground, leaving a hole up to 130 feet long with smooth walls. Its tunneling speed ranges from 40 to 130 feet per hour, depending on the kind of rock. The new machine is exported to 21 countries.



EDUCATIONAL TV

The Moscow Institute of Electronic Engineering is one of the institutions of higher learning founded in recent years. Its lecturers have many technical aids, among them closed-circuit television. The system consists of about a hundred TV sets and 67 remote-controlled cameras installed in the laboratories and classrooms. It is supplemented by systems that make it possible to question the students.

Scheduled to be opened this year is the institute's experimental plant.



of Natural History. The skeleton of this herbivorous animal, which became extinct some millions of years ago, resembles those of the mammoth and the modern elephant, though it is larger—more than 12 feet high and 16 feet long.

UNSINKABLE BOAT

Soviet engineers have designed a new type of unsinkable rescue boat. It is made of a strong and lightweight clear plastic which is not affected by sea water and can stand the impact of large waves.

The boat is 26 feet long and holds 57 men. The power for its lights and radio is provided by storage batteries.

CLIMBING BICYCLE

Power line repairmen can now get on a bicycle and pedal to the top of a utility pole. Their novel vehicle was invented by Lithuanian engineer Vitautas Gulbinas for people who must work high above the ground. The design is simple enough: a steel frame, chain drive, a tightening tracer device, rollers and a seat. Pedal in one direction and you go up, reverse and you go down. At the desired height the bicycle, which weighs about 65 pounds, is anchored by an automatic braking device.

VERSATILE MACHINE

A horizontal boring machine of a fundamentally new design is being produced by the Sverdlov factory in Leningrad. It enables the operator to machine a piece of work from all sides—drills, threads, bores and reams, mills, planes and grooves. The machine has a magazine of 100 tools which are changed automatically; for each step the mechanical "hand" selects the proper tool. All operations are coded on a punched tape.





WEIGHING A PLANET

Astronomers at the Pulkovo Observatory outside Leningrad have found a method of weighing the planet Jupiter. They observed that when comets and asteroids enter the planet's gravitational field, they change their paths perceptibly. Using these bodies as weights, the astrophysicists measured the mass of the planet. It turned out to be 1,047 times less than that of the Sun and 316 times more than the Earth.

CHILDREN'S VIEW OF THE WORLD

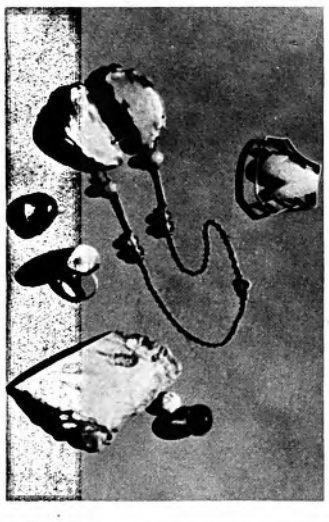
The USSR Society for the Protection of Nature has mounted an exhibition "Nature Through Children's Eyes."

On display are drawings, posters, figures made of twigs, roots and cones, compositions of leaves, straw and fruit pits.

chine, the Gezotype obviously has a promising future.

AMBER LAND

In ancient times the Baltic coastal area, where four-fifths of the world deposits of pine resin are concentrated, was called Amber Land. Sands bearing amber, which is a fossil resin, stretch for 40 square miles and jut far into the sea. Scattered in this layer of sand at a depth of 20 to 25 feet are amber nuggets ranging from tiny specks to pieces weighing many pounds. Ships that look like dredges dig out the amber from the sea bed. Where the sea has receded, opencast mining does the job. The immense, four-tier workings in the town of Yantarny, Kaliningrad Region, are about 165 feet deep and are the world's biggest producer of this semiprecious gem. These workings account for about 90 per cent of the world's output. There are amber-processing centers all along the Baltic coast.



Amber jewelry—necklaces, bracelets, rings and earrings—goes to many countries. However, only a tenth part of the amber extracted is used to make these articles. The larger part goes into varnish, amber oil and succinic acid, a dye ingredient.

Another amber quarry is now being created on the Baltic coast. Its annual output will be 1200 tons.



CLOCKS FOR 40 COUNTRIES

The Orel clock factory makes large clocks to be hung on walls, placed on mantelpieces and floors. Since it started operating 20 years ago, more than 53 million clocks have come off its assembly lines. The factory is now being rebuilt, and a new shop for the manufacture of electronic clocks is being added. The Orel plant exports to 40 countries, including Britain, Argentina, and Turkey.

ORNAMENTING METAL

Georgian artist Irakli Ochiauri, originally a sculptor, turned nineteen years ago to the all-but-forgotten art of chasing. He did a few portraits and later used chasing as a decorative element for one of his monuments. Ochiauri revived the art first in Georgia and later throughout the country.

Besides a series of plates that he calls "Song of Georgia," his major works include interior decorations (the Georgian Soviet Encyclopedia Press building, the Tbilisi Wedding Palace), and a large frieze, "Elopement of the Sun," designed for the interior of the Soviet pavilion at Expo-70.

AMPHIBIAN AEROSLEDGE

A new amphibian aerosledge, model A-3, has been developed at the design office headed by well-known aircraft designer Andrei Tupolev. The new vehicle adapts itself easily to depths of as little as two inches, channels overgrown with plants, sandbanks hundreds of feet long, and snowy terrains. It has a 260-horsepower engine and can carry several passengers or a half-ton cargo up to 300 miles across country at a speed of 45 miles an hour.

GEM EXHIBIT

A permanent exhibition of precious and semiprecious stones has opened at the Hermitage Museum in Leningrad. The stones bear miniature portraits, sculptures and paintings created by Italian, French, German and British masters in the thirteenth to nineteenth centuries. On display are more than 500 gems—garnet, almandine, amethyst, carnelian, sardonyx, aquamarine, chalcedony and jasper. This unique exhibit traces the trends and schools in gem-cutting art over the past 700 years.



CHILDREN'S ARTIST

Since 1929 Yuri Vasnetsov has been illustrating books for children, introducing them to a wonderful world of fantasy. Vasnetsov's individual style can be traced from his earliest work, the illustrations for *Karabash* by Vitali Bianki, to *Ladushki* and *Rainbow Arch*, for which he won a State Prize in 1971. He is a graduate of the Leningrad Academy of Fine Arts.

BOTH HEAT AND COLD

A turn of the knob on the instrument panel and African heat gives way to arctic cold in a closed chamber. Another turn of the knob, and the heat returns.

This miniature thermoelectric chamber, designed by the Leningrad Institute of Semiconductors of the USSR Academy of Sciences, can simulate the temperatures of any climatic zone in the world. The device, which resembles a typewriter and weighs only 53 pounds, is used to test various radio and TV components. The temperature within the chamber can be varied in a range from minus 60 to plus 600 degrees centigrade.

GLUE IN SURGERY

Glue made of polyvinylbutyral powder developed by Professor Ivan Gevorkyan, corresponding member of the Armenian Academy of Sciences, is now widely employed instead of sutures at the clinic of the Hospital Surgery Department of the Yerevan Medical Institute. Professor Gevorkyan heads the department.

Since the glue is simple to make, the surgeon always has a fresh supply. Thorough and prolonged bacteriological investigations have shown that the new glue has bactericidal properties. It acts against the most widespread pathogenic microorganisms, in particular hemolytic *Staphylococcus, Streptococcus, Enterococcus, Bacillus pyocyaneus* and *Escherichia coli*.

The glue is employed in experimental surgery, chiefly in the prosthesis of arteries. It does not dissolve in water, quickly polymerizes and forms a good film. This latter property enables it to be used in treatment of extensive heat burns.

Surgeons at the Yerevan clinic use the glue in pulmonary, abdominal and vessel surgery, and for additional hermetic sealing of sutures.



NOVGOROD PAINTINGS

A rare exhibition featuring the paintings of ancient Russian artists of the Novgorod school has opened at the Russian Museum in Leningrad. It includes 210 icons dating from the twelfth through the seventeenth centuries and 52 copies of frescoes of the ancient churches of Novgorod, painted by Feofan Grek and other artists in the fourteenth and fifteenth centuries.

Twenty of the exhibits have never been on display before. They were discovered in remote villages by expeditions of the Russian Museum and restored in the museum's workshops. This is the most complete exhibition so far of the works of famous Novgorod artists.

FIREFIGHTING CONTEST

Thirteen teams competed in the finals of the Russian Federation firefighting championships in the city of Zhukovski, near Moscow. The firemen had to overcome a series of obstacles—a three-story tower, ladders and fences—unroll a hose at top speed, run a relay race and extinguish a fire in a house. The teams of Moscow, Kalinin and Rostov regions shared first place.



TRADE BRINGS COUNTRIES CLOSER



Nikolai Patolichev, Minister of Foreign Trade of the USSR, answers readers' questions.

Nikolai S. Patolichev, USSR Minister of Foreign Trade, visited the United States in May with a Soviet trade delegation. The group met with an American delegation headed by Peter G. Peterson, Secretary of Commerce, to review commercial relations between the two countries and explore the possibilities for future trade agreements.

While in Washington Trade Minister Patolichev, accompanied by Soviet Ambassador Anatoliy Dobrynin, was received by President Richard M. Nixon. Secretary Peterson and White House officials were present at the meeting. Patolichev also met with Secretary of State William P. Rogers.

In addition to the talks in Washington Patolichev had discussions with business and banking leaders in New York, while members of his delegation had similar meetings in Chicago. The Soviet delegation also took a week-end trip to Florida.

At the end of his stay Minister Patolichev said, "The negotiations we have had in Washington proved to be helpful and demonstrated the willingness of both parties to work toward improving commercial relationships on mutually beneficial and broad bases."

The following interview took place in late April.

Q: How do our foreign economic relations affect the Soviet Union's relations with other countries?
A: Mutually advantageous economic relations serve as an important instrument in normalizing the international political situation. Trade, economic, scientific and technical links among countries with different social systems reduce the danger of war. The expansion of the Soviet Union's business relations was a factor in the failure of the "cold war" policy.

Q: The Twenty-fifth Session of the Council for Mutual Economic Assistance held in July 1971 adopted a Comprehensive Program for socialist economic integration. What is its significance for the fraternal economic cooperation of socialist countries?
A: The Comprehensive Program is intended to streamline the economic cooperation and integration of the CMEA countries.

The CMEA countries have for many years now ranked first in the USSR's foreign trade.* Turnover with this group of countries reached 13.1 billion rubles in 1971.

The collective experience gained in recent years in multilateral and bilateral cooperation, coordination of economic plans and scientific and technical research have made it possible for the socialist countries to change over to the higher forms of cooperation stipulated by the Comprehensive Program.

Q: What is meant by the so-called structure of goods exchange among CMEA countries?
A: The economy of the CMEA countries (except the Soviet Union) depends heavily on foreign trade because these countries have insufficient supplies of raw materials. They have to import many kinds of raw materials, as well as machines and equipment.

For the past five years the Soviet Union has been meeting almost all the import requirements of the CMEA countries for oil, natural gas, cast iron and iron ore , as well as a substantial share of their requirements for oil products, phosphorous fertilizers, rolled steel, nonferrous and rare metals, timber items and cotton.

Besides, the socialist countries and, first and foremost the CMEA countries, are the Soviet Union's major suppliers of seagoing and river vessels, various machines, equipment and instruments. The Soviet Union buys almost half the machines and equipment the CMEA countries export. In the past five years socialist countries supplied the Soviet Union with 1,154 vessels, about 34,000 freight cars, 5,000 passenger railway cars, over 1600 electric and diesel locomotives, complete sets of equipment for 54 chemical plants, 510 million rubles' worth of farm machines and a large volume of consumer goods.

Q: The Soviet Union's mutually advantageous trade with the CMEA countries keeps expanding. What are the prospects for the years ahead?
A: Trade between the Soviet Union and the CMEA countries in the period from 1971 through 1975 is to expand by over 50 per cent as compared with the agreements for the previous five years.

I should point out that the CMEA countries' reciprocal trade in machines and equipment will expand at a faster rate than their goods turnover in general. The long-term agreements stipulate reciprocal deliveries of some types of engineering goods that were not delivered previously.

In the 1971-1975 period the Soviet Union plans to import almost 19 billion rubles' worth of machines and equipment from the European socialist countries and to send them 11.4 billion rubles' worth of these items.

Consumer goods imports expanded by 77 per cent from 1966 through 1970. During this period the CMEA countries delivered almost two billion rubles' worth of clothing, 167 million pairs of leather footwear, 797 million rubles' worth of furniture and a great many other items to the Soviet Union.

The figures will increase in this five-year period, of course.

Q: What part does foreign trade and economic cooperation play in scientific and technological progress?
A: No country would be able to develop its economy rapidly if it didn't avail itself of world achievements in science, technology and production experience.

The Soviet Union tries to make maximum use of the opportunities offered by the international division of labor to accelerate its scientific and technological progress. Machinery and equipment imports and the acquisition of licenes for the most modern production processes speed up technological progress and make for more efficient production. Over the past decade we have purchased abroad more than 220 plants and installations for the chemical and petrochemical industries.

Foreign trade has contributed greatly to the development of the automobile and other industries in the Soviet Union.

Q: At the last session of the USSR Supreme Soviet there was mention of long-term trade agreements with capitalist countries. What are the advantages of such agreements?
A: The Soviet Union has had long-term agreements with the socialist countries for a considerable time. They make it possible to work out a trade program and to plan the production of export goods and the construction of projects using imported equipment. At present the Soviet Union trades with 38 countries, including 28 capitalist countries, on the basis of long-term trade agreements. We have such agreements with Finland, France, Britain, Italy, Japan, Belgium, the Netherlands, Austria, Sweden, Norway, Denmark, Canada and other countries.

In the past few years long-term contracts have begun to be introduced in our general trade practice on an increasing scale. They offer mutual advantages.

Here is an example: Our All-Union Association Sudoimport has signed a contract with the Finnish firm Vartsila for the delivery to the Soviet Union of three large icebreakers with 36,000-horsepower engines. The firm, on this basis, can plan for a number of years

* These countries account for more than half our foreign trade turnover.

ahead the volume of materials it will need, can expand production and hire additional workers.

Q: How are our trade relations with developed capitalist countries progressing?
A: The majority of the developed capitalist countries are taking steps to eliminate various trade barriers and are normalizing economic relations with the socialist countries in general and with the Soviet Union in particular.

In the preceding five-year period the Soviet Union's trade with developed capitalist countries grew noticeably. Its turnover between 1966-1970 amounted to 19.4 billion rubles, compared with 12.2 billion rubles in the previous five-year period. Trade relations are developing successfully with France, Finland, Japan, Italy, Britain, the Federal Republic of Germany, Austria, Sweden and other countries.

In the past few years, for example, Soviet-French trade and economic relations have developed markedly. The Declaration of October 30, 1971, published during Leonid Brezhnev's visit to France devotes a good deal of space to the further development of trade and economic relations between the two countries.

Our business with Finland is also growing. In 1971 the trade turnover between the Soviet Union and Finland amounted to 570 million rubles.

Q. Of late much is being said in the American press about the possibility of expanded trade between the Soviet Union and the United States. What comment do you have?
A. It is true that a great deal is being said. But the amount of trade between the two countries is still on a very low level—less than 200 million rubles a year.

In November 1971, Maurice Stans, who was then U.S. Secretary of Commerce, visited Moscow along with a large group representative of American industry, banking and commercial firms.

In one of his speeches Mr. Stans said that he considered his visit to the Soviet Union successful and hoped his trip would help improve relations and develop trade between our countries.

The Soviet side has always striven to normalize relations and develop trade with the United States.

Q. The Soviet Union concludes many trade agreements with foreign firms. What major contracts have been signed recently?

A. Many such contracts have been signed. To mention only a few:

An agreement was initialed in August 1971 to supply France, beginning in 1976, with 88.3 billion cubic feet of natural gas a year over a 20-year period, and to purchase in France, on bank credits granted by France, pipes and equipment for gas pipelines totaling more than 200 million rubles.

A contract was signed with the French firm Renault for cooperation in designing a very big diesel engine plant, with a total output capacity of 250,000 engines a year. As the designing proceeds, the sides will cooperate in supplying equipment for the Kama Auto Plant and in assembling, starting up and adjusting the equipment.

A contract was concluded with the Japanese firm YV Kabushiki Kaisha for deliveries from Japan to the Soviet Union of equipment, machines and material for building a large seaport in Wrangel Bay.

A contract was concluded with the Czechoslovakian firm Skodaexport, for a medium-grade 4500 rolling mill.

And here is the latest, very recent example. A contract was signed with the American firm Swindell-Dressler on December 22, 1971, for the design of a foundry for the giant Kama Auto Plant under construction.

Q: What is the situation with the Soviet Union's trade relations with the developing countries?
A: The volume of trade with the developing countries in 1966-1970 exeeceded 11 billion rubles compared with 7 billion in the preceding five-year period. Trade is developing successfully with the Arab Republic of Egypt, Iran, Algeria, India, Afghanistan, Turkey, Syria and other countries.

That trade will continue to increase in the new five-year period. The efforts of the African and the Latin American countries to expand trade with the socialist countries, we feel, is a positive factor. We support their efforts in every way possible.

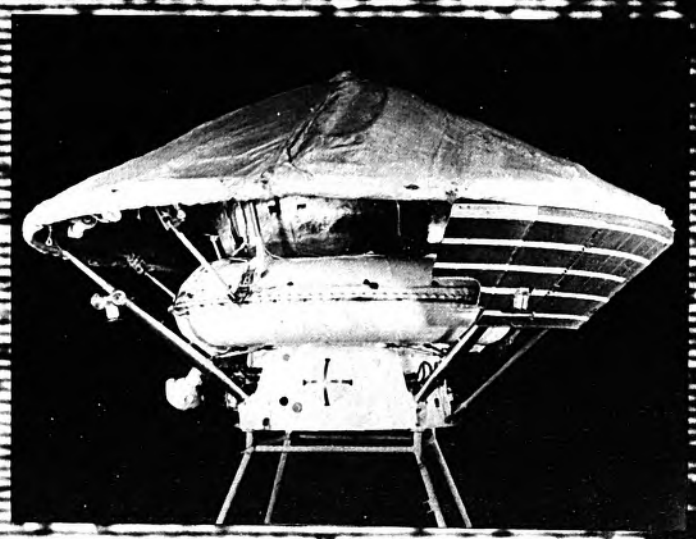
Our ties with many developing countries make for a stable division of labor and permit these countries to overcome the survivals of colonialism more quickly.

In conclusion, I would like to stress the fact that improvement in our economic relations with foreign countries has always been an important element in the Soviet Union's foreign policy. Trade unites peoples and serves the cause of peace.



President Nixon received Soviet Foreign Trade Minister Nikolai Patolichev when he visited Washington in May. Seated from left to right: Soviet Ambassador Anatoliy Dobrynin, Nikolai Patolichev, President Nixon, U.S. Secretary of Commerce Peterson and Assistant to the President Henry A. Kissinger.

DESTINATION MARS



By Alexander Serov
APN Science Commentator

THE SOFT LANDING made on December 2, 1971, by Mars 3 is an important event in space exploration. At first, such a landing by an automatic probe seemed relatively simple, since Soviet designers already had related experience—similar landings on the Moon and Venus, the recovery of manned and automatic spacecraft from outer space, and last but not least, the delivery of a capsule with lunar rock to a specified area in the Soviet Union. But all this experience, including that of Venera 7, was not nearly sufficient for a soft landing on Mars.

The Difference Between Mars 3 and Venera 7

Let us recall how a soft landing was made on Venus. The orbital compartment, carrying the instrument capsule, entered the Venusian atmosphere in a very steep trajectory. In the process the compartment was destroyed, and the almost spherical instrument capsule made a ballistic descent. As it approached the surface, its velocity of more than six miles per second was reduced, so that the parachute opened at subsonic speed. There was no need for retrorockets to make the soft landing. The parachute descent was quite a long one, and this made it possible to transmit all the necessary information directly to Earth with a generally directed antenna. The same antenna was used after the landing.

This pattern, however, could not be applied to Mars.

One of the tasks of the Mars 3 instrument capsule was the transmission of television pictures to Earth. Venera 7 did not have to tackle such a job. Sending TV images over a distance of some 40 million miles requires more time than sending telemetered information, so that a basically new technical solution of the problem was required, a unilateral antenna, for instance. Such an antenna, however, involved great complications in the precise orientation of the instrument capsule with regard to Earth.

The designers found a more rational solution—relay transmission. It worked like this: The orbital compartment contained a unilateral antenna for communication with Earth. This antenna made it possible to broadcast clear television pictures. All that remained was to find a way of transmitting the necessary data from the surface of Mars to the orbital compartment. That is why, when the instrument capsule landed, the orbital compartment had to be as close as possible to the site. Estimates showed that if its trajectory was within 600-900 miles of Mars, there would be no need for a unilateral antenna on the instrument capsule. Thus, the problem of radio communications helped determine the flight plan and the approach operation.

If the orbital compartment was not to be destroyed in the Martian atmosphere, it could do the job of relaying information and also tackle a number of research problems. The so-called orbital landing pattern of flight was therefore adopted and carried through for Mars 3.

The greatest difficulties the builders had were connected with the Martian atmosphere.

While the information on the atmosphere of Venus had also been quite vague, the landing there did not pose such complicated problems as the landing on Mars. The parachute of the Venusian capsule, for instance, opened at a higher altitude, in an area where atmospheric pressure was even less than at the surface of the Earth. But above the surface of Mars, fluctuations in atmospheric pressure amounting to as little as several thousandth of one atmosphere (millibars) could have upset the entire experiment. This is because the atmosphere of Mars is approximately 200 times more rarefied than the terrestrial atmosphere, so that the problems of descent assumes a basically new quality.

Reaching the Edge of Mars

The instrument capsule of Venera 7 entered the atmosphere at an angle of about 90 degrees. The designers had provided for the possibility of descent at other angles as well. Therefore the precision of the landing trajectory could not affect the establishment of communications with the Earth when the parachutes opened.

This method is useless for Mars.

An instrument capsule with an initial weight of several hundred pounds, entering the Martian atmosphere at a steep trajectory, would need an aerodynamic braking shield with a diameter of over 30 feet. Only then would a landing on Mars be possible according to the Venera 7 pattern, which aimed at any point on the planet. It is at this juncture that design limitations become clear.

First, such a shield is not too easy to orbit. Second, the design would not be strong enough. As the vehicle enters the Martian atmosphere at a speed of four miles per second, every square foot of its surface

This picture of Mars was taken from the Mars 3 orbital compartment (details are blurred by the dust in the atmosphere). The insert shows the instrument capsule, which made a soft landing on the Martian surface.

is subjected to a monstrous stress of hundreds of pounds. Thus, a shield with such a large diameter would require that practically the entire instrument capsule be used to ensure its strength and thermal insulation.

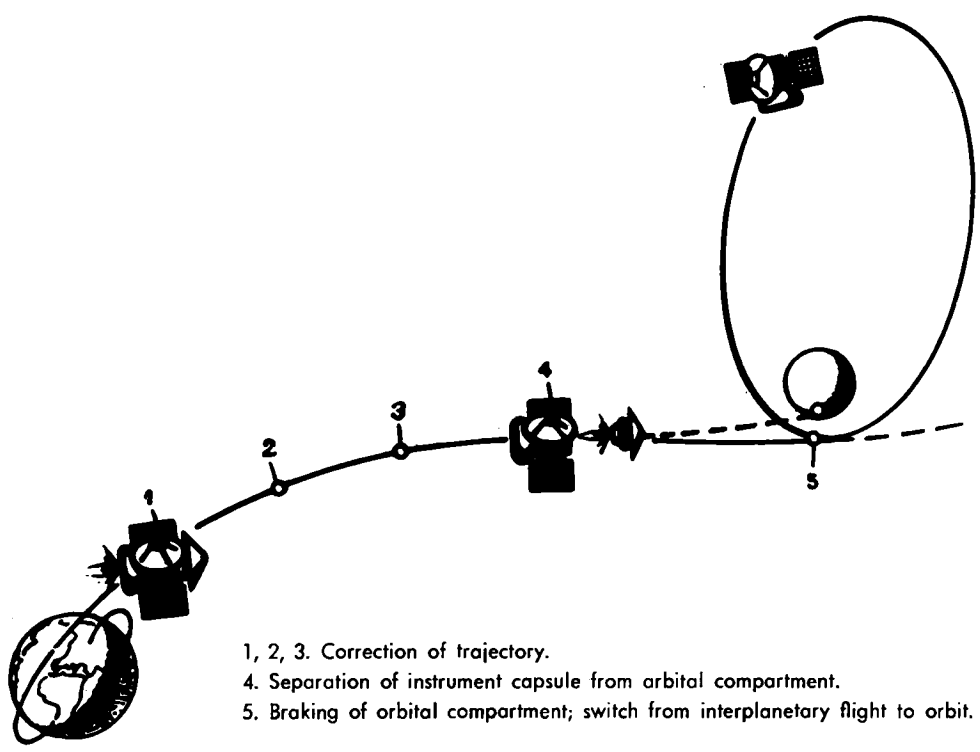
The designers of Mars 3 rejected a steep descent trajectory because the smaller the angle of entry into the atmosphere, the longer the descent of the vehicle to the surface and the longer the braking trajectory in the atmosphere. That decision helped to reduce the size of the braking shield substantially, but the gradual descent still wasn't easy. It is much more difficult to reach the very narrow ring on the edge of the Martian disk than simply to hit the disk. The operation was made possible by an on-board computer (OC).

When the interplanetary probe got close enough to Mars, the on-board optical-electronic instruments could measure its position in relation to the planet more accurately than ground-based radio instruments. If measurements are analyzed directly aboard a probe by a computer, the role of the Earth can be dispensed with completely in near-planet operations. In that way the system of autonomous navigation came into being. Once a computer was placed aboard the spacecraft, it was employed for other purposes than simply the approach to the planet. The OC as well as the entire self-sufficient capsule—the retrorocket unit for a soft landing. Without this unit, the parachute would have required too big a canopy, heavier than the engine. It was more convenient to use a comparatively small parachute in combination with retrorockets.

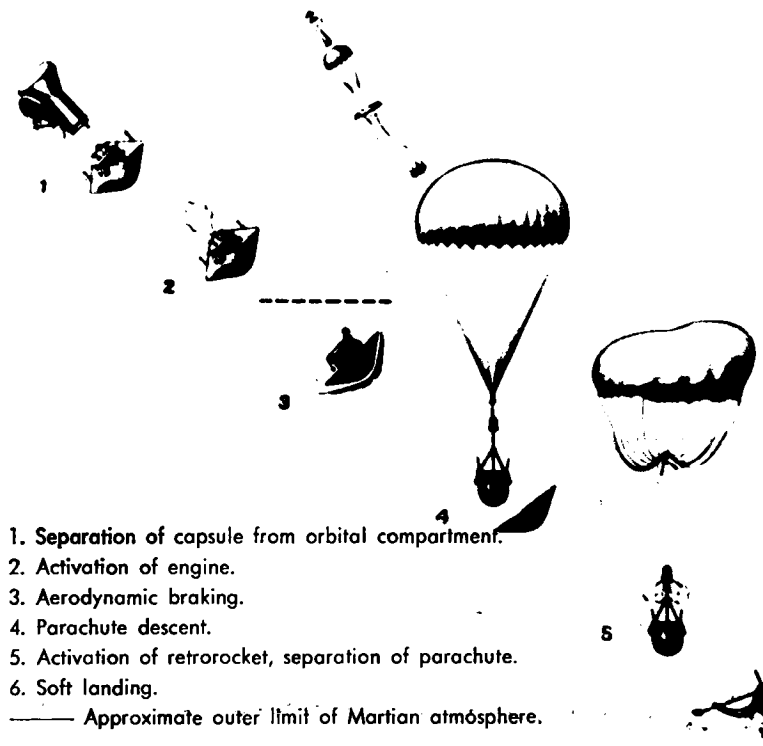
Several hours before the probe reached Mars, there was an autonomous correction session to ensure the right altitude—about 930 miles—for the probe's flight over the surface of the planet. But while moving in this trajectory, the instrument capsule could not enter the dense layers of the atmosphere, which start about 60 miles above the surface. The capsule had to be shifted, therefore, to a trajectory where it could be captured by the Martian atmosphere. For the purpose, it was separated from the orbital compartment some 43,000 miles from Mars. After separation the capsule was provided with a braking impulse that started it off in a different trajectory, without maintaining communication with the probe (see chart).

Then the engine unit was switched on in the orbital compartment, placing it in the orbit of a Martian sputnik. Meanwhile the instrument capsule entered the dense layers of the planet's atmosphere.

After the orientation of the instrument capsule in space, the engine for transferring it to the descent trajectory was switched on. Orientation was necessary to make the capsule enter the atmosphere in a



1, 2, 3. Correction of trajectory.
4. Separation of instrument capsule from arbital compartment.
5. Braking of orbital compartment; switch from interplanetary flight to orbit.



1. Separation of capsule from orbital compartment.
2. Activation of engine.
3. Aerodynamic braking.
4. Parachute descent.
5. Activation of retrorocket, separation of parachute.
6. Soft landing.
——— Approximate outer limit of Martian atmosphere.

navigation system were given many other jobs to do. They were involved, for example, in the first two correction sessions, and in ensuring stabilization and control during the operation of the last stage of the carrier rocket.

Final Stage of Flight

The Martian instrument capsule was substantially different from that of Venera 7, especially in shape. The gently sloping descent trajectory helped reduce the size of the front shield to reasonable proportions. The rarefied Martian atmosphere still made it impossible to use a spherical capsule and drop the shield completely. The front screen of the Martian instrument capsule was shaped like a blunt cone. When the supersonic velocity of flight was reduced in the upper layers of the planet's atmosphere, the vehicle simply fell the rest of the way with an almost constant speed, like a parachutist in a delayed drop. While in the terrestrial atmosphere the drop is only 170-230 feet per second, in the Martian atmosphere it is much more than the speed of sound. While the Venera 7 parachute descended at subsonic speed, on Mars it was impossible to avoid using a supersonic parachute. The velocity at which it opened had to be reduced because at very high speed the canopy material would burn. This is where the front shield became useful.

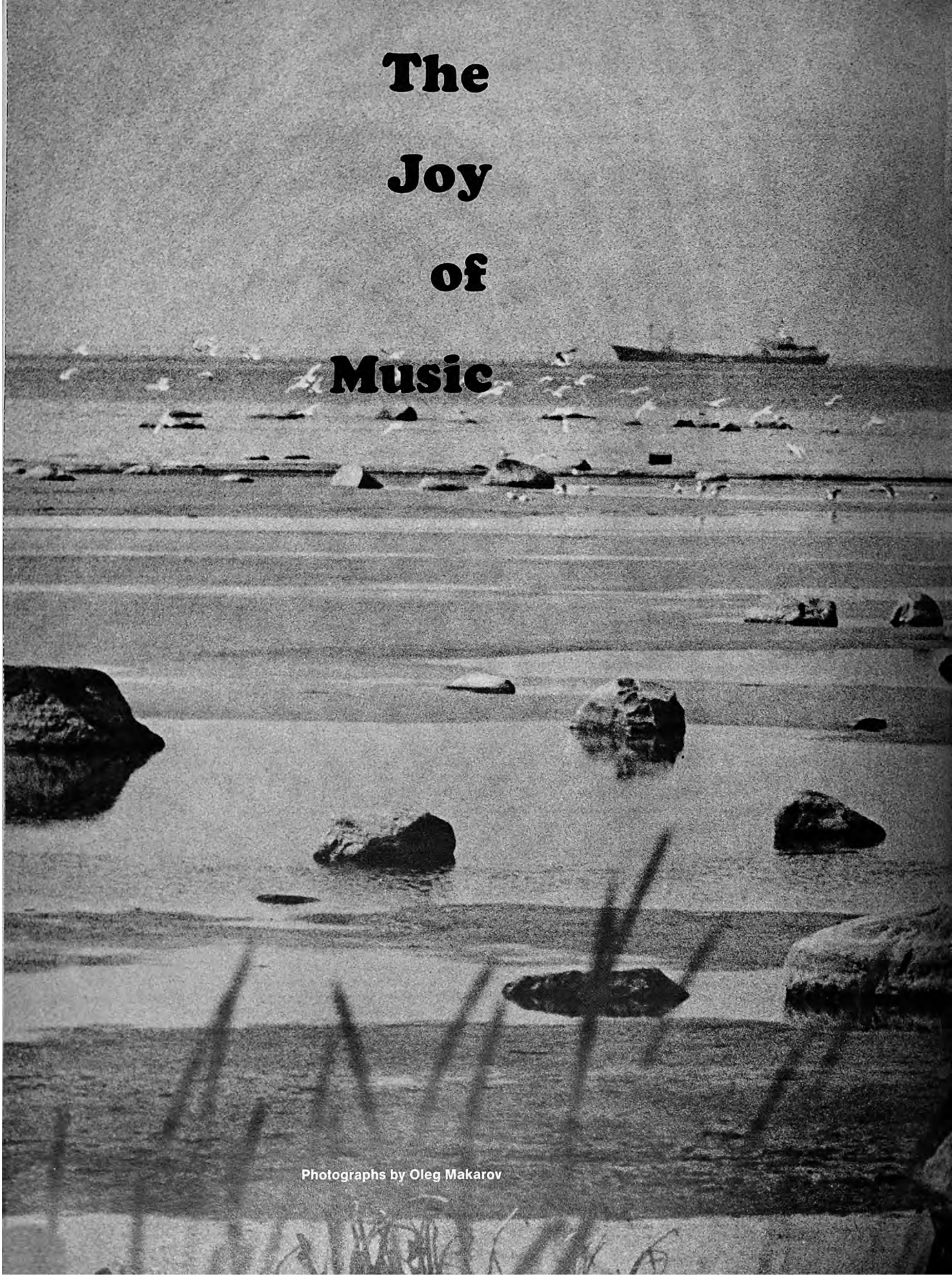
There was one more feature quite different from the Venusian very definite position—with the braking shield pointed forward. Otherwise the craft would have burned in the atmosphere, since its tail portion was insufficiently protected against heat fluxes.

Aerodynamic braking helped reduce the velocity of the Martian instrument capsule from approximately four miles per second to several hundred feet per second. Then the supersonic parachute system —a small pilot parachute and the main one with its large canopy— came into action.

All the commands originated in a programmed timing mechanism. A special engine, which tore away the capsule lid, brought the pilot parachute into operation. Several seconds later the main parachute left a special compartment. For the first few seconds it was folded, then it unfolded automatically. By that time the braking shield had done its job and was discarded. Then the on-board computer, which had been continually analyzing the descent velocity and the distance to the surface, gave the command to switch on the soft landing retrorockets.

Moments after the landing, the computer issued commands to ready the transmitting and research instruments, which began sending television pictures to the orbital compartment. There the pictures were registered by special recorders. When communication with the instrument capsule was concluded, the orbital compartment transmitted the information to Earth. That was how we learned that the capsule had made a soft landing on Mars.

The Joy of Music



Photographs by Oleg Makarov

IT'S NATURAL for an artist to seek new forms of expression. We composers are constantly exploring and experimenting in our musical laboratories, hoping to someday find something never heard before. But you can't expect the public to pass judgment on a piece composed just as an experiment. The best judge in such cases is time, which will decide what has staying power and what passes into oblivion." These are the comments of Gustav Ernesaks, the distinguished Estonian composer and conductor.

Ernesaks has written five operas, three cantatas and hundreds of songs for soloist and chorus. A Lenin Prize laureate, his name is a familiar one not only in the Baltic republics but throughout the country.

He was born not far from Tallinn on December 12, 1908, into a teacher's family. His parents passed their love for music on to their children. The family moved to Tallinn but did not sever ties with the countryside. "I was brought up in the country," Ernesaks wrote later, "and probably for this reason nature is close to my heart and is reflected in my creative work."

He entered the Tallinn Conservatory and studied to be a music teacher and a composer.

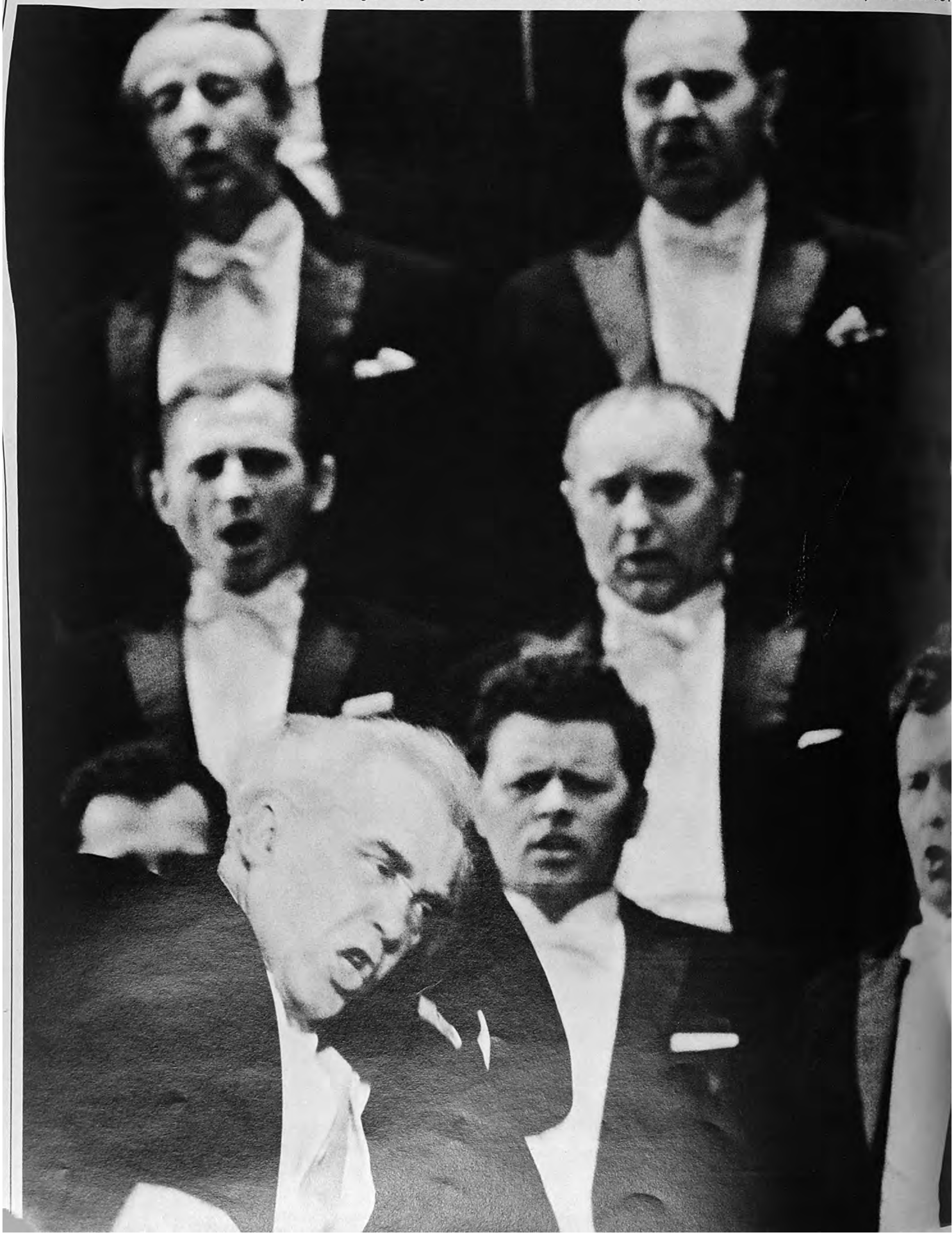
From the very beginning of his career the young musician favored choral music. "A choral piece," he says, "is the most accessible form of musical involvement for people."

The first professional male choir in our country was founded by Ernesaks in Tallinn in the fall of 1944. He became director and chief conductor of this a cappella chorus.

Ernesaks and the State Academic Male Choir of the Estonian Republic always have a packed concert schedule. They have performed many times in Moscow and Leningrad, in the neighboring



"When I read poetry, I try to set it to music; in the books I read, I look for



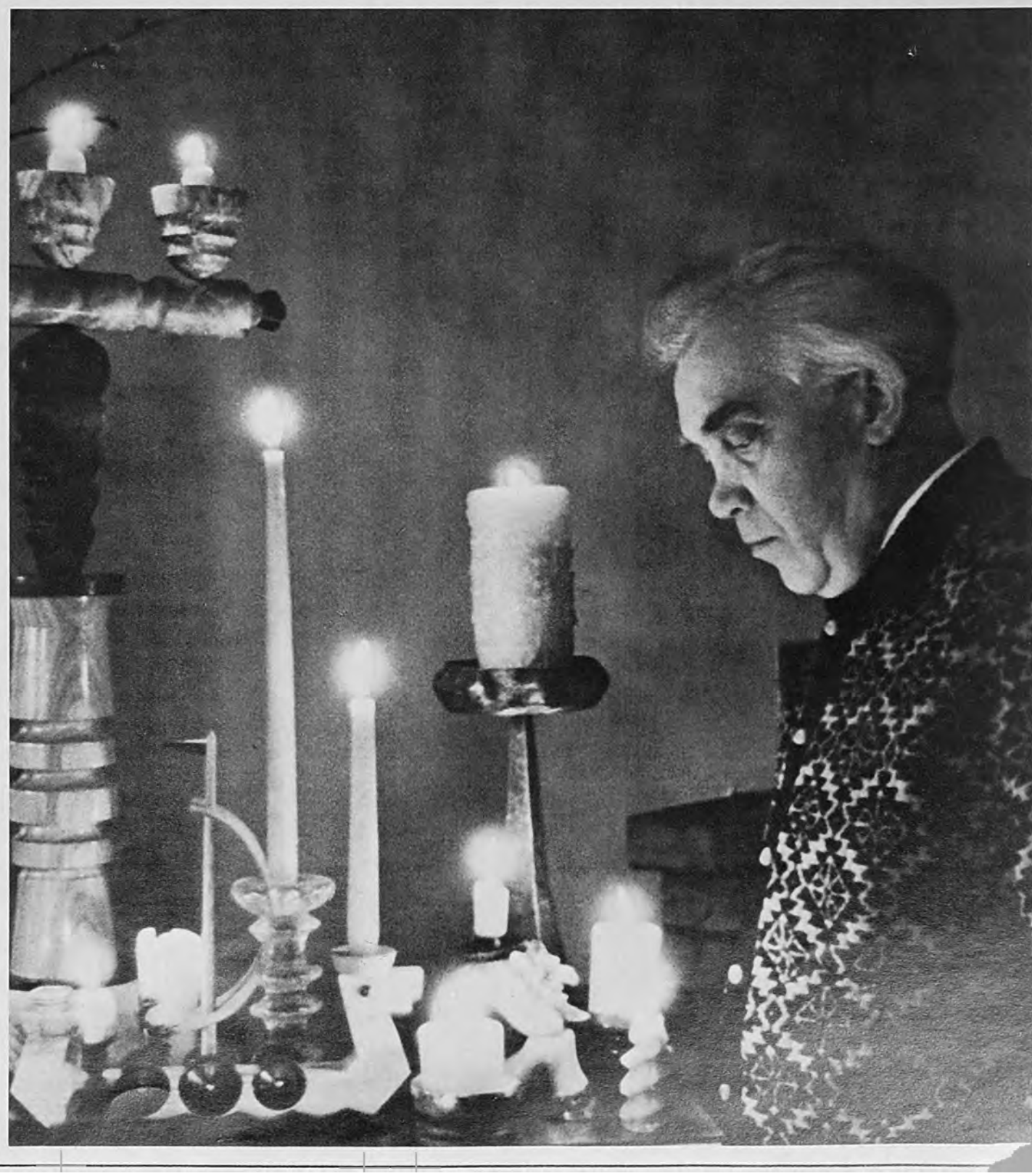
themes for operas; and even at art exhibitions my thoughts are with music.''





republics of Latvia and Lithuania, in the bigger cities of the Ukraine, the Caucasus, Central Asia and Siberia, as well as abroad in Poland, Sweden, the German Democratic Republic and Czechoslovakia. The choir has a repertoire of more than 500 songs in 14 languages. In 1970 it gave its three thousandth concert. ''The conductor's main job is to make all the singers feel as one,'' Ernesaks keeps saying. But he considers bringing joy to people the main purpose of his work as a composer. ''Songs can do a great deal to make people's lives better,'' he says. ''Songs bring out the best in people, cleanse them spiritually, give them the opportunity to experience the supreme joy of life, which is creativity.''





"I can't think of a finer kind of job than the one we have, trying to knit people together with singing."

"I was brought up in the country and probably for this reason nature is close to my heart and is reflected in my creative work."





NEXT ISSUE



Conservation is no longer a subject for theoretical study. It is an immediate and pressing problem that must be solved in day to day practice. Says Yevgeni Fyodorov, corresponding member of the USSR Academy of Sciences, in an article in July: "We must spare no effort to so adjust our practice that the development of our productive forces does not lead to irreversible destruction of the balance between man and his natural environment." Several articles describe what the Soviet Union is doing to preserve that balance. Igor Lobanov gives a picture of the antipollution efforts of Cherepovets, a metallurgical center. Another article deals with the work being done to clean up the Desna River basin in Bryansk Region. Letters from concerned citizens, an article telling how a poacher is caught and punished, one on the penalties imposed on recalcitrant factories and economic agencies and one on a day in the life of a sanitary inspector round out the ecology picture.



Living within the borders of the Soviet Union are 130 different nationalities. Some are very large numerically: the Russians, who constitute more than half the country's population, the 41 million Ukrainians, the nine million Uzbeks. There are other nationalities as small as 1,000, according to the 1970 census. Why are there no national bars in this multinational country? Articles by Victor Perevedentsev, who has a candidate's degree in economics, and Novosti correspondent Yevgeni Dvornikov give a comprehensive answer to this question.

A symposium of Soviet specialists in American studies was held recently in Moscow. It covered the American revolution and the country's founding; American historiography; the social movements of industrial workers, farmers and blacks; American ideology and foreign policy, Soviet-American relations. Professor Boris Marushkin describes the symposium and the work that is being done by Soviet scholars in American history.

The last census showed that there are 2,151,000 Jews in the Soviet Union, less than one per cent of the total population and 100,000 less than in 1959. An article by Novosti correspondent Ruvim Groyer analyzes the reasons for the decrease in the number of Jews, their geographical distribution and their participation in the social and political life of the country.

Among the other items in the issue are a picture story on the Estonian song and dance festival, an article on Soviet athletes at the Sapporo Olympics and regular features Around the Country and People and Events.

COMING SOON

Solving the housing problem

GLIDER FLIERS

By Ludmila Yenyutina

Photographs by Sergei Lidov

A GLIDER is a wide-winged, clumsy-looking arrangement. It has neither engines nor complicated instruments. Everything about it is extremely plain and simple. But the services of this craft to modern aviation and space flying are inestimable.

It was with gliders that Sergei Korolyov, the designer of the world's first spaceship, started out on his journey to the skies. The glider he fitted out with a rocket engine for the first time in history was the prototype of the modern rocket aircraft.

The generation of daring pilots who defended the country against Goering's air pirates started their training with gliding. Gliders were the first creations of such famous jet plane designers as Andrei Tupolev, Sergei Ilyushin and Alexander Yakovlev. They began their work when the Soviet aviation industry was in its early stages, and there were very few planes, gliders included. But even then Soviet glider pilots broke records. At the first USSR gliding contest in the Crimea in 1923, glider flier Genrikh Yungmeister set a world record in flight duration. Sometime later pilot Vasili Stepanchonok, flying a glider designed by Sergei Korolyov, performed three successive loops for the first time anywhere.

Hundreds of thousands of people of every age and profession go in for gliding in the Soviet Union. What is the compelling attraction? Evidently man's eternal longing for the skies and for the joy of free flight. They say that once you rise to the sky aboard a glider, you have the gliding fever for life.

But gliding makes tough demands on sportsmen. It calls for discipline, courage, self-possession and an unerring sense of direction.

"To fly a glider," wrote Hero of the Soviet Union Sergei Anokhin, Honored Test Pilot, "is, in fact, to fly a plane with its engine stopped. Gliding is the most complex and, consequently, the hardest of aviation sports."

There is no arguing that statement. A plane pilot relies on the lifting force of the engines, but a glider flier can count only on his skill and sense of direction. For climbing, glider fliers make use of ascending air currents that result from the uneven heating of the Earth's surface or form above mountain slopes. The endless streams of these air currents, the frequent spirals and the unexpected ups and downs do not permit a glider to relax for a moment. To soar up into the sky, he has to be expert in the operation of his craft, the geography of the locality over which he is flying and its meteorological peculiarities. Finally, he must comprehend the complex interweaving of the air currents that lift him.

Anyone past 18 may become a glider pilot in the Soviet Union. The best physical condition is a must, of course, and that requires confirmation by a special medical commission. Thorough training is provided in a flying club.

All the Soviet republics have flying clubs, in most big cities and in almost every region. Everybody starts with theoretical training down on the ground. Under the direction of gliding instructors the trainee learns step-by-step procedure before and after a flight, the specifics of a towed flight and free gliding and how to make landing calculations. The ground training completed, the candidate must pass tests in the basic subjects —the theory and technique of flight, meteorology and navigation. Only those who make good or excellent test marks are allowed to fly. This is a rule most strictly observed.

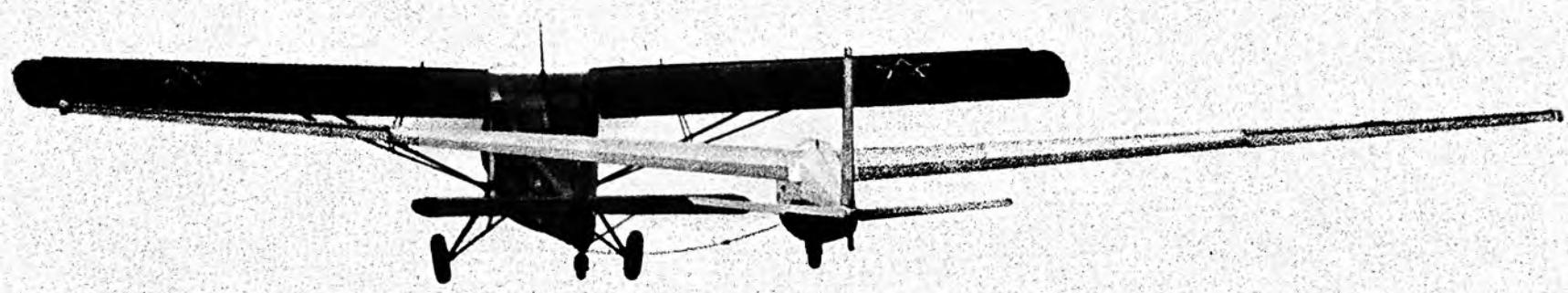
Flying technique is mastered gradually. In the first year potential pilots learn circular flight which is set in motion by a winch. In the next year come the intricacies of towed flight. Only after that is there independent soaring in the skies.

Instruction and the use of club equipment are free. The initiation fee is 15 kopecks, and membership dues are a modest 30 kopecks a year.

Soviet fliers today follow a tradition set by the country's gliding veterans. The USSR now holds eight world records registered by the International Aeronautical Federation.



The Central Glider Sports Club in Moscow.







A flight isn't a stroll in the park, after all. A good laugh to loosen up after it's over. Far left: Club director Victor Dzuba is a former military pilot.

?







SPASSKY and FISCHER

UNQUESTIONABLY 1971 will go down in chess history as Robert Fischer's year. This was the first time an American won the right to vie directly for the world chess crown—the victory in the challengers meet gave him a green light for the duel with reigning champion Boris Spassky.

The coming encounter between Spassky and Fischer has stirred worldwide interest, and we see chess growing in popularity in a number of countries besides the Soviet Union and the United States. Immediately after the challengers final match, Dr. Max Euwe, President of the International Chess Federation, said at a press conference in Buenos Aires that more than 20 countries had made official bids for the Spassky-Fischer duel.

It goes without saying that the world champion has been following the performance of his rival with keen interest. Even before the challengers meet started, Spassky predicted that Fischer would meet Petrosyan in the finals.

"I feel Tigran Petrosyan doesn't cede a thing to his rival in his understanding of chess, but I still see Fischer as the favorite," Spassky said at the time. The American grandmaster's youth and energy, he pointed out, gave him the advantage.

What does Spassky think of Fischer's spectacular victories? What impression did the American's 1971 matches make on him?

Many chess observers have noted that Spassky does not give interviews on this subject. This is quite understandable, because if he did, he would have to spend more time fighting off journalists than preparing strategy and tactics for the coming encounter. He has been so busy getting ready to defend his world title, he has even had to discontinue, temporarily, writing chess articles for SOVIET LIFE.

"The result of Robert Fischer's match with Bent Larsen wasn't what I expected," the champion said. "It's true that before it started, I preferred Fischer. I feel he's the stronger of the two in assessing a position. But I did think that Larsen held certain trumps. Knowing his fighting disposition, I expected him to put up a real battle against Fischer. Even after the score was 4:0 in Denver, I had no doubts that Larsen would muster enough strength to stop Fischer's string of victories. This did not happen—the last two games ended the same way as the preceding four."

A careful examination of the games in that match showed Spassky that Larsen had lost the encounter without putting up a real fight.

"It seems to me that his old trouble—the inability to defend himself—had a more telling effect in Denver than ever before," the world champion explained. "As soon as Larsen's King was threatened, his play became feeble. I can imagine how Victor Korchnoi, for instance, would have defended himself in Larsen's position in the first game of the match. Another reason for the Danish chess player's failure is that his opening preparations weren't up to the mark. Of course, all this doesn't take any credit away from Robert Fischer, who conducted the entire battle in excellent style. He played like an electronic computer, not letting his rival get

away with even the smallest oversight."

Fischer's match with Tigran Petrosyan was more interesting, according to the world champion. In the initial matches of the challengers meet Fischer was faced by opponents who were more impulsive, more inclined to overrate their chances. In Buenos Aires he met for the first time a chess player capable of waging the battle evenly and resourcefully from beginning to end. Petrosyan's rare ability to keep his partner at a favorable distance represented a serious threat to Fischer. When the semifinals were held in Moscow in 1971, it was no accident that even such an uncompromising fighter as Victor Korchnoi could not force his method of play on Petrosyan.

"The start of the meet in Buenos Aires was in Petrosyan's favor," Spassky said. "After the third game the initiative was unquestionably on his side. The whole chess world was impressed by the second game of the match, which Petrosyan won with a spectacular offensive. As Fischer's first defeat in the challengers matches, it could have had unpleasant consequences for him. I'm still convinced that after the second game Petrosyan did not make the most of his favorable situation."

Spassky believes that after a successful start, the former world champion made the mistake of tempering his aggressive approach. Overcautious in the fourth and fifth games, he let Fischer recover his composure. At the same time, he preserved the equilibrium in the score.

"The sixth game showed the situation was changing," Spassky went on. "Winning this important game, Fischer completely mastered the lack of confidence he had shown after a difficult start. Another dangerous symptom was Petrosyan's time trouble. No wonder the second half was in sharp contrast to the first. Petrosyan suffered a major setback in the sixth game, and after that he couldn't control his opponent's fiery attack."

According to Spassky, Fischer played the second half of the match brilliantly. The last four games left an indelible impression —all the strongest aspects of the American grandmaster's talent revealed themselves in the homestretch.

"In the first half of the Buenos Aires match Petrosyan was in the picture while Fischer was not," Spassky said, "but in the final part the opponents changed roles. After the sixth game Fischer was obviously ahead. Of course, time trouble affected Petrosyan's play, but I see the main reason for his failure somewhere else—he was not tuned up for a tough battle. I have played six matches in the challengers meets during my chess career, and experience tells me that you only win when you put up a struggle to the very end."

Quite naturally, the world champion did not talk much about his coming match with Robert Fischer. "I think it will be interesting," he remarked, adding that the very thought of meeting a player as superb as Fischer was enough to put one in a fighting mood. I got the impression that Spassky was determined to stop his rival's triumphant advance. Evidently the American grandmaster's spectacular achievements have had no noticeable psychological effect on the champion. His own five encounters with Fischer have been quite successful—he won three and drew the other two. Since it wouldn't have been tactful to push this subject during the interview, I posed a different question.

Which game played by Fischer in 1971 had impressed Spassky the most?

"For the general chess public the most interesting, I think, was Fischer's first game against Larsen," the world champion replied. "It had everything—a sharp opening, attack and counterattack, and mutual sacrifices. However, Fischer's seventh game against Petrosyan is more to my taste. I consider it more characteristic of the American grandmaster's style."

Boris Spassky showed this game to Soviet chess devotees on television, with brief annotations. I asked the world champion to go into greater detail for SOVIET LIFE readers.

SICILIAN DEFENSE
Buenos Aires, 1971,
Seventh Game
Annotations by Boris Spassky

Fischer—White Petrosyan—Black

1. P-K4 . . .

A traditional move for Robert Fischer—he starts all his games with the K-Pawn.

1. . . . P-QB4

Petrosyan's choice in the opening clearly shows that he intended to fight a real battle. After his failure in the sixth game, the Soviet grandmaster evidently did not consider the outcome of the match a foregone conclusion and was eager to close the gap in the score.

2. N-KB3 P-K3
3. P-Q4 PxP
4. NxP P-QR3

In the first game of the match Petrosyan also picked the Sicilian Defense, but instead of 4. . . . P-QR3 he played 4. . . . N-QB3. Chess fans know that after 5. N-N5, P-Q3; 6. B-KB4, P-K4; 7. B-K3, N-B3; 8. B-N5, B-K3; 9. N(1)-B3, P-QR3; 10. BxN, PxB; 11. N-R3, Black struck the sudden counterblow 11. . . . P-Q4, which gave him an excellent chance. Nevertheless, Black lost the game. Probably this fact played a part in Petrosyan's decision not to continue the opening argument. Possibly he feared a surprise reply.

5. B-Q3 . . .

That is exactly the way I played in the first and seventeenth games of the 1969 match with Petrosyan.

5. . . . N-QB3
6. NxN NPxN
7. O-O P-Q4
8. P-QB4 . . .

I preferred here in my games with Petrosyan 8. N-Q2, with the intention of continuing P-QN3 and B-N2. Fischer worked out a different play that is met with only rarely in tournament practice. Usually 8. P-QB4 is not seen as posing any serious problem to Black. Fischer, however, has discovered an interesting method of reinforcement that sharply changes the assessment of this variation.

8. . . . N-B3
9. BPxP BPxP
10. PxP PxP

I do not agree with the commentators who criticized Petrosyan for this move. I think it was the wisest choice. Of course, the Pawn could have been taken by the Knight, but after 11. B-K4 White has a rich choice of active continuations. The capture of the Pawn with the Queen (10. . . . QxP) also holds no special prospects for Black in view of the simple but strong reply 11. N-B3.

11. N-B3! . . .

I have been told that White pondered over this move 20 minutes. Nonetheless, it seems to me that he charted the further plan of play not over the board but at home. Many people are inclined to consider the spectacular maneuver 11. N-B3 and 12. Q-R4ch as a novelty especially prepared by the American grandmaster for his encounter with Petrosyan. Actually, this is Fischer's first opening surprise in the match. Formerly the usual line of play was 11. B-K3, B-K2; 12. B-Q4, O-O, which permitted Black to preserve the equilibrium.

11. . . . B-K2
12. Q-R4ch! . . .

A very interesting move! Petrosyan could have interposed the Bishop, but evidently he was apprehensive about the variation 13. Q-B2, O-O; 14. B-KN5. The other possible continuation, 13. Q-Q4, is also unpleasant for Black. It is clear that all this requires considerable analysis, but there is no doubt that White's position is preferable.

12. . . . Q-Q2

Petrosyan offers his opponent the sacrifice of the exchange, but Fischer rejects this Greek gift. It is easy to see that 13. B-QN5, PxB; 14. QxR, O-O would give Black the chance for formidable counterplay.

13. R-K1! . . .

This calm continuation packs a sufficient wallop so that Black is now compelled to exchange Queens and go over to a difficult defense.

13. . . . QxQ
14. NxQ B-K3
15. B-K3 . . .

White's positional superiority is becoming steadily more evident. He has an edge in Pawns on the Q-side, exercises control over the Q4 and QB5 points, and is capable of getting hold of the QB-file. I would even say that from the strategic aspect the outcome of the game is settled. The more so since Black's QR-Pawn is hopelessly feeble, while the King is still in the center.

15. . . . O-O

Black is forced to postpone his plans while castling, since it would be too risky to leave the King in the center in the middle of the game.

16. B-QB5 . . .

The American grandmaster is consistently implementing his idea, planning the exchange of Black's most important piece—the Bishop on K2. (See diagram.)

White: K.KN1; R.QR1 and K1; B.QB5 and Q3; N.QR4; Pawns: QR2, QN2, KB2, KN2, KR2 (11). Black: K.KN1; R.QR1 and KB1; B.K2 and K3; N.KB3; Pawns: QR3, Q4, KB2, KN2, KR2 (11).

16. . . . KR-K1
17 BxB RxB
18. P-QN4! . . .

Fixing Black's QR-Pawn in place and preparing for N-B5, Black has no active plan and is compelled to wait meekly for the situation to develop.

18. . . . K-B1
19. N-B5 B-B1
20. P-B3 . . .

White is in no hurry to rush things, preferring to strengthen his position gradually. Now he is opening the road to Q4 for his King.

20. . . . R(K)-R2

Were Petrosyan to exchange Rooks, his pieces would be pinned down by the defense of the QR-Pawn.

21. R-K5 B-Q2
22. NxBch . . .

Quite characteristic of Fischer. In exchanging his powerful Knight for the Bishop, the American grandmaster calculated unerringly that this was the clearest and most economical road to victory. Now all the files are at White's disposal, while no satisfactory defense against the threat of K-B2-K3-Q4 can be seen.

22. . . . RxN
23. R-QB1 R-Q3

There threatened 24. R-B6, R(Q)-R2; 25. P-N4, P-R3; 26. P-KR4.

24. R-B7 N-Q2
25. R-K2 P-N3

Black does not start this Pawn demonstration on the K-side for the pleasure of it. If, for instance, 25. . . . P-QR4, then 26. P-N5, while 25. . . . N-N3 permits White to get another Rook on the seventh rank.

26. K-B2 P-KR4
27. P-B4 P-R5
28. K-B3 P-B4
29. K-K3 P-Q5ch

Otherwise White's King will occupy the important Q4 point.

30. K-Q2 N-N3
31. R(K)-K7 N-Q4
32. R-B7ch K-K1
33. R-QN7 NxNP
34. B-B4 Resigns

Because on 34. . . . N-B3 there follows 35. R-N7, R-B3; 36. R-KN 8ch, R-B1; 37. B-7ch with inevitable mate.



Subway station in Tbilisi, Georgia
Photograph by Alexander Saakov

AUG 10 1972

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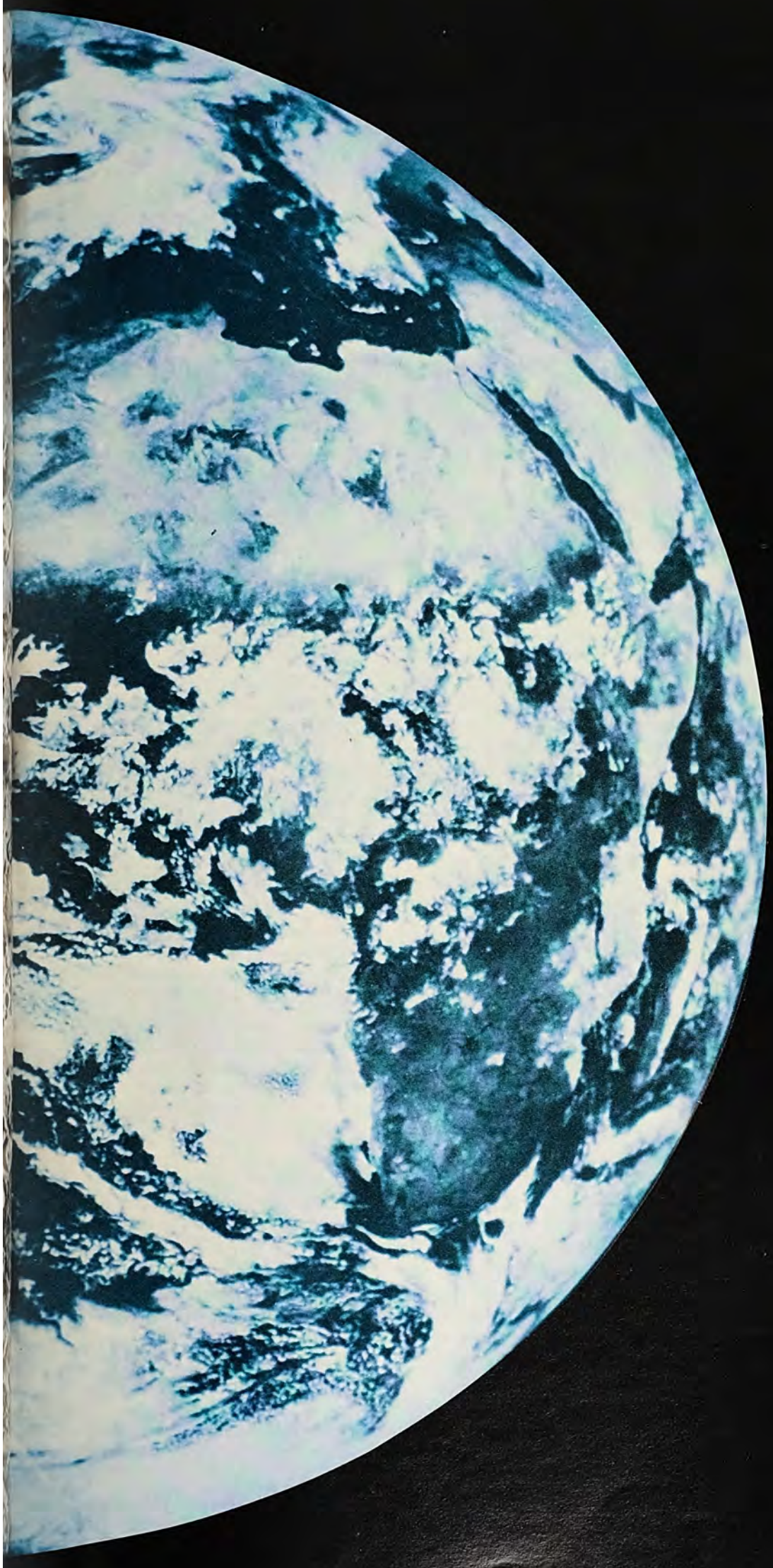

"What a beautiful sight," exclaimed Yuri Gagarin, the world's first astronaut, when he saw the richly colored Earth with its light blue halo. Will our planet turn to desert, will it look like a dead moonscape, or will it remain man's green and fertile home? That is the problem of our century.

PROTECTING OUR PLANET

Academician Vladimir Vernadsky, a well-known Soviet biologist, wrote: "The life of millions of species of animals, and mankind as well, depends on the biochemistry of plants, that is, on the ability to turn solar energy into chemical energy." We must evolve a program for the protection of this natural heritage.

See pages 15-37.

JULY 1972, No. 7 (190)

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LETTERS TO THE EDITOR

Dear Mr. Makarov,

Your article in the March 1972 issue of SOVIET LIFE "Duke Ellington in the Soviet Union," written by Maya Gordeyeva, was a source of reassurance for me. It was with a great deal of anticipation that I read it because for the past six months I have been making plans to have my choir here at the high school tour the Soviet Union in February 1973. The students have been very busy of late, raising funds for the tour, reading and gathering information about the Soviet Union.

We are, like many American citizens, a little bit in the dark about the Soviet people, Soviet audiences and the Soviet way of life in general. I have encouraged the choir members to subscribe to SOVIET LIFE, hoping that it will give them some insight into what to expect. The Ellington article was exactly what I was looking for.

Our concert tour next year will take us to Moscow, Leningrad and Kiev for a 10-day period, not a very long stay for such a vast country but maybe long enough to build a small bridge between the young people of both nations. There is so much that we don't know about each other and so many misconceptions that could be dispelled.

Please don't mistake my intentions here. I make no attempt to put us in the same category or on the same level as the great Duke Ellington, but the remarks of the members of the Ellington party did much to "warm up" our ideas about the "distant, cold, hostile" climate we're planning to visit.

Many thanks: The timing of the article was excellent for us.

Sincerely,
Paul M. Mancini, Director
Cranston High School East
A Cappella Choir
Cranston, Rhode Island

I wanted to thank you for the splendid March issue. I hope you will report further on the implementation of active solutions to pollution in water and air. As you know, so many special interests interfere in achieving and fulfilling any end result truly fruitful for mankind or environment. It is hoped that your tools are productive.

Possibly an article on the cleaning up of the Caspian Sea, which I've been told equals our own sad Lake Erie, would serve a good purpose.

Sincerely,
Peter Fortune
Everett, Washington

Basic Principles of Relations Between the Union of Soviet Socialist Republics and the United States of America

The Union of Soviet Socialist Republics and the United States of America,

Guided by their obligations under the Charter of the United Nations and by a desire to strengthen peaceful relations with each other and to place these relations on the firmest possible basis,

Aware of the need to make every effort to remove the threat of war and to create conditions which promote the reduction of tensions in the world and the strengthening of universal security and international cooperation,

Believing that the improvement of Soviet-US relations and their mutually advantageous development in such areas as economics, science and culture, will meet these objectives and contribute to better mutual understanding and business-like cooperation, without in any way prejudicing the interests of third countries,

Conscious that these objectives reflect the interests of the peoples of both countries,

Have agreed as follows:

First. They will proceed from the common determination that in the nuclear age there is no alternative to conducting their mutual relations on the basis of peaceful coexistence. Differences in ideology and in the social systems of the USSR and the USA are not obstacles to the bilateral development of normal relations based on the principles of sovereignty, equality, noninterference in internal affairs and mutual advantage.

Second. The USSR and the USA attach major importance to preventing the development of situations capable of causing a dangerous exacerbation of their relations. Therefore, they will do their utmost to avoid military confrontations and to prevent the outbreak of nuclear war. They will always exercise restraint in their mutual relations, and will be prepared to negotiate and settle differences by peaceful means. Discussions and negotiations on outstanding issues will be conducted in a spirit of reciprocity, mutual accommodation and mutual benefit.

Both sides recognize that efforts to obtain unilateral advantage at the expense of the other, directly or indirectly, are inconsistent with these objectives. The prerequisites for maintaining and strengthening peaceful relations between the USSR and the USA are the recognition of the security interests of the Parties based on the principle of equality and the renunciation of the use or threat of force.

Third. The USSR and the USA have a special responsibility, as do other countries which are permanent members of the United Nations Security Council, to do everything in their power so that conflicts or situations will not arise which would serve to increase international tensions. Accordingly, they will seek to promote conditions in which all countries will live in peace and security and will not be subject to outside interference in their internal affairs.

Fourth. The USSR and the USA intend to widen the juridical basis of their mutual relations and to exert the necessary efforts so that bilateral agreements which they have concluded and multilateral treaties and agreements to which they are jointly parties are faithfully implemented.

Fifth. The USSR and the USA reaffirm their readiness to continue the practice of exchanging views on problems of mutual interest and, when necessary, to conduct such exchanges at the highest level, including meetings between leaders of the two countries.

The two governments welcome and will facilitate an increase in productive contacts between representatives of the legislative bodies of the two countries.

Sixth. The Parties will continue their efforts to limit armaments on a bilateral as well as on a multilateral basis. They will continue to make special efforts to limit strategic armaments. Whenever possible, they will conclude concrete agreements aimed at achieving these purposes.

The USSR and the USA regard as the ultimate objective of their efforts the achievement of general and complete disarmament and the establishment of an effective system of international security in accordance with the purposes and principles of the United Nations.

Seventh. The USSR and the USA regard commercial and economic ties as an important and necessary element in the strengthening of their bilateral relations and thus will actively promote the growth of such ties. They will facilitate cooperation between the relevant organizations and enterprises of the two countries and the conclusion of appropriate agreements and contracts, including long-term ones.

The two countries will contribute to the improvement of maritime and air communications between them.

Eighth. The two sides consider it timely and useful to develop mutual contacts and cooperation in the fields of science and technology. Where suitable, the USSR and the USA will conclude appropriate agreements dealing with concrete cooperation in these fields.

Ninth. The two sides reaffirm their intention to deepen cultural ties with one another and to encourage fuller familiarization with each other's cultural values. They will promote improved conditions for cultural exchanges and tourism.

Tenth. The USSR and the USA will seek to ensure that their ties and cooperation in all the above-mentioned fields and in any others in their mutual interest are built on a firm and long-term basis. To give a permanent character to these efforts, they will establish in all fields where this is feasible joint commissions or other joint bodies.

Eleventh. The USSR and the USA make no claim for themselves and would not recognize the claims of anyone else to any special rights or advantages in world affairs. They recognize the sovereign equality of all states.

The development of Soviet-US relations is not directed against third countries and their interests.

Twelfth. The basic principles set forth in this document do not affect any obligations with respect to other countries earlier assumed by the USSR and the USA.

Moscow, May 29, 1972

For the Union of Soviet Socialist Republics:

LEONID I. BREZHNEV
General Secretary of the Central Committee, CPSU

For the United States of America:

RICHARD NIXON
President of the United States of America

Signing the Treaty on the Limitation of Anti-Ballistic Missile Systems and the Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms on May 26, 1972. For the USSR: Leonid Brezhnev, General Secretary of the CPSU Central Committee. For the USA: Richard Nixon, President of the United States of America.





JOINT SOVIET

By mutual agreement between the Union of Soviet Socialist Republics and the United States of America, the President of the United States and Mrs. Richard Nixon paid an official visit to the Soviet Union from May 22 to May 30, 1972. The President was accompanied by Secretary of State William P. Rogers, Assistant to the President Dr. Henry A. Kissinger, and other American officials.

During his stay in the USSR President Nixon visited, in addition to Moscow, the cities of Leningrad and Kiev.

L. I. Brezhnev, General Secretary of the Central Committee of the Communist Party of the Soviet Union; N. V. Podgorny, President of the Presidium of the Supreme Soviet of the USSR; and A. N. Kosygin, Chairman of the Council of Ministers of the USSR, and US President Nixon conducted talks on fundamental problems of Soviet-American relations and the current international situation.

Also taking part in the conversations were:

On the Soviet Side: A. A. Gromyko, Minister of Foreign Affairs of the USSR; N. S. Patolichev, Minister of Foreign Trade of the USSR; V. V. Kuznetsov, Deputy Minister of Foreign Affairs of the USSR; A. F. Dobrynin, Soviet Ambassador to the USA, A. M. Alexandrov, Assistant to the General Secretary of the Central Committee of the CPSU; G. M. Korniyenko, member of the Collegium of the Ministry of Foreign Affairs of the USSR.

On the American Side: William P. Rogers, US Secretary of State; Jacob D. Beam, American Ambassador to the USSR; Dr. Henry A. Kissinger, Assistant to the President for National Security Affairs; Peter M. Flanigan, Assistant to the President, and Martin J. Hillenbrand, Assistant Secretary of State.

The discussions covered a wide range of questions of mutual interest and were frank and thorough. They defined more precisely those areas where there are prospects for developing greater cooperation between the two countries, as well as those areas where the positions of the two Sides are different.

1. BILATERAL RELATIONS

Guided by the desire to place Soviet-US relations on a more stable and constructive foundation, and mindful of their responsibilities for maintaining world peace and for facilitating the relaxation of international tension, the two Sides adopted a document entitled: "Basic Principles of Relations between the Union of Soviet Socialist Republics and the United States of America," signed on behalf of the Soviet Union by L. I. Brezhnev, and on behalf of the US by President Nixon.

Both Sides are convinced that the provisions of that document open new possibilities for the development of peaceful relations and mutually beneficial cooperation between the USSR and the USA.

Having considered various areas of bilateral Soviet-US relations, the two Sides agreed that an improvement of relations is possible and desirable. They expressed their firm intention to act in accordance with the provisions set forth in the above-mentioned document.

As a result of progress made in negotiations which preceded the summit meeting and in the course of the meeting itself, a number of significant agreements were reached. This will intensify bilateral cooperation in areas of common concern as well as in areas relevant to the cause of peace and international cooperation.

Limitation of Strategic Armaments

The two Sides gave primary attention to the problem of reducing the danger of nuclear war. They believe that curbing the competition in strategic arms will make a significant and tangible contribution to this cause.

The two Sides attach great importance to the Treaty on the Limitation of Anti-Ballistic Missile Systems and the Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms concluded between them.

These agreements, which were concluded as a result of the negotiations in Moscow, constitute a major step toward curbing and ultimately ending the arms race.

They are a concrete expression of the intention of the two Sides to contribute to the relaxation of international tension and the strengthening of confidence between states, as well as to carry out the obligations assumed by them in the Treaty on the Nonproliferation of Nuclear Weapons (Article 6). Both Sides are convinced that the achievement of the above agreements is a practical step toward saving mankind from the threat of the outbreak of nuclear war. Accordingly, it corresponds to the vital interests of the Soviet and American peoples as well as to the vital interests of all other peoples.

The two Sides intend to continue active negotiations for the limitation of strategic offensive arms and to conduct them in a spirit of goodwill, respect for each other's legitimate interests and observance of the principle of equal security.

Both Sides are also convinced that the Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War Between the USSR and the USA, signed in Washington on September 30, 1971, serves the interests not only of the Soviet and American peoples, but of all mankind.

Commercial and Economic Relations

Both Sides agreed on measures designed to establish more favorable conditions for developing commercial and other economic ties between the USSR and the USA. The two Sides agreed that realistic conditions exist for increasing economic ties. These ties should develop on the basis of mutual benefit and in accordance with generally accepted international practice.

Believing that these aims would be served by conclusion of a trade agreement between the USSR and the USA, the two Sides decided to complete in the near future the work necessary to conclude such an agreement. They agreed on the desirability of credit arrangements to develop mutual trade and of early efforts to resolve other financial and economic issues. It was agreed that a lend-lease settlement will be negotiated concurrently with a trade agreement.

In the interests of broadening and facilitating commercial ties between the two countries, and to work out specific arrangements, the two Sides decided to create a Soviet-US Joint Commercial Commission. Its first meeting will be held in Moscow in the summer of 1972.

Each Side will help promote the establishment of effective working arrangements between organizations and firms of both countries and encouraging the conclusion of long-term contracts.

Maritime Matters. Incidents at Sea

The two Sides agreed to continue the negotiations aimed at reaching an agreement on maritime and related matters. They believe that such an agreement would mark a positive step in facilitating the expansion of trade between the Soviet Union and the United States.

An agreement was concluded between the two Sides on measures to prevent incidents at sea and in airspace over it between vessels and aircraft of the Soviet and US navies. By providing agreed procedures for ships and aircraft of the two navies operating in close proximity, this agreement will diminish the chances of dangerous accidents.

Cooperation in Science and Technology

It was recognized that the cooperation now underway in areas such as atomic energy research, space research, health and other fields benefits both nations and contributes positively to their over-all relations.

It was agreed that increased scientific and technical cooperation on the basis of mutual benefit and shared effort for common goals is in the interest of both nations and would contribute to a further improvement in their bilateral relations. For these purposes the two Sides signed an agreement for cooperation in the fields of science and technology. A Soviet-US Joint Commission on Scientific and Technical Cooperation will be created for identifying and establishing cooperative programs.

Cooperation in Space

Having in mind the role played by the USSR and the US in the peaceful exploration of outer space, both Sides emphasized the importance of further bilateral cooperation in this sphere. In order to increase the safety of man's flights in outer space and the future prospects of joint scientific experiments, the two Sides agreed to make suitable arrangements to permit the docking of Soviet and American spacecraft and stations. The first joint docking experiment of the two countries' piloted spacecraft, with visits by astronauts and cosmonauts to each other's spacecraft, is contemplated for 1975. The planning and implementation of this flight will be carried out by the USSR Academy of Sciences and the US National Aeronautics and Space Administration, according to principles and procedures developed through mutual consultations.

Cooperation in the Field of Health

The two Sides concluded an agreement on health cooperation which marks a fruitful beginning of sharing knowledge about, and collaborative attacks on the common enemies—disease and disability. The initial research efforts of the program will concentrate on health problems important to the whole world—cancer, heart diseases and the environmental health sciences. This cooperation subsequently will be broadened to include other health problems of mutual interest. The two Sides pledged their full support for the health cooperation program and agreed to continue the active participation of the two governments in the work of international organizations in the health field.

Environmental Cooperation

The two Sides agreed to initiate a program of cooperation in the protection and enhancement of man's environment. Through joint research and joint measures, the USSR and the United States hope to contribute to the preservation of a healthful environment in their countries and throughout the world.

US COMMUNIQUE

Under the new agreement on environmental cooperation there will be consultations in the near future in Moscow on specific cooperative projects.

Exchanges in the Fields of Science, Technology, Education and Culture

Both Sides note the importance of the agreement on exchanges and cooperation in scientific, technical, educational, cultural, and other fields in 1972-1973, signed in Moscow on April 11, 1972. Continuation and expansion of bilateral exchanges in these fields will lead to better understanding and help improve the general state of relations between the two countries.

Within the broad framework provided by this agreement the two Sides have agreed to expand the areas of cooperation, as reflected in new agreements concerning space, health, the environment and science and technology.

The US Side, noting the existence of an extensive program of English language instruction in the Soviet Union, indicated its intention to encourage Russian language programs in the United States.

2. INTERNATIONAL ISSUES

Europe

In the course of the discussions on the international situation, both Sides took note of favorable developments in the relaxation of tensions in Europe.

Recognizing the importance to world peace of developments in Europe, where both world wars originated, and mindful of the responsibilities and commitments which they share with other powers under appropriate agreements, the USSR and the USA intend to make further efforts to ensure a peaceful future for Europe, free of tensions, crises and conflicts.

They agree that the territorial integrity of all states in Europe should be respected.

Both Sides view the September 3, 1971 quadripartite agreement relating to the Western sectors of Berlin as a good example of fruitful cooperation between the states concerned, including the USSR and the USA. The two Sides believe that the implementation of that agreement in the near future, along with other steps, will further improve the European situation and contribute to the necessary trust among states.

Both Sides welcomed the Treaty between the USSR and the Federal Republic of Germany signed on August 12, 1970. They noted the significance of the provisions of this Treaty as well as of other recent agreements in contributing to confidence and cooperation among the European states.

The USSR and the USA are prepared to make appropriate contributions to the positive trends on the European continent toward a genuine detente and the development of relations of peaceful cooperation among states in Europe on the basis of the principles of territorial integrity and inviolability of frontiers, noninterference in internal affairs, sovereign equality, independence and renunciation of the use or threat of force.

The USSR and the USA are in accord that multilateral consultations looking toward a conference on security and cooperation in Europe could begin after the signature of the final quadripartite protocol of the agreement of September 3, 1971. The two governments agree that the conference should be carefully prepared in order that it may concretely consider practical problems of security and cooperation and thus contribute to the progressive overcoming of the underlying causes of tension in Europe. This conference should be convened at a time to be agreed by the countries concerned, but without undue delay.

Both Sides believe that the goal of ensuring stability and security in Europe would be served by a reciprocal reduction of armed forces and armaments, first of all in Central Europe. Any agreement on this question should not diminish the security of any of the Sides. Appropriate agreement should be reached as soon as practicable between the states concerned on the procedures for negotiations on this subject in a special forum.

The Middle East

The two Sides set out their positions on this question. They reaffirm their support for a peaceful settlement in the Middle East in accordance with Security Council resolution 242.

Noting the significance of constructive cooperation of the Parties concerned with the special representative of the UN Secretary General, Ambassador Jarring, the USSR and the USA confirm their desire to contribute to his mission's success and also declare their readiness to play their part in bringing about a peaceful settlement in the Middle East. In the view of the USA and the USSR the achievement of such settlement would open prospects for the normalization of the Middle East situation and would permit, in particular, consideration of further steps to bring about a military relaxation in that area.

Indochina

Each Side set forth its respective standpoint with regard to the continuing war in Vietnam and the situation in the area of Indochina as a whole.

The Soviet Side stressed its solidarity with the just struggle of the peoples of Vietnam, Laos and Cambodia for their freedom, independence and social progress.

Firmly supporting the proposals of the DRV and the Republic of South Vietnam, which provide a realistic and constructive basis for settling the Vietnam problem, the Soviet Union stands for a cessation of bombings of the DRV, for a complete and unconditional withdrawal of the troops of the USA and its allies from South Vietnam, so that the peoples of Indochina would have the possibility to determine for themselves their fate without any outside interference.

The US Side emphasized the need to bring an end to the military conflict as soon as possible and reaffirmed its commitment to the principle that the political future of South Vietnam should be left for the South Vietnamese people to decide for themselves, free from outside interference.

The US Side explained its view that the quickest and most effective way to attain the above-mentioned objectives is through negotiations leading to the return of all Americans held captive in the region, the implementation of an internationally supervised Indochina-wide ceasefire and the subsequent withdrawal of all American forces stationed in South Vietnam within four months, leaving the political questions to be resolved by the Indochinese peoples themselves.

The United States reiterated its willingness to enter into serious negotiations with the North Vietnamese Side to settle the war in Indochina on a basis just to all.

Disarmament Issues

The two Sides expressed their position on arms limitation and disarmament issues. The two Sides note that in recent years their joint and parallel actions have facilitated the working out and conclusion of treaties which curb the arms race or ban some of the most dangerous types of weapons.

They note further that these treaties were welcomed by a large majority of the states in the world, which became parties to them.

Both Sides regard the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction, as an essential disarmament measure. Along with Great Britain, they are the depositories for the Convention which was recently opened for signature by all states. The USSR and the USA will continue their efforts to reach an international agreement regarding chemical weapons.

The USSR and the USA, proceeding from the need to take into account the security interests of both countries on the basis of the principle of equality, and without prejudice to the security interests of third countries, will actively participate in negotiations aimed at working out new measures designed to curb and end the arms race.

The ultimate purpose is general and complete disarmament, including nuclear disarmament, under strict international control. A world disarmament conference could play a role in this process at an appropriate time.

Strengthening the United Nations

Both Sides will strive to strengthen the effectiveness of the United Nations on the basis of strict observance of the UN Charter. They regard the United Nations as an instrument for maintaining world peace and security, discouraging conflicts, and developing international cooperation. Accordingly, they will do their best to support United Nations efforts in the interests of international peace.

* * *

Both Sides emphasized that agreements and understandings reached in the negotiations in Moscow, as well as the contents and nature of these negotiations, are not in any way directed against any other country. Both Sides proceed from the recognition of the role, the responsibility and the prerogatives of other interested states, existing international obligations and agreements, and the principles and purposes of the UN Charter.

Both Sides believe that positive results were accomplished in the course of the talks at the highest level. These results indicate that despite the differences between the USSR and the USA in social systems, ideologies, and policy principles, it is possible to develop mutually advantageous cooperation between the peoples of both countries, in the interests of strengthening peace and international security.

Both Sides expressed the desire to continue close contact on a number of issues that were under discussion. They agreed that regular consultations on questions of mutual interest, including meetings at the highest level, would be useful.

In expressing his appreciation for the hospitality accorded him in the Soviet Union, US President Nixon invited General Secretary of the CPSU Central Committee L. I. Brezhnev, President of the Presidium of the USSR Supreme Soviet N. V. Podgorny, and Chairman of the USSR Council of Ministers A. N. Kosygin to visit the United States at a mutually convenient time. This invitation was accepted.

Photographs by Edward Pesov and Yuri Abramochkin

THE MOSCOW SUMMIT RESULTS



President and Mrs. Nixon arriving at Vnukovo Airport, Moscow, on May 22, 1972.



THE IMPORTANCE of the Soviet-American summit meeting, both for further development of relations between our two countries and for the maintenance and strengthening of world peace, is universally recognized.

The Soviet people see this meeting as yet another practical step toward implementation of the Soviet peace program put forward by the Twenty-fourth CPSU Congress.

For eight days in May, the world waited for reports from Moscow. Telephones, teletype machines and more than 500 accredited foreign and Soviet correspondents worked around the clock at the International Press Center, and newsmen kept asking impatiently about the next briefing.

Expectations were rewarded every time with news of another agreement signed. Of course, these agreements took a good deal of painstaking work. Their conclusion was made possible by the businesslike approach, realism and policy of complete equality—clearly stated by both sides—that prevailed during the talks and was reflected in the final joint communiqué.

The effectiveness of the conference is abundantly evident from the number of agreements that came out of it.

To explain the positive results of this top-level meeting, we must consider the changes in the international balance of forces during the past few years.

The joint document adopted in Moscow has for the first time in the history of Soviet-American relations clearly defined principles governing these relations. And the most important of them is to settle differences by peaceful means. "Basic

Above: Summit talks begin in the Kremlin on May 23. Right: Ronald Ziegler, Press Secretary to the President, answering questions at one of the daily press conferences in Moscow. Lower right: President of the United States Richard Nixon and President of the Presidium of the USSR Supreme Soviet Nikolai Podgorny at Pavlovsk Palace, near Leningrad.







A guard of honor welcomes the President of the United States of America to the Soviet Union.



Alexei Kosygin, Nikolai Podgorny, Leonid Brezhnev and Richard Nixon before the talks started.



The Grand Kremlin Palace, where the Soviet-American negotiations took place.

Principles of Relations Between the Union of Soviet Socialist Republics and the United States of America," signed by General Secretary of the CPSU Leonid Brezhnev and United States President Richard Nixon, recognizes that "in the nuclear age there is no alternative to conducting . . . mutual relations on the basis of peaceful coexistence."

This fact can mean only one thing: The idea of peaceful coexistence underlying Soviet foreign policy has received worldwide recognition and has become an obvious and significant force of world development.

Since its inception, the Soviet state has adhered to the Leninist principle of peaceful coexistence in its foreign relations. This principle continues to be implemented unswervingly. Now it has been made the basis of mutual relations between two great powers radically differing from each other not only in their social systems, but in ideology and in approaches to a number of current problems (as was revealed in the talks). Thus, the prerequisites have been created for the reduction of tensions and the improvement of international relations.

Recognizing the sovereign equality of all states, the document also proclaims that "the development of Soviet-US relations is not directed against third countries and their interests."

The Moscow meeting clearly disclosed the consistent and principled foreign policy line of the Soviet state, which has never striven and is not now striving to achieve any advantages at the expense of other countries' interests, but builds its relations with all states on the basis of equality and mutual benefit.

Even before the Moscow meeting, Leonid Brezhnev said at the fifteenth congress of Soviet trade unions: "An improvement in Soviet-US relations is possible. Moreover, it is desirable, but not of course at the expense of third countries or peoples, not to the detriment of their legitimate rights and interests."

The Soviet-American meeting in Moscow has shown that given good will and patience, desire and concern for peace, the way can be paved for solving such a great and complicated question as nuclear disarmament. There is no need to prove that all this is essential to the maintenance and strengthening of peaceful relations. Everyone knows the consistent and vigorous efforts being undertaken by the Soviet Union in this direction. The USSR made a considerable contribution to the drafting and conclusion of the Moscow



President Nixon visited the Tomb of the Unknown Soldier, just outside the Kremlin Wall in Moscow, on May 24 and placed a wreath there.

As far back as in the early years of the young Soviet state, its founder V. I. Lenin substantiated the objective need for and possibility of peaceful coexistence of countries with different social systems. Today, as before, the Soviet Union is prepared to develop and deepen relations of business cooperation and mutually beneficial ties with states having a different social system.

This fully applies to relations with the United States as well, in the sense that peaceful coexistence must not be limited to the absence of war. When we say that our policy of peaceful coexistence does not exclude the United States, these words are backed by our actual striving to improve and develop Soviet-American relations. The Soviet Union deems it possible and desirable to establish not merely good but friendly relations between the Soviet Union and the United States, certainly not at the expense of any third countries or peoples.

From the speech by Nikolai Podgorny, President of the Presidium of the USSR Supreme Soviet, at a dinner given by the Presidium of the USSR Supreme Soviet and the Soviet Government for President Richard Nixon and his wife at the Grand Kremlin Palace on May 22, 1972





Richard Nixon and Nikolai Podgorny at the monument *Mourning Motherland* in the Piskaryov Memorial Cemetery. Half a million Leningraders who died during the 900-day siege of the city in the Second World War are buried here. Right: Reception for President and Mrs. Nixon in Georgievsky Hall in the Kremlin on May 29.



treaty banning nuclear weapons tests on land, in the atmosphere and the ocean, the treaty on nonproliferation of nuclear weapons, and other agreements limiting the arms race.

The treaty between the Soviet Union and the United States on the limitation of antiballistic missile systems and the interim agreement on certain measures with respect to the limitation of strategic offensive arms are an important step toward lessening the threat of nuclear war and opening prospects for general disarmament. These agreements were made possible by the strict observance of the principle of equal security of each side and inadmissibility of any unilateral advantages.

The series of bilateral agreements signed in Moscow in the course of the Soviet-American talks has demonstrated that there are spheres in which both sides can cooperate successfully. Nikolai Podgorny, President of the Presidium of the USSR Supreme Soviet, described them at a dinner in honor of US President Richard Nixon: "The Soviet Union and the United States have crossed the frontiers of development of science and technology and possess great economic potentials and rich natural resources. Our peoples have made a sizable contribution to the treasure house of world culture. All this is a solid mate-

Soviet People Comment

Newspapers and the radio and TV networks in our country received many letters from Soviet people about President Nixon's visit. Here are excerpts from some of the ones published in the Moscow newspapers* Pravda, Izvestia, Trud, Sotsialisticheskaya Industriya, Sovetskaya Kultura *and others.

The workers of our plant attentively followed the Soviet-American negotiations in Moscow. We feel sure they will contribute to easing international tension and strengthening peace. I am saving the copy of the newspaper in which the treaty was published. This document is an important step on the road to restricting armaments. I am convinced that it meets the interests of everyone who prizes peace.

VLADIMIR FILIPPOV
Assembler, Arsenal plant,
Hero of Socialist Labor,
Kiev, Ukrainian Republic

* * *

These May days will become a glorious page in the history of relations between the Soviet and American peoples. At the negotiation table the two great powers reached agreements on many outstanding issues of interstate relations. The entire staff of our plant, which numbers many thousands, approves these historic documents.

IVAN TELEZHNIKOV
Design Engineer, Urals
Machine-Tool Plant (Uralmash),
Sverdlovsk, Russian Federation

* * *

The farmers of the Latvian countryside are glad that the Soviet-American negotiations were successful despite the difference in the social systems of our country and the USA. This is another proof of the great force of the Leninist principles in our country's foreign policy, principles of peaceful coexistence and mutually advantageous cooperation.

EDGAR KAULINSH
Chairman,
Lachplesis Collective Farm,
Latvian Republic

* * *

Like all the other Soviet people, we medical workers consider the results of the Soviet-American talks in



How effectively the agreements and understandings reached are translated into life and serve peace will, of course, be of great importance. Any agreement, any treaty leaves a trace on history only when its proclaimed principles and intentions become the content of the practical activities of states. So, may the agreements we have reached be just such agreements.

We would like to express our deep respect for the great people of the United States of America with whom the Soviet people want to live in cooperation and peace. We ask President Nixon, upon returning home, to convey to them that this is our sincere and earnest desire.

From the speech by Alexei Kosygin, Chairman of the USSR Council of Ministers, at a dinner given by President Richard Nixon and his wife for the Presidium of the USSR Supreme Soviet and the Soviet Government at the US Embassy in Moscow on May 26, 1972

rial foundation which, with mutual consent, can help us establish Soviet-American cooperation in the most diverse areas and initiate large-scale projects worthy of the place occupied by the Soviet Union and the United States in the modern world."

The wide potential of these agreements is obvious. Cooperation in, for instance, medicine and public health can result in the rapid development of treatments for cancer, cardiovascular disorders, and other grave diseases throughout the world. Measures for the protection of the human environment to be worked out as a result of the implementation of the agreement in this field will help improve the entire biosphere. The agreement on exploration of outer space and use of the cosmos for peaceful purposes will pave the way for joint projects involving studies of near-Earth space; under this agreement a Soviet and an American spaceship will be docked in 1975. Joint efforts can ease the solution of complicated astronautical problems. This may well mark the beginning of extensive international cooperation in space research.

Also of considerable significance are the agreements on cooperation in science and technology, on prevention of incidents between warships on the high seas and between military aircraft of our two countries.

An important role will be played by the understanding on establishment of a Soviet-American trade commission, which is to prepare a trade agreement. Our country has always been deeply conscious that development of mutually advantageous economic ties leads to broader contacts and improved understanding, thus promoting the cause of world peace.

The wide range of questions discussed at the Soviet-American summit meeting and the agreements signed as a result of the talks have raised hopes throughout the world for improving the international climate. Now the job is to turn these agreements into practical activity on the part of each state.

Obviously, how the Moscow conference is recorded in history depends now on how well everything agreed to by the leaders of our two countries is carried out.





Top:
Nikolai Podgorny
with President Nixon
at Vnukovo Airport.
Above:
The President
of the United States
on TV. Millions
of Soviet people
were listening
to the speech.

Moscow very significant. The treaty and the interim agreement will help prevent thermonuclear war. These acts are in the vital interests not only of the two nations but also of world security.

VICTOR SMIRNOV
Head Physician,
Polyclinic No. 6,
Novosibirsk, Siberia

These negotiations are a significant step toward the settlement of acute international problems and cooperation among all peoples. For Soviet art workers the past talks and the prospects they open are an inexhaustible source of joyous and optimistic thoughts.

MUKASH ABDRAYEV
President of the Union of
Composers of Kirghizia,
Frunze, Kirghiz Republic

* * *

I have been at my plant for a quarter of a century, working shoulder to shoulder with veterans and also young workers. I always try to let new workers in on the "secrets of the trade." For a man to be able to create and devote himself wholly to constructive efforts, he needs a tranquil and peaceful life. That is why I am so happy about the results of the talks.

SHALVA PIRTSKHALAVA
Assembler, Tbilisi Machine-
Tool Plant, Georgian Republic

* * *

The negotiations prove that the most complicated problems can be solved peacefully.

ANNA TURSUNOVA
Weaver, Tashkent Textile Mill,
Uzbek Republic

* * *

People in Azerbaijan treasure the sun. And small wonder—we have cloudless skies 300 days a year. But our people love and value even more the peace which the Azerbaijanian people have found in the great fraternal family of Soviet peoples. That is why all working people of our republic unanimously approve the efforts of the CPSU and its Central Committee aimed at solving one of the cardinal tasks of our time—the prevention of a thermonuclear war.

SUREN NAGIYEV
Oil Driller,
Baku, Azerbaijan Republic

* * *

We heartily support the results of the Soviet-American talks. The agreements signed are a good basis for improving relations between the two countries.

NIKOLAI SHESTOPALOV
Machinist,
Leninist Komsomol Auto Plant,
Moscow, Russian Federation

A Program for the First Lady

BESIDES attending official ceremonies with the President of the United States in Moscow, Leningrad and Kiev, Patricia Nixon visited a number of places in Moscow which she asked to have included in her own program.

On Tuesday, May 23, the day after Mrs. Nixon's arrival in the capital, she went to a secondary school and inspected the Metro. In the three days that followed, Mrs. Nixon was shown around Moscow University on Lenin Hills, the GUM department store in Red Square, the Bolshoi Theater School of Choreography, USSR Fashion House and Moscow Watch Factory No. 2. On May 28, after returning from Leningrad, she made a tour of the Moscow Kremlin museums. She was welcomed cordially everywhere.

At the secondary school, where a number of subjects are taught in English, Mrs. Nixon sat in on a lesson and chatted with the teachers and pupils. Having been a teacher herself, the First Lady was interested in every aspect of school life. She watched a dance program at the ballet school and bought several warm ladies' kerchiefs at GUM.

At the watch factory, Mrs. Nixon was served tea after going through the assembly departments. She was also given two souvenirs—a miniature samovar and a tiny balalaika—each set with a watch. The distinguished visitor said that whenever she looked at these watches back home, she would always remember her visit to the Moscow factory.

During her guided tour of the Kremlin museums, Mrs. Nixon went through the Armory, which houses a collection of unique historical treasures of Russia, and inspected the USSR Diamond Fund, a repository of articles crafted of precious stones and gold, gold nuggets and other priceless treasures. In the old Annunciation and Archangel cathedrals, she was shown rare icons, including those by the famous Russian masters Theophanes the Greek and Andrei Rublyov. Mrs. Nixon later visited the Kremlin Palace of Congresses, whose main hall seats 6,000.

Mrs. Nixon told reporters that she saw many interesting things during her stay in the Soviet Union but that she was particularly impressed by the Kremlin. She said visiting the Kremlin had been a real pleasure for her and that she was glad the beautiful collection could be seen and enjoyed by so many people.

Victoria Brezhneva, Galina Polyanskaya, Yanina Mazurova, Lydia Gromyko, Irina Dobrynina and Mrs. Jacob Beam, wife of the U.S. Ambassador to the USSR, accompanied Mrs. Nixon on her sightseeing tours.



The Nixons near St. Sofia Cathedral in Kiev, capital of the Ukrainian Republic. Below: Mrs. Nixon at GUM, a huge department store in Moscow. Below left: The First Lady with Ivan Petrovsky, Rector of Moscow State University.











At School No. 42 where some subjects are taught in English. Right: With the students at the Bolshoi Ballet School in Moscow. Upper right: A fashion show at the USSR Fashion House in Moscow. Victoria Brezhneva is on Mrs. Nixon's left. Lower right: Patricia Nixon, Victoria Brezhneva and Lydia Gromyko at a watch factory in Moscow.



Because we are both prepared to proceed on the basis of equality and mutual respect, we meet at a moment when we can make peaceful cooperation a reality. To make the most of this opportunity, we should recognize that while many of our differences are fundamental and profound, we have a powerful common interest in peace and security.

We should recognize that great nuclear powers have a solemn responsibility to exercise restraint in any crisis, and to take positive action to avert direct confrontation.

From the speech by Richard Nixon, President of the United States, at a dinner given by the Presidium of the USSR Supreme Soviet and the Soviet Government at the Grand Kremlin Palace, May 22, 1972



Farewell to the Soviet Union. Leaving the country from Kiev, the Nixons board their plane for Teheran.

EDITOR'S NOTES

GROUNDS FOR HOPE

THE PROTECTION OF NATURE and its resources has become a global problem. In the past 20 years more than 400 international congresses, conferences and symposiums have met to discuss various aspects of environmental protection. At its General Assembly sessions the United Nations considered the problem on several occasions and adopted a number of relevant resolutions.

An agreement between the Soviet Union and the United States recently signed pointed out that the development of mutual cooperation in the field of environmental protection, the exchange of experience of countries with different social and economic systems, will be beneficial to the Soviet Union and the United States, as well as to other countries. The agreement also expressed a desire to facilitate the establishment of closer and long-term cooperation between interested organizations of the two countries in this field.

Some pessimistic scientists in the West believe that civilization will destroy itself, not by some explosive cataclysm, but by suffocation in its own wastes. Soviet scientists think that dismal judgment day can be averted. Urbanization and the growing use of natural resources are not environmental disasters by themselves. The problem is, first and foremost, social. The optimism of Soviet scientists is based on the fact that theirs is a socialist society in which land is nationalized and economic development is planned. These are the two conditions necessary to ensure that technical progress is no threat to the environment. These conditions make it possible to undertake projects that are so costly and of such scope that they can be supported only by a socialist state. For example, the first complexes with waste water recycling systems are in operation.

Preserving the balance of nature is a complex, many-sided matter in which the public frequently has a big word to say. That was true of the major construction project near Lake Baikal, which was widely debated in Soviet newspapers and magazines. Different viewpoints were expressed, but the point of this countrywide forum was to preserve the purity of this unique body of water and the area around it. In September 1971 the CPSU Central Committee and the USSR Council of Ministers adopted the resolution On Additional Measures to Ensure the Rational Uses and Conservation of the Natural Wealth of the Lake Baikal Basin. These measures have proved effective. Baikal and its abundant fauna will be preserved for future generations.

Lenin, the founder of the Soviet state, was much concerned with conservation. On September 16, 1921, only a few years after the Revolution, he signed the decree On the Preservation of Natural Monuments, Gardens and Parks. That important legislative act was later implemented by the organization of a network of preserves. At the same time, with the need for the country's industrialization in mind, he cautioned that the sources of industrial raw materials must not be exploited unthinkingly. In Lenin's lifetime decrees were adopted for the regulation and protection of forests, fish, and wildlife. Karl Marx, the founder of scientific communism, said a hundred years ago, and his statement has lost none of its pertinence: "A whole society, a nation, even all the simultaneously existing societies put together do not own the land. They merely hold it in tenure and use it and, like good family fathers, they should turn it over in better condition to the generations which follow them."

The Soviet Union has a diversity of climatic zones, from the permafrost of Yakutia to the scorching sands of Central Asia. This calls for a differentiated approach to conservation. The use of any one method on so vast and variegated a territory (more than five billion acres) is not possible. Each soil-climatic zone, each limited area needs its own special techniques suited to the local soil, climate, relief and growing conditions.

All Soviet republics have conservation laws that take into account the specific features of a given area, although their main provisions are identical: "Nature and its resources in the Soviet state constitute a natural basis for the development of the national economy, serve as a source for the continuous growth of material and cultural values, provide the best conditions for the work and rest of the people. Conservation is a most essential national task and a cause of the whole people." (Law on nature protection of the Russian Federation).

Conservation was on the agenda of the Twenty-fourth CPSU Congress, and the Program of the Communist Party of the Soviet Union contains direct instructions for the rational uses of the country's natural wealth.

In recent years comprehensive and large-scale antipollution programs have been applied—changeover to minimal-pollution fuels; highly effective methods for catching ash, dust and fumes; development of nongasoline engines for motor transport.

In Moscow with its eight million population, the content of dust and gases in the air has dropped in recent years to between one-third and one-fourth its previous level. That was done by a variety of methods. The capital is surrounded by a forest park zone on all sides. Green plantings occupy a third of the city area. In the last five years, at the insistence of doctors, more than 3,000 gas- and dust-trapping devices have been installed in Moscow factories. Thousands of boiler rooms have been converted to natural gas. The concentration of car exhaust gases has been reduced. A state standard for the content of carbon monoxide in car exhaust (2 per cent) has been adopted, and every motor vehicle is checked regularly. Ethyl gasoline has been banned as a highly toxic compound. The USSR Academy of Sciences recently made this forecast of air pollution levels: Despite the expected increase in factories and cars, by 1980 the air will be 22 per cent purer than today.

Such major industrial centers as the Urals and Donbas are getting special attention. Most of the pollution there comes from thermal power stations and from metallurgical, chemical, cement and other plants.

Under present Soviet law new industrial plants likely to pollute the atmosphere must include filters in their building plan. Presently operating enterprises must build waste treatment plants within a specified period. Effective treatment methods have been evolved and considerable sums budgeted for the purpose.

An interesting and relevant item: In the big industrial city of Cherepovets fish live in a river which flows right through the grounds of the local steel mill. Another item: In such big cities as Moscow and Leningrad, anglers fish contentedly on embankments regardless of heavy traffic and the other concomitants of city living.

Pure water is an especially important problem. Our scientists and engineers are successfully purifying sewage and industrial effluents to potable levels. Sewage is purified as much as possible before being dumped into rivers and water courses. Better solutions of the water problem are in the offing, not only to limit but to stop completely the dumping of even decontaminated sewage. This can be done by building water recycling systems at industrial plants and diverting part of the sewage and industrial waste waters for irrigation.

Land, water and air are the three whales which support our world. Today everybody knows that nature is not inexhaustible. We know now that the wise equilibrium of nature must not be unbalanced, that all creatures—from the worm, which gives the soil its pellet structure, to the tiger, whose actions are governed by the laws of natural selection—owe their existence to one another.

Nor must we go to another extreme—treat nature with untouchable reverence. Man cannot exist without exploiting natural resources. An example of a rational use of natural wealth is the cultivation of the virgin lands in Siberia and Kazakhstan; they now constitute one of the country's prime breadbaskets. Great areas of desert in Central Asia and Kazakhstan are being rejuvenated. Ambitious irrigation projects (a case in point is the Kara-Kum Canal) have converted lifeless sand plain into blossoming orchard.

We are sure that worldwide action to clean up the seas, the atmosphere and the soil will create conditions that will guarantee the natural environment humans must have to survive.

"Not we alone, but the coming generations as well should be able to use and enjoy all the gifts of our country's splendid natural environment. We are also prepared to participate in collective international schemes for nature protection and the rational use of natural resources."

From the report of the CPSU Central Committee to the Twenty-fourth CPSU Congress, delivered by Leonid Brezhnev, General Secretary of the CPSU Central Committee

THE THREAT TO THE ENVIRONMENT

BY ACADEMICIAN YEVGENI FYODOROV
Director of the Hydrometeorological Service of the USSR

SCIENTISTS and public figures all over the world are troubled by the fact that today's technological society is destroying the environment from which it draws all its resources. It is thus creating serious difficulties—if not a dead end—for itself.

The history of civilization shows that on a worldwide basis the potential for meeting human needs grows faster than the needs themselves. For instance, with presently known resources and methods we could produce approximately 20 times more energy per capita than could be generated 100 years ago. This is because reserves of fossil fuel have expanded, the efficiency of machines is greater, and new sources of energy have been discovered and are being used. The improvement of production processes makes it possible for us to anticipate society's needs.

To put it in other terms, the capacity of our planet is a variable that depends on and grows with the methods by which natural resources are utilized.

These resources become a problem, however, long before they dwindle enough to inhibit the development of society. We are far from using the total wealth of our planet to maximum efficiency. A number of circumstances prevent the optimum exploitation of natural resources and—to a still greater extent—prevent us from multiplying them or adapting them to new uses.

The task of cultivating our natural resources applies chiefly to those that are renewable—fresh water, oxygen, the atmosphere, the forests, fish and others that have a ratio of annual consumption to reproduction.

Today people utilize practically all types of renewable natural wealth—about 70 per cent of all the land suitable for agriculture, about 50 per cent of the accretion of forests, about 10 per cent of river flow, about 70 per cent of the increase in commercial fish resources, etc. On the whole, we are coming close to full utilization of the accretion of each of these resources. Equilibrium must now be established between accretion and use. Either further use of renewable resources must diminish (as with forests in some countries, or whales), or we must shift to cultivating them and adapting them to new uses.

Everything Depends on People

Human activity exerts an ever increasing influence on the natural environment. The composition of the environment, for instance, or rather the balance established in the natural circulation of various substances, is changing in two ways: Fractions of some substances are withdrawn from circulation and other substances, derived chiefly from industrial wastes, are added (largely to the air and water).

We have every reason to regard the pollution of the environment as a crucial world problem. The suffocation of rivers, lakes and other bodies of water began several hundred years ago; today industry discharges waste materials in vast, dangerous concentrations into rivers, lakes and the atmosphere.

In the centrally managed and planned Soviet economy, numerous measures are being introduced for purifying industrial wastes and for changing production processes—despite the relatively low level of water and air pollution compared with other developed countries, and the availability of great reserves of fresh water.

The best solution of the problem is, of course, to change the technology. For instance, a shift to gas heating is the most effective way to eliminate ash, soot and sulphurous compounds discharged by urban heating systems. Air pollution has been practically done away with in Moscow, a big industrial center, by the introduction of gas heating.

Pertinent land, water and public health legislation has been passed in recent years by the USSR Supreme Soviet. Laws on environmental protection, adopted by the Supreme Soviet of the USSR and the Soviets of the union republics, specify numerous practical steps as part of the process of economic planning. Considerable and steadily increasing funds are allocated for the purpose; between 1966 and 1970, for instance, more than two billion rubles were budgeted for antipollution efforts.

How Long Will Our Natural Resources Last?

The need for careful study, forecasting and control of man's impact on nature is obvious.

We try to protect the environment in a number of ways, including the creation of natural preserves for rest, recreation and tourism. But the time will come when we can no longer afford bogs, tundra, salt marshes and deserts on so many million square miles of our planet's surface.

We must work not to preserve and stabilize our natural resources, but for large-scale reproduction of these resources, with due attention to steadily growing human needs.

While technology will not be tackling such problems for a few decades, science is dealing with them (at least theoretically) right now.

Theories are already being elaborated concerning the interaction of all global processes in the atmosphere and ocean that determine climate and weather. Until recently this research was hampered by a lack of information on environmental conditions and by the vast scope of computations involved. Weather satellites, electronic computers and other systems for collecting data on a global scale have permitted us to overcome these difficulties.

On the other hand, we are still unable to appraise the effects of human interference with processes taking place in the biosphere. Such calculations are no less essential than calculations of the strength of materials and durability of structural elements have always been for construction. However, this problem, too, is bound to be solved in time. What worries us is quite another thing.

In my opinion, environmental protection must be looked at from a broader aspect. Mankind is now capable of global action comparable in scope to the forces of nature.

Continued on page 18

THE MAGAZINE *Literaturnaya Gazeta* sent its special correspondent to Bryansk to record a newsworthy event:

"To the right and left of the door stood samovars filled with cold water," he reported. "Glasses clinked and somebody murmured: 'It tastes great!' "

Operation Desna

It was not just good fresh water, but water from the Desna River, and therefore important. The interregional committee meeting in the room was evaluating the first stage of Operation Desna.

The Desna flows across nine regions in the Russian Federation and the Ukraine. It annually supplies more than 20 million cubic feet of water to the cities and industries of the densely populated area—more than 10 million people live in the Desna basin. Once this river was famous for its pure and abundant water resources.

In 1939, double-decker steamships and heavily loaded barges ran up and down the Desna. Over half a million passengers traveled from Bryansk by river that year. Ten years later, steamships carried only 8,000 passengers, and in another decade river passenger traffic had dwindled to nothing. The sweeping growth of industry, urbanization, indiscriminate timber cutting (including the famous Bryansk Forest) had shrunken the river and were well on the way to destroying the natural balance of a large area.

All this, of course, stirred up public alarm, and a heated argument began. The voices of appeasement could be heard claiming that the shallowing of the Desna was an inevitable accompaniment of progress.

Optimists, in fact, were clearly in the minority. It was high time to start working on plans to save the Desna.

Here is how Alexei Semyonov, deputy chairman of the Bryansk regional environmental protection council, recalls the debates of those days.

"We talked, argued and conjectured a lot. Everybody agreed that strong measures were needed. But what should they be? Then came the Seva proposal."

The idea was to build dams on the Seva River, an affluent of the Desna, and on other rivers, to stop felling timber and plowing up the soil along the banks. Most important were the dams.

Farmers of Sevsk District argued for them in the local newspaper *Bryansky Rabochi* and buttressed their argument with practical proposals—where and when to build, and how much it would cost. The idea, as the first link of a broad program to save the Desna, took hold, and shortly thereafter a committee for the Desna was set up under the chairmanship of Mikhail Krakhmalev, first secretary of the regional party committee. That was in May 1968, and the first results were evaluated in Bryansk last summer. Here they are:

One hundred of the 264 planned dams have been built, plus 20 ponds. The rest will be built by 1974. Lumbering has been strictly regulated and plantings have been increased. New plantings on over 56,000 acres were turned over to school forests, a procedure that, according to the committee members, has had great educational value. Gullies were afforested on 1700 acres in 1968, and on 4500 in 1970.

Hunting has been cut to a minimum. Today 4500 elk, 2500 boars, 4,000 deer and 4200 beavers live in the Bryansk Forest. The efforts of Bryansk Region are only a small part of the program mapped out for the river basin. The interregional committee, which coordinates the work of many government and public organizations, is drafting long-range conservation plans. The committee members include party and government leaders of nine regions, heads of republican agencies, eminent scientists, factory managers, collective farm chairmen, writers and journalists.

The first committee meeting dealt with purification of the Desna waters. The committee reported that construction of wastewater treatment plants had begun in all the towns of the river basin. By now the familiar figure with a fishing rod is no longer a memory of the past.

So much for the Desna, where public efforts have the active support of government agencies. What about the other rivers flowing through industrial centers—the Volga, the Dnieper, the Don? What is being done to prevent their contamination by industrial wastes and to save fish resources?

Letters to the newspaper *Pravda* on this subject express a good deal of concern. The readers want more than just a soothing answer, they want to know the real state of affairs. *Pravda* asked Alexander Isayev, deputy chief of the USSR Department of Fish Resources, to answer their questions.

Isayev titled his article "The Rivers Will Be Pure" and backed up his optimistic conclusion: "I have emphasized the achievements of recent years especially. I think the public should know that its demands for a stepped-up program of conservation and multiplication of fish resources are not merely being considered, they are being translated into concrete action."

What kind of action?

Commercial fishing on all inland waters has been cut back, and in some areas, such as Moscow Region, banned altogether.

The number of fishing inspectors has been sharply increased. Moreover, there are 70,000 volunteer inspectors.

More than 500 wastewater treatment plants were put into operation at major enterprises that had previously contaminated the Volga and other rivers.

More than 100 fish-breeding plants and farms raise the young of 30 fish species on an industrial scale.

By all indications, the further pollution of the country's inland waters has been stopped.

Enthusiasm

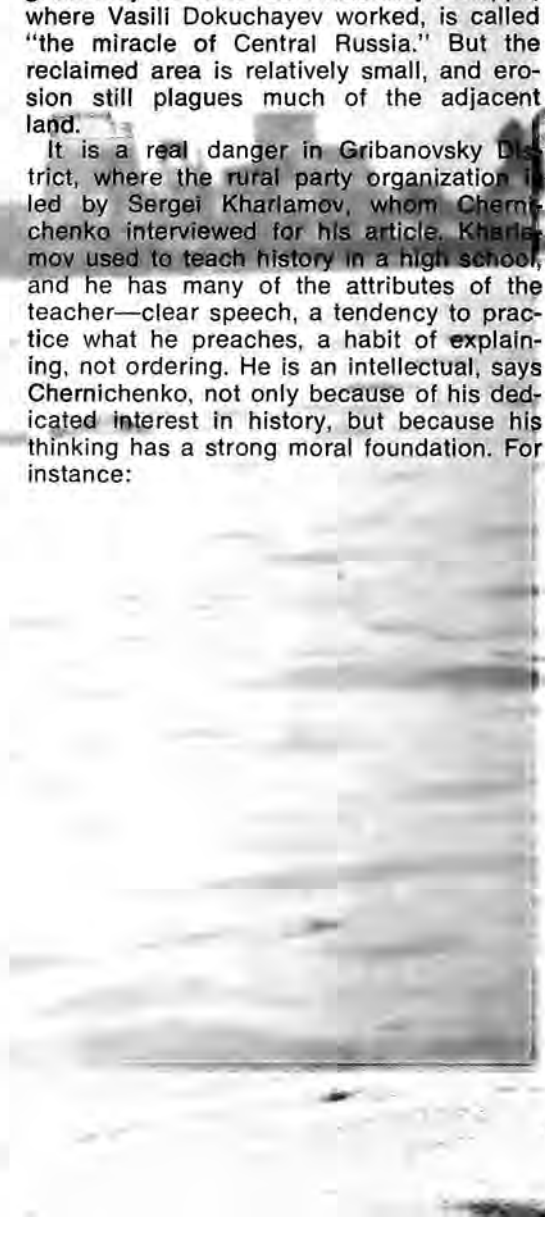
Of course, the public does more than criticize officials inclined to be pragmatic about the environment—it initiates action.

Pravda correspondent Yuri Chernichenko says that in his travels through Central Russia collecting data on soil conservation, he sought out a district party committee secretary.

Why a party secretary rather than an agronomist or soil scientist? Because he believes soil conservation involves more than prevention—it is a way of thinking. The job of a Communist Party leader is political education, and it is he who teaches people to value the land.

It was not by chance that Chernichenko selected the Kamennaya (Rocky) Steppe, the place where Russian scientist Vasili Dokuchayev worked out an effective anti-erosion system at the turn of the century. To collective farmers in the densely populated areas of Central Russia, erosion is familiar enough. They know that giant patches of soil can be washed away from the pastures every year. During spring thaws, many billions of tons of winter grain may be lost. The Kamennaya Steppe, where Vasili Dokuchayev worked, is called "the miracle of Central Russia." But the reclaimed area is relatively small, and erosion still plagues much of the adjacent land.

It is a real danger in Gribanovsky District, where the rural party organization is led by Sergei Kharlamov, whom Chernichenko interviewed for his article. Kharlamov used to teach history in a high school, and he has many of the attributes of the teacher—clear speech, a tendency to practice what he preaches, a habit of explaining, not ordering. He is an intellectual, says Chernichenko, not only because of his dedicated interest in history, but because his thinking has a strong moral foundation. For instance:



Both the swans and the buffer ponds at the chemical plant in Severodonetsk are more than a decoration—they testify to the quality of the city's water. A complex and very expensive treatment system cleans up industrial wastes.

PHOTOGRAPH BY VLADIMIR [illegible]

Water

What conservation measures do newspaper and magazine readers advocate?

"It takes a small person to squander what doesn't belong to him, and a big one to preserve and enrich our legacy to the next generation."

What has he accomplished? Chernichenko says: "Sergei Kharlamov showed me more than 12,000 acres of forest planted in recent years, ponds and irrigated terraces. It wasn't a paradise, a scene of universal prosperity, but just a construction site. Everything had been turned up and was settling down again. The Kamennaya Steppe must have looked something like that 76 years ago, except that there were no power lines, bulldozers or pipelines in the Dokuchayev landscape."

The present project in Gribanovsky District is a hundred times the size of Dokuchayev's. That is understandable. The general enthusiasm is backed by sizable state appropriations.

The Living Water of Severodonetsk

Said a well-known French surgeon: "I can always recognize Parisians when I do a post-mortem because their lungs are dark."

The doctor's macabre humor reflects the mood of specialists who are familiar with industrial cities and their irreversible processes. But are they irreversible? Hopeful news comes from different parts of the country, for example, from Severodonetsk, which owes its growth to the chemical industry. A noted French industrialist who visited the city recently described its water as "living."

To meet the needs of Severodonetsk's enterprises, powerful pumps suck thousands of cubic feet of water from the Donets River. Until a few years ago, wastes from the chemical plants were simply dumped in the river. But today a wastewater treatment system spreading over 185 acres is in operation. We are not going to dwell on the technical aspects, except to say that after several treatment phases the water goes into five-foot-deep buffer ponds with a total area of 40 acres and a total capacity of 8.8 million cubic feet. From these it is pumped into the Donets 98 per cent pure and enriched with various minerals. Communities 25 miles downstream obtain their drinking water from the river. The ponds are so pure that mirror carp have bred in large numbers. The administration had to fight off poachers who swarmed to the ponds with their nets.

Of course, the treatment plant involved a large investment—the first stage alone cost seven million rubles. But the project has paid for itself, say enterprise managers and city authorities, through its contributions to public health. A million decorative trees and a few million bushes bought by the executive committee of the City Soviet were planted in recent years in the streets of Severodonetsk. With nearly 540 square feet of park and lawn space per inhabitant, it is one of the greenest cities in the country.

It should be remembered that Severodonetsk is in the Donetsk coal field, where not too long ago white shirts or dresses quickly turned black with dust.

An extensive program is under way in the Donbas to cleanse the air and water of industrial pollutants. For example, *Meditsinskaya Gazeta* reports that an industrial project cannot be started without the approval of medical authorities: Over a year's period the doctors rejected 33 of the 93 projects submitted. In 10 years 1200 gas traps and dust removers have been installed at enterprises throughout the region. The results? A typical example is Kramatorsk, where in seven years the dust content of the air dropped to one-tenth of its previous level. The sponsors of all this effort (250 standing commissions for environmental protection, with a total of 1300 members, set up by the executive committees of City Soviets) are gratified by the change in people's attitudes. Concern for the environment has become the rule among residents of Donbas towns, and in other parts of the country as well.

What Should a National Park Be Like?

The problem of national parks has been getting particularly animated discussion in the Soviet press because of the tourist explosion. The number of vacationers who come to our parks—both individually and in groups—is growing by millions each year. City dwellers want to be closer to nature. With increasing urbanization, "wilderness therapy" is becoming an important antidote to the fast pace, noise, and crowding of city life.

What should a national park be like? How big should it be? How can we escape the sad experience of those countries where the parks can hardly accommodate the flow of tourists?

Different points of view on this subject clash in the newspapers and magazines. One approach is to make national parks accessible to all, to turn them into centers of mass recreation. The advocates of this view envisage large areas where the wilderness will merge with a network of highways, campsites and hotels.

Another view holds that only certain sectors of the national park should be open to everybody. Neither multistory hotels nor highways should be built there. All economic activity should be sharply limited or even banned.

The second approach seems to be getting the upper hand.

Incidentally, it has gone beyond polemics, plans and proposals. Much has been done already. For example, the Estonian Government recently approved a draft project for a national park in Lahemaa District, which covers one per cent of the area of the republic. This sector, with its wonderful forest and bays, 11 lakes and 14 swift-flowing rivers, has been declared a natural preserve. The draft project provides for five areas in the national park, aiming in this way to combine the interests of conservationists, who would like to see the district untouched, with those of tourists.

The first area consists of the so-called reservations, where tourism and all economic activity are banned. The second is a wilderness area where economic activity is banned and tourists are admitted only to forest roads and paths. The third, vacationers', area has small rustic buildings for tourists. The fourth provides large-scale facilities such as campsites and motels, and the fifth is a timber-felling zone with establishments catering to tourists. The organization of the park began in 1967.

Of course, an idea born of debate does not always take shape smoothly. Conflicts arise, as they did around the Russian Forest. This national park will be located outside Moscow, a few miles from the rapidly growing industrial city of Serpukhov. It was designed to preserve the variety and inimitable beauty of Central Russia—its diverse flora and fauna. The Russian Forest will also be divided into areas based on use. The project met with the complete approval of the public and conservationists, and the passive opposition of Ministry of Forestry officials. Passive because, while they did not oppose the plans, they were in no hurry to put them into effect. *Komsomolskaya Pravda* published a sharply critical article demanding that the All-Union Central Council of Trade Unions, the USSR State Planning Committee and the Ministry of Health do something about the delay. The criticism worked—the chiefs of forestry agencies were ordered to speed up their work.

In the country generally, however, the idea of national parks is gaining ground, and a number of such projects are under way. One of the most interesting is around Lake Baikal, where a vast national park is being developed on an area of five million acres. These are plans for the near, not distant, future.

THE THREAT TO THE ENVIRONMENT

Continued from page 15

But first we must be sure that such action will produce the desired results. This prerequisite is just as important for global as for countrywide projects.

Is it possible to fix a time limit for establishing harmony between human economic activity and nature? I think it is.

In about 50 to 100 years, mankind may come close to using river water, commercial fish, forest and soil resources as fast as they can be replenished. By that time the emission of heat from industrial enterprises and the increase of evaporation is bound to have a marked effect on the heat balance and moisture circulation of the whole planet. Thus, mankind may reach a critical stage in its development by about the middle of the next century.

Whether our planet turns into a desert or not depends on whether human society goes on developing "spontaneously" or whether we have evolved the necessary social mechanism for its harmonious development in interaction with nature.

The experience of history and the theory of historical materialism tell us that the social structure has always changed to conform with the growth of productive forces and thus made possible the continued development of society as a whole. To put it in other terms, there is a chain reaction, each stage of which prepares the conditions necessary for the appearance and further development of the next stage.

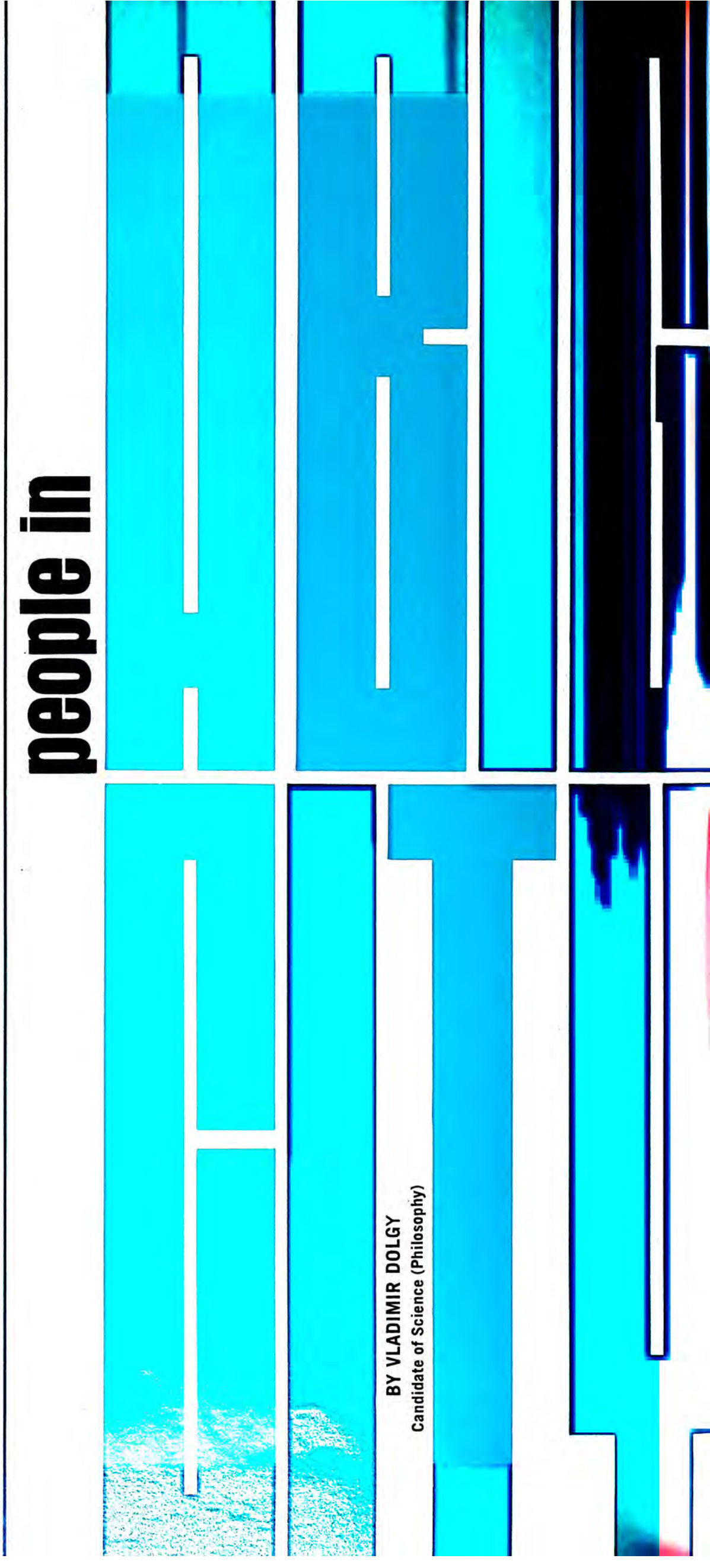
Therefore, we must do our best to build a regulating social mechanism before the spontaneous development of productive forces irreversibly damages the natural environment.

Shortly before his death in 1944, Academician Vladimir Vernadsky, a prominent Soviet scientist and pioneer investigator of the biosphere, remarked, "The historical process is changing radically before our very eyes. For the first time in history, the interests of the masses of people—of each and all—and of free individual thought are determining the nature of human life and the concept of justice. The human race is growing to be a mighty geological force. And mankind and its thought and efforts are confronted with the problem of remaking the biosphere in the interests of the freely thinking human race as an integral whole.

". . . The ideals of our democracy are developing in harmony with the spontaneous geological process, with the laws of nature. . . .

"So, we may look forward to our future confidently. It is in our own hands. We shall not let go of it."

Courtesy of the magazine *Yunost*



MUNICIPAL BUILDERS, LINGUISTS, EXECUTIVES, JOURNALISTS HAVE ALL BEEN CONCERNED WITH THE PROBLEMS OF URBAN GROWTH, WITH GOOD REASON. AN INCREASING NUMBER OF FACTORS MUST BE TAKEN INTO ACCOUNT FOR EFFICIENT CITY MANAGEMENT. HERE A SOCIOLOGIST DISCUSSES THE BIG CITY.

THE CHRONICLE of the growth of Soviet cities dates back to 1926. In the preceding decade the young Soviet state witnessed a mass exodus from towns and cities unprecedented for the early twentieth century. This was the product of great social calamities—World War I, the Civil War, epidemics, famines and economic dislocation. In 1926 the ratio of urban population to that of the country as a whole was the same as in 1917. Since then it has shown a steady tendency to rise. In this sense the growth of Soviet towns and cities has more or less followed the world pattern of urbanization, a relatively new historical phenomenon.

At the turn of the century England alone could have been considered an urbanized country. Only 2.9 per cent of the world's population lived in towns and cities, that is, communities of more than 5,000. By 1960 urban residents accounted for 33 per cent. By the end of the century 75 per cent of the world's population will be living in towns and cities.

Soviet planners predict that by the turn of the century the country will have a population of 350 million, 75-80 per cent of it urban. Fifty-six per cent of our people—136 million—now live in towns and cities, according to the 1970 census.

Social and Collective

The new conditions have inspired a fresh approach to an old problem. Since the war, the scope of housing construction in the Soviet Union has surpassed the prewar level by several times. This was a tremendous planned effort, whose ultimate object was to provide each family with its own apartment. There have been far-reaching changes not only in building techniques, but in the general appearance of towns. The settlements that used to be built around big factories, plants and mines to house their workers have practically disappeared. These settlements were like small towns or boroughs within the precincts of a larger town or city. Today the practice is to build housing in keeping with the general plan of the city. The new urban districts and neighborhoods are not industrial communities, but an integrated part of a big town, lived in by people who work at all sorts of jobs in factories, plants, offices. Take a look at a typical apartment house somewhere in the center of a big industrial city. Its tenants are likely to include factory workers, research scientists, musicians, college professors, journalists, schoolteachers. The Directives of the Twenty-fourth CPSU Congress, the document outlining the country's development for 1971 to 1975, reads in part:

"During the five-year period housing with a total floor space of six billion square feet is to be built with funds from all sources of financing. Every effort is to be made to speed up building for industrial and office workers in the eastern and northern regions as well as staffs of enterprises under construction outside towns and of new state farms. More dormitories will be built with state funds for students of higher educational institutions and specialized secondary schools."

The volume of capital investments for the Ninth Five-Year Plan period will total 501 billion rubles. Between 1971 and 1975 close to 60 million people will move to new apartments or otherwise improve their housing.

In the Soviet Union the main type of housing is the state-owned apartment building, in most cases a five- to nine-story structure. In the recent period it has tended to grow higher. There has been large-scale building of cooperative apartment houses in the last few years. Members of housing cooperatives have more opportunity to influence the architectural design and the layout of apartments.

Growing Towns

The city with a population of several million has the usual problems—rush-hour traffic, air pollution, noise, nervous stress. Nor is this the whole list of troubles that accompany urbanization. The Soviet Union is no exception. As in other countries, the growth of urban population has not been general, the chief growth has been in the big cities. In 1926 there were 33 large towns with a population of more than 100,000, in 1959 there were 148, in 1968, 204, and in 1970, 221. These towns and cities accounted for more than 60 per cent of the urban population.

In 1926 there were only three cities with a population of more than half a million; in 1970 there were 33.

In the Soviet period more than 950 new towns appeared on the map. Many towns and urban-type workers' settlements were built in remote undeveloped areas. Thus, between 1926 and 1970 the urban population in Eastern Siberia increased by nearly 9 times, in Western Siberia by nearly 10 times, in the Soviet Far East by more than 11 times and in Kazakhstan by 13 times. The urban population of the Ural region has increased by more than six times. The most striking case is the Donbas. When the Union of Soviet Socialist Republics was established, this area had only seven towns, now it has 83 towns and cities and 243 urban-type settlements. The population of Donetsk has grown by 27 times.

For a considerable period there were only two cities in the country with a population of more than one million—Moscow and Leningrad. In 1956 Kiev, the Ukrainian capital, became the third Soviet city with a million inhabitants. Five years later two more cities—Baku and Gorky—were added to the list. In 1964 the population of Kharkov, Tashkent and Novosibirsk and in 1970 that of Kuibyshev and Sverdlovsk reached the million mark. Recently Minsk earned this distinction. At present the Soviet Union has 11 cities with a population of more than a million.

The vigorous development of transport has helped the towns and cities grow beyond their earlier limits. In the next few years the rapidly increasing number of cars will further expand the size of urban areas.

Soviet municipal planning works on the metropolitan area principle, the concentration of a number of towns and settlements around a large center, or several centers which are closely interconnected economically, culturally and otherwise. Seventy-five per cent of the urban population live in metropolitan areas. Today it is no longer possible to study the town within its administrative boundaries—it must be studied as a system of communities within the framework of a district, republic and sometimes of the whole country.

Sociologists' View

The town is a material and spatial unit organized in a specific way; therefore, it is a field of activity for the urban planner and the architect. The town is a concentration of labor, it is a certain number of square feet of housing expressed in value, it is a sum total of certain material values. So the economist must have a say. However, urbanization is above all a social process. The town is not merely an entity consisting of territory, population and means of production, but a social organism with its own laws of development. The cardinal problems confronting the town are those of the urban way of life and urban culture. This is the view advanced by the sociologist. In the current discussion the sociologists have put forward several fundamentally new propositions.

In the first place, the town should be studied from the standpoint of the general process of urbanization, as a link in a chain

—a system—of towns, and not as an isolated unit. Recently the Soviet public has been concerned for the future of certain small provincial towns with little or no industry. Young people tend to leave towns because, they say, they can't find an interesting job, there are no higher educational institutions or theaters to hold them. But the salvation of these towns is not merely in building new industries, as some economists have proposed. A comprehensive approach to the problem calls not for some single remedy, but for a solution of a general nature that would help draw the small and medium-sized towns directly into the orbit of the larger centers of the country. In this way the smaller towns would become components of a whole system of communities. The comprehensive development of an entire district or region could thus be planned. Of course, there may be other solutions arising from the specific needs of one town or another. But the nature of the whole problem will remain essentially the same. The purpose is to bring the values of urban culture within reach of every single inhabited locality, to make these values accessible to everyone.

To illustrate my point: Until recently the old Russian town of Suzdal was a slow-paced community without the resources for modernization. Its sluggish economy was improved from the outside—Suzdal has become a center of attraction that draws thousands upon thousands of Soviet and foreign tourists. It is now a historical preserve which has been drawn into the modern structure, not through conventional industrial development but through its satisfaction of other social needs.

Secondly, the profile of a modern town or city is not determined by the number of people living in it. The modern town is more than an industrial community, it is a cultural, scientific and educational center that offers a wide range of services to its citizens. We could even say that it is primarily a cultural and scientific center. An example is Akademgorodok, the USSR Academy of Sciences research center near Novosibirsk. Students of urban development regard this small town (population 35,000) as a desirable model for urban development.

Finally, the important task for the sociologist today is not to determine the optimum size of a town, but to create the best possible quality of life at each stage of development. Today "quality of life" is more than a journalistic phrase, it is a scientific term. For instance, Academician Leonid Kantorovich has devised a system of mathematical measurement for the level of services offered in different towns.

Urbanization with a Plus Sign

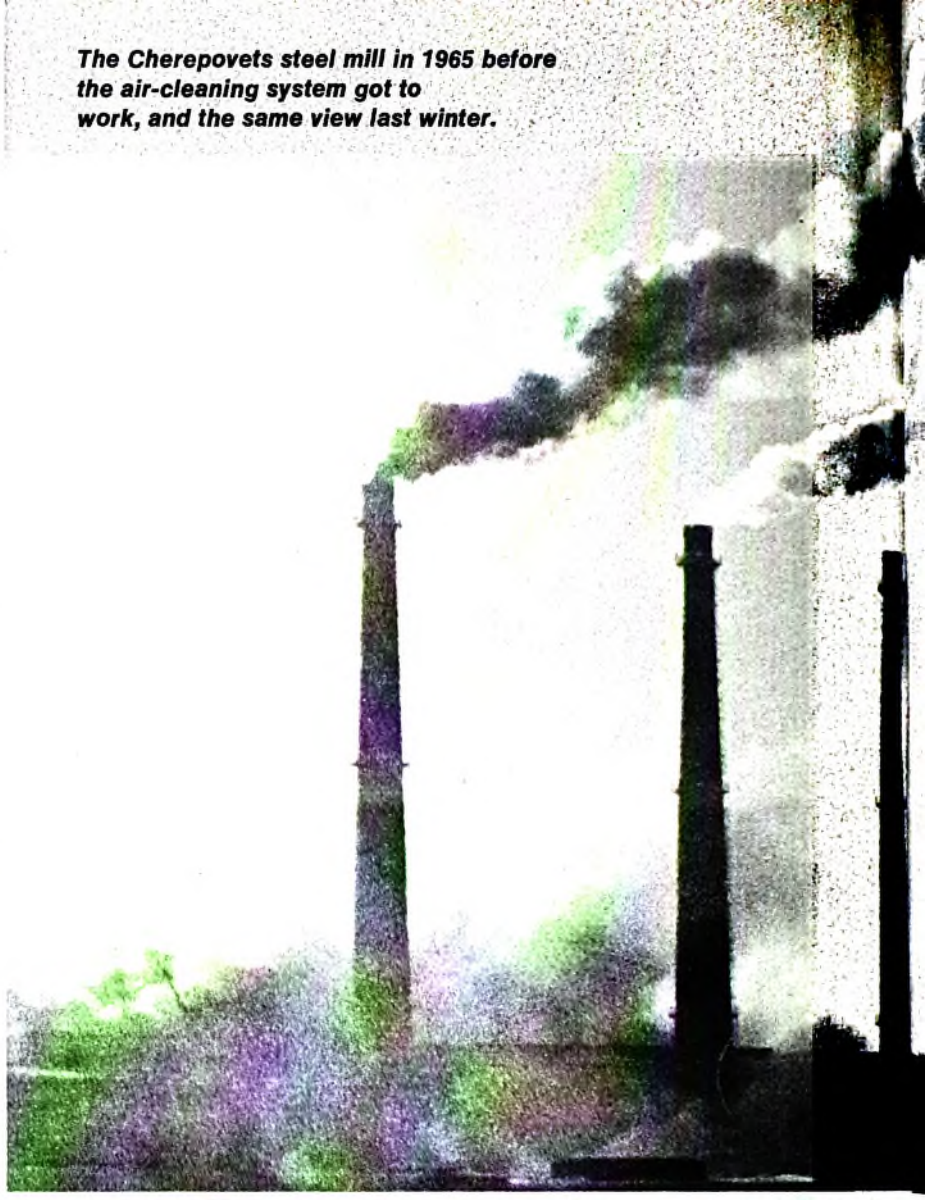
We have been examining some of the general laws governing the growth of cities. Now let us touch on a few distinctions.

In the Soviet Union today the key element in urbanization is that it is influenced to a decisive degree by planned development. As Soviet sociologists see it, urbanization is an inevitable process resulting primarily from changes in the forms of human relations and forms of community in our world. Urbanization occurs under capitalism and under socialism. However, in a socialist state where planning is the basis of all socioeconomic actions, there are real possibilities for deliberate regulation of spontaneous social processes. The town, a complex social organism, cannot evolve automatically. Like any elaborate living organism, it needs a new control lever—conscious planned development based on scientific forecasting. Immediately after the Revolution the Soviet state began to work the levers of planned guidance of the process of urbanization.

Here are a few distinguishing features of such planning: solution of the housing shortage, maximum development of public transport and a wide range of public services (such as nurseries, kindergartens, clubs, hospitals), planned construction of new towns and reconstruction of old ones (for instance, Bratsk in Siberia, the new communities on the Volga, Moscow) and integration of old provincial towns into the modern social structure.

Of course, not all the problems have been solved satisfactorily. Far from it. Students of Soviet urban development are continuing their evaluation of recent experience, using the best of it and discarding what does not measure up in practice.

The Cherepovets steel mill in 1965 before the air-cleaning system got to work, and the same view last winter.



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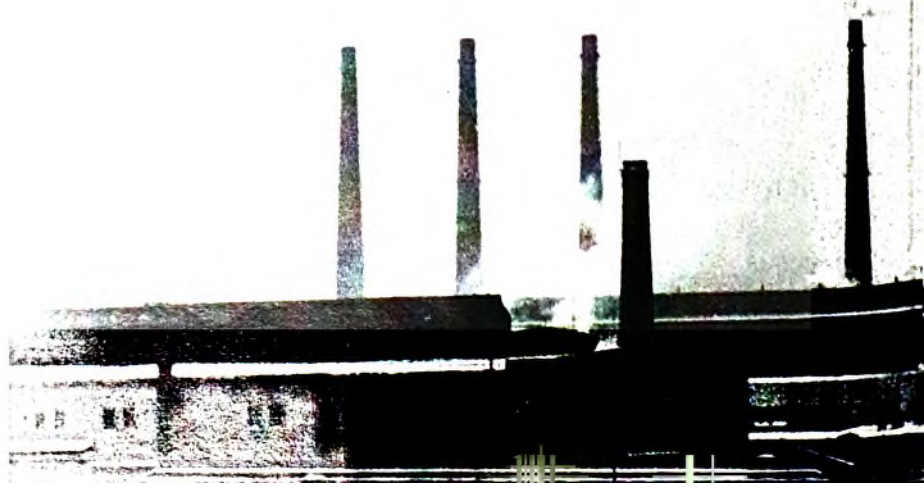




NATURE: ENEMIES OR ALLIES?

By IGOR LOBANOV
PHOTOGRAPHS BY VICTOR PERVENTSEV

Before its steel mill went up, Cherepovets was a small town built mainly of wood. Its streets ended at the low boat-strewn bank of the Yagorba River, an affluent of the Sheksna, part of the Volga-Baltic waterway system of Northern Russia. Now Cherepovets, with its many apartment houses, has invaded the woods and fields on the right bank of the Sheksna.

FACTORY AND NAT



The Cherepovets city sanitary service takes one of its regular air samplings.

WHY was a big steel mill built in the North? After World War II, industry in the European part of the country was struggling back to its feet, badly in need of metal, and new blast and open-hearth furnaces could be placed anywhere. Cherepovets was selected because it stood at the crossroads of busy rail and water routes, near two important sources of raw materials—the Pechora coal fields and the iron ore deposits of the Kola Peninsula.

The city is encircled by a thick forest that stretches for hundreds of miles to the shores of the White Sea. In Cherepovets you feel the closeness of the forest where it has been transformed into parks, gardens and wooded paths. The lobby of the new Hotel Leningrad featured a stuffed wood grouse clutching at a wrought-iron grating—the bird had flown into the city not long before.

Around Cherepovets the woods are alive with animals, birds and berries. The marshes in autumn are covered with a carpet of red cranberries the size of cherries. There is good fishing in the nearby rivers, and even in winter anglers sit for hours with their lines through holes in the ice. A big steel mill in this almost virgin land could become a threat to the flora and fauna. But this did not happen.

Cleanliness Costs Money

According to Korneli Morozov, chairman of the Cherepovets nature protection society, the number of wild animals in the area is growing. There are reports of elk on the mill grounds, for example. Nor is it accidental that fishermen favor the Koshta River, which runs near the mill. A few years back, before filters were installed behind the open-hearth furnaces and the mill was converted to a closed water-supply system, the Koshta was the color of tomato juice.

The construction of wastewater treatment facilities is at least as important for the mill as the buildup of its technical potential, says manager Vladimir Vanchikov. Large sums have already been allocated by the state for such facilities. Between 1965 and 1970 the mill spent more than 12.5 million rubles for the purpose, 10 to 15 per cent of the total capital invested in new construction.

A dry coke quencher has been built, putting an end to the wet quenching technology that pumped vast clouds of smoke mixed with harmful phenol fumes into the air. With the previous charging system, the coke-oven batteries threw up a column of dust and gas that shrouded everything for a half-mile around. They have now been converted to smokeless charging. To purify the effluents of the blast and open-hearth furnace processes, the pelleting and lime-dolomite shops, and the heating and power station, and to recover these effluents for the water supply system, 20 pumping stations have been built, together with a biological treatment station and a slurry thickener—an artificial lake in which small insoluble particles settle to the bottom and clarified water is fed back to the shops. Today not a single drop of waste water flows into the river.

The allocations for the construction of waste treatment facilities over the next few years run to the millions. The sum of 840,000 rubles has been set aside to build a new biological treatment station so that coke and chemical manufacture can be expanded. More than half a million rubles has been allocated to enlarge the slurry thickener, and more than six million rubles will go for the installation of new dry coke quenchers. In all, the mill will spend about 16.7 million rubles for environmental protection in 1971-1975.

Mill Forest

The state gives large sums to factories and mills for the construction of wastewater treatment facilities. This, of course, is an important factor in conservation. But financial aid alone cannot solve the problem. It is equally important that each worker be responsive to the needs of the environment.

The Cherepovets steel mill has a special landscaping division which, naturally, costs money to maintain. A veritable forest (8,000 trees and 60,000 bushes) has been grown on the mill grounds. This could hardly have been done by the small staff of the division; it took the help of hundreds of volunteers—steelmakers, blast furnace operators, rollermen—who turned out after their regular shifts to help plant trees and bushes.



Children at the mill kindergarten do their napping on wide open porches.

The landscaping has yielded abundant returns—in summer the mill grounds look like a garden. All over you see green lawns and hedges, wooded areas and grassy hills. The lawns alone cover about 75 acres.

The plant has its own greenhouses where 350,000 flowers are planted each year. The flowers are intended for birthdays, weddings and other celebrations. Currants, gooseberries and raspberries are grown on the mill grounds, and the cost of all these activities is covered by the plant. The landscaping division also gets contributions from the Central Botanical Gardens in Moscow and the Flower Association, in the form of tulip, gladiolus and iris bulbs, carnations, chrysanthemums, grass seed.

Conservationists

The plant workers' feeling about trees and flowers was not a spontaneous development, it took nurturing. Agronomist Kirill Krendelev, assistant superintendent for landscaping, told me this story. Once he noticed some trampled guelder-roses

URE: ENEMIES OR ALLIES?

near the open-hearth furnace shop. He found out that a team of workers had dragged a heavy metal ramp across them on the instructions of assistant shop superintendent Georgi Fedotov. Krendelev drew up a report, and some time later Fedotov was punished for destroying plantings; the order came from the plant manager.

Similarly, the conservationists saved a lane where engineers had planned to lay a new cable. The landscape workers objected, and the cable line was rerouted. "No one fells a tree on the grounds," said Krendelev, "without our permission."

By "our" he meant not only the landscape engineers and himself as vice chairman of the Cherepovets nature protection society, but also the 3,000 mill workers who belong to the society. Krendelev is also a deputy to the City Soviet and a member of its committee on environmental protection. On the committee with him are Lydia Alexeyeva, who works at the thermoelectric power station; Ivan Vinogradov, ram operator; Valentina Levicheva, team leader at the coal preparation shop; Anna Smirnova, gardener, and Vasili Shkorin, a senior worker at the gas-purifying plant. The deputies see to it that the various shops carry out the directives of the City Soviet and the plant management, and that the air and water are kept free of pollution.

The committee hears regular reports from the management of the city's industrial plants. It makes recommendations to the executive committee of the City Soviet. Last spring a session of the Soviet attended by more than 300 deputies was devoted entirely to environmental protection.

City and Mill

When I asked how effective the city's antipollution efforts had been, City Soviet Chairman Alexei Savonov said simply: "Very effective." The problem of pure water has been cleared from the agenda. The water supply of the steel plant is practically a closed system, that is, industrial wastes do not reach the river. Ships in port are provided with tanks to remove the dirty water from their holds, and special barges on the Sheksna collect garbage and oil. After their reconstruction, to be completed this year, the waste treatment plants of the city will double their present capacity.

The Cherepovets sanitary-epidemiological station reports that the Yagorba and Koshta rivers near the steel plant are six times purer than before, the volume of oxygen in the water has increased by five, and the content of suspended particles has dropped to one-tenth. The dust in the air is one-third what it used to be, and the content of nitrogen oxide, carbon oxides and phenol has markedly decreased.

But, said Savonov, the mill is still an environmental threat. In that connection, I asked him about the city's development plans.

"You have probably noticed that there is no housing construction right near the mill. Cherepovets builds about 1.4 million square feet of housing every year. But to see these projects, you have to cross the Yagorba. The city is going to expand in the future. According to the master plan adopted in 1969, the main residential area will be across the Sheksna, where a new city center will grow up. Construction will begin in 1975, after the new bridge is built."

Two-thirds of the city population will live in this district, which will be zoned for light industry and service industries only. Cherepovets now has a population of about 200,000, and the master plan foresees an increase of more than 200 per cent. There were only 25,000 residents before the mill was built.

The population of the present city center is expected to decrease by half, and the vacant houses will be used as administrative offices. Part of the forest-park belt now being developed will separate the mill from the city.

If the Law Is Broken

The minutes of the City Soviet and its executive committee reveal how often the administration occupies itself with environmental problems, pressuring factory managers to speed up the building of waste treatment facilities.

Industrial management does not respond nearly as quickly to such demands as it does to production matters. The introduction of waste treatment facilities is sometimes delayed and the money allocated to build them is misused. Some managers openly violate conservation laws.

"As we take steps to speed up scientific and technical progress, we must see that it is combined with the rational treatment of natural resources and that we do not cause dangerous air and water pollution or exhaust the soil," said Leonid Brezhnev, General Secretary of the CPSU Central Committee, at the Twenty-fourth CPSU Congress in 1971. "The party demands most emphatically



The air inside the mill grounds is also checked by sanitary service workers.

that the planning and economic bodies and design organizations, all our cadres, keep the question of nature protection in sight when designing and building new enterprises or improving the work of existing ones."

Management that ignores conservation needs, even for good objective reasons, gets the punishment it deserves. For example, in 1969 the city sanitary-epidemiological station and the department of fishing inspection brought charges against Naum Tyomkin, coke and chemical production superintendent, for killing large numbers of fish by dumping chemical wastes into the Sheksna. His action was judged an outright violation of the law on protection of fish adopted by the USSR Council of Ministers in 1958. Tyomkin was fined 20 per cent of his wages for a year.

Inspectors from the sanitary-epidemiological station can frequently be seen driving through the city, a red cross on their windshields. They take air samples at distances of one, two and three miles from the plant. The station's staff has broad powers—it can close down a factory shop that is contaminating the air or water and fine industry managers for delay in installing waste treatment facilities.

Cherepovets is one of 1200 Soviet cities that have grown from small communities. Inevitably, such growth involves a conflict between technology and nature. But when industrial concentration is coupled with protection of the environment, this conflict ceases to be destructive.

YOUNG GUARDS OF THE FOREST

By ALEXANDER MARYAMOV

PHOTOGRAPHS BY ALBERT LEHMUS

In Byelorussia's woods are stands of pine trees, broadleaf birch and aspen, and imposing groves of oak.

Their responsibilities as assistant forest wardens include gathering mushrooms, berries and medicinal herbs.

THE VILLAGE of Polonka in Byelorussia appears suddenly in the middle of a field, beyond the gradually sloping spine of a hill. When you pass the center of the village and slow down at the peak of a steep and dusty sand road by the gates of the school, it strikes you that there is nowhere else to go. In front of you stretches a forest all along the horizon.

"This tract belongs to the school," biology teacher Leokadiya Khovanskaya told me, "805 acres of woods, for which the children are largely responsible. This is our school forestry."

"You must have lots of work looking after such a large area," I remarked to Alexei Korol, the local forester.

"Not too much, with all these young people helping me. They know what they're doing, they make fine assistant foresters."

"What on earth do you need so many for? There must be at least 180 boys and girls from the Polonka school."

"I think of it as a give-and-take relationship: They need the forest, a forest of their own, as much as the forest needs their services."

School forestries began to pop up in the rural areas of Byelorussia several years ago. As a result of pressure from young people and the work of their Young Communist League organizations, the children were given thousands of acres of woods to take care of.

"These young foresters had to be taught all the ins and outs of the job, including safety rules," Korol explained. "They and their biology teacher came to see me. I talked to them a while, and I had the feeling they would do the job. They were





These young forest wardens voluntarily assume very adult and demanding duties and assignments.



Forester Alexei Korol helped work out the school forestry project.

Weeding forest nurseries may be necessary, but it's not the most exciting job in the world.

They learn from experienced foresters how to handle power saws and other tools.



The Polonka forestry unit, the state farm and the school jointly organized a summer work camp for teenagers. One of the never-ending jobs is clearing the woods of dry brush and diseased trees.

The relation is reciprocal. The children need to learn how important it is to preserve the forests, and the forests need their concern and care.



They build and set up bird shelters and even resettle ants, as in this photo.

serious about conservation and very much involved."

With Korol, the boys and girls planned the organization of their work. They divided the 805 acres into six large squares; each of the squares was assigned to a boy forester and a group of his assistants. They also set up a school forestry council of 10 children to be in overall charge, responsible for everything, from accepting new members to drafting annual plans for the protection of the forest.

Last year the schoolchildren of Polonka grew 6,000 saplings from seed and planted 50 acres of young woods. They stored winter feed for the forest animals, set up 360 birdhouses in the trees for starlings and fenced in 191 anthills in protected locations. In their village the children laid out a garden next to the kindergarten, where they planted 175 trees. They lined a two-mile lane with rowan trees and planted an orchard of 1,830 saplings.

In summer, through the combined efforts of the forestry, the state farm and the school, a camp is run in the woods for school seniors, who go there for fun—swimming and other sports—and work. They are trained by expert foresters to fell trees with automatic saws and to do other woods-maintenance jobs. They work like grownups and get the same pay. The school forestry has taught them to be on their own and given them occupational skills.

In the last three years alone 50 Polonka graduates chose forestry as their future profession.



The camp pays the young people the same wages as grownups.

ESTONIA'S FORESTS STAY GREEN

In May 1918, soon after the beginning of Soviet power, the Fundamental Law on Forests was adopted. Preservation of forest lands has been one of the country's chief concerns ever since. The Twenty-fourth CPSU Congress Directives for the Ninth Five-Year Plan (1971-1975) specify reforestation and afforestation of 30 million acres, drainage of 3.2 million acres, and protection of forests against disease, pests and fire.

By Pavel Volin
Special Correspondent of "Literaturnaya Gazeta"

EACH YEAR in Estonia the forest area is enlarged and the natural landscape restored after extensive mining operations.

How has this Baltic republic been so successful in preserving its natural environment despite rapid economic development? How has it been able to prove in practice that economic development and conservation are not incompatible? If I had to answer these questions in one sentence, I would say: Where there's a will, there's a way. Granted that it takes the right social conditions, capital investments, equipment and experts. But the critical element is people's attitude toward nature.

Large sums are allocated in national and local budgets for conservation. Studies are under way at a number of research centers to determine reliable methods of protecting the biosphere. In the last few years an abundance of new ideas have been initiated, for instance, recycling the water of whole towns and cities, waste-utilization plants, replacement of combustion engines with electric motors, the use of biological instead of chemical agents for plant protection.

Some of these very promising ideas have already been applied. But many of the others will take a great deal of time. What is being done right now?

The leaves of young trees on Saaremaa, the largest of Estonia's islands, blow in the fresh wind from the Baltic Sea. Planted only 15 years ago, they have shot up to a height of 30 feet. But instead of craning your neck upward, take a closer look at the ground. The soil may look much the same as it does elsewhere, but the fertile layer is less than an inch thick. Despite that, the trees have taken root. And not only one or two or a hundred, but thousands of acres of woods!

You just can't overestimate the importance of forests in maintaining the biological balance. They are "the green lungs of the planet," and ruthless lumbering almost inevitably means the gradual, frequently irreversible impoverishment of the entire complex of nature. A glaring example is Mesopotamia. If the forests there had not been cut down 10 centuries ago, it would today be a green paradise instead of a desert.

Estonia has drawn up a whole complex of projects to enlarge its wooded areas. Forest lands are being planted where possible, and sometimes where it seems impossible. Saaremaa is not the only example. Near Kohtla-Jarve, the shale-mining center, groves of young trees have appeared. A visitor would never suspect that only 10 years ago this was a desert which looked more lunar than terrestrial. The ground was ash-gray, the hills were absolutely bald, and the area was full of gullies. Exhausted shale pits dotted the landscape.

Foresters, botanists, hydrologists and mechanical engineers of the Tartu Research Institute of Forestry and Nature Preservation worked out a comprehensive program of conservation. The first 1700 of a planned 49,000 acres of abandoned shale pits have already been reforested.

Near Tallinn, the capital of the republic, provisions have been made to re-create a forest landscape around the exhausted phosphorite mines.

Reforestation and afforestation are proceeding rapidly in Estonia, where about 35 million cubic feet of timber are cut each year. This is a considerable quantity considering that the republic's area is less than 17,400 square miles. However, the lumbering program is part of a larger afforestation plan: Each year trees are felled on 17,000 acres, and saplings planted on 22,000 acres.

The Tartu Institute's research and experiments cost a considerable amount of money, but the savings from its recommendations are larger still. For example, the institute determines the best species of trees for planting, thus increasing the profit from wooded areas by hundreds of thousands of rubles.

People in Estonia have convinced themselves not only that a "hands off nature" policy is impossible nowadays, but what is more important, it is unnecessary. They are applying the most up-to-date and most powerful technical tools to utilize their natural resources, but they do not forget for a minute that what is taken out of the natural environment must be replaced.

Man is leaving his destructive traces on Earth—barren rock quarries, stripped woodlands, muddy rivers. Estonia is leaving totally different traces—a flourishing nature for the coming generation, the traces of creative human brains and hands.

FAUNA OF



Drawing by Anatoli Prokhondeyev

THE USSR

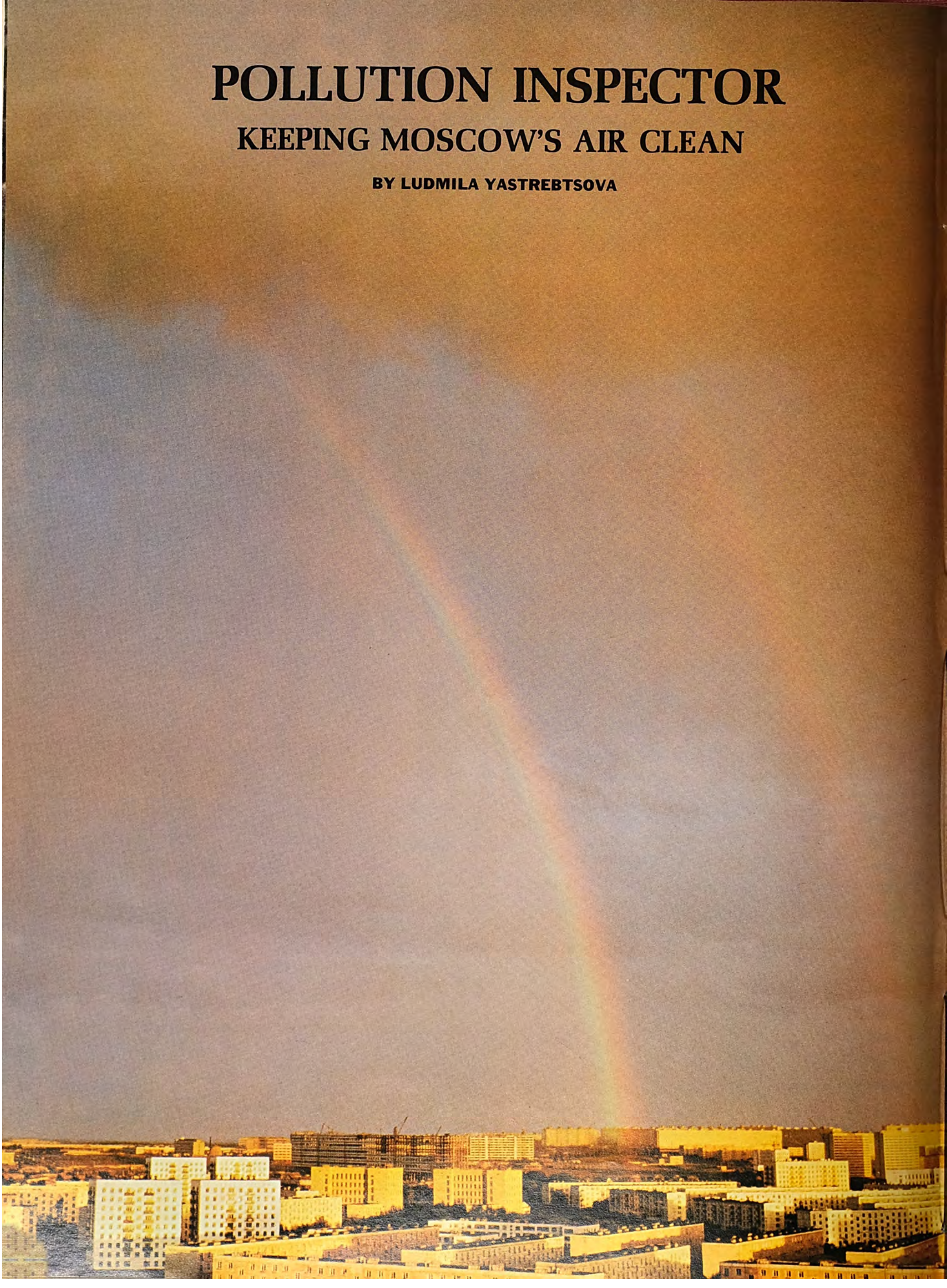


1. Plaice
2. Herring
3. Bass
4. Cod
5. Guillemot
6. Sea gull
7. Starfish
8. Walrus
9. White bear
10. Bison
11. Polar fox
12. Squirrel
13. White owl
14. Reindeer
15. Willow ptarmigan
16. Ermine
17. Sable
18. Siberian Salmon
19. Beaver
20. Anchovy
21. Sunfish
22. Dolphin
23. Fox
24. Wolf
25. Saiga
26. Egret
27. Beluga
28. Flamingo
29. Black-headed gull
30. Roseate pelican
31. Ancistrodon
32. Brown bear
33. Bustard
34. Pallas's sand grouse
35. Camel
36. Echis
37. Gray monitor lizard
38. Suslik
39. Boar
40. Central Asian gazelle
41. Eagle
42. Gray hare
43. Elk
44. Lynx
45. Woodpecker
46. Pine marten
47. Capercaillie
48. Badger
49. Hedgehog
50. Eagle owl
51. Seal
52. Kamchatka crab
53. Ussurian tiger
54. Spotted deer
55. Sperm whale

POLLUTION INSPECTOR

KEEPING MOSCOW'S AIR CLEAN

BY LUDMILA YASTREBTSOVA



A LETTER from the Moscow City Soviet was lying on top of a large pile of morning mail. Lydia Klyucharyova tore the envelope open.

She had been expecting that particular letter, certain that her recommendation to move garage No. 416 outside the city limits would be approved by the Soviet. She could chalk up another problem solved in her job as inspector of the district sanitary-epidemiological station and assistant to its head physician.

Although she seems gentle and easy-going, Lydia Klyucharyova is quite capable of laying down the law. The year-and-a-half-long struggle with the managers of the garage proves that.

"You have seen our Serebryanka River, I suppose," said Lydia. "It's really a stream, too shallow for swimming. Children paddle and play there in the summer. It runs across Izmailovsky Park—that's a favorite recreation spot for us Muscovites. There are no factories on the banks, but water tests showed oil pollution. We examined the entire river bed, trying to figure out where the oil was coming from. One of the tributaries brought us to garage No. 416, where the water used to wash cars and trucks ran freely into the river. Of course nothing



Not even the smallest violation can get by Lydia Klyucharyova. She's a real stickler for detail.

If the water or air in a densely populated city district is found to contain a volume of harmful admixtures exceeding acceptable standards, the district sanitary inspector orders the necessary purifying units to be installed promptly. Factories that do not comply are shut down.

Lydia Klyucharyova is sanitary inspector of the Pervomaisky District in northwest Moscow, which covers an area of 8,396 acres. It has 385,000 residents working mainly in 120 local enterprises, ranging from bakeries to machine-building plants. There are 58 polyclinics, hospitals and clinics in the district.

PHOTOGRAPHS BY IGOR ZOTIN

was being done to clean it up. So we fined the garage. We always do that when there is a direct violation of the sanitary regulations. The fine isn't very heavy, only 10 rubles—when the city sanitary-epidemiological station takes action, it's 20—but we can impose it every week until the guilty party takes the necessary remedial steps."

Last year the district inspectors had to resort to fines 500 times. Some years ago there were two types of fine. One was paid by the enterprise, and the other was a personal fine. Now only the second is imposed, the guilty manager has to pay it out of his own pocket. And if he doesn't, the sanitary station sends a written order to the chief accountant of the factory to deduct the fine from his wages.

But weekly fines are rare. One is usually sufficient. In the past seven years the station had to fine the chief power engineer of a plant that makes printing ink only twice. The manager of the garage paid three fines even after the first purifying devices had been installed. They were not being used, and the sewage was still being discharged into the Serebryanka.

At that point Klyucharyova recommended the garage be moved out of Moscow. Even with the purifying installations, it was still an environmental menace. Her point was that all such enterprises should be relocated outside the city.

But there were some complications. The garage workers raised strong objections. Their cars and trucks, they said, were used in the city proper to haul express freight to various factories and construction sites. The sanitary inspectors had no idea, they said, how much it would cost to run empty trucks from suburb to city.

But Klyucharyova did have an idea. She also had ideas about something more important—the health of the city's people, and the condition of its biosphere.

The city sanitary station finally approved her recommendation and so did the executive committee of the Moscow City Soviet in a special resolution.

"You know," she told me with a smile, "the construction plan for the new garage location calls for 10 apartment houses for its workers, very attractive buildings with all conveniences. And plenty of greenery around them."

"Where is the garage located now?"

"In the suburbs."

"Didn't moving make things difficult for the workers?"

"No. The site is very near Moscow and can be reached by city transport. The garage management built a new apartment house and has plans, as I said, for nine others. Some of the workers, not many, decided to leave. They had no problem getting other jobs. All Moscow garages need mechanics and drivers."

"But this garage is just a drop in the bucket when you consider the size of the district. Aren't you exaggerating the threat?"

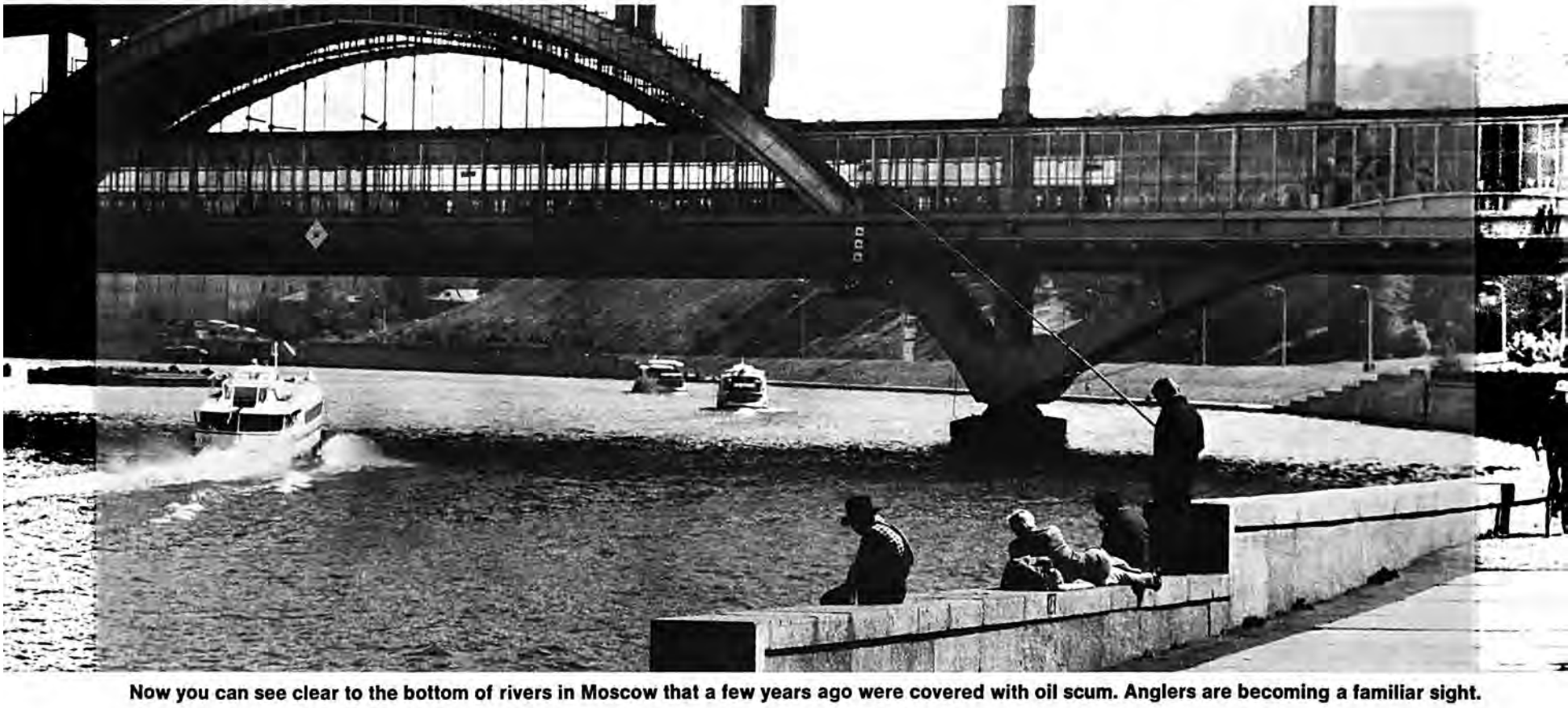
"No, I'm not. The garage is not the only enterprise that ought to be moved outside the city. There are other factories and even individual shops that pollute the atmosphere. Not long ago, on our recommendation, the district got rid of the dangerous shops in a metallurgical plant. When they left, so did the cloud of yellow smoke that used to hang over the houses in that area."

She gave me another example. The boiler room of a chemical shop was recently closed down because the coal it burned was poisoning the air. The sanitary inspectors had told the management several times to relocate the shop, explaining that there was a hospital under construction nearby. Finally the inspectors handed the shop superintendent an order from the chief physician of the district sanitary station, specifying the date the shop was to be shut down. Three days before the terminal day, the inspectors telephoned the superintendent to remind him of the order. A sanitary inspector also visited the shop on the day it was supposed to close. The clouds of thick black smoke were still coming out of the boiler room stack. So the inspector closed the shop and sealed the doors, as the law specifies he should.

Now and then a plant executive will pay no attention to an order from a district sanitary station. There have even been cases, rare to be sure, when management refused to permit a sanitary inspector to go through the factory. In that event the inspector turns to the district militia. That happened to a shop producing wind instruments. The militia sealed it tight.

If necessary, the sanitary inspector can freeze the bank account of an enterprise doing any building that has not had prior approval of the sanitary station. That automatically stops construction. In actual practice, the station almost never has to make use of that power since consultation on any projected building is a long-established procedure.

And the sanitary inspectors very often make on-the-spot visits to keep



Now you can see clear to the bottom of rivers in Moscow that a few years ago were covered with oil scum. Anglers are becoming a familiar sight.

a check on construction procedures. There is a continuous watch over artesian wells, purifying installations and conditions that may breed infectious and occupational diseases. The inspectors do a good deal of preventive work, too—for example, periodic measurement of noise in certain shops helps keep the noise level down and prevents hypertension and certain other diseases.

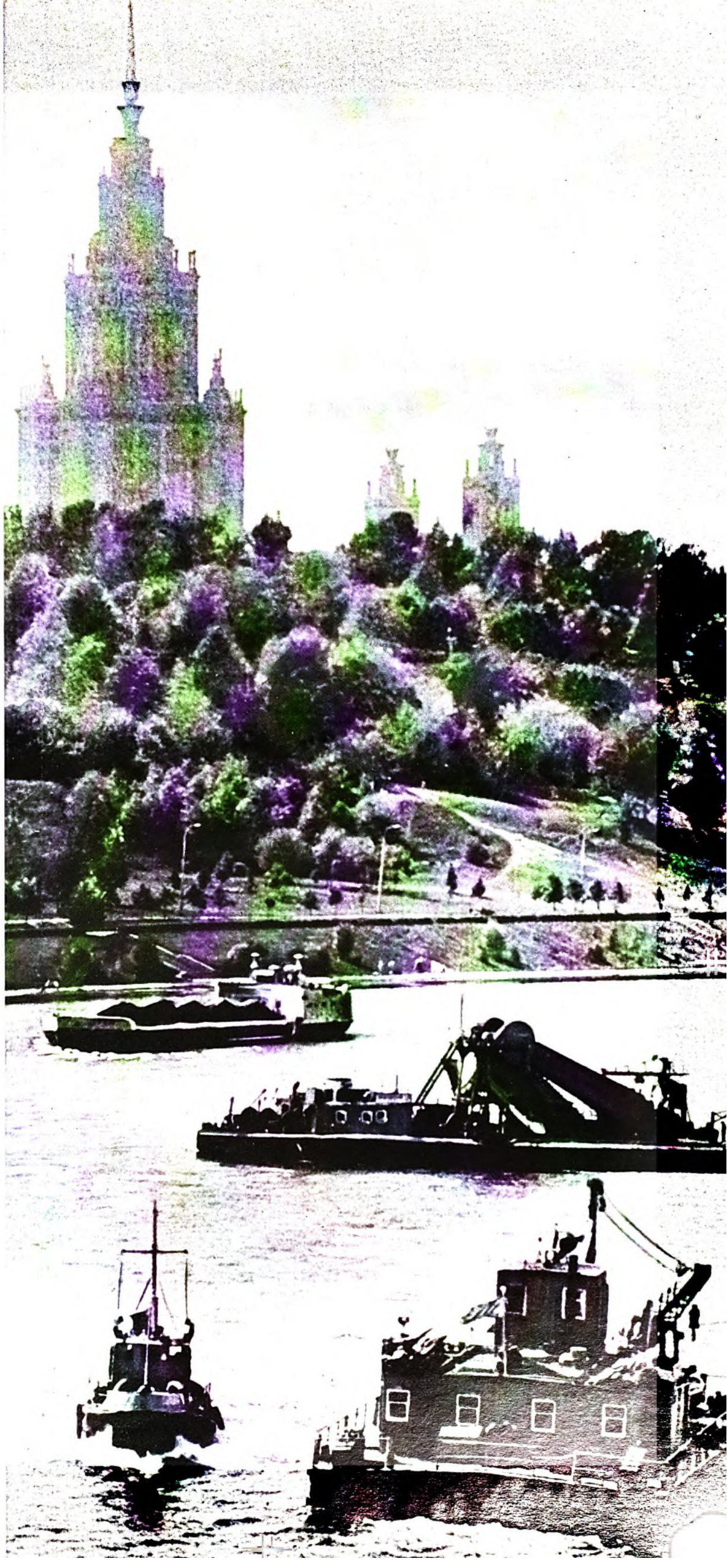
"But with so many responsibilities, don't you slip up on some?" I asked.

"We would if we had to do everything ourselves. But we have a whole army of volunteer assistants—thousands of people who have been specially trained and given many of the powers of our staff inspectors. All sorts of people volunteer—housewives, pensioners, medical students, factory workers. They keep a check on about 600 of the small enterprises in the district."

A look at her watch and Klyucharyova got up. "I'm sorry," she said, "but I have to leave you for 15 minutes or so. I have a conference."

I waited in her office. It gave me a chance to look through the bookcases along the walls. The selection was rather unusual for a physician and sanitary inspector. Side by side with works on medicine and sanitation were technical institute books and thick volumes on geology and hydrogeology that you would be more likely to find in an engineer's library. But I already knew how they got there.

They have to do with the Salyut machine-building plant. After a second warning the plant decided to build purifying installations. A project was worked out, and the sanitary station was asked to give its opinion. Usually the station checks the designs. It has a staff engi-



Cleaning the Moscow River. The job is done by a fleet of multibucket dredgers, self-propelled scows and auxiliary boats. The silt and mud are scooped up and the bottom covered with sand and gravel.

neer for just that purpose. At the time Klyucharyova, who was a member of a team checking out designs for water reservoirs and their environs, received an unusual request: She was asked to study the project and give her opinion.

The five thick folders—complex drawings and technical descriptions of the future structures—took up not only all the space on her big desk but all of her free time as well, interfering with her family life and breaking into her customary routine.

Before getting down to the project, Klyucharyova, her knowledge in this field admittedly superficial, decided she had better visit a library. She also went to several bookshops before finding what she wanted. That's how she collected her small library on hydrogeology. When she thought she had enough background, and not until then, she opened the first thick folder.

It took her over a month to go through all five. Then she wrote a four-page report and turned the project down. Her reasons? The designers had failed to take into account many sanitary requirements. For instance, the capacity of the purifying installation they suggested was 1.3 million gallons of water daily. But the plant itself used up 2.1 million gallons a day. The designers proposed to discharge the difference without previous purification, figuring that the factory sewage diluted with river water would do no harm. In an effort to economize on the project, they made another mistake—they did not provide for the safe isolation of the wastes of the purifying installations. There are artesian wells close by that could be polluted. A safe clay "lock" was necessary.

The specialists at the epidemiological station studied Klyucharyova's report and agreed with her findings. The designers had to go along. They made the necessary changes and finally got the purifying installations built. Moreover, the Salyut machine-building plant became the first enterprise in the district to use recycled water.

That job over, Klyucharyova could have put away her textbooks on hydrogeology. But she was in no hurry to do so. Her small collection was supplemented by new books. Hydrogeology became a new and serious interest and a very necessary supplement to her everyday work. Now she even lectures on the subject at the Central Institute for Doctors Refresher Training to audiences of colleagues from all over the country, illustrating the lectures with her own solid experience. The subject of her candidate's thesis is also related to hydrogeology.

The brief conference finished, Klyucharyova came back.

"Now I can make my visits," she said, putting some papers into her briefcase. "Would you like to come along?"

I said I would. It was a fine warm day.

"Let's walk. I want to show you the Yauza—it was once the dirtiest of all the rivers in Moscow—and tell you about our Pervomaisky District."

We walked along the wide streets, and Klyucharyova talked with the enthusiasm I had come to recognize as part of her:

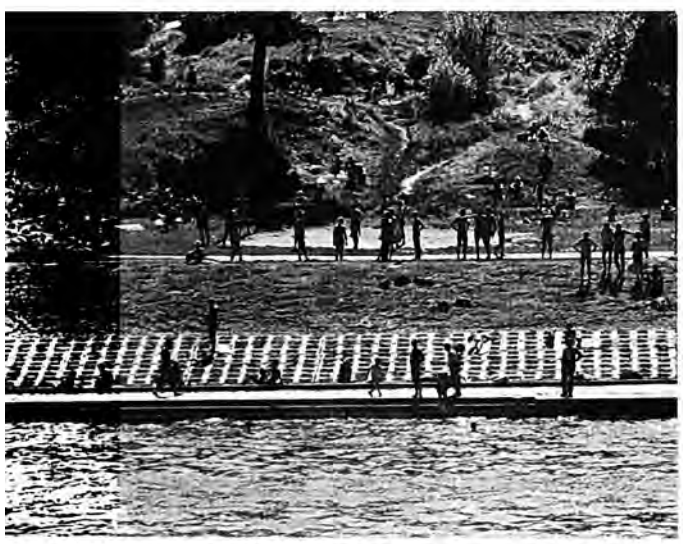
"Think of it, our district ranks third in the city in industrial output. And in spite of its many factories, it is the cleanest and greenest district in the capital. The Izmailovsky Forest Park alone—it is very famous, the largest park in Europe—covers 267 acres. Besides, there are the Sirenevy (Lilac) and Izmailovsky boulevards, any number of public gardens and a lot of greenery in the courts."

The street brought us to the bank of the Yauza. We crossed an old arched bridge. Clear water ran underneath. My companion bent over the railing and threw a coin into the river.

"Look, it's not deep here. The water is so clear, you can see the coin at the bottom quite easily. And not so long ago you couldn't see anything even at a depth of two inches. The surface was covered with a film of oil. To put it in figures, one quart of water in 1966 contained 302 milligrams of oil products. Now a water test shows only 12.5 milligrams. Suspended substances and slime have disappeared altogether, and the volume of dissolved oxygen has increased from 0.9 to 6 milligrams. Living organisms do fine in such water. We keep improving the purification. Now the water carried by the Yauza outside the borders of Pervomaisky District is much cleaner than in its upper reaches. This came about only in recent years, when good purifying units were installed in almost all the 120 industrial plants in our district. But you'll see for yourself."

At the Chromatron plant we passed the shops and walked on to the purifying devices. Three large rooms were packed with tanks of chemical agents. Surrounded by an intricate network of pipes of different calibers, they suggested complex chemical processes in operation. But the reaction proper was taking place somewhere under the floor. There, beneath our feet, the water was being filtered several times over and purified.

Lydia Klyucharyova and I visited several other factories in Pervomaisky District. It had been a typical working day for a district sanitary inspector.



Moscow riverbank on a typical summer day. The credit for the swim-clean water should go to sanitary inspector Lydia Klyucharyova and her colleagues.



Inspector Klyucharyova talking to section head Valeri Krymov (right) and chief power engineer Vyacheslav Yefimov in the sewage treatment shop of the Chromatron Plant.

HEALTH AND URBAN GROWTH

By Kira Bushtuyeva
Doctor of Science (Medicine)

URBAN population growth brings with it more industry and transport and accentuates the health problem of big cities. Health services are one of the most important aspects of urbanization. They have the answer to many of the problems that urban living raises.

For example, good housing creates the best possible conditions for health. A central water supply, with its modern techniques of processing and decontamination, provides city residents with as much good-quality water as they need. By adding certain elements to water, scientists have made it possible to eliminate a number of endemic diseases (fluorine in drinking water, for instance, reduces tooth decay).

In Soviet cities located in the Far North and beyond the polar circle, where there are few sunny days, ultraviolet radiation from artificial sources makes up for a lack of sunshine. This prophylactic treatment is available to anyone who needs it.

There are many such positive elements in urbanization. But there are other aspects of city life—air and water pollution, noise, etc.—that are injurious.

We must know the positive and negative aspects of urbanization to control the process. In the Soviet Union city life has been studied for a long time now, and improvement of the environment is a national problem, governed by national legislation. Sanitary-epidemiological stations are sited in each district and all the big cities. The large measure of power exercised by the sanitary service and its many responsibilities can be expressed in two words—prophylaxis and control.

Each project to be built, as well as allocation of land for construction, must be approved by a local sanitary-epidemiological station. That is a legal requirement.

Another example. The law requires that new factories, and shops added to present ones, provide for the sanitary treatment of their production wastes. Enforcement of this law is the responsibility of the sanitary service. In practice, this means that if the operation of a factory or one of its shops is likely to endanger health, the sanitary service doctor can close it down, fine those responsible and even start criminal proceedings against them.

Studies in heavily industrialized areas have demonstrated that polluted air is injurious to health, particularly children's health. In many countries the growing incidence of pulmonary diseases such as chronic bronchitis, pulmonary emphysema, bronchial asthma and lung cancer is attributed to air pollution.

In the Soviet Union, considerable attention is being paid to the quality of the air in cities and industrial centers. Motor transportation, thermal power stations, steel and nonferrous metallurgical plants, petroleum and petrochemical industries are the chief contributors to atmospheric pollution. It is primarily in these fields, therefore, that industrial processes are being improved and installations built for collecting dust and gas. At the same time, planners are studying the more balanced location of industry. In 1949 the Soviet Union became the first country in the world to set uniform standards of atmospheric quality, which have the force of law. At present, maximum permissible concentrations have been determined for 114 air pollutants and 25 of their possible combinations.

Levels have been fixed for noise, as well. Constant pressure on the eardrums, it was found, can lead to diseases of the cardiovascular and nervous systems. Standards have been set for different premises, such as living rooms, bedrooms, medical wards, doctor's offices, libraries and classrooms, and for outdoor recreation areas. If the noises exceed permissible levels, steps are taken to reduce them.

The Sun also affects health—its ultraviolet, light and heat radiation, in reasonable doses, plays a vital role in life processes. But the amount of ultraviolet radiation is reduced in a polluted atmosphere. In the Soviet Union, natural sunlight standards have been fixed for all types of buildings in which people work and live.

It is also important to plan the layout of a city—its residential and industrial areas—from the standpoint of human health. For example, to counteract the effect of electromagnetic waves, protective zones are established around television stations. In some cases the antennas of TV and radar stations are moved outside the city, and their power is reduced.

The Soviet Union is limiting the growth of big cities to prevent the adverse effects of intensive urbanization. The Directives for the Ninth Five-Year Plan (1971-1975) adopted by the Twenty-fourth CPSU Congress state: "The policy of limiting the growth of large cities shall be strictly adhered to; as a rule, no new industrial enterprises, with the exception of those that provide services for the population and the municipal economy, shall be located in the large cities." The state sanitary service is directly involved in administering this policy. For example, the Moscow City sanitary-epidemiological station, jointly with the Moscow Institute of General Planning, has worked out a project to move enterprises that are health hazards outside the city limits. The remaining enterprises will be concentrated in industrial areas that meet all sanitary requirements. This means that the city authorities—the executive committees of the Soviets of Working People's Deputies—must provide convenient transportation and thoroughfares for pedestrians between residential areas, factories and warehouses.

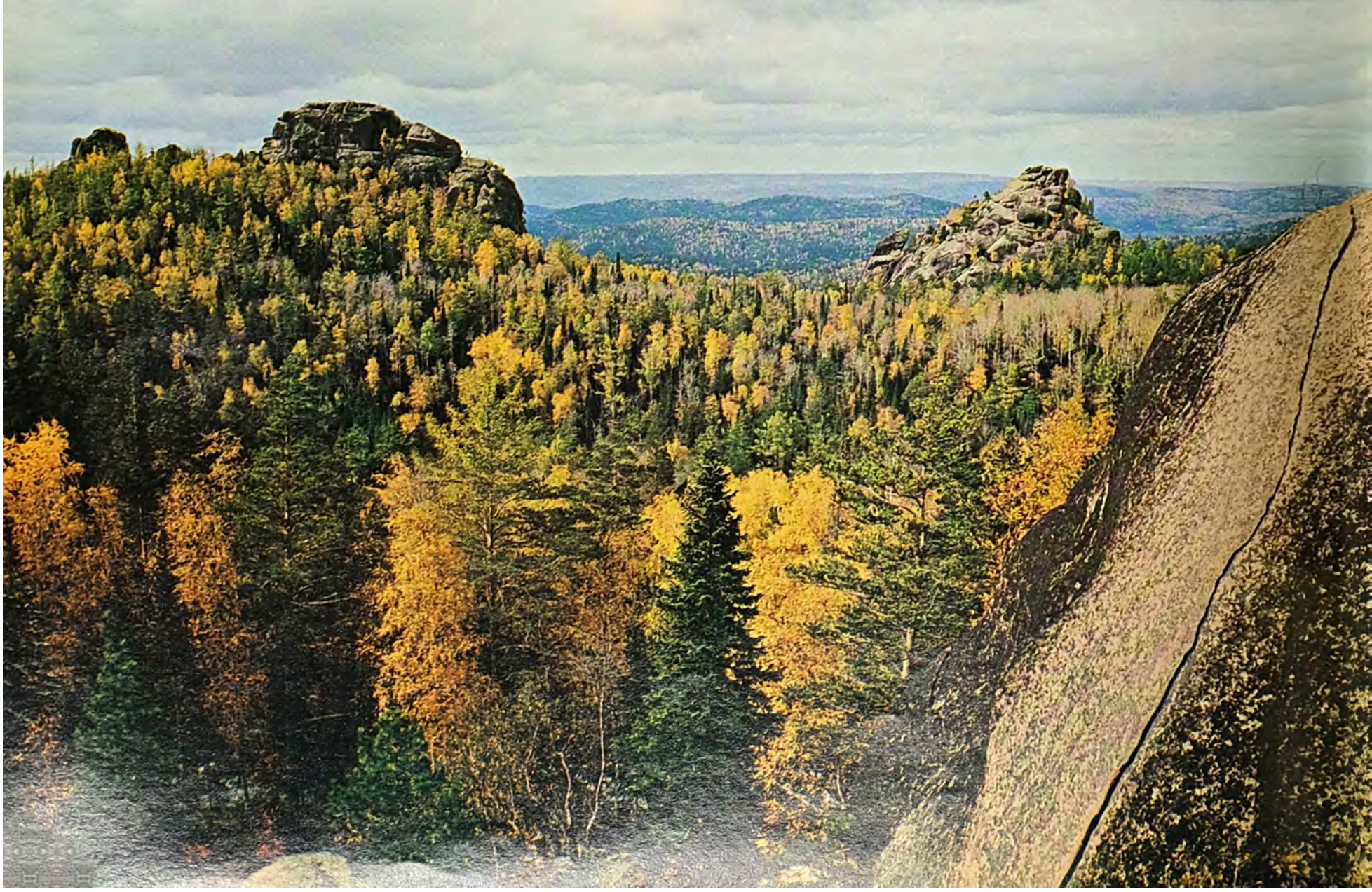
Incidentally, this is not the beginning but the continuation of many years of work in Moscow, a city with a multimillion population. Landscaping on an impressive scale has been done in the Soviet capital. The construction of new and the expansion of present industrial facilities, is, for the most part, prohibited in the city and in the forest-park belt around it. The ban also covers buildings for research and design institutes, experimental bases, schools of higher education and specialized secondary schools. Among the few exceptions are construction enterprises and others that are needed to service the population. The recently endorsed master plan of Moscow provides for a suburban zone, including the forest-park belt, stretching 30 to 35 miles beyond the city limits. This zone will be used for recreation and (mostly outside the forest-park belt) for collective farms to augment the city's food supply, and other essential projects.

There are trees, grass and bushes on roughly a third of Moscow's area. They are taken care of by a big landscaping service that has all the modern equipment it needs, its own nurseries and greenhouses, and a large staff of gardeners and biologists.

A preliminary forecast of air pollution for the next 10 years indicates that with nationwide cooperation, the problem can be solved even at the present stage of development of science and technology. The forecasters took 1969 as a base and allowed for annual growth in production. If the present level of waste treatment continued, they found, air pollution would rise to 132.7 per cent by 1975 and 171.5 per cent by 1980. But with the planned increases in protection measures, the dust and chemical pollutants in the air will drop to 96.7 per cent in 1975, and 74.9 per cent by 1980.

The planners predict similar degrees of success in combating other urban problems, adding up to a considerable improvement in the quality of life in our cities.







Technology and science have helped to denude and pollute our planet, but they have also given us the tools to restore the natural balance. One of the most important of these tools is the preserve, a combined plant and animal sanctuary and ecological research center.

The Chatkal Preserve in the Tien Shan Mountains is famous for its alpine pastures and varied fauna. Left: These typical outcroppings appear in the Stolby (Pillar) Preserve in Siberia's Sayan Mountains. Below: The Astrakhan Preserve, a composite of islands, is a haven for many different bird species. Bottom: These zebras live in our oldest preserve, the Askaniya-Nova. Right: The ginseng plant grows in the taiga preserves of the Far East.







SPEAKING TO THE UNIVERSE: THE SEARCH

IN THE SPRING of 1960 American radio astronomer Frank Drake aimed the 85-foot antenna of the Green Bank radio telescope at the stars Epsilon Eridani and Tau Ceti. In the planetary systems of these stars intelligent life could be assumed to exist. The area was monitored for several months, but no artificial signals were heard.

However, this did not discourage scientists. It was hardly expected that mankind would find inhabited worlds in the boundless expanses of outer space at its very first attempt. As the years passed, increasing numbers of scientists began to give serious thought to this project, which until recently had been a theme for science fiction—the search for extraterrestrial civilizations. This was the subject of an international symposium held at the Byurakan Observatory, Soviet Armenia, last September.

American science was represented, among others, by such distinguished figures as Charles Townes, who shared a Nobel Prize with Soviet academicians Nikolai Basov and Alexander Prokhorov for discovering the laser, well-known cyberneticist Marvin Minsky, radio astronomer Frank Drake, astrophysicists Freeman Dyson and Thomas Gold, chemist O. Ogchell, and the planetologist and exobiologist Carl Sagan.

First Postulate

From the fact that the planets of the solar system never collide, American astrophysicist Thomas Gold drew the conclusion that all celestial bodies which could have collided no longer existed. It followed that the universe was organized very simply, even typically. Then Dr. Gold used several tables and elementary calculations to show that our planetary system was not unusual. Or rather that it should be usual.

Thus, the conference heard the initial proposition:

"We know no unique phenomena in the world. Hence we are not unique either." This idea was advanced more than once.

By "we" the speakers meant the galaxy, the solar system, the Earth, life on our planet and man. Iosif Shklovsky, corresponding member of the USSR Academy of Sciences, cited the assertion that there were no unique phenomena in nature as the first and only postulate of the problem of extraterrestrial civilizations.

Solar Chauvinism

The speakers flatly rejected all varieties of cosmic chauvinism, including temperature chauvinism (the argument that life can be sustained only within the temperature range of minus 76 degrees Fahrenheit to plus 158 we are accustomed to), the carbon-water-oxygen (the argument that these three components are essential for any variety of life), the solar (the argument that life can occur only in stellar systems similar to those of the Sun), the planetary (the argument that life can occur only on planets rotating around stars) and even liquid chauvinism (the argument that life is possible only in the "liquid medium with solid inclusions" we know on Earth).

However, the participants in the symposium were not able to arrive at a common view on all the possible states of matter which could form the foundation for life. They did finally conclude that a gaseous living being was impossible since the products of chemical reaction would be quickly dispersed in gases. They took a little longer to discuss, also without particular enthusiasm, the possibility of solid living bodies (crystalline apparently). The keenest interest was aroused by speculation on the possible existence of living beings made of plasma. Dr. Gold, who argued against such a possibility, was attacked so strongly by his colleagues that he was compelled to alter his view. He even admitted that it was he who had suggested to British astrophysicist and science fiction writer Fred Hoyle the idea of the "Black Cloud"—a huge creature of plasma that roved outer space.

Carl Sagan, who has become known for his theory of a Venusian atmosphere populated with microorganisms that would eventually transform it along the lines of the Earth's, mentioned still another form of chauvinism, which he called intellectual chauvinism—the claim that all the laws of nature had already been discovered. He noted that if there were civilizations older than ours, they should know more of the laws of nature than we do.

The Universe: Inhabited or Not?

A sharp debate was set off by Sagan and his British colleague Francis Crick. The latter said that since we knew life in only one place, any attempt to estimate the number of inhabited worlds in our galaxy would not even approach the truth. If we assumed that only life of a strictly terrestrial type was possible in the universe, we could not expect the cosmos to be inhabited. If we agreed that life of a totally different type could occur on other planets and celestial bodies, the picture would be entirely different. However, the probability of either assumption was approximately equal, Crick thought.

Sagan maintained that though there were no objective criteria, a judgment was still possible. The researcher's ability to mold a plausible model of reality from inadequate information should not be discarded. For instance, though the ancient Greek thinkers had only their powers of imagination and observation to draw on, many of their theories proved true.

Though the only planetary system we know is our solar system, astronomers receive indirect data on the existence of massive satellites in the proximity of several stars. Barnard's star is particularly interesting. Several scientists at the symposium speculated that Barnard's star could have a planetary system consisting of at least three planets. However, they pointed out that life did not necessarily have to occur only on Earthlike planets. Sagan said that if scientific thought were abstracted from criteria laid down by conditions of life on Earth and were limited only by very general conditions, we would have to admit that protein life could have emerged and developed near stars different from our Sun. For instance, a planet rotating around a dwarf star in an orbit similar to that of Mercury would have conditions suitable for life.

Soviet scientist Vyacheslav Slysh went even further. He maintained that life was possible not only on planets orbiting around stars, but on stars, too, and on planets without stars:

"We do not know of any such planets yet. However, a planet or a system of planets without a central star is possible. If there were separate massive bodies like Jupiter on their own in outer space, life on them could emerge without stellar energy. Jupiter in our solar system is a sort of 'underdeveloped star.' It has vast internal reserves of energy and a set of elements suitable for synthesizing the most complex organic molecules. If matter essential for life exists there, if conditions there are suitable for the development of life, if the energy needed for vital activity is available, we may assume that life is possible on single massive planets even without a central star."

However, common protein life is possible on stars too, since not all of them have high temperatures. A short while ago cold, dark, so-called infrared, stars were discovered. The surface temperature on some of them is favorable for protein life. Spectral analysis revealed that such stars had diatomic and triatomic molecules of a composition that could spark the development of complex organic molecules. These stars, it was found, also have water.

Vyacheslav Slysh and Lev Mukhin offered the assumption that infrared stars were the source of organic matter, which was later spread throughout the interstellar space of the universe to participate in the birth of life on the planets. Although skeptics insist that stars, including infrared stars, have a field of gravitation that precludes lifting complex and massive molecules off their surface, it is a fact that matter, which could carry organic substance, was observed to flow out of them. As far back as the nineteenth century the panspermia hypothesis was advanced: that life spores from the shell of a planet were scattered throughout interstellar space and could take root in worlds with favorable conditions.

Life from a Volcano

Lev Mukhin presented his model of the origin of life on Earth. We knew something about the origin of life, he said, also of the evolution of life. What was still a complete mystery was the formation of the heredity mechanism at the earliest stage of evolution and the origin of language at a later stage when reason was taking shape. These two key points in the establishment of life and reason we know nothing about. But scientists have a fairly complete idea of the transition to complex biological formulas. They know which factors affect this process on Earth. They can even reproduce it in part.

Here were the factors that could have conditioned the synthesis of complex organic molecules out of the more simple molecules either on Earth or on another planet with similar conditions: ultraviolet radiation, thermal energy, energy of ionizing radiation, atmospheric discharges and blast waves (this has been proved experimentally). How did this occur under concrete circumstances? We know that the most effective activator of the planetary process of synthesizing complex organic molecules (without which life is impossible) is ultraviolet radiation. Does it follow that both on Earth and on other planets, too, it was ultraviolet radiation and ultraviolet radiation alone that sparked life? No, not necessarily. For instance, on gigantic planets such as Jupiter, ultraviolet radiation was trapped in the upper layers of the atmosphere. Therefore, it was practically ineffective below the canopy of clouds. On the primitive Earth ultraviolet radiation penetrated the air freely. Ultraviolet radiation alone, like any other source of energy, was no more than a match that lit a bonfire. There would be no fire without fuel. It followed that scientists should look to the primitive Earth for a combination of these conditions: energy influx, synthesizing matter and favorable medium.

The model which Mukhin presented to the symposium corresponded to reality and at the same time met the above conditions—an underwater volcano. Such a volcano has a steady and powerful influx of thermal energy, which could produce virtually the same effect as ultraviolet radiation. At the same time, the volcano erupted from the depths the matter essential for the synthesis. And the water in which the volcano was situated was the most suitable medium for the development of the process. Thus, all the conditions were met. There were plenty of volcanoes on the primitive Earth, of course.

Jupiterian or Brain-Machine Symbiosis?

In considering the possibility of various forms of life in the universe, symposium participants did not abandon hope of finding life in the solar system, particularly on Mars or Jupiter. Lev Mukhin gave Jupiter the preference. Jupiter, he said, had the initial material for the synthesis of biological molecules and a source of energy—an internal source. Besides, a wide variety of media were concealed in the depths of Jupiter's atmosphere. On Jupiter matter was found in the gaseous, liquid and solid states. All the components and conditions essential for the birth and development of life were there.

FOR EXTRATERRESTRIAL CIVILIZATIONS

Symposium in Byurakan

Although all the speakers at the symposium stigmatized not only solar, but also protein or rather water-carbon chauvinism, none supported ammonia-carbon or silicon life either. The reason was that silicon, according to the latest findings, cannot possibly replace carbon in organic molecules.

Nevertheless, speakers touched on the inorganic forms of life. American cybernetics expert Minsky advanced the supposition that highly developed civilizations could have coalesced brain with computer or machine. More than that, he maintained that symbiosis of natural and artificial reason was the most promising road for progress. He had no doubt that purposeful evolution of technological systems could reach the stage of reason.

A Universe in an Elementary Particle

The well-known theoretical physicist Vitali Ginsburg, member of the USSR Academy of Sciences, noted that living systems could exist on the basis of elementary particles and not only atoms. The larger part of his paper was an analysis of the possibility of the existence somewhere in the universe of physical laws and physical constant magnitudes different from those on Earth. Here are the points he made:

1. There were no factual data to indicate the existence of physics laws different from those known to us. We could assert with a considerable degree of probability that "one and the same physics" ruled the entire universe. However, it was theoretically possible to assume that superdense matter and energy were governed by physical laws other than those that prevailed under normal conditions.

2. The ancient Greek thinker Anaxagoras advanced a proposition that was incomprehensible to his contemporaries and is difficult to understand even today: "The real is not simply infinite, but infinitely infinite. All in all." The achievements of nuclear physics lead us to the conclusion that beyond a certain threshold in the microworld, the complexity of newly discovered particles and processes, far from diminishing, increases to an even greater degree. Theoretically such particles as freedmonds can exist. We perceive them as a micro-object, though in reality a freedmond contains a whole universe of galaxies and stars.

3. The number of elementary particles discovered today is greater than the number of atoms known to us. Their properties are varied and complex. In this respect the particles are just as bad as the atoms. From this we may assume that, just like the atoms, the particles in principle comprise integral elaborate systems capable of further self-complication, accumulation of information and self-development. This means that life based on particles—and not only on atoms—was possible. There is no actual proof yet. Nor is there any disproof that would rule out the possibility of such systems.

4. It is highly probable that outside the Earth we would encounter life on the "atomic-molecular" level based on the same atoms and molecules that exist on Earth. In that case the basic laws of physics would not, of course, differ from those on Earth. However, the forms of life and the "materials of life" could differ very greatly from those we know, for there are innumerable combinations of atoms and molecules which do not exist or were not obtained in conditions familiar to us (in nature or in the laboratory). It follows, then, that life on other planets could differ greatly from its forms on Earth, even though the basic physical laws known to us remained the same.

The Paradox of Exclusiveness

If we were to proceed from the propositions of philosophy and from our knowledge of nature, extraterrestrial civilizations should exist in abundance. Then why is the universe silent when signals from civilizations transmitting information should be penetrating its expanses?

Several answers were offered at the symposium.

Perhaps the universe was not silent at all, but its signals were penetrating our bodies without our being aware of it.

Carl Sagan formulated the question this way:

"Why have we decided that radio waves are the ideal form of interstellar communication? We have been using radio communication for only three-quarters of a century, and no one can say for sure that in a quarter of a century nothing better will be found."

The American astronomer Sebastian von Hoerner agreed that our method of communications might seem childish. However, grownups should know how to talk to children, shouldn't they? Of course, it may be that they knew how to talk to children but did not want to. Were we old enough to talk to grownups? We would know only when we tried to talk ourselves.

It was also possible that all highly developed civilizations of the universe were being cautious: Each was listening in but was afraid to speak. The only hope we had in that case was to intercept a signal sent to someone else.

Then a very simple idea was advanced: Signals were being sent to the Earth, only we were unable to separate them from natural radio waves.

"Black Holes" of the Universe

The heavens were too large for us, the radio wavelength suitable for space communications was extremely wide, while the number of radio telescopes was limited. What should they be directed at?

Some scientists proposed that attention be concentrated on the closer objects to search for civilizations nearer our own level of development. Other scientists, on the contrary, proposed that attention be focused on signals from distant galaxies. They said that a higher type of civilization had a higher potential, and the more remote artificial signals could be brighter.

Freeman Dyson urged his colleagues to pay special attention to the infrared celestial sources of light, since any artificial system consuming power would dispose of excess heat to avoid overheating. This heat would probably be radiated in the form of infrared waves.

Assuming that supermassive collapsing stars were somehow connected with extraterrestrial civilizations, Soviet scientist Nikolai Kardashov advanced a hypothesis of supercivilizations traveling in time. The hypothesis boils down to this: Theoretically some stars could be compressed to a state in which no form of radiation could be emitted from their surface owing to tremendous gravitation. The star emitted no light; it radiated neither heat, radio waves nor particles. It only attracted bodies caught in its highly potent gravitational field—a real "black hole." These points in the universe might have specific highly important properties, since superpowerful processes of transformation of energy occurred there. In the opinion of Kardashov, the "black holes" could open the "door" to other space-time worlds. Estimates showed that a stellarship trapped in a "black hole" might, under certain conditions, dive out into a totally different universe from ours! In this case the previous universe would have completed its history, although the cosmonauts would think that only a few seconds had elapsed.

Rules of the Space Game

Which wavelength should you tune in to catch messages from outer space? That of interstellar hydrogen?

It is some years since Philip Morrison (who attended the symposium) and Giuseppe Cocconi called the hydrogen wavelength the ideal one for interstellar communications. Since then astrophysicists have studied the radio-frequency radiation of certain other components of interstellar gas. There are now at least a dozen radio frequencies with specific advantages for interstellar communications.

Soviet physicist Lev Gindilis proposed his own method for "issuing calls" to and maintaining communication with other civilizations. Gindilis proceeded from the fact that the civilizations trying to establish contact would "play by the rules of the game." Now, in an ordinary game the partners or teams do everything they can to oppose one another; civilizations establishing contact would try to help one another. We do not know in which direction or on which frequency we should try to search for the artificial cosmic signal. The problem would be simplified tremendously if we could eliminate the frequency problem. To do so it would be necessary to cover the signal wholly by the optimal frequency range. Gindilis proposed a method technically feasible for us. With its help we could even now cover the entire channel with a signal so that the other party need not search for the frequency. At the same time the probability of the signal being heard would rise sharply. Although the channel "coverage" might not reveal to the other party the artificial nature of the signal, it would certainly arrest the interest of all who had "radio ears."

To Speak or to Remain Silent

The symposium participants expressed the hope that earthlings would eventually manage to make contact with cosmic civilizations. They were apprehensive, however. Apprehensive of what? Of course they had no fear of an invasion from space, though they rejected the theory that any civilization which managed to enter outer space would necessarily be a humane variety.

The symposium seriously discussed the most reasonable line to pursue: Would it be better to send signals to outer space or to sit quietly and listen in? Or would it be best to muffle our ears?

The danger did not necessarily stem from a potential invasion. For instance, Freeman Dyson strongly opposed the thesis of the resolution which said that in case of a reasoned approach, the outcome of contact could only be positive. He wanted the word "only" deleted. He cited the not unlikely possibility of the "correspondents" instilling in earthlings through their transmissions a system of views different from those that obtain on Earth.

Other scientists spoke of the possibility of acquiring knowledge too soon, knowledge that society was not prepared to assimilate. Still others recalled the wise rule: The road to the truth is just as important as the truth itself.

American chemist O. Ogchell proposed to put on record that contact with extraterrestrial civilizations would expand man's knowledge. Each one should decide for himself whether this was good or bad.

The symposium at Byurakan elected a temporary group for the exchange of information between scientists of the world working on the problem of extraterrestrial civilizations. Four Americans were elected members: Frank Drake, Philip Morrison, Bernard Oliver and Carl Sagan. Four Soviet scientists were also elected: Nikolai Kardashov, Grant Tovmasyan, V. Troitsky and Iosif Shklovsky, and one Czech scientist, R. Pesek.

Eventually, to mankind's surprise, a new Columbus will discover a new cosmic America. We will then quote Mark Twain, who said that it would have been even more surprising if America had not been there to discover.

CONSERVATION: EVERYBODY'S JOB

PHOTOGRAPHS BY MAYA NACHINKINA



YAROSLAVL REGION in the north of Russia is rich in woodland. Its forests abound in elk, hare, fox, marten, badger and beaver. The wildlife is cared for by forest wardens and their volunteer assistants —unpaid inspectors and local villagers who know and love the woods. The Russian Federation's law on nature protection underlines the fact that conservation is everyone's responsibility.

The government conservation agencies are assisted by mass volunteer organizations called nature protection societies. In the Russian Federation, they have a membership of 20 million.

Each society has its scientific councils and public inspectors. Children and youth organizations are drawn into their activities, and the national and local press lends its support.

Victor Troitsky, senior warden in Danilov District, Yaroslavl Region, does more than protect the game. After years of observation, he prepared a map showing all the species of trees and animals in the area. Aside from keeping an eye on his charges and feeding them when necessary, he checks the reservoirs and holds the managers of factories and collective and state farms responsible for pollution.

Once an elk was found killed in the woods. The poacher had left clues—an ax with his fingerprints and boot tracks. That day local residents had noticed a stranger, and they drew a verbal portrait of him. The testimony of forester Yakov Pliskevich and his son, who had last seen the elk alive, also came in handy. Militiamen and state hunting inspectors began a search for the poacher. At the local railroad station, it was suggested that the elk might have been killed by a shepherd who often drove his herd across the tracks. The militiamen found the man soon enough—he was Victor Golubev, a new arrival in the area, who had come from town after many changes of job. Faced by direct evidence—the ax and his footprints—and the testimony of witnesses, he was forced to admit his guilt.

Two weeks later, Golubev was called up for trial in a comrades' court at the club of the Pokrovsky Village Soviet. He was publicly censured and fined 500 rubles as specified by Article 166 of the Criminal Code of the Russian Federation.

Conservation Laws

Each of the Soviet republics has its own conservation law adopted by its own Supreme Soviet. These laws do more than protect nature from man; they *preserve* nature for man.

All these laws say essentially what Article 3 of the law of the Georgian Republic does, that in exploiting the natural wealth of the republic, consideration must be given to the interests not of a particular industry but of the country's economy as a whole and the cultural and esthetic needs of its people.

Each of the conservation laws has a general section and a regulating section. The general section lists the objects protected. Thus, Article 1 of the Armenian conservation law enumerates the soil, forests, minerals, water resources (rivers, lakes, subterranean waters), parks, very old trees and other rare plants, waterfalls, unique geological formations, valuable species of flora and fauna, territories on which natural monuments with cultural, scientific and educational significance are situated, as well as territories that are especially beautiful, that are important for the advancement of knowledge or that are used by people for recreation and health.

The prohibition section lists the activities forbidden. Thus, Article 2 of the Law on the Protection of Nature of the Georgian Republic forbids any business or other activity likely to pollute the water, air or soil; spoil the climate; kill the fish; erode the soil; make rivers shallow; dry up lakes; cause landslides, floods and deforestation; destroy valuable and rare plants, wild animals and birds or contaminate recreation areas. The use of the natural wealth of preserves for economic purposes and any activities that impair their natural state are strictly forbidden.

The regulating section, as a rule, requires that various constructive measures be taken by institutions, factories and farms that use natural resources.

Article 6 of the conservation law of the Ukrainian Republic obliges farmers to work in such a way as to prevent erosion by water and wind and to improve soil fertility. Article 7 requires those who engage in the exploitation of minerals to protect the earth's surface and the buildings, reservoirs and plants located on it from the destructive effects of mining.

The equivalent article in the conservation law of the Turkmen Republic is even more detailed. Article 2 prescribes a series of agrotechnical, reclamation and antierosion measures collective and state farms must take to protect the soil. The law also requires enterprises and organizations engaged in building, prospecting and mineral extraction to restore the fertility of the soil in the areas they work, using their own manpower and funds for the purpose.

Articles 8, 9, and 10 of the Ukrainian conservation law deal with forests and shelter belts. The law says that forests are more than sources of timber, fuel, food and fodder. They serve as the habitat of useful animals and plants and as vital geographical intermediaries regulating the water level of rivers and lakes, supporting riverbanks, protecting the soil and controlling the climate. They also have significant health, cultural and esthetic value. Those who exploit the forests are required to see to their speediest restoration, to prevent fires, unauthorized felling of timber, damage by cattle, insects and fungus diseases, and to look after them generally.

Article 21 of the Ukrainian law forbids the pollution of the air in inhabited areas by noxious gases and vapors, soot, dust and other substances injurious to men, animals and plants. To protect the atmosphere from pollution by industrial wastes, the law forbids the licensing of new or renovated factories, shops or units unless they are equipped with purification devices.

Pastures and natural vegetation characteristic of a given landscape, rare natural formations and rare species of flora and fauna, natural parks and preserves are also protected by the law.

Penalties for violation of these conservation measures are fixed by the general code in some cases, in others by the law itself. Thus, under Article 4 of the Estonian conservation law, persons found guilty of deliberately destroying and damaging objects of nature in preserves or other protected areas are liable to imprisonment for a period of up to two years or corrective labor for from one month to one year.





Alarming Pages of the Red Book

BY PROFESSOR ANDREI BANNIKOV

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Six hundred animal species facing extinction have been registered by the International Union for the Conservation of Nature (IUCN) in its Red Book. The book shows whether the species is increasing or dying out, how it is being preserved, whether it is multiplying in zoos and how many animals are left. Professor Bannikov describes how rare species are protected and replenished in the Soviet Union.

WITH the rapid industrial upsurge of the mid-nineteenth century, man launched an offensive against nature. The result of that attack was the complete disappearance of many species of the animal world, including the dodo, a huge flightless pigeon. The meat of the dodo was edible, like the flesh of turkeys, a fact that proved fatal to the bird. Other animals, too, were indiscriminately slaughtered by hunters with a sharp eye and iron hand, who clung to the myth that nature was inexhaustible.

Hunting flourished, and the animals were disappearing. No wonder that as early as a century ago, the moa ostriches of New Zealand were hunted only by biologists, but all they could find were the bones. Every last moa ostrich was gone. Sables in Siberia, aurochs in North America, saigas in Asia, lions in Africa and kangaroos in Australia were mercilessly exterminated. Inevitably many species vanished completely or were rarely seen. In all, 36 species of large animals and 150 bird species and subspecies perished in the unequal encounter with man. If this slaughter continues, hundreds of animal and bird species will not survive the century.

True, the extinction of some species and the emergence of others is the basic law of evolution, a process which has been going on for eons. But when man moves in, the rate of extinction becomes catastrophic. It took the pioneers of the Komandorski Islands less than 30 years to kill off the harmless Steller's sea cow peacefully feeding on sea kale in coastal waters.

We also manage to destroy animal species in a less direct way. Our economic activity alters the natural conditions of habitation, often leaving animals with an environment in which they cannot survive. Environmental changes are inevitable, but whether the animal world, in all its variety, survives or is forever lost depends on man and man alone.

In the Soviet Union decrees restricting hunting, issued by the government in 1919 and 1922, saved deer, saigas, aurochs and beavers from dying out. Later, strict measures were taken to protect many animal species which by then were becoming rare.

To replenish those animals and to anticipate the harmful effects of man's economic activities, we must understand the evolution of nature untouched by man. To this end, animal preserves have been set up in the various geographic zones of the Soviet Union. Siberian taiga, feather grass steppes, mountain valleys and clear lakes are all to be found in the present 91 state-run preserves. At these scientific bases, whose area totals 18 million acres, biologists are able to study the rare species.

Which species are considered rare? Obviously you cannot judge rarity in terms of how many animals of one or another species survive. The number of bears and quails, wolves and hares, varans and ants cannot be equated. If, however, there is a large drop in the population of a species and its habitation area shrinks, it is regarded as disappearing, as rare. The rare species, naturally, include those whose number is always small.

Modern principles of conservation do not reject a reasonable use of any natural resource which can be replenished, provided it is scientifically grounded and carefully thought through. Only a strict observance of scientific recommendations will curb the all too zealous factory manager. Even such a seeming trifle as a change in the whimsical fashions of Paris may turn out to be fatal to crocodiles, for example.

But the history of animal life is more than a tale of human villainy. By their tireless effort, Soviet biologists have saved saigas, Kamchatka beavers, sables, fur seals and beavers. Of course, the success of these efforts depends largely on whether the habitat of a disappearing species has remained unchanged. If it is still undamaged and the biological capacity for reproduction of a species is high, then its population may be rapidly increased, provided the animals are protected. Over the past 30 to 40 years the elk population has tripled, the number of sables has increased 1200 per cent, beavers 8,000 per cent and saigas 1,000 times. Even the relaxation of the no-hunting rule—under strict inspection—has not reduced the population of these animals.

Most countries now have stringent conservation regulations. The IUCN has issued a Red Book, which is a record of the species facing complete extinction.

In January 1970,16 animal species of USSR fauna were registered in the Red Book—the polar and brown bear, tiger, snow leopard, wild donkey, Kamchatka beaver, red stag, reindeer, Middle Asian gazelle, Menzbir marmot, Atlantic walrus, Kurile seal and other animals. Also eight varieties of birds, including the red-legged ibis, black crane, white crane and white stork.

It is in man's power to reverse the effects of his depredations and to preserve the fascinating variety of our animal kingdom.

Making long expeditions over the hummock ice of the Arctic Ocean, the polar bear sometimes reaches the shores of the Arctic islands and wanders into the tundra of Canada, Alaska, Greenland and the Soviet Union. Since only a few thousand of these powerful beasts are alive today, they can be hunted only in very exceptional cases. Wrangel Island, off the northeastern coast of Siberia, is under special protection because that is where these animals breed.

This largest animal of the tundra, the reindeer, moves in big herds, following the same paths every year. Its natural enemies are the wolf and wolverine. But only man has managed to slaughter so many millions of these creatures.

In 1924, the Lapland State Preserve was set up in the central part of the Kola Peninsula. As soon as deer hunting was banned, the number of animals increased.

The Soviet Union has the world's biggest tiger—the Ussuri. There are only about a hundred left. Man's fear, his ignorance of the tiger's biology and his desire for the beautiful pelt resulted in near-extermination of this beast in the Soviet Far East.

Today the animal is protected by law. Young tigers can be caught only with special licenses, for zoos.

For a long time the Kamchatka beaver has been very important to the peoples who live on the shores of the northern Pacific. The animal's fur was used to make clothes and warm dwellings. Its meat was considered a delicacy. But the industrial development of the North changed the picture. Man went after the warm, beautiful and durable fur of this 90-pound representative of the marten family, and the Kamchatka beaver began disappearing at an alarming rate. After a long ban on hunting these animals are back in their original numbers.

There was a time when the sable was doomed to extinction because of its beautiful, glistening long fur. Covering a bluish and warm undercoat, it is the pride of the Russian woods.

When sable hunting was restricted after the October 1917 Revolution, there were only small numbers of these animals in inaccessible parts of Eastern Siberia. Now there are as many sables as there were 300 years ago.

A truly Russian animal is the little desman. Its only relative, the Pyrenean desman, is half its size. Musquash—the fur of the animal—is thick, heavy and shiny, and comes high on the international fur market.

By the beginning of this century the desman was almost extinct. The situation changed rapidly after the establishment, in 1935, of the Khoper State Preserve, in the south of the European part of the Soviet Union.

The white stork is a large bird that reaches a height of almost four feet and a wing span twice that length. No landscape in the Soviet steppes is complete without stork nests on the tops of village houses. The bird uses its immense nests (up to six and a half feet in diameter) for many years.

The black stork is somewhat smaller and is found in the southern parts of the country.

Polar Bear

PROTECTED BY LAW

Reindeer

Tiger

Kamchatka Beaver

Sable

Desman

Stork



Around the Country

YOUNG CITY

Angarsk, a 20-year-old city in the East Siberian taiga, has been growing fast; its population now numbers 200,000. Located on the Angara River, it has a modern industry centering around complexes of oil-refineries and petrochemical plants. It also manufactures structural elements and electrotechnical equipment.

Angarsk residents are predominantly young. The city has an average of 10 housewarmings, 15 births and a dozen wedding parties each day.

ELASTIC DIAMONDS

The diamond ribbons manufactured in Kiev, the Ukrainian capital, combine superhardness with flexibility. These "elastic" diamonds are made by pasting a rubbery binder containing grains of diamonds on highly durable fabric. The new device cuts polishing time by nine-tenths.



ULTRASONIC GUARDS

An ultrasonic device to prevent mollusks and other marine animals from attaching themselves to ship's hulls was tested recently by the *Surgeon Vishnevsky*. Growths of this kind cut the speed of vessels by 10 to 15 per cent and place an additional load on the engines. The device, designed by researchers at the Institute of Marine Engineers in Odessa, sends weak high-frequency sound waves through the ship's skin, frightening off the unwelcome passengers.

ANTICORROSIVE

Soviet researchers have devised a promising method of combating metal corrosion in water-desalting installations where hot salt solutions are used. The bottom of the evaporation chamber is covered with a layer of dry salt, which is heated from below by a hot air system. When the Ukraine will soon be getting a French laser device that measures distances of up to 1,250 miles with a maximum error of only 12 inches. Representatives of the French space research center visited Uzhgorod to help choose a site for the laser installation and give advice on assembly. The French guests described the visit as their contribution to scientific cooperation between the two countries.



SELF-PROPELLED COMBINE

A plant in Birobidzhan, the center of the Jewish Autonomous Region in the Soviet Far East, has started manufacturing a rice harvester that can operate on wetlands. The machine cuts a swath 15 feet wide and threshes 11 pounds of grain per second. It is operated by one person.

SATELLITE TRACKER

The satellite tracking station of Uzhgorod University in the

GEORGIAN LEGEND

The age of *Amiraniani*, the legend about the Georgian Prometheus, Amirani, has been determined by astronomers of the Abastumani Observatory in Georgia. The story originated no later than 2500 B.C., in the Aeneolithic age, they say, and not in 1500 B.C. as previously thought.

To date *Amiraniani* more accurately, astronomers used the data contained in the legend. It says that after Amirani's birth his mother Dali, identified in ancient Georgia with the Sun goddess, placed him in Taurus, one of the 12 constellations of the zodiac.

The vernal equinox makes a complete round of the zodiac in 26,000 years, remaining in each constellation, in a definite pattern, for 2200 years. At present it is located in Pisces, where it moved early in our century, having traveled from Taurus through two constellations in the past 4500 years.

WATERMARKS

Leo Utter and his wife Juje from the Estonian city of Tartu own a rare collection of more than 700 sheets of watermarked paper. Their pride is a sheet of French origin that dates back to 1527.

The Utters have become specialists in this unusual field. Juje Utter has helped scholars determine when many of the old

DOLPHIN PLANE DESIGN

Sergei Rogov, an inventor who lives in Leningrad, has designed a hydroplane that can be maneuvered at very high speeds. Watching dolphins in motion, he noticed that on sharp turns they change the direction of their pectoral fins. The tail end of his craft has a pair of finlike wings that extend in the direction of the turn, thus creating the necessary list.

NORTHERN VINES

Forty-five varieties of wild Amur grapevines have been collected in the Far Eastern taiga by an expedition of the Institute of Viticulture and Winemaking of the Russian Federation. They will be used to develop new frost-resistant cultured varieties for the European part of the country.

Many cultured varieties have already been grown by the plant breeders of the Soviet Far East from Amur vines, which can withstand frosts of up to 40 below.



DANCE ALBUM

This year a series of recordings called "Dances of the Peoples of the Soviet Union" was issued by the Melodia Company. The album is dedicated to the fiftieth anniversary of the formation of the USSR.

SEMIPRECIOUS STONES FOR CONSTRUCTION

One of the fabulous riches of the Kola Peninsula is the eye-catching ornamental stone used for building interiors.

An experimental industrial complex is being created at Monchegorsk, Murmansk Region, to work amethyst and cyanite druse, khibinite, amazonite, urtite and other minerals.

Geological exploration has shown that the reserves on the Kola Peninsula are practically inexhaustible. Experts say that these minerals can be extracted by industrial methods.

The new materials which the Monchegorsk complex will produce will soon be used by Murmansk builders and artists.

salt solution fed to the chamber from above is poured on the bottom layer, the water in it evaporates almost instantly while the salt accumulates on the crystals at the bottom. The layer of hot salt between the hot solution and the bottom of the chamber protects it from corrosion.

The productivity of the new installation is practically unlimited, and the cost is not high. An added advantage is that in addition to fresh water, it produces salt, a valuable chemical raw material.

SOLAR BATTERY

Soviet specialists have designed a portable solar battery that is suitable for mass production. Called Photon, it transforms light into electric energy with silicon converters. It can supply a TV or radio set with electricity for practically an unlimited time—provided there is enough sunlight, of course.



RARE SEAGULL

Researchers from the ornithological laboratory of the Kazakh Institute of Zoology have found a colony of the rare black seagull on an island in Lake Ala-Kul. The lake, located on the boundary of Semipalatinsk and Taldy-Kurgan regions in Kazakhstan, is well stocked with fish.

The first and only black seagull previously known was found in Mongolia in 1929, and there have been no reports of any colonies since. The discovery on Ala-Kul, therefore, is a real ornithological sensation.

This unusual variety of bird has been listed in the Red Book of the International Union for the Conservation of Nature.

STUDENT INVENTORS

The student scientific society at the Moscow Institute of Railroad Engineering has more than 3,000 active members. During the 1970-71 academic year alone they did 520 research projects and produced a number of inventions, including a new excavator, that have been applied in industry.



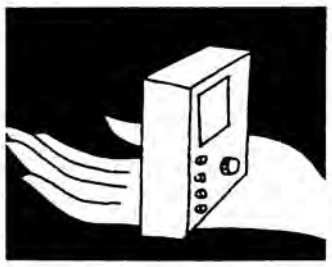
A ROCK TOWER

For many years archeologists have been excavating on Mithridates Hill near Kerch, the Crimea. This was once the site of Panticapaeum, the capital of the ancient Greek Kingdom of the Bosporus. Not long ago remnants were found there of three fortress towers and a wall 75 feet long.

The tower at the northwestern end of the fortress is especially interesting. Its builders chose a rock with a natural bulge, shaped it on all sides and surrounded it with massive stone blocks. At the top they built a platform for ballistae and onagers, formidable weapons that could hurl five-pound balls a distance of more than 1,000 feet.

The new finds will help recreate an exact plan of the acropolis in the center of Panticapaeum.

prints and drawings in the University of Tartu collection were created.



X-RAY INVENTION

Leningrad designers have developed a miniature X-ray apparatus that can probe opaque devices such as semiconductor diodes. The tiny instrument is also used in high-speed photography—it can record the development of an electric arc or the explosion of a microwire—in determination of defects in welded seams and identification of rare minerals.

The inventors were awarded a Gold Medal at the Leipzig Fair.

PRIZE DICTIONARY

The Ukrainian Republic State Prize for 1971 was awarded to a three-volume Russian-Ukrainian dictionary, the product of many years of work by scholars of the Institute of Linguistics of the Ukrainian Academy of Sciences. More complete than any Russian-Ukrainian dictionary previously published, it lists about 120,000 words.

GLACIERS CATALOGUED

Work is under way on a catalogue of the glaciers of the Soviet Union. Twenty-six in the eastern part of the Transcaucasus and Daghestan have already been listed. The glaciers of the Caucasus range contain about 35 cubic miles of frozen water.

POWER STATION

The Krasnoyarsk hydroelectric station, the world's largest, recently began operating in Western Siberia. It is located on the Yenisei River and has a capacity of six million kilowatts.

Because of the rigorous natural conditions, many new principles were tested in the station's construction and in designing its custom-made equipment.

DRILLING AID

An ingenious idea to raise the efficiency of iron ore drills has been suggested at one of the institutes of mining engineering. Electrodes are mounted on the drill and joined to a source of high-frequency current, whose oscillations spread through the ore and loosen it up.

In test runs the new drill worked three times faster than the usual type.

VILLAGE BOOK COLLECTION

Vladimir Amosov, a peasant from Arkhangelsk Region in Northern Russia, was an admirer of old Russian books and manuscripts, and his collection would have graced any library. It included about 200 manuscripts dating from the fifteenth to the nineteenth centuries, and approximately as many old books. A unique item was the autobiography of Epiphanes, a prominent seventeenth century writer.

Amosov bequeathed his collection to the Leningrad Institute of Literature (Pushkin House), which received it not long ago.

Among the recent acquisitions of the institute are the archives of Nikolai Shestakov, a peasant from the same region whose hobby was copying and illustrating old manuscripts. He also wrote a history of his village.

Last year members of the Pushkin House staff combed Arkhangelsk Region and, with the help of students of local lore, found more than 350 hand-written books of the fifteenth to the nineteenth centuries.



POLLINATING COTTON

Uzbek scientists have discovered an interesting phenomenon: On plantations where bees are used to pollinate cotton plants, the yield rises by 20 to 25 per cent. In addition, the cotton fiber is longer and has greater tensile strength.

SALT PRESERVES WOOD

Solikamsk (Urals) is the only town in the Soviet Union where you can see the saltworks that were in use three or four centuries ago. These wooden structures are in just about as good condition today as when they were built. The wood has been protected against rot and insects by the salt solutions with which it was impregnated over the centuries. The boiling premises and brine towers were built of select timber. Logs 50 feet long went into the walls, which were 15 to 20 feet high. Only a few of old Russia's churches were built of logs that long. The warehouses in which the salt was kept had double-layer walls 260 feet long.

STATUE OF BUDDHA

Members of the Institute of History of the Tajik Academy of Sciences have dug up a 40-foot statue of Buddha in the state of nirvana. The sculpture was found during archeological excavations on the site of an ancient Buddhist monastery near Kurgan-Tyube, in the Vakhsh valley of Tajikistan, Central Asia. It is being prepared for display at the Museum of History in Dushanbe, the Tajik capital.





PYATNITSKY CHORUS

The Russian Federation's Glinka State Prize for 1972 was awarded to the leaders of the famous Pyatnitsky Russian Folk Chorus: chief choreographer Tatyana Ustinova, art director Valentin Levashov and chief conductor Alexander Shirokov.

The chorus was organized 62 years ago in Voronezh Region by Mitrofan Pyatnitsky, a well-known musician and collector of Russian songs. It has performed all over the Soviet Union and in 25 foreign countries.

Throughout its existence the group has been collecting, arranging and performing Russian folk songs and dances, both old and new. Soviet composers have written a number of works especially for it.



ADAPTABLE MONKEYS

The world's only northern monkey farm, organized by members of the Institute of Poliomyelitis and Viral Encephalitis of the USSR Academy of Medical Sciences, has functioned for more than seven years now near Moscow. Rhesus and green monkeys live there in the open the year round. Despite the strong winter frosts, they have been thriving and breeding normally, which shows that they can adapt to rigorous climates.

GLINKA MUSEUM

The music museum named for Russian composer Mikhail Glinka has a collection of 2,000 instruments. Among them are both antiques and instruments played today all over the world.

According to a conservative estimate, one flute made of bird bone is at least 4,000 years old. It was found during excavations on Chyornaya Gora (Black Mountain) in Ryazan Region.

Other old instruments include a *konkon*, or music bow, and various kinds of clay whistles.

The museum has another unique collection that is not yet on display—gold and silver wind instruments used in army bands.

50 YEARS
OF THE USSR
1922-1972

ESTONIA'S NEW FIVE-YEAR PLAN

BY JOHANNES KEBIN

First Secretary, Central Committee of the Communist Party of Estonia

LATE LAST YEAR the Estonian Supreme Soviet approved the republic's plan of economic and cultural development for 1971-1975.

The main objective of the five-year plan is a considerable rise in living and cultural standards, to be achieved through high rates of growth of socialist production. That, in turn, implies greater efficiency, the comprehensive application of scientific and technical findings and increased labor productivity.

The projected growth in labor productivity (36 per cent in industry and construction and 31 per cent in agriculture) does not threaten us with unemployment. Quite the contrary. We need higher productivity to meet the plan targets.

Real per capita income in Estonia will grow by 24.5 per cent in 1971-1975.

Rising incomes will inevitably increase the demand for foodstuffs, clothing, automobiles, television sets, etc. We need not only more but better goods. That is why the new five-year plan emphasizes the consumer industries. The output of textiles—cotton, woolens, linens and silks—will increase, as will the production of leather shoes, knitwear and furniture. More meat, dairy products and other foods will be available in the shops.

By the end of the five-year period Estonian industrial output will be 40 times greater than in 1940.

The number of jobs is expected to grow faster than the population generally. This demonstrates once again that the right to work, guaranteed in our Constitution, is not just a desirable theory, it is a fact: There is a job for everyone.

Estonia's industrial development program, as indicated in the five-year plan, takes due account of the countrywide division of manpower, natural resources and raw materials, and of the present structure of production.

Electrical engineering, instrument making and other industries that do not require much metal will continue to develop rapidly. More shale-oil-fueled power stations will be built; in 1975 Estonian power plants will generate about 17 billion kilowatt-hours.

The construction of new capacities and the rebuilding of present enterprises will boost productivity in all sectors of industry.

Sweeping changes will also occur in agriculture. Over one billion rubles will be invested to broaden the material and technical base of the collective and state farms. Large livestock complexes, with the concentration on dairy production, will be built. By the end of the five-year plan period such complexes, each for 600 to 1,000 animals, will accommodate nearly 50 per cent of the dairy cows. The republic will build 12 large pig-breeding complexes. Projected irrigation facilities will turn hundreds of thousands of acres of marshland into fertile fields. Estonian farmers will be getting tens of thousands of new tractors, grain harvesters, trucks, cross-country vehicles, excavators and bulldozers.

Compared with the preceding five years, allocations for scientific and technical research will be increased by 70 per cent.

More and more people with a higher and specialized secondary education are needed. The plan provides for training larger numbers of specialists. Funds budgeted for the construction and updating of colleges and student dormitories will be 70 per cent greater than for the previous five years.

The Soviet Union will complete the changeover to universal compulsory secondary education in the current five-year period. Estonia will build some 50 large schools in 1971-1975 to accommodate a larger student population.

More money is earmarked for culture, health services and sports. New palaces of culture will be constructed in Haapsalu, Tamsalu and Elva, and collective and state farms and factories will build dozens of new clubs. A new theater is being built in Viljandi and new Young Pioneer palaces in Tallinn and Võru. Work is also under way on new hospitals, sanatoriums, Young Pioneer camps and sports complexes.

Five years is a relatively short time, but even this incomplete list shows what tremendous changes are scheduled for our republic in this period.

What is the groundwork for our ambitious plan? The friendship and mutual assistance of all the peoples of the USSR. Estonia's achievements are a product of the joint efforts of all the fraternal republics.

Lacking metal of our own, we nevertheless have been able to develop a machine-building industry that holds the leading place in our economy. Our machines are exported to all the Soviet republics and to foreign countries. We get metal, oil products and machine tools from the Russian Federation, the Ukraine, Georgia and Azerbaijan. Our textile industry processes cotton that comes to us from Soviet Central Asia.

A maritime republic, Estonia ships two-thirds of its fish products to other parts of the country and abroad. The Russian Federation, the Ukraine and Lithuania supply us with fishing boats. In exchange for grain and sugar, Estonia sends meat, milk, eggs and potatoes to other republics. These isolated examples are typical of our economic relations, which have developed greatly in both scope and depth.

Cultural ties between the Soviet republics are also close. In the past few years Estonia played host to writers, composers and actors from Moldavia, Armenia, the Russian Federation and Georgia. Estonian cultural festivals were arranged in these republics. Performing groups like the Estonian Male Chorus are known all over the country and tour Soviet cities every year. Books by Estonian writers are translated into the languages of other Soviet peoples, and Russian, Ukrainian, Armenian and other authors are translated into Estonian.

To put it simply, the cooperation of different nationalities is a mighty booster of social progress. This cooperation, based on the equality of the fraternal republics, is the reality behind the target figures of our five-year plan.



Estonian Festival Of Music

The best song and dance companies in the republic compete for a place in this gathering.

Photographs by Samuel Migdal and Alexander Makarov

Every kind of music—folk, band, symphonic, ballet—has its place at this traditional festival. It is held every fifth year and marked its grand centennial three years ago.

Singers, musicians, dancers, amateur and professional, gath













The young, old and in-between, in colorful native costume, a



er by the tens of thousands.







l join the opening parade.

Every five years in mid-June the singers, musicians and dancers of Estonia, professional and amateur, as well as thousands of spectators, gather for the traditional festival in Tallinn. The last such festival was held in 1969. The event opens with a parade of the participants, dressed in the costumes of their localities. The women wear homespun skirts with black and red stripes; blue and white blouses with hand-embroidered sleeves; bonnets, lace-trimmed aprons and woolen stockings; silver buckles, brooches and chains, and fanciful headdresses.

The choruses take their place on the stage in Kadriorg Park, whose venerable trees, swan lake and natural meadows make it one of the loveliest parts of Tallinn. The stage has an elegant roof that serves as a sound reflector, a slender tower for spotlights, and rows of steps accommodating 30,000 singers. In front of it is a field with room for another hundred thousand participants. The repertoire of the choruses is enormous—some 67,000 songs, including 50,000 folk songs.

The dances are usually held in the republic's largest stadium.

The festival gathers the best song and dance companies of Estonia, selected at preliminary local competitions. Musical selections range from symphony, opera and ballet to folk tunes.









Homespun Production

The Estonian folk dances, performed in the capital's big stadium, are a memorable picture of variegated color and movement.

SYMPOSIUM ON AMERICAN STUDIES

By Professor Boris Marushkin

A Symposium on American Studies was held in Moscow in November-December 1971. At about the same time a new edition of the first volume of the American Annual *was published by the USSR Academy of Sciences.*

In this article Professor Boris Marushkin, a specialist in American historiography and foreign policy, discusses these two important scholarly events.

SOME YEARS AGO Professor Nikolai Bolkhovitinov, a colleague of mine working at the archives of the Pennsylvania Historical Society in Philadelphia, was surprised and delighted to come across a letter, unknown to scholars, from Benjamin Franklin to physicist Franz Epinus, a member of the St. Petersburg Academy of Sciences. The famous American wrote:

> Sir,
> When Last in America, I received there your excellent Work on the Theories of Electricity and Magnetism, which I understand you did me the Honour to send me. I read it with infinite Satisfaction and Pleasure, and beg you to accept my best Thanks and Acknowledgements, which indeed are due to you from the whole Republic of Letters.
> Enclos'd I take the Liberty of sending you a little Piece of mine that is to be[in]the next Transactions of the Royal Society but is not yet publish'd:— Please to accept it as a small Mark of the great Esteem and Respect with which I am,
>
> Sir,
> Your most obedient
> and most humble Servant
> B. Franklin

Franklin's letter, with its elegant eighteenth century courtesy, is dated June 6, 1776. This is probably the earliest documentary evidence of the direct contact that existed between Russian and American scientists. But the find made in the Philadelphia archives does not merely testify to long-standing Russian-American scientific relations, it also signifies what great interest there is among Soviet scholars in both the past and the present of the United States.

Long-Time Interest in America

Public interest in the republic on the other side of the Atlantic, stimulated by the complex interlacing of the history of Russia and America, was evident in our country a long time ago. We know that progressive people in Russia welcomed the American War of Independence. "Liberty," an ode by Alexander Radishchev, is one of the outstanding examples of eighteenth century European literature on the theme of the American Revolution. Responding to the great interest of readers in the subject, the Russian press of the time published a considerable amount of material on the political, economic and cultural life of the young republic.

Going beyond this interest, there was a serious effort to understand a country that was the geographical, and, in a certain sense, even the political, antipode of Russia.

In the nineteenth and early twentieth century this effort had not yet matured into a full-fledged discipline. In the 1920s and 1930s more frequent papers were published investigating the American phenomenon from different points of view. However, our American studies, in the modern sense of that word, did not take shape until after the Second World War.

Current Historical Research

One can judge the scale on which the history of the USA is being seriously studied from the following figures. In 1971 there were several hundred people in our country doing professional work in the field. Between 1966 and 1970 about 150 books were published dealing with America's past. Between 1964 and 1970 alone there were 25 doctoral dissertations on the history of the USA. The geographical spread of present-day American studies is also interesting. Serious work is being done not only in such famous university centers as Moscow, Leningrad, Kiev, Kazan, Lvov and Tomsk but also in comparatively small cities—Vladimir, Poltava and Kostroma.

These data were cited by Professor Grigori Sevostyanov, the author of several works on USA foreign policy in the Pacific, at the Symposium on American Studies held in Moscow in November-December 1971. Some 130 people took part, and 12 papers were read. They dealt with such complex problems as the American Revolution and its historiography, the formation of the American nation, the American working class, the democratic, farmer and black movements, American ideology and foreign policy and Soviet-American relations.

The discussion on the comparative history of the American and the French revolutions aroused particular interest.

Why did these two events of the eighteenth century so greatly influence world history? In what ways were they alike? How did they differ?

The French Revolution was the product of social contradictions, of class collision and struggle. In America, however, the picture was somewhat different. Many historians share the view that the revolt of the British colonies in America can be considered a social revolution only with certain reservations. Professor Alexander Fursenko, for example, says that the American Revolution was initially a revolt against the parent state. The slogan "No taxation without representation," which started the rebel movement in the colonies, was a protest against British rule. This was a war for independence. Nevertheless, notes Professor Fursenko, in the course of the war against England a certain social stratification developed.

That, he says, is the difference between the American and the French revolutions. But what did they have in common? In the first

Continued on page 62



J. William Fulbright, Chairman of the Senate Foreign Relations Committee, greeting Soviet public figures invited to the United States in April by the American Friends Service Committee. The men talked about the desirability of broadening and improving Soviet-American relations. In the photograph, left to right: Gennadi Gerasimov, Novosti Press Agency political observer; Gennadi Fedosov, Secretary General of the Institute of Soviet-American Relations; Senator Fulbright; Yuri Zamoshkin, Professor of Sociology at the Academy of Social Sciences in Moscow.

QUERIES FROM READERS

QUESTION: Can you tell me something about Mogilev, the home city of my parents?

ANSWER: Mogilev is a major industrial and cultural center in Byelorussia with a population of 180,000. An old city, it dates back more than 700 years.

Before the Revolution Mogilev was a small trading city with hardly any industry. Today it is a regional center with 46 major factories, including a steel mill, an auto plant, an artificial fiber plant, a tannery, a garment factory. Now under construction are what will be Europe's biggest synthetic fiber plant, a factory manufacturing automatic elevators for tall buildings and a silicate complex.

Mogilev has several dozen secondary schools, 20 specialized secondary and vocational schools, a teacher training institute, engineering college and 50 libraries. The city public health service is staffed by some 700 doctors and a great many more paramedical personnel. Besides two professional drama theaters there are 180 amateur companies with a membership of some 6,000 leisure-time directors, actors, scenic artists, etc. Mogilev citizens view TV programs from Minsk, the capital of Byelorussia, and Moscow via relay stations.

The city is on the right bank of the Dnieper River, and the scenic beaches are very popular recreation areas.

Recently the Council of Ministers of Byelorussia approved a master plan for the city's development. By 2000 its population is expected to reach 450,000. New industrial districts and colleges will keep pace with that growth. A landscaping program calls for a suburban forest and park zone from three to seven miles wide around Mogilev.

QUESTION: How are goods and services distributed in your country? (Joseph C. Dougherty, New Jersey)

ANSWER: Consumer goods and foods are sold through a large network of stores owned by the state and by cooperatives (the cooperative stores are mostly in rural areas). The cities have big department stores. The biggest, GUM in Moscow, employs 3,000 sales clerks. There are all kinds of specialized shops for fabrics, shoes, clothes, electrical appliances, and so forth. Food stores are either specialized (meat, milk, fish) or a combination of delicatessen and supermarket (usually called Gastronom). A shopper may order groceries by phone or pay for home delivery right in the store.

Consumer goods are advertised over radio and television. Ads are also carried by newspapers and posted on billboards.

The "Everyday Services" system runs a network of community laundries, dry cleaners, all kinds of workshops, apartment repair bureaus and auto service stations. There are about 300,000 establishments of this kind with a staff of more than two million. Some provide services in the home.

For example, there are customer service bureaus in the big city stores. There are also "Everyday Services" bureaus at places of work now. A worker fills out an order in the morning, and it is ready for him to pick up on his way home.

The community services employ many pensioners who are bored sitting at home doing nothing. They do not have to put in a full day; they work as many hours as age, health and time permit. They are paid for their work, of course, at the regular rate and draw their full pension in addition. The work is not difficult, and since it is in the neighborhood, there is no traveling involved.

The "Everyday Services" system is growing fast in both size and scope. In this five-year plan period the volume of services is expected to double, in rural areas the rise will be 2.8-fold. Three billion rubles are budgeted by the government for the purpose.

QUESTION: Are psychotropic drugs used in the Soviet Union?

ANSWER: Yes, but primarily and mainly to treat serious disturbances. Many of them are used exclusively for the treatment of mental diseases.

But for an otherwise healthy person who complains of fatigue or depression, the doctor usually prefers to do without psychotropic drugs or prescribes them as a last resort.

Of course, there are periods in the life of every man when he is worried or upset. And some tranquilizers can help reduce anxiety or tension. However, besides the positive effect, psychotropic agents make the patient drowsy and apathetic, and they slow down thinking. Moreover, a man who constantly takes psychotropic drugs (after all, fatigue and moodiness are frequent concomitants of urban living) develops an unfortunate dependence and may eventually feel that he can't get along without them.

In our drugstores soporifics and most tranquilizers can be bought only with a doctor's prescription.

QUESTION: I would appreciate a coverage of symphony orchestras in the USSR. What number of rehearsals per week? How long is the contract? What tours, etc.? (Zelman Brounoff, Dallas, Texas)

ANSWER: There are scores of symphony orchestras in the Soviet Union—the local philharmonic societies in big cities, to say nothing of the symphony orchestras of the opera theaters, and radio and TV centers. The All-Union Radio and TV network, for example, has two symphony orchestras.

As for the number of rehearsals, it depends on the program, naturally. The Big Symphony Orchestra of the All-Union Radio and TV network will spend five to eight days rehearsing an opera, a cantata, an oratorio or a symphony.

Our symphony orchestras—and this goes for dance ensembles, theaters and all the other teams of professional artists, as well—do not work on contract. They have no private managers. They are state ensembles, though, of course, an orchestra musician can move to a different orchestra if he wants to or just quit his job. Musicians all get regular salaries plus special fees for radio and TV work and recording.

Pensions are 33 to 50 per cent of their regular salaries. The leading orchestras get what we call a creative workers pension. It means that they can go on working regardless of age and draw both full salary and pension. Many musicians avail themselves of the opportunity. An artist doesn't usually want to retire. Generally speaking, musicians who play brass wind instruments can retire on pension after 20 years of work, those who play wood instruments after 25 years, and the string instrument players after 30 years.

Our symphony orchestras spend a good deal of time touring the Soviet Union and foreign countries. They also give free concerts at the industrial plants or collective farms of which they are patrons. For example, the State Symphony Orchestra is patron of the Moskva Sortirovochnaya Railway Depot and gives concerts right in the shops during the lunch break.

QUESTION: I would like to know how the fire brigade service is organized in Moscow.

ANSWER: There are fire stations in every district. Their work is coordinated by the central fire department. A big electric map of the city divided into many sectors immediately shows the location of a fire. The officer on duty notifies the station of the corresponding district.

All the big factories and offices have their own fire brigades with the necessary equipment and a permanent staff of firemen. Each enterprise also has volunteer firemen.

The Moscow fire department emphasizes prevention. No new building can be occupied until a thorough fire inspection is made.

All this holds for every other city in the Soviet Union.

HOW MANY JEWS ARE THERE IN THE SOVIET UNION?

According to the last census (January 1970), there were 2,151,000 Jews in the Soviet Union, less than one per cent of the total population.

Ruvim Groyer, a Novosti Press Agency correspondent, citing Soviet demographers and the latest official statistics, analyzes their geographic distribution and participation in the social and political life of the country.

SOVIET DEMOGRAPHERS single out two reasons for a decrease in the number of Jews in the USSR as compared with the last census. First of all, in the early sixties, thousands of Polish Jews who had found refuge in the Soviet Union after the occupation of their country by nazi Germany in 1939 left for home. The second, main, reason is the continuing process of rapid assimilation of Soviet Jews into the native population wherever they reside. In 1941-1942, after the nazi invasion, millions of Jews left the western regions of the country, where they lived in comparatively compact groups, and settled in a vast territory stretching from the northern regions and the Urals to Central Asia and Siberia. This migration was on an even larger scale than that in the first decade of Soviet power, when the Revolution eliminated the notorious Pale, to which Jews had been confined by official czarist edict.

Saved from Destruction

The migration caused by the nazi invasion undoubtedly speeded up the process of natural assimilation. This is also borne out by the fact that the number of mixed marriages among Jews after the war increased sharply and now considerably tops the number among other national minorities.

According to Soviet law the children born of mixed marriages, on reaching 16 years of age, can choose the nationality of either parent. They often choose the nationality of the parent whose language, culture and national traditions are closer and more understandable to them.

Had it not been for the war, the Jewish population would have been much larger, of course. Almost two million Jews were killed in nazi-occupied territory. In Babi Yar, a scene of horrible mass slaughter, the Nazis exterminated nearly 200,000 people, including some 70,000 Jews and over 100,000 Russians and Ukrainians. Thousands of Jews were buried in common graves in the Ukraine, Byelorussia, Moldavia, Latvia, Lithuania and Estonia.

Even more lives would have been lost if the state had not systematically evacuated large numbers of people from the front-line areas. Millions of Soviet citizens, including some two millions Jews, were evacuated to the rear during the war against nazi Germany.

Where They Live

After the war most Jews settled in big cities like Moscow, Leningrad, Kiev, Minsk, Vilnius, Kishinev, Odessa, Riga, Tbilisi, Tashkent, Sverdlovsk, Irkutsk and Novosibirsk, making up from four to five per cent of the population in Moscow and Leningrad and as much as 12 to 19 per cent in Odessa and Kishinev.

The Jewish population of the Soviet Union includes three small groups whose ethnography, culture and customs differ: Georgian Jews (some 50,000, the native tongue is Georgian); Tats, mountain Jews (a little over 30,000) who live in Daghestan, mainly in the town of Derbent (the native tongue is Tat) and Bukharan Jews in Uzbekistan (some 10,000).

Nearly 16,000 Jews live in the Jewish Autonomous Region, whose main city is Birobidzhan.

Soviet Jewry: Who's Who?

About 8,000 Jews are deputies to the USSR Supreme Soviet, the country's parliament, the Supreme Soviets of the republics and the local Soviets. Deputies elected to the USSR Supreme Soviet on July 14, 1970, included Academician Yuri Khariton; Vladimir Peller, chairman of the Zavety Ilyicha Collective Farm in the Jewish Autonomous Region; Mikhail Abelman, chairman of the Executive Committee of the Leninsky District Soviet in the Jewish Autonomous Region; Kostas Glikas, Chairman of the Lenin Collective Farm in the Lithuanian Republic; and Alexander Chakovsky, writer and editor in chief of the newspaper *Literaturnaya Gazeta*.

Known throughout the country are Veniamin Dymshits, Vice Chairman of the USSR Council of Ministers; Lev Volodarsky, Doctor of Science (Economics), Deputy Chief of the Central Statistical Board under the USSR Council of Ministers; Yuli Bokserman, Deputy Minister of the Gas Industry of the USSR; Iosif Ravich, Deputy Minister of Communications of the USSR; Leonid Glikman, Deputy Minister of Chemical and Oil Engineering of the USSR; Abram Levinsky, Deputy Minister of Electrical Engineering of the USSR; Aaron Gindin, member of the State Committee for Science and Technology.

There are also many Jews among high-ranking military men: twice Heroes of the Soviet Union Colonel General David Dragunsky and Colonel General Alexander Tsirlin, Heroes of the Soviet Union Lieutenant Generals Matvei Vainrub and Shimon Krivoshein, Hero of the Soviet Union Major General Zinovi Kontsevoi and many others.

Position in the Society

Soviet Jews occupy a prominent place in science, education, literature and the press. The number of Jews per thousand with a higher education is nine times bigger than among the Russians, 12 times bigger than among the Ukrainians and considerably bigger than among other nationalities. Nearly eight per cent of the Jews are engaged in science, 20 per cent in the media, eight per cent in art and literature and six per cent in medicine. The percentage of students is considerably larger among Jews than among other nationalities—315 per 10,000. Twenty members and corresponding members of the USSR Academy of Medical Sciences are Jews. Eminent scientists include such figures as Semyon Volfkovich, Isaac Mints, Bentsion Vul, Israel Gelfond, Alexander Grinberg and Alexander Frumkin.

Fourteen per cent of the country's Jewish population has a higher or specialized secondary education.

Today Jews can be found in every branch of the Soviet economy. The so-called Jewish professions disappeared long ago. Today Jews are not only doctors, lawyers, shoemakers and tailors, but also builders, metallurgists, fitters, machinists, mechanics, railroad engineers, miners and aviators.

In the Soviet Union a man's success in life depends on his knowledge, abilities, industry and attitude toward people. His nationality or race mean nothing.

CAPTAIN FROM THE ISLAND OF HYIUMAA

By Voldemar Tombu

Photographs by Fred Grinberg

WHEN YOU FLY over Hyiumaa, all its 370 square miles look as flat as the palm of your hand. The green Baltic shoal surrounds the low shores strewn with boulders. In the village, slate roofs glitter in the sun. The rough belts of roads have cut into the island's shoulders, through the forests and the juniper thickets. Like postage stamps, the fields seem to be pasted on the island.

This is hard, unyielding soil. The poorest harvests of Estonia are gathered on Hyiumaa. For centuries the island's men have chosen to "plow the sea"—it gives them a bigger return.

The entire coast here is one enormous fishery. Dozens of vessels, big and small, ply the home waters and even the far-off Atlantic. Last year's catch, more than 13,000 tons, brought the fishing collective an income of two and a half million rubles. Fish, butter and meat are Hyiumaa's major export items, in return for which the islanders get everything else they need from the mainland.

Soon after our plane landed, we met the family of Uno Kangur. He is skipper of a small trawler, run by a 150-horsepower engine, rather modest for these days. But to catch Baltic sprat you don't need anything bigger.

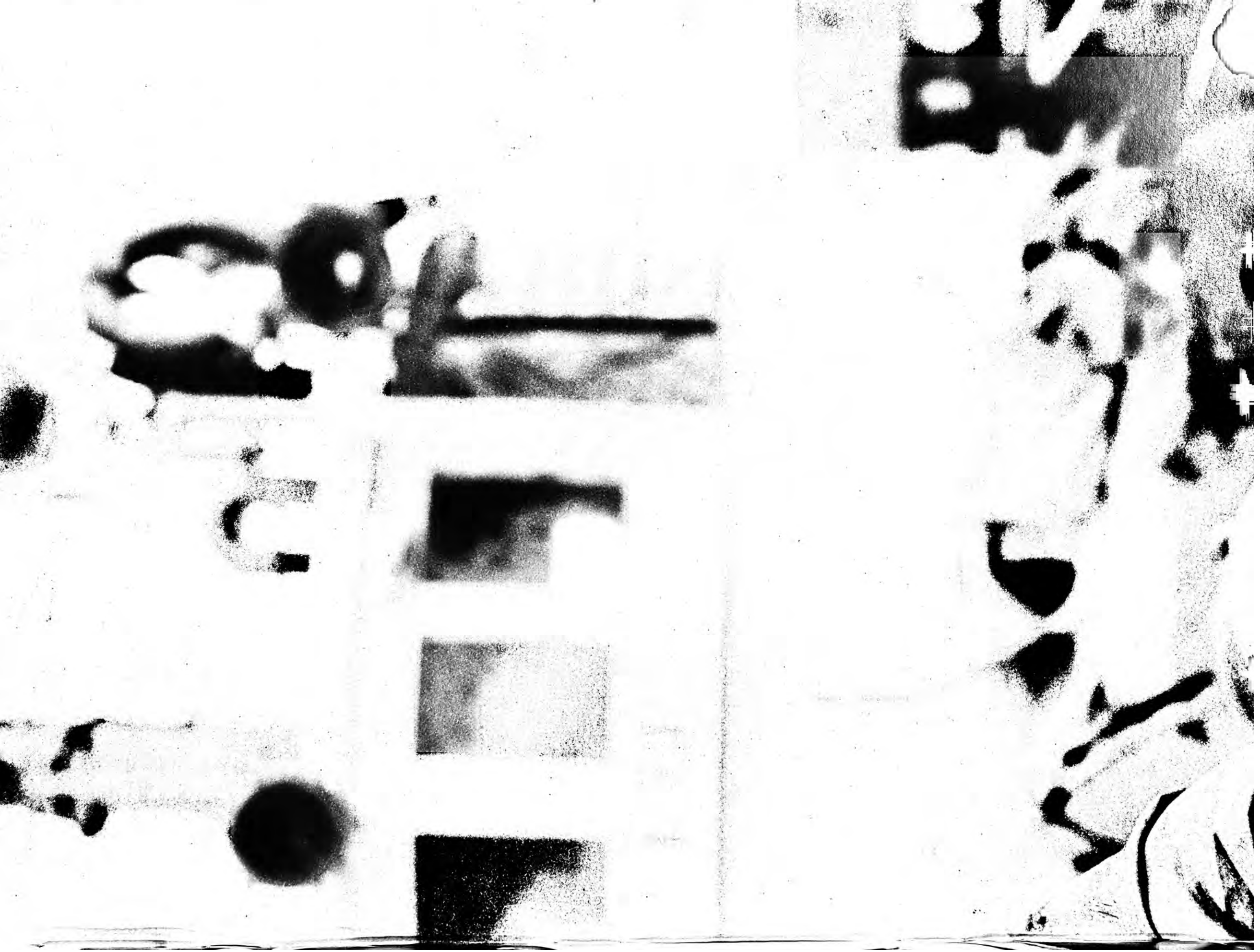
Don't let his high-sounding title of captain and his cap with the golden crab insignia overwhelm you. Uno is a minicaptain —he has a crew of five. He is 33, and neighbors still call him "the young man."

Uno's wife Malle is a librarian, but she has not worked since the birth of their son Tanel, now three years old. The Kangurs have an older son, Pryit, 11. When it comes to planning the family's future, it is obviously Malle who has the most important voice—as wives do, by the way, in most Estonian households.

Uno is one of the best captains in the Hyiu Kalur fishing collective. The explanation is fisherman's luck and a good deal more—a feeling for the quirks of the sea, a well-organized crew and that Hyiumaa stubbornness, persistence, zeal to get the job done—thanks to which a number of islanders have emerged as statesmen, nationally known actors, or artists. Or, of course, captains.

The Kangur family income comes wholly from the sea. Last year the captain's average monthly earnings plus bonus exceeded 500 rubles. Probably the only other people







FISHING COLLECTIVE





The collective's anchorage is being rebuilt to take bigger ships. Center: Home after a long voyage, the captain has a man-to-man talk with three-year-old Tanel. The older boy is Pryit. Bottom: Checking some of the gear before sailing.



One of the events in the local sports championship. Captain Kangur doubles here as tug-of-war coxswain for his crew. Top left: Headed out to sea. The big catches his ship has brought in are partly responsible for the fishing collective's large gross.

on the island who make that kind of money are land reclamation experts.

Part of the savings went for a new house, a three-room Danish-style cottage built by the fishing collective. It cost 8300 rubles. There are now 16 houses like it in the village, and six more are going up.

They are sold on favorable terms and become the private property of the buyer. The Kangurs made a down payment of 2,000 rubles. Since they had worked in the fishery for at least 10 years, they were entitled to a discount of 3,000 rubles. So they owe only 3300 rubles more, and they have 10 years to pay it off.

They like the house. It has a living room, two bedrooms, a bathroom, a spacious kitchen equipped with a gas stove. There is no garage but Uno has already laid the foundation for one, though the island is really too small for a car. The most popular



Below left: A chat with Hugo Maide, chairman of the fishing collective. Below right: By tradition, the old boats are cremated each July on Fisherman's Day. Bottom right: Weekend picnic. Tanel is getting his sea legs. Right: Pryit tries out his new slingshot. Right on the nose!









way of getting around is by bicycle—to the store, to work and to school.

The Kangurs are omnivorous readers. They subscribe to six newspapers and as many magazines, and every month five or six new books are added to their sizable home library. As a matter of fact, this is a feature of life on the island that even the omnipresent radios and television sets have not shaken. On the mainland you don't have that sense of being cut off and, therefore, that heightened need for reading matter. An island conversation invariably begins with the question: "What's the news?" The islanders read the Tallinn papers, listen to the radio, watch Estonian and Finnish television and react to everything going on in the world.

But all the same, an island is an island. Its population is steadily declining. Young people leave for the mainland to study, to pursue a career, to seek broader avenues for their talents. Many of the Kangurs' relatives have settled in Tallinn and Tartu. But Uno and Malle remain true to their native island.

And what does the future hold for the Hyiumaa fishermen?

Hugo Maide, the young, energetic chairman of the fishing collective, outlines the tasks for the new five-year period:

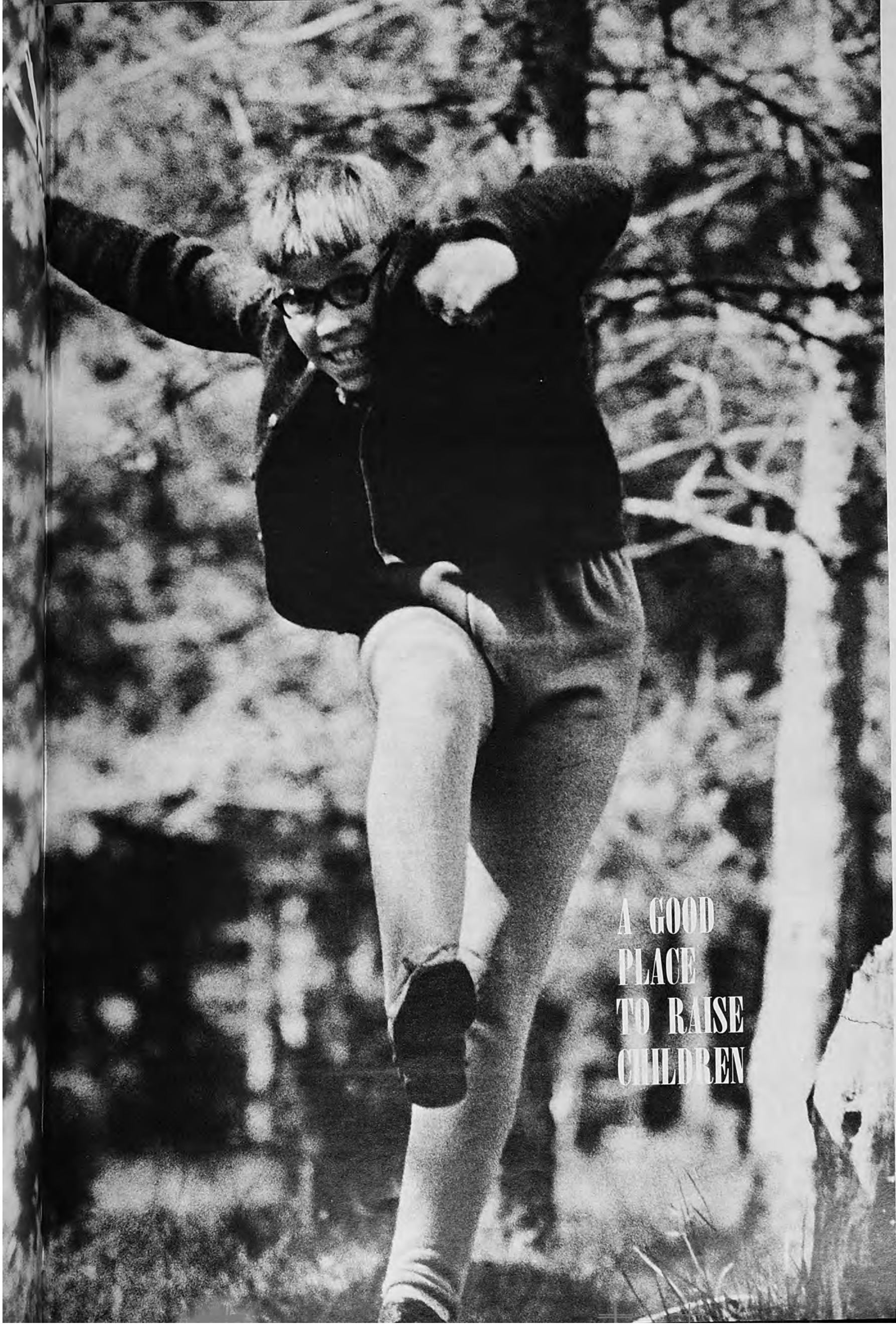
"We are completing the transition to intensive trawler fishing. Since the resources of the Baltic are scanty, we plan to fish in different parts of the world ocean. We'll be buying new boats suitable for long voyages. Also, we're going to build a large fish-breeding farm using reservoirs and lagoons. The first fish pond, with an area of one-half of a square mile, is ready. Besides breeding valuable varieties of fish, we expect to buy out the state-owned cannery on the island."

Ambitious plans. But they are based on the achievements of the last five-year period, when the fishing collective's income grew from 766,000 rubles to 2.9 million. At the chairman's insistence the collective went to the expense of modernizing its fleet and built its own repair facilities. It all paid off.

The lion's share of the year's income came from fishing—2.5 million rubles out of a total of 2.9 million. The rest came from the collective's repair, transport and construction services.

The fishery paid the state 28,800 rubles in income tax. Wages and bonuses totaled 1,024,000 rubles. Besides, 72,000 rubles went into the state pension fund and another 16,000 went to the collective's own pensioners—there are 140 of them. With the deductions for depreciation and working capital, the fishery had a net profit of 318,000 rubles. Most of it, 217,000, was spent for new equipment and construction. Large sums were allocated to enlarge the first aid station and for cultural needs.

There are 259 fishermen and 180 service and auxiliary personnel in the Hyiu Kalur fishery. They are united by their collective property, their island and their desire for a better life.


A GOOD
PLACE
TO RAISE
CHILDREN



A Moscow River cruise is included in the Alaska Airlines Siberia/Russia tours. Grand Kremlin Palace is on left, St. Basil's Cathedral in center.



Americans and Russians have their own song and dance fest in Khabarovsk.



Old wooden house with carved window frames and eaves in Irkutsk, Siberia.

Ancient Khiva is a museum city. Built in the sixteenth century, it was the luxurious home of the khans. The domes are the old public baths.



By Norma Spring
Photographs by Bob & Ira Spring

ALASKA—SIBERI

SUPPOSE an airline made travel history in 1970 by inaugurating the first flights between Alaska and Siberia. Then, in 1971, it added a topper: a new air route to Leningrad via the North Pole—even encircling it! What can it do for an encore?

You'll find Alaska Airlines' answer in its new, colorful, 24-page, picture-laden 1972 expanded tour brochure.

Likewise, if a writer has already written two articles on the subject for SOVIET LIFE, what can she write for a third?

Sorting through accumulated notes from our three trips to the Soviet Union, I think the obvious answer is a general roundup on Russian travel. I'll start with the question most frequently asked, "Why in the world do you want to go to Russia?"

My husband Bob is a photographer, mostly of travel subjects. I write about the places he "shoots." Alaska has long been one of our favorite stamping grounds. In our travels there, we have been intrigued by the signs of its Russian past—from Russian family names and places to priceless icons.

Two years ago, when persistent Alaska Airlines was awarded 10 summer charter flights to the Soviet Union, we went along on the inaugural. The approach was original: westward from Anchorage to Khabarovsk in the Russian Far East, a unique travel adventure.

The 1971 Anchorage to Leningrad Inaugural Flight by way of the North Pole was a thriller, even for seasoned world travelers. It was the first scheduled commercial "Polar Flight" actually to "see" the North Pole. The usual commercial International "Polar Flights" miss where the longitudes converge by several hundred miles.

What did we see? Under our left wing stretched a sky-to-sky jammed ice pack. Through fluffy clouds we could see an occasional black lead (crack) of open water. Our miniworld tour took about four minutes as we circled the Pole. South was any direction we looked as we crossed all 360 meridians, all 24 time zones and, somewhere down there, the International Date Line.

Hundreds of photographs, much research, and thousands of written words later, we still feel we are just beginning to explore, photograph, and perhaps better understand the vast Soviet Union that stretches from Arctic to desert, and from ocean to ocean. Herewith are some of our impressions.

Are the "natives" friendly? Absolutely, and extremely hospitable as well. Through appearance alone, it isn't easy to tell a Russian when you see one, even in his own country, which is a melting pot like America. Technically, a *real* Russian can only be one living in "Russia," the name of the largest republic among the 15 that make up the Union of Soviet Socialist Republics.

Twenty smaller, autonomous republics are contained within the Union. Over a hundred people groups with their own customs, dress, and languages are counted among the 245 million assorted souls in the USSR.

The climate in summer varies from mild to hot in the Middle-Asian part of the tour. Even for Siberia we did not pack anything heavier than a sweater plus lightweight or plastic raincoats for use as windbreakers and for the occasional shower.

At the Exhibition of Economic Achievements in Moscow I recognized a symbol that, out of context, I had always considered rather sinister—the hammer and sickle.

On the spacious, landscaped grounds there is a monumental statue, *The Worker and Collective Farm Girl.* The hammer and the sickle held aloft by a well-built young man and woman obviously striding into the future are a symbol of the union of agriculture and industry under socialism.

We spent several hours wandering around the exhibition grounds, Bob taking pictures of the pavilions, fountains, flowers, open-air displays and space monument, while I tried out my phonetic Russian phrase book. If you follow the pronunciation guide, you can be understood. But communications break down on the replies, in Russian. My system was to hand people the phrase book, or my dictionary, and then they would leaf through and triumphantly point to appropriate key words.

A little knowledge of the Russian alphabet helps with some signs. The word "café" is the same, or it may be spelled Russian style: "кафе."

Our guides were amused to hear us all pronounce the Russian word for restaurant "PECTOPAH" as it *should* sound in English. It was hard to break the habit and remember that in Russian, "p" is pronounced like "r" in English, "c" is "s," and "H" is pronounced

A—MOSCOW *A Chronic Traveler's Notes on a Favorite Destination*

"n." In other words, PECTOPAH is simply pronounced "restoran"!

At the exhibition Bob had to wait for his favorite fountain to be turned on. The one representing the 15 republics of the Soviet Union, with golden women wearing their native dress surrounding a huge golden sheaf, was being cleaned. Workwomen assured him that at 12:00 noon sharp it would be turned on, and it was . . . to the minute.

Keeping public property clean and neat is a compulsion throughout the Soviet Union. Little old ladies in "tennies" with twig brooms are part of the landscape, and they pick up every scrap of paper. (If they see it fall, they point a finger at the one who dropped it and insist that it be put in the proper container.)

There are restaurants at the exhibition, many of them specializing in national foods, but Bob and I settled for snacking at little stands. We nibbled on *pirozhki,* meat-filled pastries, and sampled the ice cream, creamy and rich, like homemade.

Speaking of food, it is on the hearty side, but tasty, especially national dishes, like Middle-Asian pilau (rice), borsch (beet soup and sour cream) and Stroganoff. I lean toward the vine-ripened tomatoes, served with *smetana* (sour cream), and delicious Russian bread, both black and the round white variety.

Bob eats his serving of caviar and mine, too. I would like to say he repays me with his vodka, but to each his own, on that score. Smooth, potent Russian vodka makes excellent Bloody Marys mixed with rich, thick, Russian-style tomato juice, for which we successfully negotiated at the corner grocery.

"Za vashe zdorovye" is the Russian toast "To your health," which every tour member learned at the first Gala Dinner, a special Alaska Airlines feature. In a convivial group, there may be many toasts, tossed off with gulp-sized glasses of vodka. Some have been known to ruin their health, temporarily.

But the Russians have an antidote for too much of their vodka: kefir, served chilled for breakfast the morning after. It is thick and chalky and looks like milk of magnesia but tastes like a cross between buttermilk and yoghurt. No in-betweens on this, people either love the stuff or hate it.

Kiev, capital of the Ukraine, was an option on the first Alaska Airlines Russia/Siberia tours. In 1972 it is included on two of the four itineraries offered, the eight-day European Russia tour, and the 22-day All-Russia/Siberia tour.

Besides delicious Chicken Kiev, my association with that old city goes back to college music classes. We studied in depth Moussorgsky, who portrayed the essence of Russia in his music. In his *Pictures at an Exhibition,* based on a dead friend's art work, the final tone picture is "The Great Gate at Kiev." (We all called it "Key-ev," and it wasn't until we visited Russia that I learned it is pronounced "Kee-yev."

Only ruins of walls are left on the site of the citadel known as the Golden Gate, built during the reign of Yaroslav the Wise in the eleventh century. But there is much to see and ponder today in this city that was once one of the greatest in Europe, rivaling Constantinople. The guided sightseeing tour includes St. Sophia Cathedral, also from the eleventh century, with its famous old mosaics and frescoes.

Sometimes an association is triggered by a color. Russian "red" took on a new meaning when I discovered that Red Square, adjacent to the heart of Russia in the Kremlin, was named for the old Russian word also meaning beautiful.

We also learned that in the Soviet Union "black is beautiful" and not necessarily black, when we visited and photographed sunny, green Sochi, resort town on the turquoise-blue-green-gold-purple (depending on the light) "Black" Sea.

From sea-level Sochi, the 22-day tour takes in a new destination, Tbilisi, capital city of Georgia, high in the Caucasus Mountains. Georgia is something else—an entirely different face of the Soviet Union, noted for friendly, independent and, in some areas like Abkhazia, long-lived people. They say it's the wine. Visitors have a chance to more than sample it, as well as distinctive Georgian dishes, at a special Gala Dinner.

"Scratch a Russian, find a Tartar" goes the saying. We were aware of Russia's exotic, Oriental heritage due to invasions of Genghis Khan, followed by Tamerlane, who terrorized and conquered most of Middle Asia in the fourteenth century. Photographer Bob was intrigued with Tashkent, today's capital of Uzbekistan, and captivated by Tamerlane's capital, Samarkand, a 2500-year-old crossroads of camel caravans that followed the silk routes.

It was hard to tear Bob away from the native marketplace, backdropped by sun-baked ruins and blue-tiled domes. The buyers and sellers set up shop out-of-doors and carry on much as they have for centuries, undaunted by their foreign admirers.

Bob found that most of the merchants were friendly and pleased to be photographed. But he always asks first.

Delighted with Samarkand, Bob was delirious in Khiva, another new destination on the 22-day tour out of Tashkent. This ancient walled city is a real museum piece, yet a live city. The khans who ruled the area were living the high life as late as 1924. Since then palaces and madrasahs have been preserved as on-the-spot museums.

Khiva, an oasis in the desert Khorezm Region, has been traced back to the sixth to eighth centuries. Its heyday, in a frequently bloody history, was in the sixteenth century, when it was capital of the Khiva khanate.

The Soviet Government, realizing the importance of this historical site, is preserving the old look throughout the inner walled city. As archeological finds are uncovered, they are evaluated and placed in the inner city museums, considered the finest in the area and surely the most fascinating. Articles show the life and times: clothing, jewelry, household utensils, and realistic paintings of past events, many of them gory.

We walked down narrow, cobbled streets, past mud walls, covered small stalls that were once small shops, beehive-shaped bath houses, and tiled minarets gleaming in the bright sun.

Khiva is noted for its abundance of beautiful, lacelike woodcarving, especially on the large, solid doors and graceful pillars of all the historical monuments. If they didn't tile it, they carved it. The result is a photographer's paradise.

The Siberian portion of the tours has been expanded to include two new destinations. Bratsk, an hour's flight north of Irkutsk, is a model frontier city with sections grouped around the industrial complexes that make up the largest hydroelectric power project in the world. It is very pleasantly situated in flowering taiga, entirely modern, with the giant dam, of course, the main attraction.

Novosibirsk, Siberia's largest city, majors in manufacturing, putting nature's abundant raw materials to work. Nearby, Science City (Akademgorodok) is the research and planning center for the wise use and protection of resources affecting all of Russia.

In talking with fellow Alaska Airlines tour members, we have rarely found anyone who has not been captivated and delighted by travel in the Soviet Union. Its particular charm seems to be that it is like nothing they have ever seen before.

It is approximately an eight-hour flight from Anchorage to the Soviet Union via either gateway: Siberia, or over the Pole to Leningrad.

If you look on the map, however, you will see that the United States and the Soviet Union are only about two miles apart. Off the Alaska peninsula, in the Bering Sea, the International Date Line jogs between two islands, separating today from tomorrow. It is also the boundary separating two continents. Big Diomede Island, off the Siberian coast, belongs to Russia. Little Diomede Island, off Alaska, belongs to America.

At this narrowest point of the Bering Strait the gap is only about 50 miles from mainland to mainland. Thousands of years ago, it is believed, there was a solid natural bridge connecting the continents, over which people, flora and fauna migrated freely.

Various plans have been proposed over the past century for rebuilding that bridge, to reunite permanently the Eastern and Western hemispheres. Proponents believe that two-way traffic over an "Inter-Continental Peace Bridge" might promote world peace.

So far, such a bridge is only fantasy.

Meanwhile, Charles F. Willis, Chairman of the Board and Chief Executive Officer of Alaska Airlines, and his energetic assistant Robert Giersdorf are still pursuing further air tourist exchanges in that vicinity. They hope for permission to span the 140 miles between Alaska Airlines' successful Arctic tour center, Nome, Alaska, and the Siberian mainland.

For now, they are pleased with the response to their people-to-people tours. While others dream, Alaska Airlines has been building bridges—invisible ones, but nonetheless effective—through thousands of miles of airspace.

SYMPOSIUM ON AMERICAN STUDIES

Continued from page 51

place, both revolutions resulted in the formation of bourgeois nations. The prerequisites for the formation of the American nation had existed, but it took the War of Independence to make them a reality. The American Revolution had a strongly expressed national liberation character. The French Revolution was also libertarian since it broke the chains which blocked the development of a single national organism. Both revolutions destroyed all the obstacles on the road to further progress.

The paper read by Shifra Bogina, a researcher at the Institute of Ethnography of the USSR Academy of Sciences, "On the Formation of the American Nation," evoked general interest. The War of Independence, she said, gave birth to a nation not only in the sense of a state composed of different colonies but in a purely ethnic sense as well. She held that the American nation was not homogeneous ethnically; the national groups forming it were structural elements of the nation which had not yet amalgamated into an integral whole.

The paper on the sources of American civilization read by Nikolai Yakovlev, author of the well-known biographies of Franklin Roosevelt, Woodrow Wilson and John and Robert Kennedy, evoked lively discussion. Professor Yakovlev, who is writing a book on George Washington, suggested that when the first colonists founded America, they took the ancient Roman republic as their model.

The symposium also heard papers on movements in today's America. Victor Malkov read a paper "On the Study of the History of the Working Class and the General Democratic Movement in the USA." Pyotr Shishkin's subject was "The Peculiar Features of the Class Struggle in the USA Today." The status of American farmers, past and present, was the subject of papers by Gennadi Kuropyatnik and Vladimir Zolotukhin.

Can such undramatic subjects stir up real excitement? Apparently they can, to judge from the reaction to Professor Bolkhovitinov's paper "New Materials on the History of Russian-American Relations." One of the objects of Professor Bolkhovitinov's research was to establish the exact date of the first letter Czar Alexander the First wrote to President Thomas Jefferson. It read in part: "I have always cherished a deep respect for your people, which has managed to make the most noble use of its independence. . . ." Until now the date of this historic document varied with different literary sources. But in February 1968 Professor Bolkhovitinov discovered in the Morgan Library in New York the original letter, with the exact date.

"American Annual," Volume I

The opening of the Moscow symposium was marked by another important event—the publication of the first volume of the *American Annual*, a new edition prepared by the Institute of World History of the USSR Academy of Sciences.

The articles in the volume attest to the diversity of research into the American past. One study compares American and West European reformism, another analyzes the industrial revolution in the USA through the formation of the Congress of Industrial Organizations.

Two pieces are of special interest—"The History and Policy of the USA as Reflected in the Pages of the Russian Democratic Journals *Dyelo* and *Slovo*" by Irina Malkova and "Travel Notes and Diaries of Russian Travelers as a Source for the History of California (First Half of the Nineteenth Century)" by Leonid Shur. The reasons, in the later 1860s, for the great interest of the Russian democratic press in the USA are analyzed in Malkova's article. She concludes that close study of America's political development served the advanced strata of Russian society not only as a way of criticizing the semifeudal order in czarist Russia but also as a stimulus for comparing existing ideas of a fair solution of Russia's problems with the actual results of bourgeois progress in its most refined form. She writes:

> It was as though Russian democrats were discovering America anew for themselves—a country of people's revolutions and ruthless oppression (and even extermination) of national minorities; of a comparatively high level of the democratic system of government administration and of patriarchal barbarity preserved in various spheres of social life; of widespread education in its most advanced forms and of the lack of social rights for such large groups of the population as Negroes, women, immigrants and the like.

Leonid Shur's short study will be appreciated by anyone interested in the early history of the USA. Among other things, it evaluates the material gathered by Russian expeditions around the world in the first half of the nineteenth century. Some visited California.

Naval officers kept diaries and wrote travel notes and letters home to Russia. Only a small fraction of these documents were subsequently published. The written material on the expedition around the world headed by Mikhail Vasilyev, whose ships *Otkrytiye* and *Blagonamerenny* spent more than three months (from October 27, 1820, to February 11, 1821) in San Francisco, are particularly interesting to the student of California history.

As Shur notes, no published source on the ethnography of California contains such detailed descriptions of the everyday life of the California Indian in the Spanish mission as are found in the notes of Mikhail Vasilyev.

The meeting with the American past at the Moscow Symposium was extremely interesting and valuable. Certainly it will stimulate research in American history for a long time to come.

NEXT ISSUE



In the past 10 years some hundred million Soviet people have had housewarming parties. Between 1966 and 1970 alone no fewer than 11,350,000 apartments were built. The next issue will feature a series of articles describing the veritably herculean effort to provide good housing with all modern conveniences throughout the country. Among other things, the issue will give data on government funding for housing construction, picture new housing developments in Vilnius, the Lithuanian capital, and indicate how housing is allocated in Novosibirsk.



An article by Victor Perevedentsev is a history of the rejuvenation of the indigenous peoples of the Soviet Far North. Doomed to slow but certain extinction by the oppressive colonialist policy of the czarist regime, in the 50-odd years of Soviet Government they have prospered, created written languages of their own and been given access to the world's cultural treasures. Their traditional arts and crafts, encouraged by state support—moral and financial—have taken on a modern content and have won wide recognition both at home and abroad.



Foreign sports writers reporting the European gymnastics championships held in Minsk, the Byelorussian capital, last fall talked in superlatives. "She's extraordinary! Unbelievable! A miracle of grace!" The exclamations came with the performance of young Tamara Lazakovich of the Soviet Union, who won her laurels as the new champion of the continent. The "miraculous" grace and skill of the 17-year-old held both the spectators and the hardened reporters spellbound. Behind the "miracle," however, was not only talent, but hard, unrelenting work. An article about Tamara illustrated with many photographs in August.

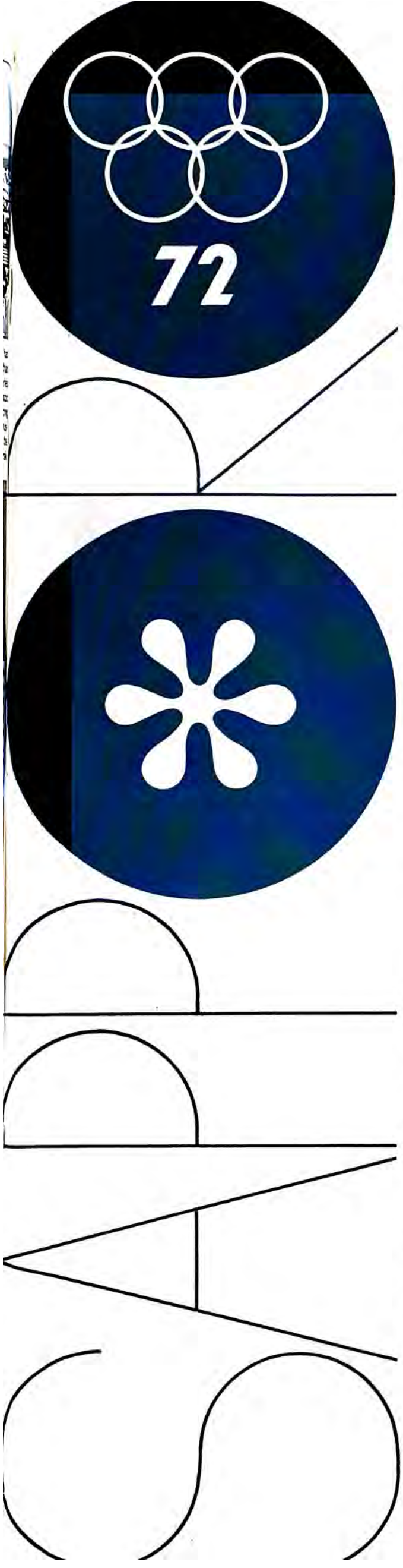
Yuri Rytkheu is 41 years old, hardly a patriarchal age for a writer. Yet he is known as the father of Chukchi literature. The Chukchi, with a population of only 13,000, live in the Soviet Union's Far North. Their literature was born 20 years ago, when Rytkheu's first book was published.

David Seltzer, an American writer, and Vladislav Mamontov, a Soviet archeologist, are collaborating on a book about the wartime friendship of Soviet and American children. After the nazi defeat at Stalingrad, an American organization, Ambijan, became patron of the city's orphanages. The correspondence and exchange of gifts continued after the war. An article, "Uncle Ambijan," is the story of this unusual overseas patron.

Mass participation is a basic principle of Soviet sports; the goal is healthy people. Facilities and coaching are available to everyone of every age everywhere, says Victor Kuprianov. His article notes that some 45 million people participated in the qualifying competitions held on the town, village, region and republic level for the USSR People's Games.

COMING SOON

Soviet Transcaucasia



THE 1972 WINTER OLYMPICS

By Sergei Popov and Alexei Srebnitsky
APN Special Correspondents
Photographs by Dmitri Donskoi

WHEN our Olympic squad for this year was being lined up, what would seem to be the natural question—whether it was worthwhile sending Alpine skiers or tobogganers—was not even asked. Sports observers were convinced that the chances of our athletes in these winter events were nil. Nevertheless, they were sent to Sapporo, Japan, with the others.

Why? First and foremost, to give the young contenders international experience. The Olympics are not only contests judged by points, minutes and seconds, they are a magnificent festival of the world's youth. Their importance lies in friendship and participation. And the Soviet delegation of 107 carried on this tradition.

Indeed, Soviet contestants have made their own the observation of Pierre de Coubertin, founder of the modern Olympics, that the important thing is not to win but to take part. Still, the joy of winning is an element of every competition. And the triumph at the Olympic Games is the greatest joy an amateur athlete can hope for. The eight gold, five silver and three bronze medals won by our contenders in the ski races and the biathlon, the hockey tournament, speed skating and figure skating pleased sports fans immensely, particularly since at the preceding Games in Grenoble the Soviet squad ceded the unofficial team victory to the Norwegians.

How Did We Do It?

We talked in Sapporo with reporter Jim Ward of the UPI. Here is what he said:

"There are few countries in the world like ours—a lot of space, plenty of snow, and everything we need for winter sports. In this respect we, that is the United States and the Soviet Union, are alike. But you have done much more. Why? Sometimes our participants lack concentration, what I call team spirit. You have more than enough of that. Even when the contest is an individual event, we feel that your athlete is not performing all by himself, but as part of a big team."

Of course, we agreed with Ward. When he said that, we thought back to the men's 40-kilometer ski relay, the last lap, when Vyacheslav Vedenin received the baton a minute later than the leader—Norway's John Harviken. It is impossible to regain a minute in this race. What did Vedenin hope for, what did he think of when he set off in pursuit of Harviken?

"Only one thing—that I had to catch up," he said after it was all over.

But what sense was there in a famed skier, who had already won the gold and bronze medals in the XI Games, trying like an inexperienced youngster to overtake the leader?

"In an individual event, I might have given up," Vedenin admitted. "But there is no time in the relay for sober calculation. Behind me were three of my teammates. Each of them had done his best in his lap, put every effort into it. Something hadn't gone well with one of us, that happens. But now it was my turn to help them."

He crossed the finish line first. The General Secretary of the International Ski Federation exclaimed: "Fantastic!"

And what about the biathlon relay? Early in the event the Soviet squad took a dramatic lead. In the first lap Alexander Tikhonov, the recognized leader, twice missed shooting from a standing position. While he was describing the penalty circles, his major rivals—from Finland, Japan, Norway and the German Democratic Republic—passed him. Tikhonov set off in pursuit, but then more trouble came his way: His ski broke. Fortunately, Dieter Speer of the GDR team was nearby, limbering up for the third lap. Without a second thought he offered his own skis. But Tikhonov only came in ninth.

Everything lost?

Rinnat Safin, the Soviet contender on the second lap, continues the story:

"I came in eighth at the first firing line, managed to get ahead of only one man. I said to myself, 'Alexander had bad luck, so I'll have to catch up for the two of us.' And I was first at the second firing line, where we shot from the standing position."

All Ivan Bykov and Victor Mamatov had to do was distribute their strength correctly and hold the advantage, and they did both those things.

Comradeship, mutual assistance and team spirit are the secret of our athletes' success. Or, at least, one of the secrets.

To explain the high scores of the Brazilian national soccer team, some people cite the intensive psychological buildup for every important game. Before an encounter the team might do sambo wrestling, for instance, or see a Western film. We know that victory in modern sports is inconceivable without psychological preparation.

Though our Olympic squad had no special psychologist, they were primed for the battle by the moral support they got. For instance, poet Robert Rozhdestvensky, an ardent fan, lived with his athlete friends in Olympic Village. He read them his best poems and wrote new ones for them. Especially appreciated were his poetic warmups. Polad Byul-Byul Ogly, a young Azerbaijanian famous as a composer and singer of popular songs, also kept the contestants in a lively mood. Byul-Byul and composer Alexander Averkin wrote a new song called "Sapporo, Sapporo," and the Soviet biathlonists were the first to hear it, right on the eve of the competition.

From the Fans at Home

Moreover, the Soviet athletes were aware, throughout their stay at the Olympics, of the feelings of their countrymen back home. There was hardly room on the walls of Building No. 6, where our team was housed, for the cables that kept coming. "May your







Soviet Olympic title winners in the 15-kilometer ski relay (from left to right) Galina Kulakova, Alevtina Olyunina, Lyubov Mukhacheva. Top right: Winners in the figure-skating pairs (from left to right) Ludmila Smirnova and Andrei Suraikin (USSR), silver medal; Irina Rodnina and Alexei Ulanov (USSR), gold medal; Manuela Gross and Uwe Kagelmann (German Democratic Republic), bronze medal. Opposite page: A cordial handshake after the USA-USSR hockey game.

scores be as high as the Caucasus Mountains," said fans from the Baku transformer plant, where snow is a rare phenomenon. Messages arrived from schoolchildren in Krasnodar, young builders at the Zeya Hydroelectric Power Plant, Sakhalin fishermen and seamen on ships in the Mediterranean.

Many sportsmen told us that this contact with compatriots who shared their trials and tribulations from thousands of miles away was an important stimulus. The actual benefit, of course, can't be measured objectively.

There is another factor, probably even more meaningful. The entire structure of Soviet sports and physical culture tends to produce stars, because it is based on mass participation and is accessible to everyone. The 210,000 primary physical culture organizations (the departmentalized sports clubs in the 37 sports societies) have a total membership of 44 million; the training is done by highly qualified coaches. In Sapporo, for instance, Soviet sports were represented by athletes from 19 cities, towns and villages, people from the most varied walks of life, including college and high school students and servicemen.

Biathlonist Victor Mamatov is a building engineer who is doing research at the Novosibirsk Institute of Railway Transport Engineers. Speed skater Ludmila Titova, an aviation engineer, is working on her thesis for a candidate's degree in science. Vera Krasnova, who brought home a silver medal for the 1,000-meter speed-skating event, is a student at the Omsk Institute of Technology. Speed skater Valeri Lavrushkin is in his last year at the Moscow Institute of the Food Industry. Skier Ivan Pronin of Ukhta, Komi Autonomous Republic, goes to an industrial institute. The alma mater of figure skater Sergei Chetverukhin, silver medalist in the single event, is the Moscow Higher Technical School. Ski jumper Sergei Yanin, 19, works as a fitter in Sverdlovsk, in the Urals. As for figure skaters Irina Chernyayeva and Vasili Blagov, 16 and 17 respectively, who placed sixth in the pairs, they still have to make up their minds about their future careers. They are secondary school students.

In age our Olympic contenders range from 14-year-old figure skater Marina Sanaya to 38-year-old ski jumper Koba Tsakadze. This contingent is the cream of the huge crop of Soviet athletes. Cross-country ski racing attracts 4.5 million of our sportsmen (we mean those who train regularly in clubs and take part in official contests); speed skating, 382,000; the biathlon, 26,000; figure skating, 52,000; and ice hockey, 477,000. Even such technically difficult events as ski jumping and the Nordic biathlon have a considerable number of enthusiasts—6,000. Sapporo confirmed once again an important principle of Soviet sports: Top performance and mass participation go hand in hand.

This same principle also explains the failure of Soviet Olympic athletes in Alpine skiing and tobogganing. The Alpine events are still poorly developed in our country. There are no children's sports schools specializing in them; there are not enough courses for which equipment is provided, and not enough ski lifts. We need time to catch up with those countries where Alpine skiing is traditional. While we are planning a good deal of work along this line, the victories won't come at once. As far as tobogganing is concerned, people are just beginning to get interested. Our tobogganers came to Sapporo as novices, so that their placing twelfth and thirteenth in some of the events can be viewed as a promising start.

Olympic Heroes

The Sapporo Olympics brought a number of new names to the fore, including Ard Schenk of the Netherlands, who won three out of the four speed-skating events; Marie-Thérèse Nadig of Switzerland, the new Alpine skiing star, and skiers Galina Kulakova and Vyacheslav Vedenin of the Soviet Union, winners of three gold medals and two gold medals respectively.

We recall a meeting in the Olympic press center. We talked to Suzy Chaffee, a tall, athletic-looking girl representing one of the American collegiate sports publications. She told us that not so long ago she had been one of the leading Alpine skiers in the United States and asked us to tell her about Galina Kulakova.

"I've never seen such skiers!" she exclaimed.

Kulakova lives in Udmurtia, an autonomous republic in Central Russia. She was born in the village of Stepanovo, not far from Votkinsk, the birthplace of composer Peter Tchaikovsky.

"There were nine children, seven girls

and two boys, in the family," Galina related. "I was the youngest, born in 1942, during the war. My father was killed at the front. Those were hard times, so that after finishing elementary school I went to work at a nearby state farm, first as a cattle tender and then as a milkmaid."

To Galina, work and hardship also meant the joy of surmounting them. "I don't like an easy course in skiing either," she told us. "When everything goes smoothly, my back starts aching."

This was said half in jest, but experts know that Kulakova is especially strong on tough stretches. Where long, steep upgrades alternate with downgrades and most skiers begin to tire, she usually piles up the seconds that mean victory.

That was what happened in the first race on the Olympic course: the 10-kilometer cross-country in Makomanai. At first Kulakova was well behind. But some two kilometers from the finish line, when the course took an upward turn, she found her element. It was noticeable from the sidelines when she started to move ahead with a fast, powerful glide.

Kulakova became interested in sports in the same way as most of our stars. While working at the state farm, she took part in a district championship. Coach Pyotr Naimushin of Votkinsk, once a well-known skier, offered his help. After five years of training Kulakova made the national team. She competed in Grenoble, where she won the silver and bronze medals.

"Now I have a full set," she said after her first victory in Sapporo. Soon thereafter, she added another two gold medals to her collection.

Kulakova lives in a quiet spot on the outskirts of Izhevsk, capital of Udmurtia, near a forest. After the 1972 Olympics she competed in several international meets and won them all.

Vyacheslav Vedenin's sports career took a similar course. Here is his own story.

"I lived in a village in Tula Region, not far from Moscow," he told us, "and everybody there skies. I won a school contest and got the idea of training seriously. The physical education instructor at school and my coach at the children's sports school taught me everything they knew. Then I attracted the attention of Pavel Kolchin, a famous skier and Olympic relay champion, who did coaching. Without him I wouldn't have become a champion."

The Charm of Skiing

We asked Vedenin what attracts him in skiing.

"For me it encompasses all the joy and heartaches of struggle, and a special kind of struggle. You cover the course alone, practically without spectators, only the fans at the finish. And frequently you don't see your rivals. So that you have to keep fighting your own fatigue, battling with yourself along the whole course to win. That's what I like."

Each of our champions finds something very individual in his sport. Here is what Irina Rodnina and Alexei Ulanov, Olympic figure-skating champions in the pairs, replied to the same question.

Rodnina:

"It seems to me that figure skating, like painting or poetry, for instance, awakens your feeling for the beautiful, gives you a wonderful sense of movement that can't be expressed in words."

Ulanov:

"It's the happiness of creative effort, faith in yourself, and the pleasure of giving people something worthwhile."

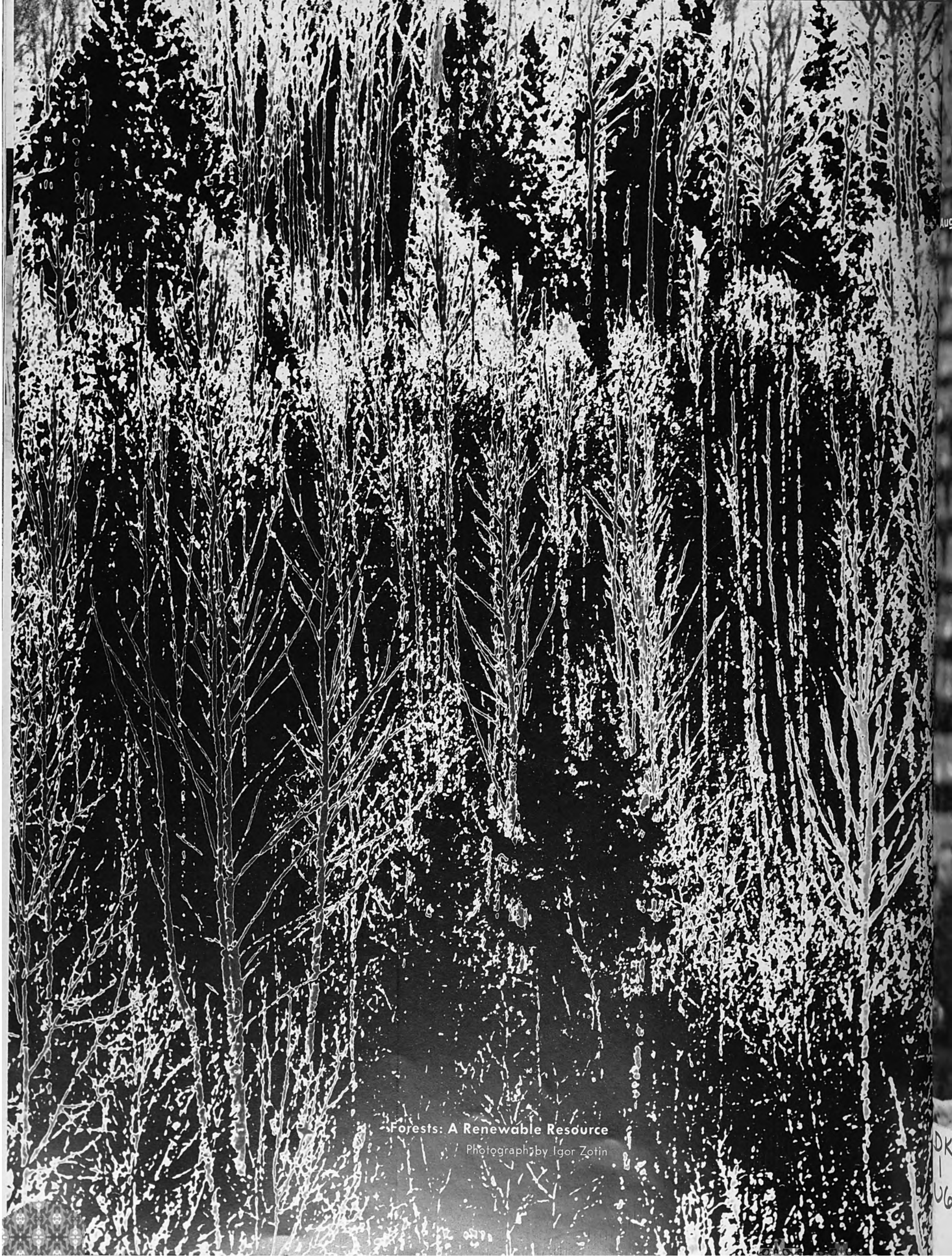
At Sapporo we managed to interview all the Soviet winners. Obviously, we have room for only a few excerpts from these interviews: Including hockey players and participants in relays, thirty-three of our athletes, or a third of the USSR delegation, earned gold medals at the XI Winter Olympic Games. Soon afterward, the Government awarded orders and medals to 49 Olympic athletes and coaches for their contribution to the development of sports, which are an integral part of our country's health program. The highest Soviet decoration, the Order of Lenin, went to Galina Kulakova and Vyacheslav Vedenin.

The words "Good-by, Sapporo! Until we meet in Denver!" were lit up on the scoreboard of the Makomanai Indoor Skating Rink. By tradition, the hosts passed the baton to the next Olympic city—Denver.

But sports contacts do not end with the last event of any competition. We are already thinking about the 1980 Summer Olympics, which we have offered to host.



The real secret of the Soviet Olympic team's fine showing at Sapporo is the mass sports movement back home. It accounts for the eight gold, five silver and three bronze medals. Some 44 million people of all ages and walks of life go in for one sport or another on a fairly regular basis. Facilities and coaching are available to them without charge.



Forests: A Renewable Resource

Photograph by Igor Zotin

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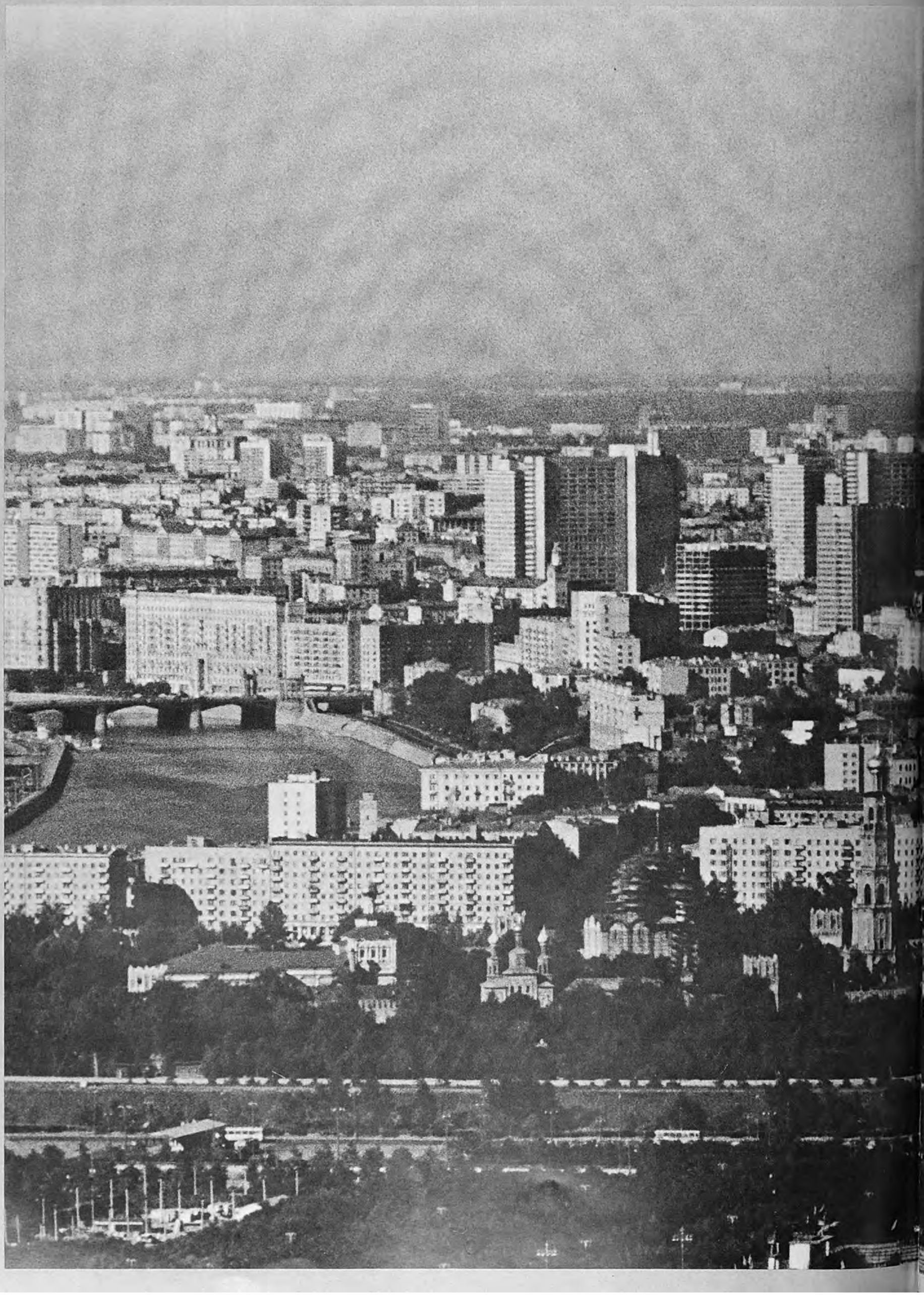
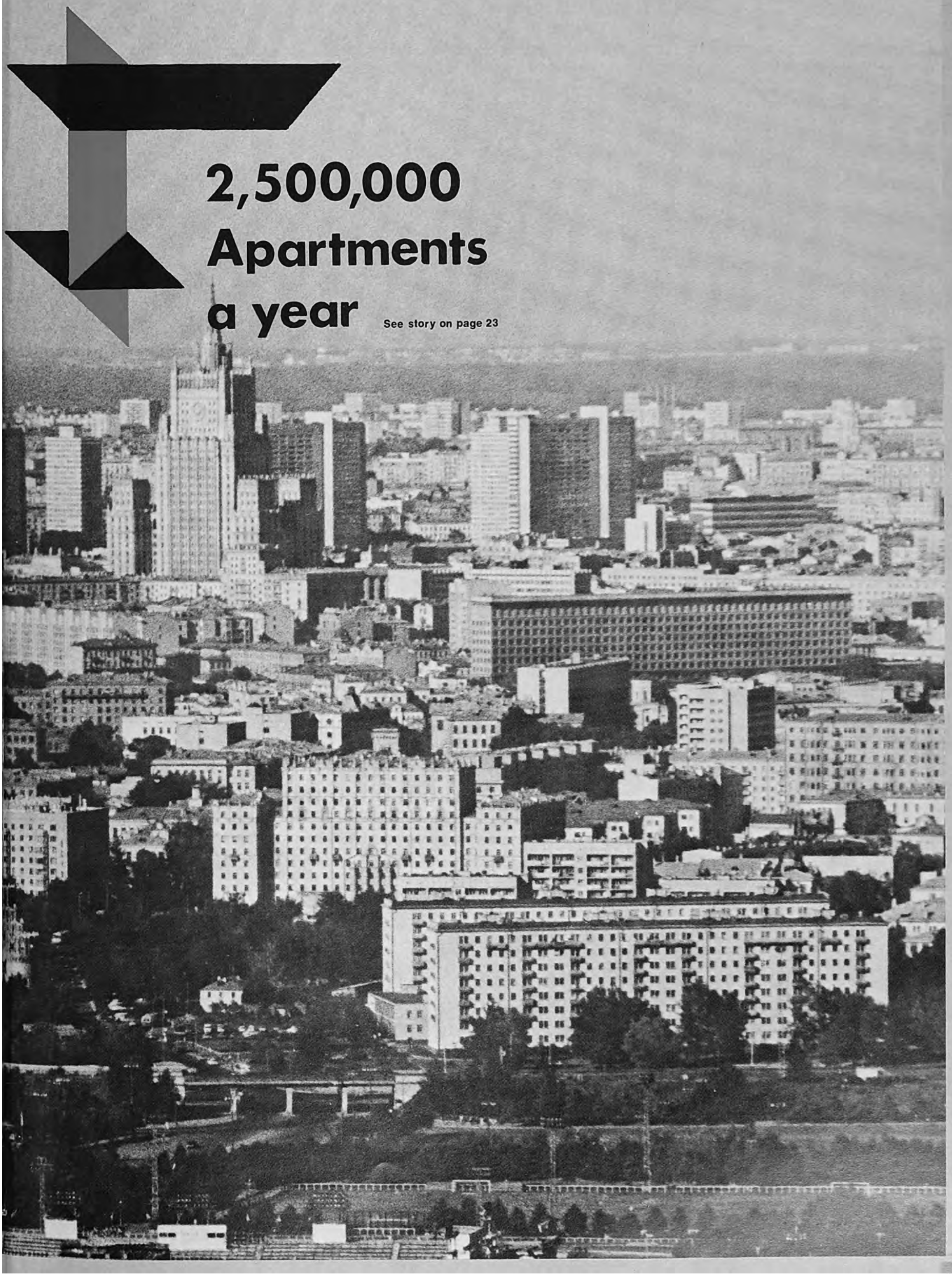


2,500,000 Apartments a year

See story on page 23



Weapons Convention Adopted

A convention banning the development, production and stockpiling of bacteriological and toxic weapons and calling for their destruction has been signed in Moscow.

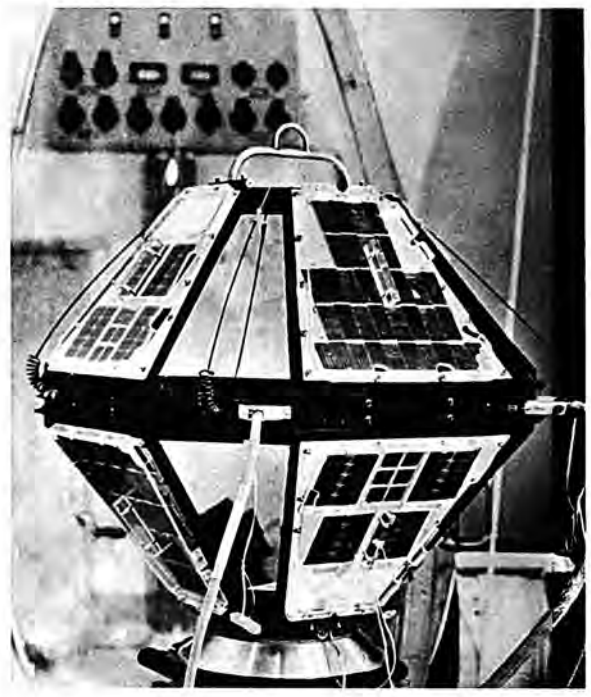
The convention was approved by the Twenty-sixth UN General Assembly last December. Great Britain, the Soviet Union and the United States will be its depositaries.

It was signed by Soviet Foreign Minister Andrei Gromyko for the Soviet Union; Jacob Beam, U.S. ambassador to the Soviet Union, for the United States; and Sir John E. Killick, British ambassador to the USSR, for Great Britain.

On the same day representatives of 44 nations signed the convention on behalf of their governments.

Nikolai V. Podgorny, President of the Presidium of the USSR Supreme Soviet, addressed the group. The agreement to ban bacteriological weapons, he said, would open up new possibilities in the fight to relax the arms race.





Space Cooperation Continues

A single carrier rocket was used to place in orbit a Soviet communications satellite, Molniya 1, and a French small self-contained satellite, MAS.

The launching was done under a French-Soviet space cooperation program. MAS, built in France, is designed to study different solar batteries exposed to radiation and sharp temperature changes. Its flight is being tracked by French ground stations.

Molniya 1 is a long-distance telephone-telegraph radio communication system. It also relays programs of the Moscow TV Center to the Far North, Siberia, the Far East and Central Asia.

The satellites were orbited one after another: The Soviet craft was separated from the rocket first, and then MAS was shot into its orbit by a special rocket system. This avoided a possible collision of the satellites in space.

Communist Work Festival

Saturday, April 15, was a day off, but practically every able-bodied man and women in the Soviet Union went to work. The majority reported to their regular jobs in factories and offices, the others were busy improving cities and villages. A sizable contribution was made by pensioners, students and school children. In short, the whole country volunteered an extra day's work without pay.

This tradition goes back to the first years of Soviet government. On a cold Saturday in April 1919, 15 repairmen in a Moscow depot decided to stay after their regular shift to repair steam engines for Red Army trains waiting to leave for the front. They put in a full night, 10 hours, and turned down the pay. The overtime was their contribution to the cause of the revolution.

Word spread throughout the country, and the initiative of the railwaymen soared. It reflected the new, communist attitude toward labor, the attitude of people who were working for themselves, for the society they were building. Ever since, *subbotniks* (*subbota* means Saturday) have been held regularly. In recent years they have become nationwide affairs. The last one was the fourth All-Union *Subbotnik,* in honor of the 102nd anniversary of the birth of Lenin and the fiftieth anniversary of the establishment of the USSR.

The Communist *subbotnik* is voluntary, and its scale is therefore all the more impressive. Last year 120 million people took part. They produced 553 million rubles' worth of industrial output and earned 125 million rubles which they contributed to the Five-Year Plan fund. The figures for this year are still more dramatic because production rates have gone up. Today, a single working minute of the country at large represents 778 tons of petroleum, 251 tons of steel, 20 apartments, and so forth.

A substantial part of the money earned by this *subbotnik* will be used for the construction of three major medical centers: an oncological and a cardiological institute and the USSR Research Institute of Obstetrics and Gynecology. They are being designed and built in Moscow.

EVENTS

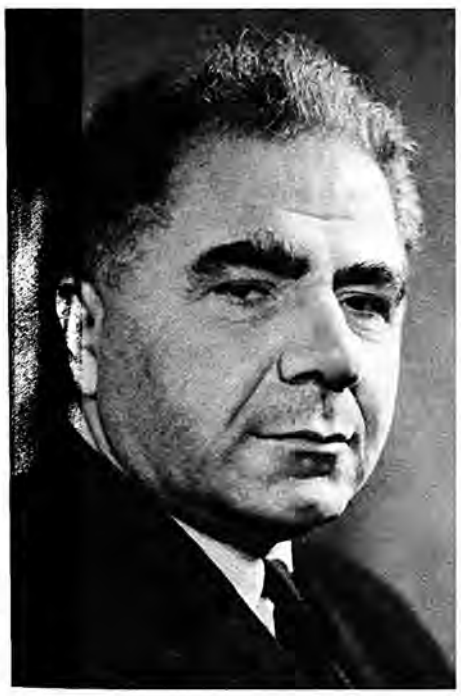
Lomonosov Medal

The Lomonosov gold medal was presented to two eminent scientists at a general meeting of the USSR Academy of Sciences.

The medal is the highest academy prize. It is awarded annually to Soviet and foreign scientists for a major contribution to scientific knowledge.

Academician Victor Ambartsumyan, president of the Armenian Academy of Sciences, received the prize for his work in astronomy and astrophysics, notably for the discovery and study of stellar systems of a new type, the stellar associations.

The second medal was awarded to a foreign member of the USSR Academy of Sciences, Hannes Alfven of Sweden, for his contributions to physics and astrophysics. The name of Professor Alfven is associated with the discovery of magnetohydrodynamic waves.





Folk Festivals

Amateur art festivals are now being held in 15 union republics. They celebrate the forthcoming fiftieth anniversary of the establishment of the Soviet Union.

The first round of a republican competition closed recently in the Ukraine. More than three million people participated—amateur art groups of factories and collective and state farms. The second round is now taking place in cities and district centers. The winners will compete for the republic title.

Amateur arts are very popular in our country. There are 23 million amateur musicians, dancers, actors and farmers. Last year two million performances, attended by 400 million viewers, were given by the theater groups and musical ensembles of local clubs and recreation centers run by factories and collective farms.

Many amateur companies can vie with professional troupes. Some have been invited to perform in Czechoslovakia, France, the Netherlands, Poland and other countries.

French Unionists Visit the USSR

The Soviet trade unions recently welcomed a delegation of one of the largest labor federations of France—Confédération Francaise Démocratiques de Travail. The delegation was led by Laurent Lucas, assistant secretary-general of the confederation.

The French labor leaders visited factories and construction projects in Moscow and Leningrad, and in Irkutsk and Bratsk in Eastern Siberia. The guests familiarized themselves with the structure of the Soviet labor unions, their relations with other mass organizations and governmental agencies, the part they play in economic planning, social insurance and vocational training.

In a joint statement at the end of the visit, the French and Soviet unionists expressed their satisfaction with present contracts and stressed the value of closer relations.

International Construction Project

The Soviet foreign trade organization Metallurgimport and the Swindell-Dressler Company of the United States (a division of Pullman Incorporated) have contracted to build a large foundry at the Kama Auto Plant, which is now under construction in Tataria.

The agreement was signed by Nikolai Maximov, president of Metallurgimport, and Donald J. Morfee, president of the American company.

During his stay in the Soviet Union, Mr. Morfee talked with Nikolai Komarov, Deputy Minister of Foreign Trade of the USSR, about the possibilities of purchasing Soviet equipment for the American porcelain and pottery industry.



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Front Cover: Tamara Lazakovich, one of the youngest national gymnastics champions in the history of the sport. Story on p. 62. *Photograph by Sergei Lidov.*

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LETTERS TO THE EDITOR

Dear Sirs,

Several months ago (November, 1971) you published in your magazine an article entitled "Snow Leopard of the Pamir," about mountain climbing in the USSR. I found this article very interesting, and I am wondering if it is possible for Americans to go on mountain-climbing expeditions in the USSR. I have climbed several mountains here in the United States, and I find the experience very enjoyable. Also, for the past three years I have been studying the Russian language. In fact, last summer I went to Russia and studied with a group of American students at Leningrad State University. I now look forward to a return trip to the USSR, perhaps a year from now, and I would like very much to go on a mountain climbing expedition while there. Please send me any information you might have concerning this possibility, or please refer me to another agency which could give me more information about this.

Thank you very much.

Bob Pauw
Riverside, California

Information on travel in the Soviet Union can be obtained by writing Intourist, 45 East 49th Street, New York, New York 10017.

Gentlemen,

Just a few lines to tell you how much I enjoyed (in the April issue) Gevorg Emin's fascinating article "Song of Armenia." It was written with much sensitivity, and to me it opened up a world of information about Armenia. It was mentioned that the article was from a script of a documentary film which was shown throughout the USSR. Therefore, I wonder would it not be possible to have this documentary shown here to American audiences? I am very sure that many people would like to see this film.

I want to tell you that I thoroughly enjoy reading SOVIET LIFE. To me, it is a source of information about the Soviet Union on a people-to-people basis. I feel we need this very much in view of the fact that the average person here knows so very little about the people of one of the most powerful nations in the world. SOVIET LIFE certainly fills a gap there.

Being the mother of two young sons (one of whom is enclosing a letter of his own) I want them to grow up unbiased and interested in your country and its people. As for myself, I visited the Soviet Union last summer for the first time, and I loved every minute of it. Thanks also for your many stimulating articles which made me want to take the trip.

Eleonore Held
Annandale, Virginia

EDITOR'S NOTES

TRADE AND COEXISTENCE

PEACE is not like the weather, which is still beyond human control. Peace grows out of the actions of people and states. Judging by our mail, there is a lively interest in the Soviet Union's substantial contributions to safeguarding and strengthening world peace. The recent visit to Moscow by President Richard Nixon and the Soviet-American agreements signed then have brought comments from readers on various aspects of Soviet foreign policy.

For instance, C. W. of Carson, California, writes:

"Reading the article 'Doing Business with the USSR' in the May issue of SOVIET LIFE has broken my heart." His letter boils down to the conclusion that a socialist country should have nothing to do with capitalists.

Since his view is not uncommon, let us consider it.

Commercial and economic ties between our country and those with other social systems are an integral part of the Soviet Union's policy of peaceful coexistence. The founder of our Soviet state and the originator of that policy, Vladimir I. Lenin, pointed out in a discussion with an American correspondent (Lincoln Eyre of *The World)* back in 1920: "I know of no reason why a socialistic commonwealth like ours cannot do business indefinitely with capitalistic countries."

There you have it, "business" and "indefinitely." Lenin, of course, presupposes that such relations are mutually beneficial. Is this proposition dated? Has our viewpoint changed? The answer is No. A little over a year ago, at the Twenty-fourth Congress of the Communist Party of the Soviet Union, Leonid Brezhnev, General Secretary of the CPSU Central Committee, had this to say: "Our principled line with respect to the capitalist countries, including the USA, is consistently and fully to practice the principles of peaceful coexistence, to develop mutually advantageous ties, and to cooperate, with states prepared to do so, in strengthening peace, making our relations with them as stable as possible." Incidentally, the Soviet leaders took the same position in the talks with President Nixon.

A look at the past often gives us a better perspective on current problems. There are any number of instances of constructive Soviet-American economic cooperation. In the late twenties and early thirties, for example, American specialists took part, on a contractual basis, of course, in building some of our industrial enterprises, including steel mills and auto plants. The first set of turbines for the famous hydroelectric station on the Dnieper (Dneproges) was bought in the United States.

In recent years, the economic, scientific and technical ties of our country with capitalist states have expanded considerably, and in several instances are the result of long-term agreements and treaties. For example, we are cooperating with Italy in the construction of a big auto plant on the Volga, and with Austria and several other countries in the development of the gas industry, including laying gas pipelines from the Soviet Union to Western Europe. French firms are participating in the construction of our chemical enterprises, while we, in turn, will help build a metallurgical complex in France. Japanese companies are collaborating with us in the construction of a new port in the Soviet Far East. Other major projects are in the discussion stage, projects in which businessmen from the capitalist countries are interested.

As for American-Soviet economic ties, at the same Twenty-fourth Congress of the Communist Party of the Soviet Union, Alexei Kosygin, the head of our government, underscored this point in his report on the Ninth Five-Year Plan (1971-1975): "Nor do we rule out developing economic relations with the United States of America to an extent more consistent with the economic potential of the two countries. This kind of cooperation would be a firm basis for consolidating peace and mutual understanding according to the principles of peaceful coexistence."

In the May talks in Moscow there was mutual agreement on establishing a Soviet-U.S. joint commercial commission. The final joint communiqué on the talks noted the two sides had decided to complete, in the near future, the work necessary to conclude a trade agreement, and that such an agreement would create more favorable conditions for commercial and other economic ties between the USSR and the USA.

The document "Basic Principles of Relations Between the Union of Soviet Socialist Republics and the United States of America," signed in the Grand Kremlin Palace on May 29 by Leonid Brezhnev and Richard Nixon, says (point seven): "The USSR and the USA regard commercial and economic ties as an important and necessary element in the strengthening of their bilateral relations and thus will actively promote the growth of such ties."

That is the common viewpoint of our two countries with regard to mutual economic ties. Its advantages are self-evident. But economic ties, no matter how important and promising, are only part of the whole complex of relations between states. They can be really fruitful only if relations of peaceful coexistence extend to other important areas of endeavor. As a result of the summit talks between our two countries in May, as we all know, other very important documents were signed—the Treaty on the Limitation of Anti-Ballistic Missile Systems and the Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms.

It is universally acknowledged that these agreements accord not only with the vital interests of the peoples of the USSR and the USA, but also with the interests of international security as a whole, the interests of all nations. We may reasonably assume that the general improvement of relations between our two countries also makes for better economic ties and these, in turn, make for a deeper and broader understanding among nations.

There is one more remark we should like to make in response to the letter from our reader in Carson. He wonders whether or not the development of economic relations between our two countries, with their basically different social systems, will result in the infiltration of bourgeois ideology into the USSR. As we understand it, the principle of peaceful coexistence does not in the slightest degree presuppose ideological coexistence, that is, the reconciliation or merging of world outlooks and principles. A docking of Soviet and American spaceships is possible, but a linkup of communist and bourgeois ideologies is not. This is the one sphere that remains unaffected by treaties or agreements concluded between states of different social systems within the framework of peaceful coexistence.

Conflict of ideas does not prevent states with opposing ideological positions from seeking and finding solutions to urgent international problems. Such a search was launched by the leading representatives of our two countries in the May negotiations.

THE TWENTY-FOURTH CPSU CONGRESS AND MARXIST-LENINIST THEORY

The Economics of a Developed Socialist Society

By Genrikh A. Kozlov
Corresponding Member, USSR Academy of Sciences

THE TWENTY-FOURTH CONGRESS of the Communist Party of the Soviet Union, held in the spring of 1971, made a major contribution to Marxism-Leninism. The congress defined the present stage in our country's life as the stage of developed socialism. The Report of the Central Committee, made by Leonid Brezhnev, noted that:

"An immeasurably higher level has been achieved in the national economy, in socialist social relations,the culture and the consciousness of the broad masses. The developed socialist society that Lenin referred to in 1918 as the future of our country has been built by the selfless labor of the Soviet people."

Based on an analysis in depth of the economy and the achievements of our multinational state in all spheres of endeavor, this assessment of the country's present stage of socialism has made it possible to outline its prospects, including the tasks of the ninth five-year period (1971-1975). The same scientific assessment provides the basis for our present economic policy and the new conditions and possibilities for communist construction.

What is developed socialism, economically speaking?

The Level Reached

A developed socalist society is the result of a powerful upturn of the material and technical basis of socialism and the consolidation of socialist production relations. At the dawn of Soviet power, the beginning of socialist construction, Lenin foresaw a developed socialist society. But he underscored, more than once, the need for a correct evaluation of achievements in building the new society.

Heeding Lenin's admonition, the Communist Party has always attached great importance to the scientific definition of every stage of socialist development. For the further progress and the choice of the major goals for communist construction depend to one or another degree on the maturity of socialism at the given stage.

Here the party is guided by the tenet of Marxist-Leninist theory that the development of any mode of production is a historical process. Quantitative changes in the productive forces and production relations lead to qualitative changes, to a higher degree of maturity of the given mode of production.[1]

Socialism was achieved in the Soviet Union by the second half of the thirties. Since then we have been moving ahead steadily. Putting aside for the moment the effect of the war against nazism on our economic development, let us cite a few general figures. Our gross national product increased 8.1-fold and our national income almost ninefold between 1940 and 1970. Basic production assets as a whole grew 7.5-fold in the same period, and in industry they grew eleven fold. Labor productivity grew almost five-fold and 3.2-fold in agriculture.

These figures testify to the important achievements of the preceding period. They were products of essential changes in the technology and organization of production. All of which means that the material and technical basis of socialism, the productive forces of society, have greatly developed.

Essential changes have also taken place in the level of culture and skill of the workers, who are the main productive force of society. The number of persons with a college or specialized secondary education per thousand city dwellers was 242 in 1939, the figure for 1970 was 748. The respective figures for the countryside were 63 and 499.

The growth of the productive forces made for a corresponding improvement in production relations. Common ownership of the means of production has been consolidated, the value of property belonging to the whole people has increased, and its leading role in the national economy has become larger.[2]

The growth of the role of property belonging to the whole people is indicated also by the fact that state farms now provide a considerable portion of the country's agricultural products. State farms and other state agricultural enterprises produced 10 per cent of the total grain purchases in 1940 and 50 per cent in 1970. The proportion of state farm products to the total procurement increased as follows: potatoes, from 2 to 39 per cent; other vegetables, from 6 to 57; milk, from 16 to 42; eggs, from 3 to 65 per cent.

At the same time cooperative (collective farm) property more and more resembles property belonging to the whole people. In many respects—in the scope of their activities, their technical equipment, and payment for work done—collective farms are much like state farms. Which means that this process of becoming property belonging to the whole people is at work in agriculture as well.

New Stage

Thus, essential changes have taken place both in the productive forces and in the production relations since the victory of socialism in our country. But these changes must be seen in their unity, not separately.

[1] According to Marxism-Leninism, the mode of production is the main, determining force of historical development. There have been five known modes of production in human history which have replaced each other consecutively: primitive communal, slave-owning, feudal, capitalist and socialist, the latter being the first phase of the communist mode of production. The Soviet Union and many other countries are presently in the socialist mode of production.

A mode of production is the unity of productive forces and production relations. The productive forces include the means of production (land, machinery, factories, etc.) and the people who operate them. Production relations are the economic relations formed by people in the process of the production of material wealth. Production relations are based on the forms of ownership of the means of production. The type of production relations is determined by who owns these means. Under capitalism the means of production are owned by private individuals, so that in this case the production relations are domination and subordination. Under socialism the means of production are owned by the entire society, and here the production relations are comradely cooperation and mutual assistance.

[2] Public, socialist ownership of the means of production is predominant in our country. It takes two forms—property belonging to the whole people, and cooperative and collective farm property. The land, all basic industry, transport, are the property of the whole people. State farms are also the property of the whole people. The other form of property you see mainly on the collective farms, where the machines, equipment and produce, including cattle, belong not to the entire society but to the members of the particular collective. Under full communism, all such property, all the means of production, will belong to the whole society.

The unity of the productive forces and the production relations, as Karl Marx pointed out, is manifested in the specific form of social organization of the process of production. For capitalism the form was individual enterprises which, in the stage of machine production, evolved into factories. Subsequently various amalgamations of capitalist enterprises (companies) were set up. But the forms of organization of the social process of production under capitalism do not embrace the economy as a whole.

What specific social forms of production are intrinsic in socialism and how is their development indicated?

Socialist ownership of the means of production requires a higher and more progressive social form of production than capitalism. Under socialism individual factories and their amalgamations exist, not as isolated economic units, but as cells of labor cooperation embracing the entire economy. Planned cooperation of labor on the scale of the whole economy is the form of social organization of production intrinsic to socialism.

The transition to socialism in our country involves not only the replacement of capitalist enterprises by socialist enterprises and the conversion of small-scale commodity production into large-scale socialist production. Planned unification of the entire economy is also being done gradually. This process of organizing production is consistent with the social nature of the modern productive forces, which are large in scale and complicated in structure. Relations among people—engineers, technicians and workers—are characterized by comradely cooperation and mutual assistance.

Socialist production grows by a single plan and in the interest of society as a whole; this production is not plagued by crises. In this society people's labor is collective and based on socialist ownership. The individual has the opportunity for all-round development. That includes the cultural development of workers and their participation in management.

Organization of production according to plan on the scope of the whole economy and collective labor becomes a new and additional productive force. So that, even in its initial stages, socialism demonstrates its advantages—higher growth rates of production and a steady rise in labor productivity and living standards.

Labor Cooperation

In the process of building a developed socialist society the form of organization of the social process of production gradually matures. The powerful material and technical basis and mature socialist production relations (whose primary characteristic is the dominance of property owned by the whole people) evoke a higher and expanding level of labor cooperation. The economics of the stage of developed socialism is determined precisely by this higher stage of planned countrywide labor cooperation based on scientific and technical progress. Production becomes more effective and labor more efficient. This, in turn, makes possible greater satisfaction of the requirements of the whole society and of each individual in it.

What does improved cooperation of social labor imply at this stage of developed socialism? Here are the main elements.

First of all, there is an objective necessity for more concentrated production. As we said earlier, the necessity for larger amalgamations is present under capitalism also. But the motivation for their formation under capitalism is maximum profit and the ability to avoid the combination of circumstances that makes for fluctuations of production. The advantage of socialism is that the growth in the productivity of social labor is the motivation for large-scale amalgamations. Social ownership of the means of production and technical progress make it possible, for example, to set up a single power grid for the entire country, a single system of transport and communications facilities, a single network of oil and gas pipelines.

The growth in economic potential and the need for more efficient production lead to increased specialization. This, in turn, leads to planned development for the closest possible cooperation of the different areas of production. Rational specialization also presupposes the most efficient distribution of the productive forces and their closer cooperation.

Developed socialism opens opportunities for the planned industrialization of agriculture. Its industrial basis keeps improving technically. Agrarian-industrial amalgamations for on-the-spot processing are set up at large state farms that specialize in growing grapes, fruit and other such crops. Farm labor increasingly becomes a kind of industrial labor. The material basis is being built for bridging the social and cultural gap between town and country.

Improvement in the planned nationwide cooperation of labor in a developed socialist society is a result of the unfolding scientific and technical revolution and the planned cooperation of science, technology and production. Inherent in socialism is the possibility of surpassing capitalism in the use of modern technology and the creation of essentially new technical means. At the present stage, all the conditions are being created for combining the gains of the scientific and technical revolution with the advantages of socialism. These advantages include economic planning on a countrywide scale, concentration on decisive scientific and technological trends, and the interest of the workers in initiating and applying production innovations.

Inherent in this new stage also is the possibility and the necessity for a considerable advancement of the workers' knowledge, skills and general cultural level. This is the reason for an interconnected and planned effort to reach both economic and cultural goals.

The new stage in the planned cooperation of labor enhances the social character of the process of production; the relations of the various fields of production and branches of economy tend to move closer. This makes imperative a comprehensive approach to planning and decision making to ensure concerted efforts in tackling economic tasks.

Social Aspects

At the stage of a developed socialist society, which, historically lies within the boundaries of the first phase of communism, the advantages of socialism manifest themselves with increasing completeness and diversity. The growth of the country's economy, the perfection of the technical basis of production and the general comprehensive improvement in the way people live tend to break down the distinctions between mental and physical work. The social uniformity of our society becomes more and more solidly established.

A new historical community of people—the Soviet people—has evolved over the years of socialist construction. Men and women of many nationalities have been welded together by the community of Marxist-Leninist ideology and the common goals of communist construction. The socialist economy and the socialist ownership of the basic means of production (belonging to the whole people) are the economic foundation for this historically new community.

The Leninist national policy, a policy of equality and friendship of nations, is evident in the targets of the Ninth Five-Year Plan. The rational distribution of the productive forces will make it possible to combine more completely and more efficiently the interests of the entire state with the interests of each of the union republics.

In this stage of developed socialism we have the possibility of achieving a harmonious balance between the material-technical and personal factors of production. Primary attention has been given to the development of the individual and the advancement of the people's welfare at all stages of socialist construction. But at the stage of developed socialism specialized knowledge, solid vocational training and a good cultural background become a requisite for the worker.

That level of individual development depends very largely on living standards, on how fully the material and cultural requirements of the worker are met. The stage of developed socialism has every prerequisite for a sharp turn of the economy to reach those high living standards. These prerequisites include the country's expanded economic potential (making it possible to tackle a large complex of tasks simultaneously), higher labor productivity based on new techniques, a more productive agriculture and extensive international trade.

With the possibilities already present, we can spend more of our resources on higher living standards for every citizen, thereby enlarging the potential for the communist education of the working people.

The opportunities for combining personal, collective and countrywide interests—the latter being of decisive importance—multiply in developed socialist society. The richer the society and the more homogenous its social composition, the more opportunities it offers to coordinate these interests.

The stage of developed socialism begets new, higher forms of socialist labor emulation. This also makes for the accelerated growth of labor productivity.

* * *

The historical task of a developed socialist society is to create the immediate scientific, technical, organizational, economic and social prerequisites for the transition to full-scale communism.

That transition will not come of itself. It requires the social awareness and political activity of the Soviet people and their participation in the management of social production. It also requires that the leading role of the Communist Party be strengthened.

Courtesy of the *Ekonomicheskaya Gazeta*

Correspondent: Experts the world over have taken note of the technical resources of Soviet research vessels. What has been responsible for the rapid growth of the ocean-going science fleet?

Suzyumov: Principally, of course, the vast growth of interest in the seas and oceans of recent years. The ocean is an abundant source of power, new food products and useful minerals. But it guards its treasures far more jealously than the land does. Oceanic research has justly been compared with space exploration. The most advanced techniques, often fundamentally new, are just as necessary in gaining access to the storerooms of the sea as they are in penetrating the mysteries of the universe.

Automatic and radio buoys, bathyscaphs and self-propelling devices operating at great depths are among the independently functioning research equipment now available to oceanographers. Research workers live and work for periods of weeks and even months in submarine houses.

But research ships have always been the primary tool for ferreting out the ocean's secrets. These floating scientific institutes make possible the large-scale gathering of facts required for the solution of theoretical problems of oceanography as well as practical information needed by sailors, fishermen, geologists and meteorologists.

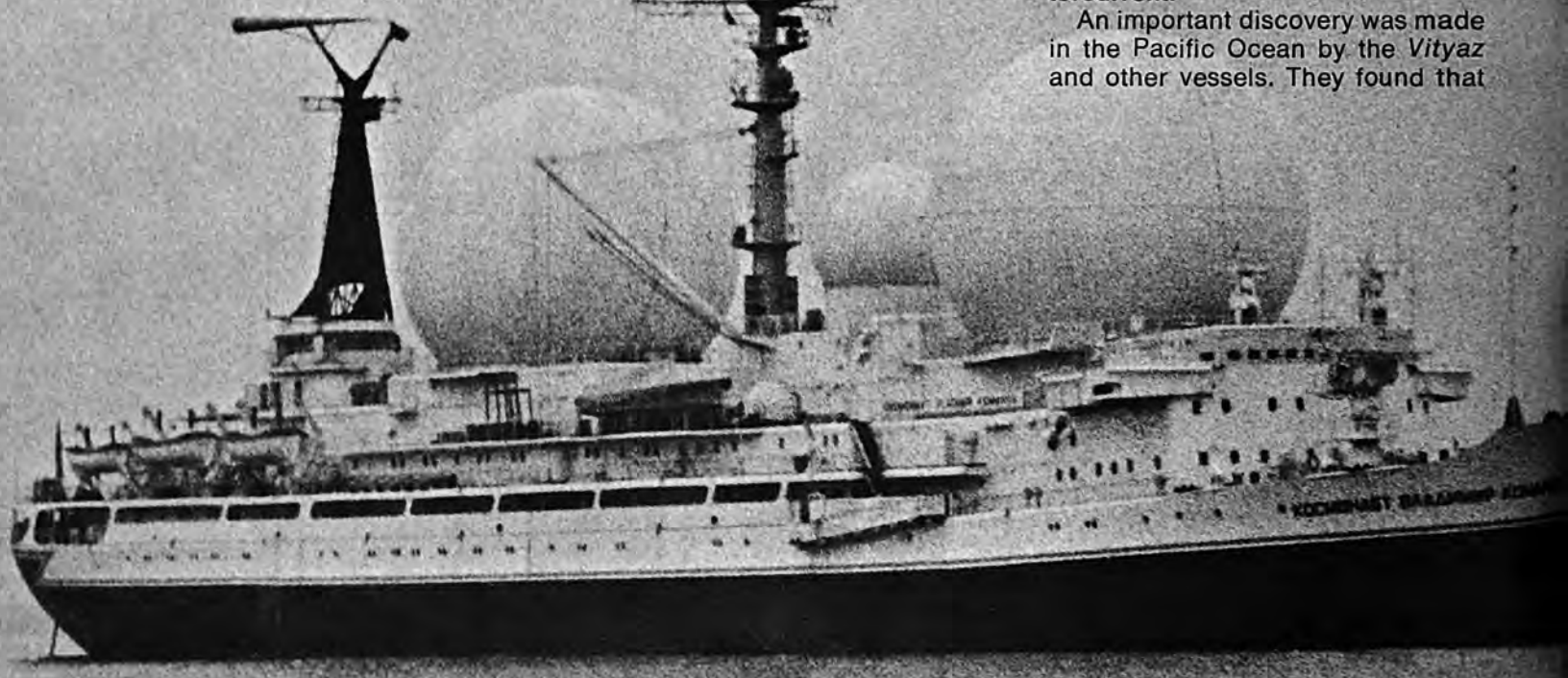
Correspondent: Could you tell us something about the work programs of these vessels?

Suzyumov: In oceanography, as in most sciences, a characteristic division of labor is now taking place. Research is becoming less general, so priority is given to the construction of specialized research ships rather than to those that are universally applicable. These ships are equipped with apparatus for the type of research they are intended for. Computers on board facilitate the processing of information as it is collected. Seven floating scientific institutes of the *Academician Kurchatov* type have been built in the Soviet Union in the past four years, not to mention smaller research ships.

Expeditionary fleets are maintained not only by the Academy of Sciences but by other ministries and departments that study and exploit the ocean and its treasures, for example, by the Ministry of Fisheries, the Ministry of Geology and the Chief Board of the Hydrometeorological Service. Moreover, many discoveries made by research vessels have also had important economic applications. For example, in the 1960s a scientific team on board the *Mikhail Lomonosov* discovered and investigated a strong current in the depths of the tropical section of the Atlantic Ocean.

The existence of this huge submarine river, which was named after the Russian scientist Lomonosov, radically alters former ideas about the Atlantic's circulating water masses and will have a significant effect on navigation and fishing. Recently Soviet researchers on the *Academician Kurchatov* discovered a similar current in the western part of the Atlantic. It has been named the Antillo-Guianan countercurrent.

An important discovery was made in the Pacific Ocean by the *Vityaz* and other vessels. They found that



Yevgeni Suzyumov, Deputy Chief of the Marine Scientific Expedition Section of the USSR Academy of Sciences, talks about the Soviet oceanic research fleet and the latest discoveries made in the seas of the world.

Photograph by Maya Nachinkina

at a depth of two and half miles the ocean bottom was covered with a thick layer of ferromanganese concretions. This could represent a potentially valuable source of raw material for industry. Marine geologists believe that the sediments lying on the surface of the ocean floor alone total more than 100 billion tons. They contain a vastly greater quantity of cobalt than is to be found on land.

Incidentally, marine geology is one of the most far-reaching of the earth sciences. Layers of rock that on dry land can be reached only with ultradeep bore holes or geophysical probes have been discovered on the ocean floor. The study of these deep sections of the ocean enables us to reach conclusions on the over-all structure of the Earth's crust and the distribution of valuable minerals. Scientists on the *Academician Kurchatov* have been doing geological and geophysical research of this kind during the last year. Areas of the North Atlantic where the Earth's crust has fractured were examined at depths of between three and four miles, and the interrelationship between these fractures and the geological structure of Iceland was investigated.

Correspondent: The ships you mentioned have already seen considerable service. What new additions have been made to the research fleet?

Suzyumov: The newest additions are the magnificently equipped *Cosmonaut Vladimir Komarov, Academician Sergei Korolyov* and the *Cosmonaut Yuri Gagarin,* which we can justifiably call the flagship of the world scientific fleet.

The equipment of ships of the *Cosmonaut Yuri Gagarin* type reflects the increasing scope of research done at sea. Such vessels are making investigations of space and the upper layers of the atmosphere from the ocean's surface. One of the most important tasks of modern oceanography is the study of the interaction of sea and atmosphere, since the processes which influence the weather and cause storms and cyclones most frequently occur in the atmosphere over the seas. In addition to this research, ships of the scientific fleet may be found in every part of the world ocean tracking satellites and spacecraft, organizing searches for apparatus which has splashed down in the sea, and carrying out other such missions.

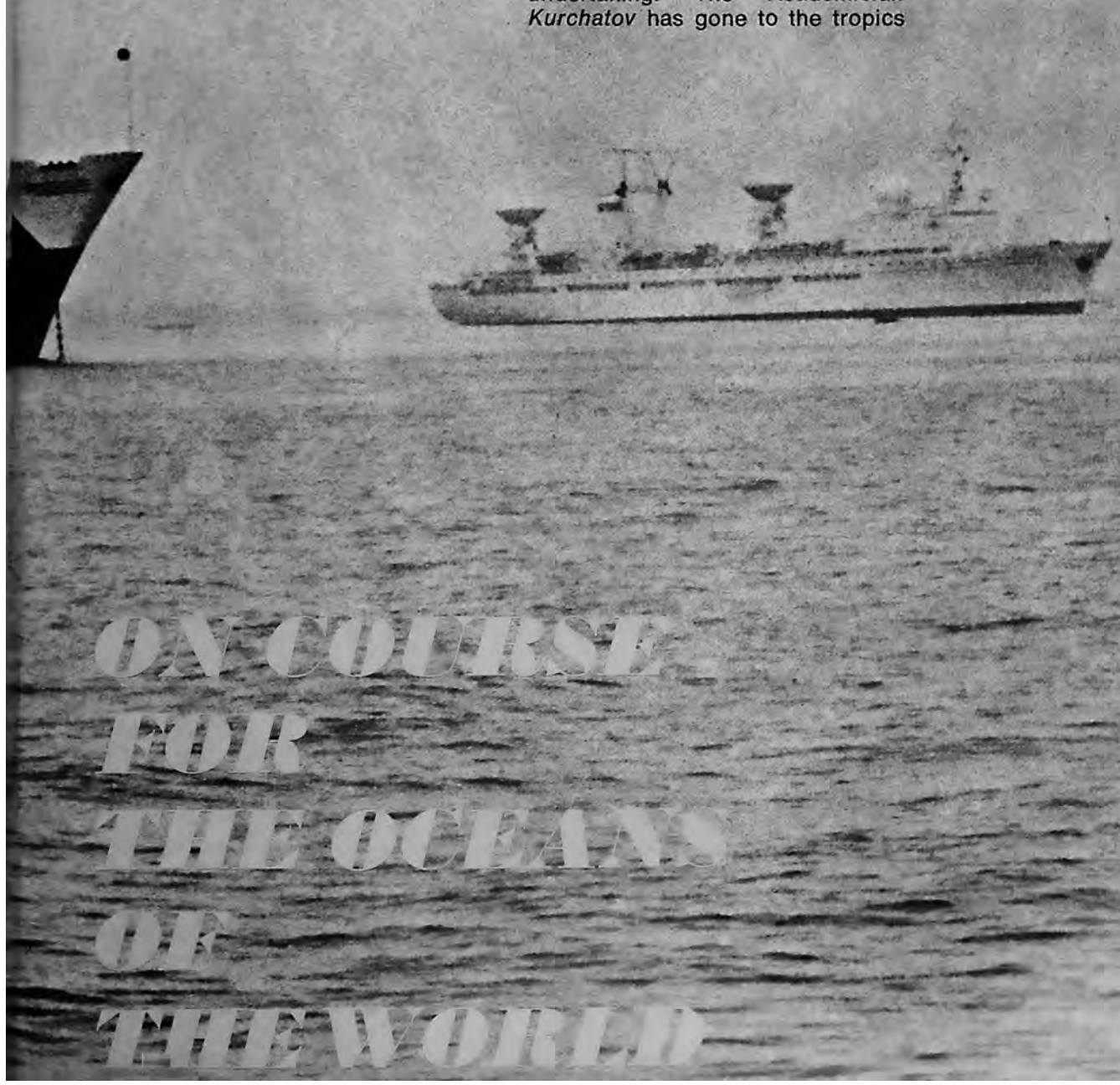
Correspondent: What voyages will Soviet research vessels be making in the near future?

Suzyumov: The Soviet Union is actively participating in international marine research, and cooperation of this kind will be continued in 1972. Our vessels are taking part in the Global Atmospheric Research Program (GARP), an international undertaking. The *Academician Kurchatov* has gone to the tropics to study, together with other ships, the interaction of ocean and atmosphere. Knowledge of this process is essential in investigating climate formation by mathematical models. Accordingly, ships taking part in GARP from Japan, the USA, Britain, Australia and other countries concentrate their activities on the tropics and the polar waters of the Atlantic, the area which makes most of our weather.

The Caribbean Sea and those parts of the Atlantic which adjoin it form another center of activity for Soviet scientific vessels. Scientists from the USSR, the USA, Mexico and the countries of Latin America are studying the biological resources and the geology of the sea bed in accordance with the UNESCO program Cooperative Investigations of the Caribbean and Adjoining Regions (CICAR).

Our ships must face storms and tropical heat on voyages which often last six months. However, neither these difficulties nor the expense involved in marine research stop the organizers of scientific expeditions. The ocean's potential as mankind's future granary fully warrants the effort and funds invested.

Courtesy of the magazine *Soviet Union*



OCEANIC SPACE CENTER

By Ruben Baghiryan

THE RESEARCH SHIP *Cosmonaut Yuri Gagarin* is on its first mission. It skirted the European continent and cast anchor at Odessa.

This vessel named after the first cosmonaut is the world's largest and most powerful research turbine ship. The length of its 11-deck hull is nearly 820 feet, its width about 98 feet and its height from keel to top 200 feet—as tall as a 20-story house! Its displacement is 45,000 tons. Outwardly the flagship bears little resemblance to other research vessels. It carries four parabolic antennas—they look like giant saucers mounted on high struts—to receive signals from cosmic space. The size of these antennas can be judged by the following: Placed in vertical position in test runs they cut the ship's speed by two knots.

The *Cosmonaut Yuri Gagarin* can withstand any storm, no matter how violent. It has unique pneumohydraulic dampers for pitching and rolling, very important when you are doing precision experiments on the ocean.

Thanks to its sophisticated electronic, optical and radio equipment, the vessel is probably unsurpassed for navigational characteristics.

In fact, this flagship of the Soviet research fleet is an oceanic space center, a branch of the Center for Long-Distance Space Communications. It is equipped to independently solve complex problems for the control of Earth satellites, manned spacecraft and interplanetary probes.

With its system of powerful antennas it can study the upper layers of the atmosphere, receive signals from spacecraft and send them command signals. The ship carries more than a hundred antennas. Spherical, helical and parabolic antennas are evident everywhere: on the stern, bow and bridges. Standing out among this multitude of antennas are the four gigantic "dishes" that give the ship its unmistakable profile.

The parabolic antenna installed above the engine bridge maintains reliable telephone and telegraph communication, via the Molniya satellite, between



The *Cosmonaut Yuri Gagarin*, flagship of the Soviet Union's research fleet.

the ship (and, consequently, spacecraft) and the Center for Spaceflight Control or Center for Long-Distance Space Communications.

The second "dish" collects data for the ship's measurement system, which evaluates the operation of systems and instrumentation installed in spacecraft and makes measurements of their trajectories and orbits.

The other two "dishes," the largest, are so sensitive that they can maintain reliable and simultaneous communication with several spacecraft many million miles from the Earth.

Imagine 80,000 people seated in a stadium talking softly with each other while they wait for the match to begin. The ship's instrumentation can pick out the voice of a single person from the 80,000.

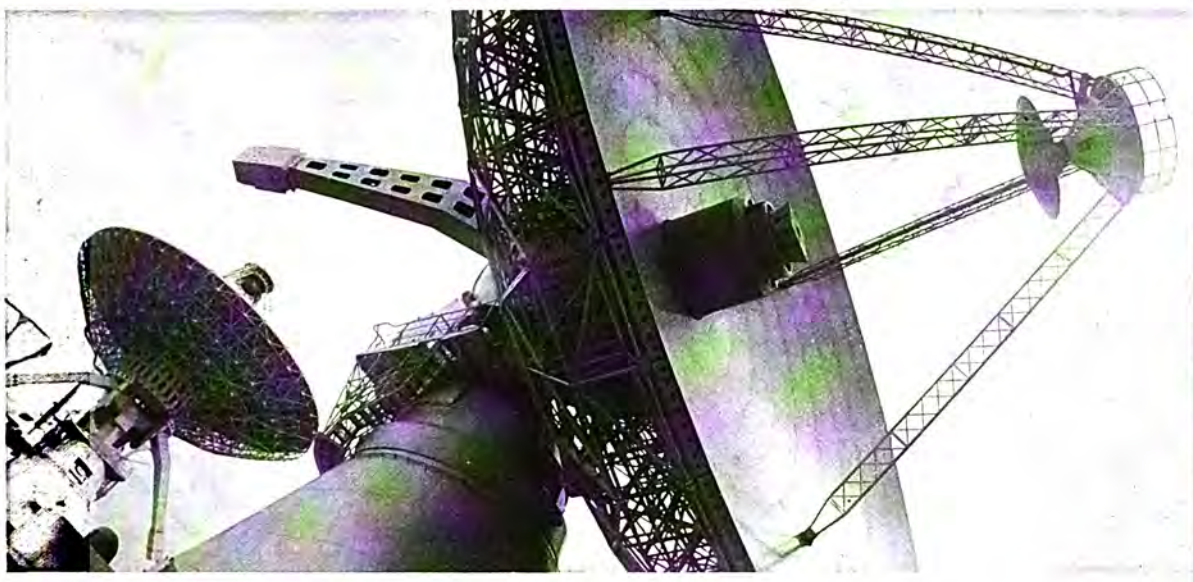
The ship has a special section, a fully equipped laboratory, to control the antenna system. It is used for jobs that are difficult even for a land-based laboratory: With an antenna reflector, it has to catch the radio signals of a moving



The ship's main power unit (right) is operated from the panel below.



Parabolic antennas (below) gather information for the Center for Spaceflight Control and the Center for Long-Distance Space Communications. Below right: The radio telephone room.





space object while the ship is sailing the high seas. The antenna must be accurately focused on the object. The laboratory can make allowance for the position of the ship, the angle of roll, the slightest deviation from the course and even the deformations of the hull.

The flagship is unique for its high level of automation. Many of the operations are done by computer. We were shown compartments with cooling systems and devices that maintain the preset humidity and temperature with an accuracy of 0.5 of a degree. The power generated by the ship's electric station would be enough for a town with a population of many thousands.

The shipbuilders have provided the members of the crew and expedition with fine living conditions and recreational facilities. On board is an auditorium seating 300 where wide-screen



Banks of computers oversee most of the shipboard operations.

The teleprinter room.



films can be shown and concerts held. Programs relayed via the Orbita system can be seen on TV sets in the salons. The library has 10,000 books on its shelves. On one of the decks are basketball and volleyball courts and a swimming pool.

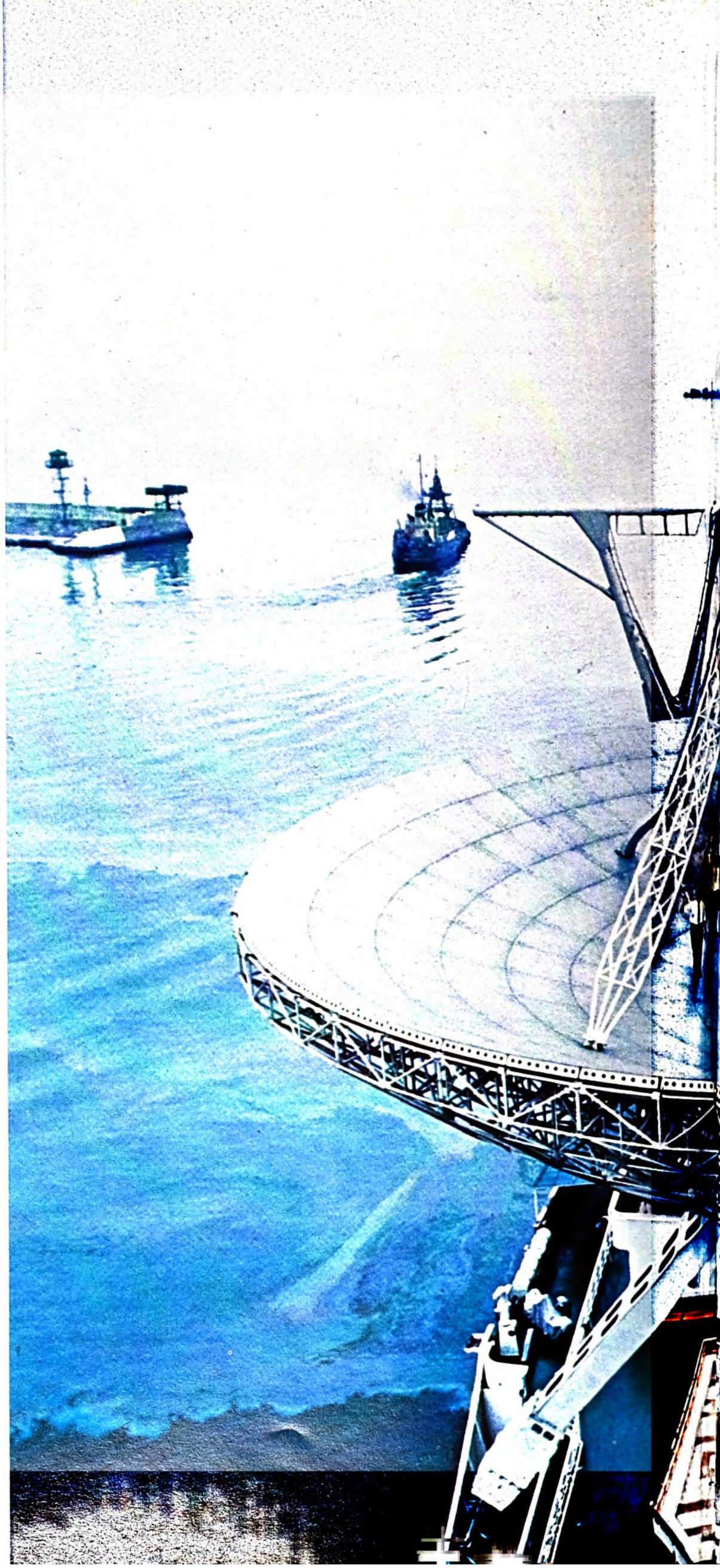
The *Cosmonaut Yuri Gagarin* is one of a large fleet of oceanic space-research ships. Its predecessors, the *Ilyichevsk* and *Krasnodar*, tracked the first Soviet Earth satellites. Their research team had only 11 members. These days hundreds of scientists are working on research ships, and the volume of telemetric data received from space is many million times greater.

The *Cosmonaut Vladimir Komarov* and the *Academician Sergei Korolyov* were also predecessors of the *Cosmonaut Yuri Gagarin.* They joined the research fleet a relatively short time ago and participated in space experiments.

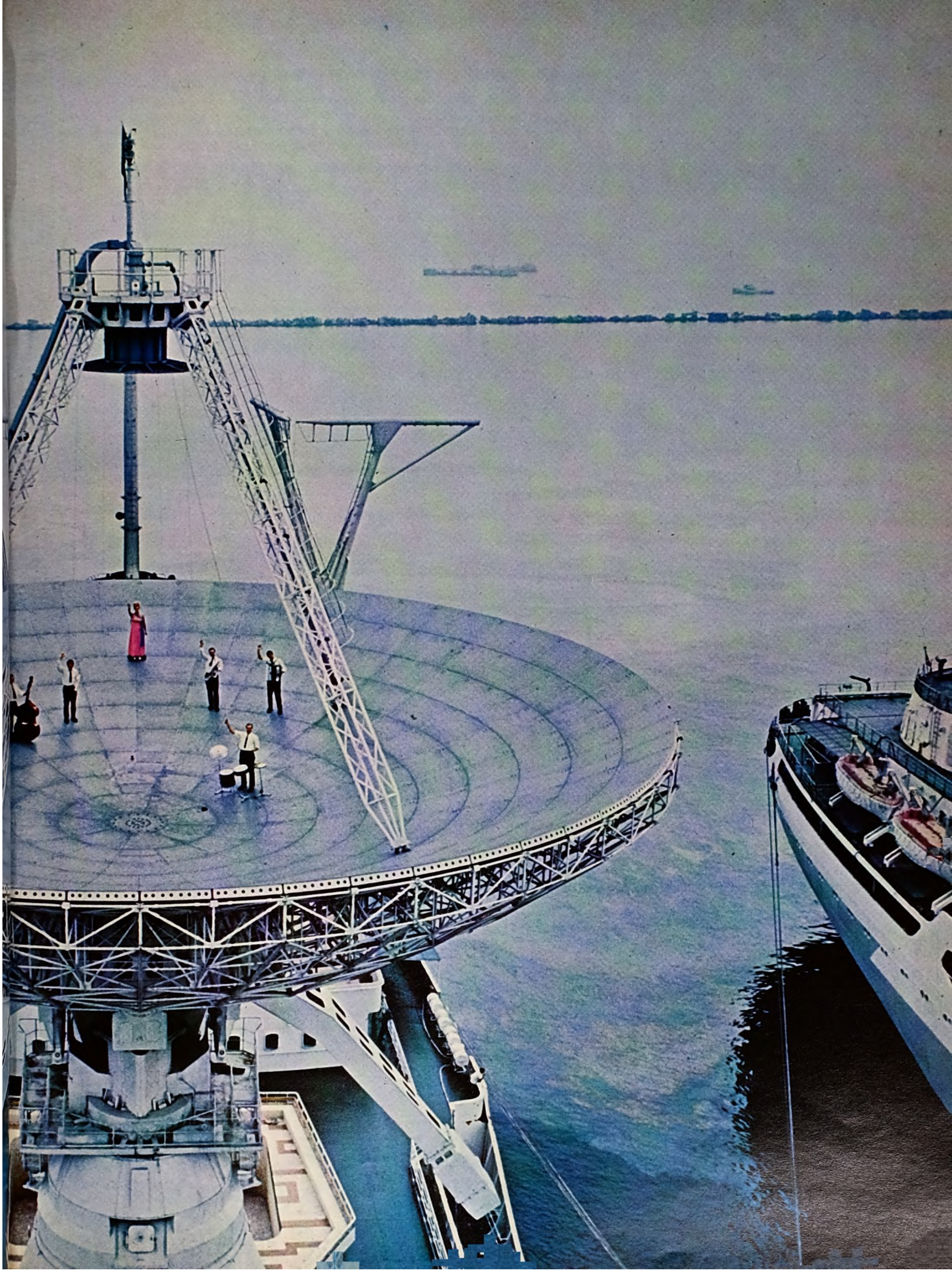
The *Cosmonaut Vladimir Komarov* has a displacement of 17,500 tons and is 511 feet long. It looks different from other vessels because of the large white spheres, 65 feet in diameter, mounted on superstructures. They conceal two parabolic antennas.

The *Cosmonaut Vladimir Komarov* was built at the Baltiisky plant in Leningrad in 1967. It helped control the flights of the Zond 5 probe and the spaceships Soyuz 4 and Soyuz 5, and maintained communications with the crews of the Soyuz 6, Soyuz 7 and Soyuz 8.

The *Academician Sergei Korolyov* was built later than the *Cosmonaut Vladimir Komarov* and is somewhat larger. The *Academician Sergei Korolyov* has a displacement of 22,000 tons and is 596 feet long. The parabolic antennas tower high above its superstructures. Last spring the ship sent command signals for trajectory corrections to the Soyuz 10 through these antennas. Subsequently, it took part in the Salyut orbital station experiment.



The amateur orchestra, composed of crew members, is dwarfed by one of the huge antennas.



YURI RYTKHEU, FOUNDER OF CHUKCHI LITERATURE

By Ivette Knyazeva
Drawings by Gherman Cheremushkin

YURI RYTKHEU and I are almost the same age, and both of us were born in Soviet Russia. Our motherland has been equally kind to us. But when I was going to school and Young Pioneer meetings, reading books by Leo Tolstoy and Rabindranath Tagore and listening to the music of Beethoven and Tchaikovsky, Rytkheu was living in a tent made of reindeer skins, lighted not by electricity but by a smoking walrus-oil lamp. In winter he went out with the grown men to hunt whales, and in summer after polar bear and seal. His favorite game was pretending to write in Russian. He knew that the strange characters on paper were words, and that they were meant to send news to someone or to make notes. He could not write, because the Chukchi had no alphabet of their own at the time. He played at writing Russian in the way that children today play at being astronauts—a dream that comes true only for grownups, and not for every grownup at that.

I was brought up in Leningrad, one of the most important cultural centers of Russia, while Rytkheu was born and grew up on the Chukchi Peninsula, on the coast of the Arctic Ocean. So though we were born almost the same year, he was separated from our times by a thousand years at least.

Rytkheu's Native Land

A few words about Chukotka (as the peninsula is called), because without some knowledge of this region it is hard to picture Rytkheu's background.

The Chukchi Peninsula is in the upper right-hand corner of the map of Asia. It is 270,000 square miles of permafrost, winter that lasts nearly all year round, cold sun that hides behind the horizon and wind that cuts your face with icy granular snow. The temperature averages only about 40 degrees in the warmest month of the year, and it often drops to 66 below zero.

The Chukchi and other small peoples of the Far North have been living in these polar expanses for hundreds of years. Explorer Roald Amundsen called the Chukchi "polar optimists who do not lose their smile even in the most bitter cold and during the hungriest and darkest winter months."



Long after civilized peoples were reaping the fruits of progress and developing their science, education and culture, the Chukchi lived like people in the Neolithic period—with a pagan faith in spirits and on a never-ending hunt for food and heat. "These primitive ethnic groups are subjected to the ever-present threat of extinction, which they escape only at the price of intense collective effort," wrote Vladimir Tan-Bogoraz, a well-known Russian ethnographer of the early twentieth century.

That was Chukotka when the October 1917 Socialist Revolution broke out.

About Rytkheu Himself

Yuri Rytkheu was born in 1930. Could the 13 years of the new socialist age compete with the centuries that had passed over Chukotka without altering it?

Amundsen, who knew the Chukchi well, saw them as a primitive, spiritually pure people. It would be inhuman, he felt, to tear them from their customary mode of life, to plunge them into an alien civilization. His conclusion, despite his respect for the Chukchi, was still the disparaging verdict of a white man determining the fate of another race. It implied that a reservation should be set up for the peoples of the North, where they would be left alone.

Almost immediately after the Soviet state was founded, it began to put into practice Lenin's national policy, a policy of complete equality of both the large and the small peoples.

Two very important events took place on Chukotka the year Rytkheu was born. First, a resolution of the Soviet Government formed the Chukchi National Area (which includes the peninsula) to give the small peoples autonomy, and second, an alphabet of the Chukchi language was created. Both these momentous events followed only 13 years after the beginning of Soviet power.

In the small settlement of Uelen on Cape

The literature of the Chukchi, a small nation of 13,000 in the Soviet Far North, began 20 years ago when Yuri Rytkheu, then 21 years old, published his first book.

Dezhnev, the farthest northeastern point of Asia, a polar meteorological station was set up. The station became Rytkheu's earliest school. It was here that he first heard the sounds made by a wireless set, saw his first book and watched his first film. Later he said:

"I did not understand at the time that when I crossed the threshold of the station each morning, I stepped across a millennium."

At school Rytkheu studied under Russian teachers. They taught him not only Russian, Evenki, Nenets and other small nationalities of the North.

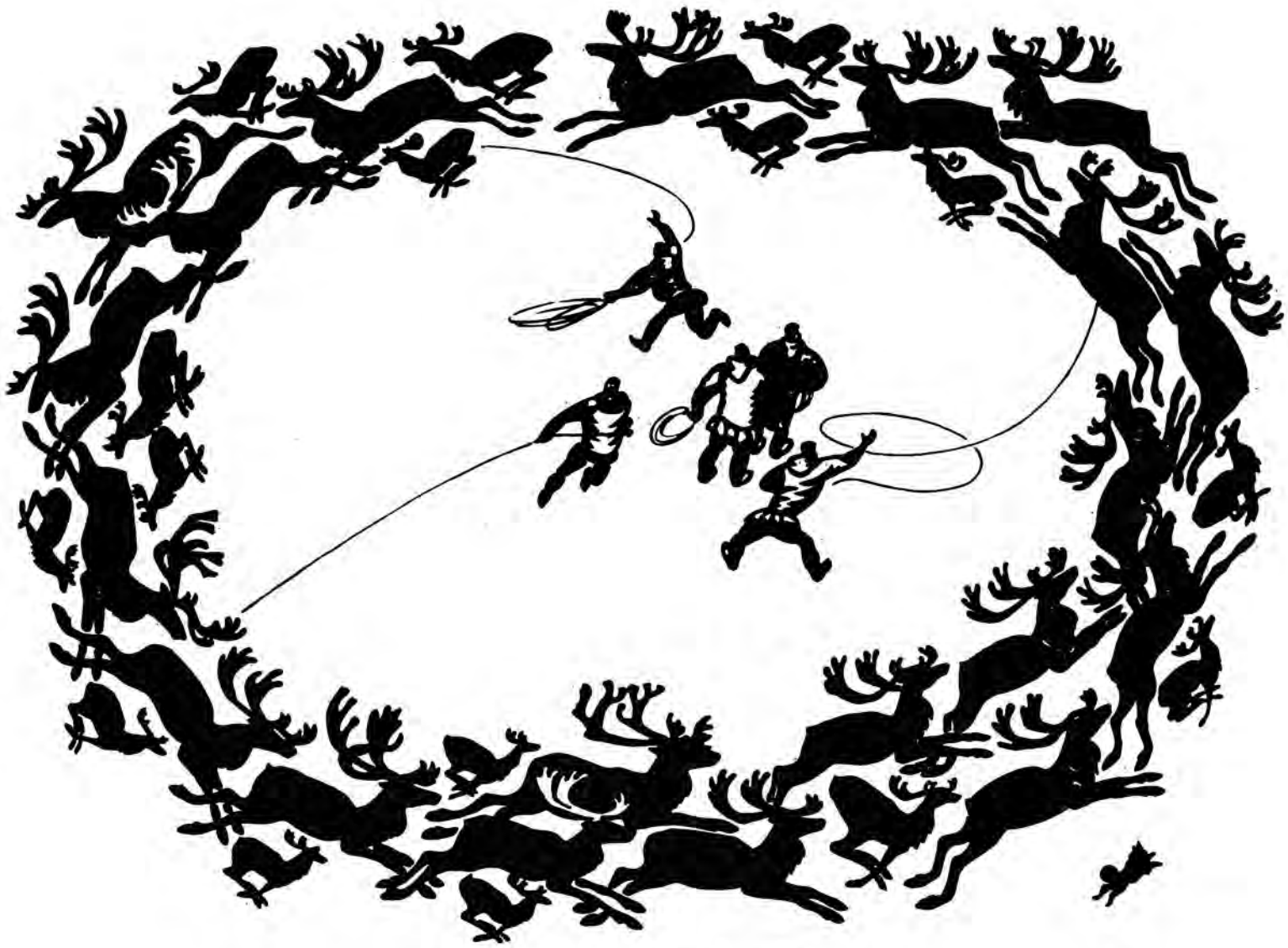
Rytkheu had a passion for knowledge. Not only the university classes, but the city of Leningrad itself, its famous architecture, museums, theaters and libraries, were all sources from which he learned. The days were too short. University study had not been made easier for the representatives of peoples that had begun to develop so short a time ago. The value of the Leningrad University diploma had to be preserved, it was to be given only to those worthy of it, regardless of whether they were Chukchi, Russian or Uzbek. But the state did what it could to help Rytkheu and the other Far Northern students: Their tuition was free, as were their room, board and clothing. Besides that they were given stipends.

Learning did not come easy. A great many things he had to find out the hard way. For example, he didn't know that one was expected to give flowers to the girl one was courting.

He had seen his first flower when he came to Russia. When he fell in love, he picked a magnificent bouquet and brought it to his sweetheart. They were beautiful flowers, bright and fresh as a spring morning, and Rytkheu could not understand why the girl burst out laughing. What he had taken for flowers were the tops of potato plants.

He laughed good-naturedly with his friends at the errors he made, but what he could not stand were people charmed by his "local color."

He lost his temper at every comment that saw him as a "living detail of the polar landscape" who could, by some miraculous trick of nature, think and speak like a real person. He refused to serve as a living exhibit in an ethnographic museum.



Selecting Young Reindeer from the Herd

but his native Chukchi as well. These were selfless people who had left their native cities for the cold tundra, where they learned the Chukchi language and even wrote a grammar for it.

Like other Chukchi children, Rytkheu lived at a boarding school with a full maintenance grant from the state: His tuition, food, clothing and medical care were free. (The same boarding school system for the children of the Far Northern peoples is still in operation. The state spends 3,000 rubles per year to teach and maintain each pupil at these schools.) When Rytkheu graduated, he was advised to continue his studies at Leningrad University, where a special department had been opened for the Chukchi,

How He Became a Writer

Asked why he became a writer, Rytkheu said:

"I wanted to picture my people from the inside, as one of them. Of course the Chukchi, like any other nationality, have their legends, passed down by word of mouth from one generation to the next. But those are legends, and I thought the time had come to tell the true-to-life story of how the Chukchi had stepped from the Neolithic age straight into socialism—and this is no literary exaggeration! It is as though nature itself had preserved this remnant of a people on the shores of the Arctic Ocean. Judge for yourself: The character and climate of



Walrus Hunting on the Ice

the North are the same now as they were hundreds and thousands of years ago, while the social climate—the living conditions of the Soviet peoples and the character of their human relations—has changed. And this has not only altered the face of Chukotka, it has made a revolution in the hearts and minds of my fellow tribesmen. This is what I write about."

The Chukchi, reindeer breeders and hunters from the settlement of Uelen, became the characters of his first story, written in 1952. It tells how the first house was built in the settlement and an old Chukchi man, who had spent his life in a dark, damp, smoke-filled tent, for the first time looked at his native settlement through the window of his new home. The story was written in a student notebook. Rytkheu brought it to the Leningrad youth newspaper *Smena (Younger Generation).* The literary editor, Alexander Smolyan, listened to the author's word-for-word translation (the story was written in Chukchi), then took it apart in his criticism. When Rytkheu got up to leave, Smolyan said in surprise:

"Where are you going?"

"You don't like the story."

"My dear fellow, even Leo Tolstoy had to rewrite his a dozen times."

They worked together on the story for several months and then it was published by *Novy Mir,* one of the most prestigious of Soviet literary monthlies. This was more than the birth of a new writer, it was the birth of the new Chukchi literature, the seventy-third national literature to appear in the Soviet Union.

After Rytkheu's debut, his books came out one after another—*The People of Our Coast, The Fate of a Man, The Name of a Man, When the Snows Melt.* He called one *The Chukotka Saga.* That could well be the omnibus title for all his books, because they constitute the saga of a people that has skipped millenniums in its development.

In 1954, when he was 24, Rytkheu became a member of the Union of Writers of the USSR. Since then his year has been divided into two parts. He spends five or six months on Chukotka among the characters of his books, the rest in his Leningrad apartment, whose walls are covered with bookshelves and whose major item of furniture is a desk. He has already had 20 books published; many of them have been translated into foreign languages. Since 1958 he has been writing in the Russian language.

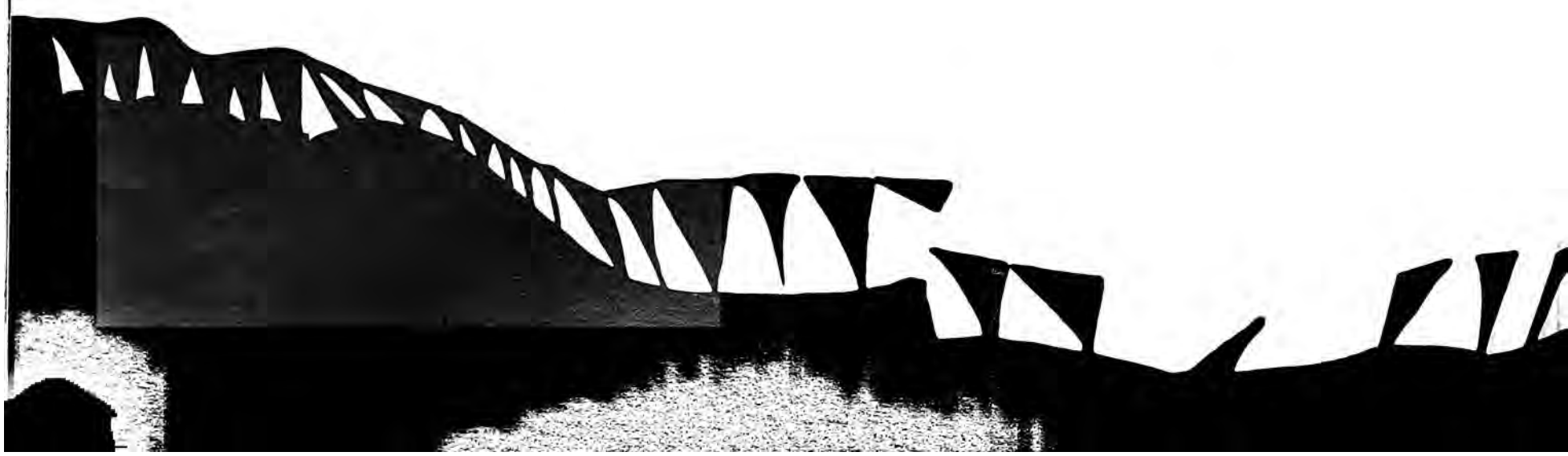
Why He Writes in Russian

Here is what Rytkheu himself says on that point:

"Russian is the language of international communication. Before the Revolution only an insignificant number of people from the national minorities of czarist Russia—in Central Asia and the Transcaucasus—could speak Russian. The peoples of the North did not know it at all, except for the few words they had to know to trade. The Russian language came to the small peoples of the North, as it did to other peoples of the country, together with Lenin's ideas, the ideas of communism. It was spoken in the new government offices, where representatives of the local nationalities, assisted by their brothers, the Russian Communists, worked at problems of self-government. Here no one could manage without a knowledge of the Russian language, partly because the majority of the population was illiterate. So Russian teachers who had mastered the local tongues began to teach people to read and write.

"Thus from the first days of the Revolution the Russian language helped pave the way for the revival and social progress of the small nationalities. Besides, Russian opened to these peoples the treasures of world culture. For obvious reasons it was hardly feasible to translate into Chukchi the best of world literature. There are only about 13,000 of us, so it seemed much more sensible to teach the Chukchi the Russian language.

"But doesn't this carry the danger that the Chukchi language—which was spoken by our fathers and grandfathers—will be forgotten altogether? Some ethnographers and linguists had misgivings of the kind, but their fears proved groundless. Everything in Chukotka is testimony to that.



"The Chukchi are not separated by a Chinese wall from the rest of the world. The Chukchi Peninsula is not closed to other peoples, and no one has ever ordered the Chukchi, the Eskimos and other peoples of the North to live where they do. Besides, our land has turned out to be rich in minerals and it would have been impossible for the Chukchi to develop them alone.

"Representatives of many of the nationalities inhabiting the Soviet Union come to live and work on Chukotka. I myself am married to a Russian, and mixed marriages don't surprise or shock anyone. Thus the Russian language has also become a means of family communication. But in spite of that, the number of people who speak the Chukchi language is not getting any smaller, on the contrary, it is increasing. Every year the Ministry of Education of the Russian Federation adds to the number of textbooks printed in Chukchi. Our art is blossoming, too. A professional song and dance company, Ergiron (Dawn), has been formed on Chukotka, and a big complex of all kinds of art workshops is under construction in my native village of Uelen. Our local craftsmen will be working there at the ancient Chukchi art of engraving on walrus tusk.

"Leonid Brezhnev, speaking at the Twenty-fourth Congress of the CPSU, said that in our country a new community of people has been formed—the Soviet people. This has been confirmed by the course of development of Soviet culture: The great Russian poet Alexander Pushkin is now a spiritual brother of the Tajiks, the Chukchi, and many other peoples, while the Daghestan poet Rasul Gamzatov, for instance, is read and loved in all the republics of our multinational country. Gamzatov is an Avar, and there are only 300,000 of them in the USSR.

" 'But,' you may ask, 'isn't there a certain leveling of the national literatures?' Nothing of the kind! The various literatures enrich each other, and each contributes to development of the national culture.

"Why do I write in Russian? Because I am always a little distrustful of translators and like to talk to my reader directly. I tell people about my native Chukotka, but I don't address myself only to the Chukchi. My books are read by Uzbeks, Ukrainians, Georgians, Moldavians. And all of them consider Russian their second mother tongue."

The Well-Known "Stranger"

"Rytkheu" means "stranger" in Chukchi. This is what his parents named Yuri, probably thinking of the isolation of their fathers and forefathers. The Chukchi Peninsula was known before the Revolution only as a geographical name, the sole image it evoked was of a boundless expanse of ice and snow. Today this region throbs with life. Gold, coal, tin and tungsten are being mined, and the Bilibin power project is under way. More than a thousand teachers with a higher education are on the faculties of its 72 schools. On the shelves of the peninsula's libraries are seven million volumes. The many hospitals and medical centers are staffed by specialists. And there are two professional authors—Yuri Rytkheu, a writer of novels and short stories, and Antonina Kimitval, a poet.

"Only two?" I asked in surprise.

Rytkheu smiled and said:

"Remember that there are only 13,000 of us Chukchi. Can you name any other nationality that can boast of one professional writer or poet for each 6500 people?"

No, I certainly could not.



Mother



THE SMALL NATIONALITIES OF THE NORTH

By Victor Perevedentsev
Candidate of Science (Economics)



Airport

THE FAR NORTH, from the Kola to the Chukchi Peninsula, is inhabited by 26 small nationalities, whose combined population was 128,000 in 1959 and 151,000 in 1970. They include the Nenets (29,000 in 1970), the Evenki (25,000), the Khanty (21,000), the Chukchi (13,000), and several that number only a few hundred persons each.

In prerevolutionary Russia, these were the most backward and destitute nationalities. Some still used bows and arrows, spears and stone-tipped weapons in the early 1900s. Their social structure was a carry-over from the early communal system.

In a matter of decades the peoples of the Soviet North moved from the Stone to the atomic age, from a primitive social system to socialism, a transition of the greatest scholarly and practical interest.

October 1917—The Turning Point

Prior to the October 1917 Socialist Revolution, the minorities of the North were dying out. For them the October Revolution was a turning point. It abolished in one sweep the police regime and the *yasak,* a special tax levied by the czarist government on "wandering and nomad aliens." The *yasak* was paid in pelts or money by every man between 18 and 50, and it was one of the reasons for the disastrous poverty of these minorities.

The new Soviet state began immediately to apply its policy of complete equality of nations. But it took years of painstaking work and all-inclusive aid to make that equality a fact. In 1924 planned construction began in the North, and the Committee to Assist the Peoples of the Northern Districts was formed. This group was responsible to the Presidium of the All-Union Central Executive Committee of the Soviets of Working People's Deputies (the highest government body at the time). Its function was to "assist the planned development of the small nationalities of the North economically, judicially, culturally and medically."

In the twenties the committee helped set up Soviet government bodies, develop the local trades, and build schools, community centers and other facilities. In 1925 the peoples of the North were exempted from taxes and military service.

Self-Government

From the very outset, self-government was the practice. At first, with an eye to the local peculiarities, tribal Soviets were formed. They were later replaced by the usual government bodies. In 1927 courts of justice under the Soviets began to function. At first they were strongly influenced by local customs. Their decisions, however, were not allowed to run counter to the Soviet laws, which were carefully explained to the people.

A mixed cooperative, Integralsoyuz, was organized to buy and sell goods and manage trading. It provided the Northerners with arms, gunpowder, small shot, traps, food, kitchenware, fabrics, kerosene and other necessities, and bought pelts from the trappers. The high prices paid for the skins stimulated commercial trapping. In this way, private buyers were pushed out. The growth of commodity-money relations helped do away with the patriarchal system, which had retarded social progress.

Unique educational methods were worked out, adapted to the customs and to the socioeconomic level of people who had had no experience with cities or with modern urban life. For instance, along with ordinary schools for the settled population, there were itinerant schools for the children of migrant reindeer breeders. So-called cultural bases, composed of a boarding school, hospital, trading station, store and veterinary-zoological station, were set up. Courses were offered to train local people in administration, and clubs and guest houses were built for the nomads.

These initial attempts of the indigenous peoples at economic development, cultural growth and political activity soon evolved into national autonomy. National areas were formed, with District Soviets responsible for solving local economic, cultural and social problems. The national areas are represented in two higher governmental bodies—the Supreme Soviet of the Russian Federation and the Supreme Soviet of the USSR.

In 1929 the Nenets National Area was formed, and the following year the Yamal-Nenets, Khanty-Mansi, Taimyr, Evenki, Chukchi and Koryak national areas.

Cultural Changes

One of the most dramatic and fascinating pages in the history of the Northern peoples is their cultural revolution. None of the peoples of the North had a written language. Teaching in the languages of other nations was hardly advisable, considering the Northerners' low cultural level and unfamiliarity with other languages. In 1931 and 1932, Soviet scholars, assisted by the first educated men and women of the North, devised alphabets for the larger nationalities. Newspapers, primers, textbooks and, subsequently, translated and original fiction were published in the languages of the Northern peoples.

On the whole, Northern publishing flourished. Prior to 1966, 1,416 books, in a total edition of more than 2.6 million copies, were issued in 16 of the newly created written languages. In addition, 64 dictionaries of the Northern nationalities appeared in a total edition of 192,000 copies.

The great number of Northern dialects made the use of the native language at school impractical. For example, some 30 years after the written Khanty language had been created, four different Khanty primers had to be devised for children of different dialect groups (in 1970 the Khanty numbered no more than 21,000).

In schools for children of the Northern aborigines who have written languages, the native tongue is used in the preparatory class and the first and second grades. Where there are big differences in dialect, the pupils switch to Russian in the first grade.

As elsewhere in the country, the Far North has a compulsory eight-year school system. Including the preparatory class, it is actually nine years.

Training Northern children is made more difficult still by the fact that the population is so scattered. Most of the indigenous people live in villages too small to support a secondary school. As a result, children study in boarding schools, visiting their parents only during vacations. Their maintenance is free; the state covers all expenses.

National Intelligentsia

In Soviet times the Northern peoples have trained many of their own professional workers, especially teachers and doctors.

The eight specialized secondary schools for teachers in the Far North have an enrollment of more than 700 native students. Faculty members for Northern secondary schools are trained in special departments at teachers institutes in Leningrad, Khabarovsk, Petropavlovsk-Kamchatski and Magadan (the last two are in the North). For instance, 665 people graduated from the Department of Peoples of the Far North at the Leningrad Teachers Institute between 1952 and 1965.

Doctors for the North are usually trained in the medical institutes of Khabarovsk, Krasnoyarsk, Tyumen and Arkhangelsk, whose territories and regions include national areas. These institutes have special departments of the North with preparatory courses; some 200 native doctors graduated from the Khabarovsk Institute alone in the postwar period. Nurses are trained at a number of medical colleges.

In the Soviet period the Northern people have produced leading party and government officials, distinguished scientists and writers in impressively large numbers.

Economic Progress

The development of education and the training of native specialists has had a salutary effect on the economy, and in many other fields as well. Now, besides working at their traditional occupations of trapping, reindeer breeding, fishing and whaling, the Northerners are also engaged in agriculture and industrial production.

In the postwar years fur and livestock breeding have been introduced in a number of places. Young Northerners are moving into new specialties; they are pouring into the technical schools. As industry develops, a working class is emerging in the North.

In 1957 a building trades school was opened in the Chukchi National Area; it offers courses in bricklaying, carpentry, plastering, tractor driving and engine repair. Many of the young people are studying in the Northern Department of the Magadan Mining School.

In recent years the economy of the Northern territories has been developing intensively—two or three times faster, in fact, than anywhere else in the country. A new stage of industrial growth and exploitation of the rich natural resources—ore, oil, gas, coal and timber—has begun in the North. New mines are opening, gas pipelines are being laid for hundreds of miles, and new cities are cropping up near the big construction sites.

FIRST SOVIET DIGEST

For six years now newsstands on five continents have been selling the pocket-sized monthly with the Russian word SPUTNIK on its front cover. Published by Novosti Press Agency, it is a digest of Soviet literature and the press, the first to be published.

Our correspondent asked Nikolai Yefimov, the Editor in Chief of Sputnik, a few questions.

Q: In what languages is the magazine published and in what countries is it sold?
A: It is published in four languages—Russian, English, German and French—and circulated in practically every country where these languages are read.

Q: Why is the magazine called *Sputnik?*
A: Sputnik is not only the first Soviet spacecraft or satellite of a planet, but also a travel companion. We hope that our magazine will be the reader's travel companion.

Q: Who reads *Sputnik?*
A: Foreigners interested in Soviet life. Though their political views differ, all of them want firsthand information on things Soviet. They want *real* facts about Soviet life.

The digest is directed to the whole family. For the very young reader, for example, we publish fairy tales of the peoples of the Soviet Union.

Our digest is meant for all tastes. It contains memoirs, topical material, detective stories, art reproductions.

Q: What do readers like about *Sputnik*? How does the magazine respond to reader requests?
A: Readers seem to like its digest form. Our ads emphasize *Sputnik's* basic difference from other publications. "Can you read," says one of them, "the 7,000 Soviet newspapers and 6,000 magazines in 100 of the languages spoken in the USSR? If you can, you don't need *Sputnik*."

We do our best to meet the requests of our readers. Thus, the series of articles on union and autonomous republics was the readers' choice. And now, at their request, we are running material on the protection of nature in the Soviet Union.

Q: Will you have any special features in the remaining months of 1972?
A: Since 1972 is a jubilee year, we will continue to publish articles on the fiftieth anniversary of the formation of the Union of Soviet Socialist Republics. The magazine will keep informing the reader about how the new five-year plan targets are being met, about what's new in Soviet industry and farming, culture and science, and about the social changes that are taking place in our socialist country.

Q: How can a reader in the United States subscribe to *Sputnik?*
A: Through one of these firms:

Stechert-Hafner, Inc.
31 East 10th Street
New York, N.Y. 10003

Four Continent Book Corporation
156 Fifth Avenue
New York, N.Y. 10010

Eastern News Distributors, Inc.
155 West 15th Street
New York, N.Y. 10011

The annual subscription rate is five dollars.

ESKIMO BONE CARVINGS



By Marina Khachaturova

BONE CARVING is a centuries-old tradition of the peoples living on the northeastern coast of the Chukchi Peninsula. In their carvings the Chukchi and Eskimos embody their ideas of beauty, their perception of the world around them, their customs and holidays. The medium is usually walrus tusk, since Chukotka is washed by three Northern seas—the East Siberian, Chukchi and Bering —that abound in this animal.

Uelen and Naukan are the centers of the craft. Subjects include animals and whole sculptured groups—speeding sleighs pulled by reindeer, animals in combat, walrus hunting scenes. The rounded silhouettes are carved without detail.

The Northern craftsmen also engrave in color and carve in relief, creating elaborate compositions on walrus tusks and household articles: hunting and holiday scenes and fairy tale motifs.

Many of the present-day Chukchi craftsmen are known throughout the country. The first bone-carving workshop was set up in Uelen in 1931, and it soon became a school as well.

The Chukchi masters continue in the tradition of their ancestors but blend current themes into their art. Handling what was once a cold tusk, one feels the warm touch of the craftsman who transformed it, the wonderful force of life he breathed into it.



Reindeer Races
by Semyon Zabolotsky



Folk art from the village of Uelen.



Gemauge, an Uelen craftsman, carved this ship model from walrus tusk.

Holiday Sports in the Tundra
by Gabriel Khazov



USSR To Attend UNIMART '72 In Seattle

PARTICIPATION of the Soviet Union this August in the international commercial and industrial fair in Seattle, Washington—the largest West Coast fair in the United States—is the first real opportunity since the Soviet-American summit to show in practice the intention of the two countries to develop trade and economic cooperation," says Vladimir Pavlov, Director General of the Soviet section of the exhibition. "I think the Americans share this point of view, because even at a press conference in Seattle held on the day President Nixon stepped down from his plane at Moscow's Vnukovo Airport, Hugh A. Smith, Commissioner General of UNIMART '72, expressed the hope that the exhibition being organized "can demonstrate our wishes and possibilities to develop mutually advantageous trade."

This is the twenty-second exhibition held in Seattle. Has the Soviet Union attended any of the others?

This is the first time in 20 years that the Soviet Union is represented at a commercial international show of this kind in the United States. None of the exhibitions the two countries have been sending each other since the fifties were commercial. They were all part of the USA-USSR cultural exchange program. We therefore were happy to accept the invitation of the UNIMART-72 sponsors to take part in this international forum where 14 countries, including the United States, the Federal Republic of Germany, Japan, Holland, Canada, Italy, Austria, Norway and Pakistan, will be exhibiting.

What is the USSR exhibiting at the Seattle Fair?

We are showing the things we are able to export. Among the exhibitors in the Soviet section is a large group of officials representing Soviet foreign trade organizations. The primary responsibility of these people is to arrange commercial talks.

The USSR Chamber of Trade and Industry is acting as the coordinator of the Soviet exhibit. Among the foreign trade organizations represented are Tekhmashexport (chemical, printing, pulp and paper, textile, electronic, and electrical engineering equipment), Sudoimport (seagoing and fishing vessels) and Soyuzpushnina (furs).

The tremendous interest of Americans in the Lunokhod 1 and the Kometa and Nevka exhibits was evident even while they were being set up. There are many other exhibits of equal interest to specialists in a variety of industrial fields.

On display are products of the Soviet electronics industry: transistors, generator tubes, photomultipliers, logic and integrated circuits, Kvant-9 laser for drilling diamond tools, a microplasma installation for welding rare metals 0.1 to 1.5 mm. thick, an automated electric arc cutter that makes precisely located holes of any shape, with a tolerance of plus or minus 0.005 millimeters.

The Super tractor turned out by the Minsk (Byelorussia) Tractor Works seems to be of great interest. It is a remarkably versatile machine that can operate 160 different mounted implements. The Super, which has won five gold and two silver medals at international fairs in Brno, Leipzig, Plovdiv and elsewhere, is sold by the Soviet Union to 57 countries.

Other items attracting attention are an automated pneumoatic drill, self-lubricating plastics, and high-strength glass.

Visitors to the Soviet Pavilion have a chance to examine models of the *Kosmonaut Yuri Gagarin,* flagship of the USSR Academy of Sciences research fleet; the floating crane Bogatyr, whose lifting capacity is 300 tons; and the hydrofoil Kometa, a highspeed passenger boat that recently completed a cruise around Europe.

In addition to a large number of examples of modern technology showing the high level of Soviet industrial development, there is a wide assortment of consumer goods on display: Still and movie cameras, radios and phonographs, men's and ladies' watches, hunting rifles, cut-glass articles, toys, furniture, fabrics, silver and amber jewelry.

Visitors are attracted by the collections of semiprecious stones and minerals, carpets and hand-woven rugs, porcelain, bonecarvings and articles crafted of stone. Russian furs, grape wines, cognacs, Russian vodka and Ukrainian gorilka are also on display.

Two handicraftsmen are demonstrating the woodcarving and painting methods used at Khokhloma, famous for its colorful wooden bowls.

Did you have any difficulties in arranging the exposition?

Regrettably, under terms of the fair, not everything that Soviet foreign trade organizations wanted to show could be brought to Seattle. The limited time available for setting up the exhibits and taking them down compelled us to choose only relatively simple ones.

Besides, limitations were imposed by the U.S. restrictions on importing some goods. For instance, Soyuzpushnina was not able to show some of the furs—Russian mink, sable and others.

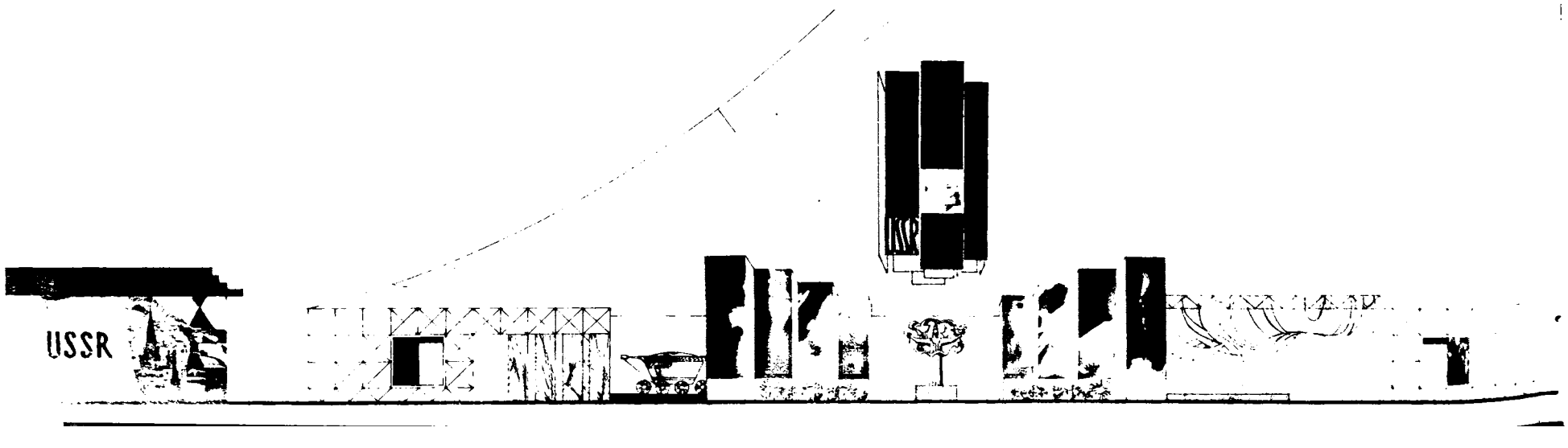
What else, in addition to the exhibits of commercial interest, is being shown in the Soviet pavilion?

The technical and business section is supplemented by a show of Soviet literature, films, slides and photographs.

There are movies and slides of various regions of the Soviet Union, life in its 15 constituent republics, the Bolshoi Ballet, and performances by the famous Russian folk choirs Pyatnitsky and Omsk (Siberia) that toured the United States and other countries. In a special hall visitors can listen to recordings of Russian music.

Numerous photographs tell of the contacts between the Soviet Union and the United States in science and technology, particularly the contact between Soviet and American cosmonauts and the exchange of lunar rocks. A prominent place has been given to a photo story describing the stay in the USSR of the President of the United States.

May this first participation of the Soviet Union in UNIMART-72 mark the beginning of a good tradition.



Houses are built for the people

HOUSING CONSTRUCTION has had priority rating in our country virtually since the Revolution. The Soviet Union inherited a grossly inadequate volume of housing. Then the nazi invasion left 25 million people homeless. This is in addition to factors that have touched many other countries: population growth, urbanization and industrialization (which proceeded at a faster rate in our country than elsewhere).

The rates and scale of our housing construction were not always the same. They were more modest before the war than after 1945, and beginning with the mid-fifties, they have been reaching an all-time high. New cities sprang up one after another (mostly in the eastern areas of the country). Old cities also grew rapidly. All told, the urban population rose by 70 million after 1950. Apartment houses, schools, hospitals, kindergartens, stores and theaters had to be built for all these people.

Prefab Apartments

To do that much building by conventional methods would have taken an impossibly long time. We had to make drastic changes in design principles and construction techniques, to use mostly type designs and to industrialize construction. A few hundred apartment-house designs of varying sizes, styles and layouts that are economical to construct have been drawn up for different climatic areas and to accommodate families of different sizes. Type designs of panel walls, floors, partitions, plumbing, staircases, landings and the like made it possible for us to prefabricate as much as 80 per cent of the structure. Mechanized assembly greatly reduced construction time. We now have in operation more than 300 large-panel prefabrication plants. Fully prefabricated houses constitute 40 per cent of the total volume of state and cooperative housing construction.

Housing construction will be further industrialized in the years to come. In some cities houses are already being built of one-room and two-room cubic elements complete with external and interior finishing. The government recently decided to build 25 new big prefabrication factories for the manufacture of cubic elements consisting of ready-made rooms and entire apartments.

Experience with cubic elements speaks in favor of this method which, incidentally, does not rule out a variety of architecture.

Industrialization of construction has played a tremendous role. Consider these figures. In the Fourth Five-Year Plan period (1946-1950), just after the war, 2.1 billion square feet of housing was built; in the Eighth Five-Year Plan period (1966-1970) 5.6 billion. This growth was mostly a result of new technology. No matter how hard builders worked in the first postwar years to house the homeless, they could not hope to meet the shortage with the old methods.

Instead of square feet of floor space, let us use more graphic figures. In the past 10 years about 100 million citizens have moved into new or better housing.

The Soviet Union builds about 2.5 million apartments a year. According to the UN Economic Commission for Europe, for every 1,000 of the population in 1969 the Soviet Union built 9.3 apartments, France 8.5 and Britain 6.7.

Moscow builds an annual 120,000 apartments. In the past 10 years its housing fund has doubled, and the average living floor area per Muscovite has grown by 50 per cent.

Who Builds Apartment Houses?

Special ministries are responsible for both industrial and residential construction. They direct big building trusts and territorial agencies that have the necessary equipment and personnel. Moscow's Glavmosstroi is probably the biggest building firm in the world. In the capital alone it builds an annual 100,000 apartments (the remaining 20,000 are constructed by building organizations with various industrial plants and commercial offices) and a great many schools, hospitals, stores, kindergartens and administration buildings. Leningrad, Kiev and other major cities have similar building trusts.

About three-fourths of all housing construction is financed by the state, usually from budgetary allocations. About 20 per cent of the state housing construction is paid for out of the housing fund to which factories and businesses assign part of their profits. The economic reform of several years ago helped the housing situation considerably. Now the more profit a factory makes, the more apartments it can build for its workers.

About six per cent of the housing is built by cooperatives and the remainder by collective farmers and individuals, all on long-term loans from the state.

Comforts and Esthetics

Apartment buildings today are taller. In 1965 houses of nine stories and more made up only 5.5 per cent of new construction; by 1970, the percentage had risen to 18. The reasons: to make more economical use of city land, to cut the length of underground engineering communications and, most important, to prevent city sprawl. Incidentally, when multistory houses are built, reconstruction costs are lower. We tear down whole blocks of old ramshackle houses, and their residents must be moved to new apartments. In the past 10 years about one billion square feet of obsolete housing was torn down and about 10 million people moved to new apartments.

The recently approved master plan for Moscow's development specifies 9-story to 16-story apartment houses for the most part. But the rhythm will be broken periodically by taller buildings. In smaller cities mostly five-story houses will be built with periodic vertical accents.

Modern conveniences are part of the housing problem, obviously. All our new housing has hot and cold running water, central heating, bathrooms, gas or electric ranges, elevators, garbage disposals, telephones, master TV antennas. This is standard equipment, mandatory for all new residential areas.

In this five-year plan period we have begun to introduce standard designs that provide better layout, insulation and ventilation, more comforts and quality finishing. The over-all apartment floor space will be increased, on the average, by 50 square feet, mostly by enlarging kitchens, foyers and bathrooms.

Standardization of design and industrial assembly called for some concessions on the part of architects at the beginning. The first standard houses were all of a pattern, undifferentiated monotony, and our architects (let alone tenants) joked bitterly that you couldn't tell one new residential district from another. The gibes were particularly sarcastic because Russian city architecture has always had its own character and identity.

Well, we did overdo the standardization, but we are pleased to say that our standardized city planning is pretty much over its growing pains. The new residential areas of Moscow and Tashkent prove this. The houses vary both in number of floors and shape. Their proportions are pleasing, and they use light and shade to good advantage. These are housing projects composed of original, even memorable structures.

Architects and builders have now taken another step forward: They have worked out a new catalogue of modular components and structural elements, from which houses that vary in the number of floors and configuration can be assembled. At the same time, building standards and rules have been observed. The first houses built by this method testify to its promising future.

Our city apartment houses are built in neighborhood groupings designed to accommodate several thousand residents. Neighborhood schools, kindergartens and nurseries, stores, cafés and clubs are built simultaneously. Gardens, parks and sports grounds are also laid out. In effect, self-contained centers are formed. The buildings are separated by large landscaped areas. The green areas are too large, some of our architects think, but we are trying to look ahead. Greenery will protect us from further urbanization.

How Much Does an Apartment Cost?

Once a house is built, who moves in?

Every citizen—worker or pensioner—has the right to a state-built apartment, depending on his place on the waiting list and his present housing situation: The floor space, size of family and condition of housing are all considered. He is assigned an apartment either by the City Soviet or his place of work.

Most apartments are built with money from the state budget or the profits of an enterprise.

Since the rent for an apartment is nominal and never covers the cost of construction or maintenance, society gives the family, in a manner of speaking, several thousand rubles of housing free. In principle, an apartment from the state housing fund is owned by all the people. But, practically, when the lease is drawn up, the use of the apartment is given to the tenant and his family forever. Should he move to another city or die, the apartment is taken over by the other members of the family who live in it.

The tenant is required to pay rent monthly, a very modest rent—1.2 kopecks (about 1½ cents) per square foot of living floor space. In some cities—Moscow, Leningrad, Kiev, Vladivostok and a few others—the rent is 25 per cent higher because of more conveniences, 1.5 kopecks per square foot. Rents are fixed by law and cannot be increased.

The kitchen, foyer and all other auxiliary space are not included. The tenant pays only for living floor space. In a two-bedroom apartment it is roughly 450 to 550 square feet, in a one-bedroom apartment between 320 to 375 square feet. Which means that the tenant pays about six rubles' rent per month for the whole apartment in the first case, and less than five rubles per month in the second case, four to five per cent of his average earnings. However, since in the majority of our families two people work, the percentage is cut by half in the total family budget.

Some people—servicemen, militiamen, a large fraction of pensioners and invalids—pay even less, only 40 to 50 per cent of the standard rent.

How does the state get back the money it spends to keep the buildings in good shape, how does it cover repairs, renovation and, most important, the capital invested in housing construction, if rents are so low?

In actual fact, it doesn't get any of that money back. One of the obligations a socialist state assumes is housing its citizens.

Rent covers less than a third of the costs mentioned above, only those required for normal operation and maintenance. All expenditures for housing renovation or construction are financed by the state.

Monetary grants for the maintenance of public housing (new housing is not included here) annually reach a solid figure of about three billion rubles. But the sum total of the country's rent is about one billion.

What about the charges for utilities? Do they make up for the low rent? No, charges (including rent) just about cover the cost. They are four to five per cent of family income, on the average.

Credit from the State

As noted earlier, cooperative housebuilding is also done, but on a much smaller scale than state construction. Members of a cooperative get a state loan amounting to 60 or 70 per cent of the cost of their apartment, which they repay over a period of 15 to 30 years.

There is also individual housebuilding, mostly in small cities, towns and rural areas. People who want to build their own houses can get a loan from the state—up to 1500 rubles at two per cent interest payable over a 10-year period.

Since land in the Soviet Union is common property, citizens who want to build their own house do not have to pay for land. They are given a plot free of charge: up to 6500 square feet in cities and up to 13,000 square feet in rural areas. All expenses for the improvement of residential areas—electricity, water, sewers, public transport, schools, kindergartens and nurseries, restaurants, stores—are covered by the state (or by the enterprise that employs the people who live in the town).

In big cities industrial and office workers form garden cooperatives at their places of work. The state assigns a small plot of land free of charge to the urban amateur farmer on which he can build a summer house for himself and plant an orchard or kitchen garden. Garden cooperatives have become very popular, and thousands of city dwellers spend their summer vacation in their own country cottage.

FACTS AND FIGURES

In the Eighth Five-Year Plan period (1966-1970) 60 billion rubles were spent to build 11,350,000 apartments with 5.6 billion square feet of floor space, sufficient for 55 million occupants.

In the Ninth Five-Year Plan period (1971-1975) the country's housing fund will grow by another 6.2 billion square feet.

• • •

On the average, 2.5 million new apartments are built yearly. This provides better housing for about 11 million people. Nine million of them move to new apartments.

• • •

We have three types of housing construction: state (the overwhelming bulk of housing in both urban and rural areas), cooperative (mostly urban, it is financed by prospective tenants who get low-interest state loans) and individual (mostly rural). Individual houses are personally owned and may be sold by the owners at cost less depreciation.

Rent for state-owned apartments, minus utilities, runs to two or three per cent of family income. With utilities (gas, electricity, heating, janitorial service), it comes to four or five per cent. The rent has remained the same for the past 35 years. It does not anywhere near pay for the actual construction costs and upkeep. The state covers the rest, about two billion rubles annually.

• • •

More than 950 new cities have been built during the Soviet period. In the last five-year plan period the names of 113 new cities appeared on the map.

• • •

The country has more than 300 large-panel prefabrication factories with a total capacity of about 323 million square feet of floor space a year and more than 3,000 plants for precast concrete parts. The output of building materials will grow 1.4 times during this five-year plan period as present enterprises are renovated and new ones are built. In 1975 as many as 50 per cent of the state-maintained and cooperative construction projects will be fully prefabricated.

• • •

In 1913 only 18 per cent (28.5 million out of 159.2 million) of the country's population lived in the cities. By 1970 the number of urban dwellers had grown to 136 million (56 per cent). About 106 million live in rural areas.

NEW HOUSING PROJECTS IN VILNIUS: ATTRACTIVE AND INEXPENSIVE

CHERYOMUSHKI used to be the name of an old village near Moscow. Some architects borrowed the name for a large new residential district in the southwestern part of the capital several years ago. Since then it has been given to new districts in Novosibirsk, Chelyabinsk, Ryazan and other cities.

At first just the sight of people moving from dingy old apartments to modern housing developments made everyone happy. But once this became an everyday occurrence, the tenants began to take a critical look at their surroundings.

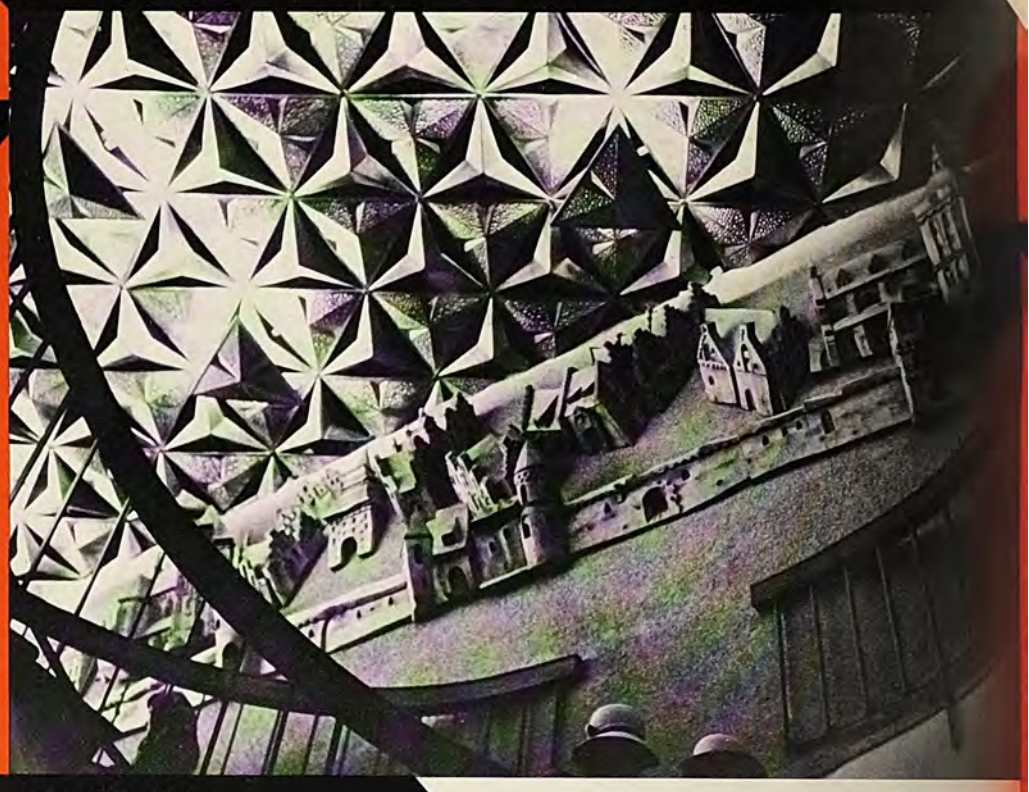
There were complaints that the layout of some new apartments was poorly planned and that the decorating was often sloppy. But what bothered people most was the lack of individuality of the houses, the monotony of block after block of identical buildings.

Faced with the problem of providing the most housing for the most people in the shortest time, the architects' choice between volume and esthetics was understandable. While there was plenty of justification for fault-finding, standardization did keep the costs down.

Vilnius, the capital of Lithuania, somehow escaped the fate of other cities, and not because more money is being spent there. The prime-cost of a square foot in Vilnius has been set at 13 rubles [about 16 dollars—Ed.], the same as in other places, and the architects have managed to keep to it. But even with this limitation they have turned out really fine-looking buildings. When tourists go sightseeing here, they are proudly shown Žirmunai, a new district, along with the preserved medieval structures of old Vilnius. However, the distinctive features of modern Lithuanian architecture are more evident in Lazdynai, another new residential area.

There isn't must to see yet in Lazdynai. It takes the experienced eye of a specialist to visualize what will emerge from the present chaos at the construction site. The panel boxes of the unfinished houses seem to have been set down any old place. Clouds of dust billow around the excavators, and only the tower cranes, standing like

No two cafés in the new residential districts of the city look alike.



Assembled from prefab units, this Vilnius apartment building reflects the individual style of the architect too.



Adjustable living space: The sliding wall can be used to separate kitchen and sitting room.





In the Žirmunai district, an ornamental stair well conceals clotheslines on the landings.



Recently completed apartments form a backdrop for a medieval tower. It once guarded the castle of Prince Gediminas, the city's founder.



landmarks, make it possible to compare the construction site with its model.

Vytautas Čekanauskas, chief architect of the Institute of City Designing, told me that the new district covered an area of 465 acres. Housing for 40,000 people will take up 300 acres of it. The residential area is divided into four microdistricts. Two of them are under construction and two are still in the design stage. The architects have designed structures that utilize the natural qualities of the specific sites.

Many architects worked on the project, and each tried to incorporate his own style into the section he was responsible for. You realize what a terrific feat this was when you remember that the majority of the buildings in Lozdinai will be built according to standard designs.

Architect Aida Liaukaené has been working at the institute for three years. I asked her what made her take the job.

"The chance of doing original work and having the freedom to find my own solutions. I have the opportunity to create interesting architectural ensembles. The only limitation is keeping to the cost estimates."

Liaukaené introduced me to Česlovas Mozūras, a young architect who worked on a new school in Lazdynai. Since it is to be situated on a hill, Mozūras designed the building so that each classroom opens on a veranda. The rooms are light and airy, and spacious enough for indoor games. The structure itself will be made entirely of standard parts.

The architects who laid out the new district learned from the mistakes made in planning Žirmunai, the inconvenient location of its shops, for one thing. In Lazdynai each microdistrict will have its own small shopping center right at hand.

A highway will connect the new residential area with the center of the capital. It has already been named Astronauts Avenue. Later on Astronauts Avenue will also connect three other new districts. A belt of trees will separate the residential area from the highway. There will be an auto approach to each house, but pedestrians will be protected from traffic by sidewalks that will go through special tunnels or over small bridges wherever they intersect the road. This will provide safe access to any part of the area.

After visiting the construction site, we examined the model again. Čekanauskas explained the compositional idea of Lodzdinai to us. The upper terrace of the district will be occupied by 16-story buildings. Twelve-, nine-, and five-story houses will be situated in various combinations on the lower terrace. All the houses will be built of prefabricated panels and have loggias.

A variety of exterior decorations and panel colors will give each building a different appearance. The architects and civil engineers are collaborating on solving this problem. The prefabricated housing plant produces only standard panels, but they are being made in different colors and finishes on the architect's order.

At the plant I met Algis Studinas, a driver who lives in Lozdinai. He is 28 years old and married to a medical student. He invited me to go home with him, so I got a chance to have another look at the new district.

Studinas drives a heavy truck for delivering the panels, but when he finished work we drove home in his Zaporozhets. He has a one bedroom apartment on the ground floor of a five-story house.

"I like my work," Studinas told me. "It makes me feel like I'm helping the architects, and I think they're doing a really great job here."

Worried that I'd think he was spouting a lot of fine words, Studinas tried to make himself more explicit:

"Housing quality doesn't only depend on the architects. The construction workers are important, too, even my job, though it may not seem to be much. All I have to do is carry the panels from the plant to the construction site on time. But the more runs I make, the faster the houses go up. Of course, I do earn additional money for extra runs, but that's not the point. I never drive hard. I don't want the truck to hit a bump and maybe crack a panel. No one would notice it at first, but the people who live in the new house are sure to sooner or later."

What Algis said made sense. It showed what close cooperation there is between the architects and the construction workers in Vilnius. Everyone, from the chief architect to the driver, feels personally responsible for the whole job.

Courtesy of the magazine *Smena*

HILLSIDE HOUSING

A 25-year-old Georgian architect recently completed the design for a new housing development in the resort town of Kislovodsk in the northern foothills of the Caucasus Mountains.

By David Imedashvili

Photographs by Alexander Saakov

VLADIMIR TSINTSADZE is considered an expert on projects for hilly terrain by his colleagues. The problem caught his interest when he was still a student at the Tbilisi Academy of Art. Georgia, his home country, is largely mountainous, and the possibilities for construction on relatively flat stretches of land are limited. So that housing has to be built on hillsides and steep riverbanks.

Tsintsadze's initial efforts brought him success. His solutions were novel and functional. One of his commissions—a housing project on the steep bank of the Kura River, which flows through Tbilisi—won recognition both in the Soviet Union and abroad. It was awarded the major Athens Prize in the 1967 Prague international competition for architecture students.

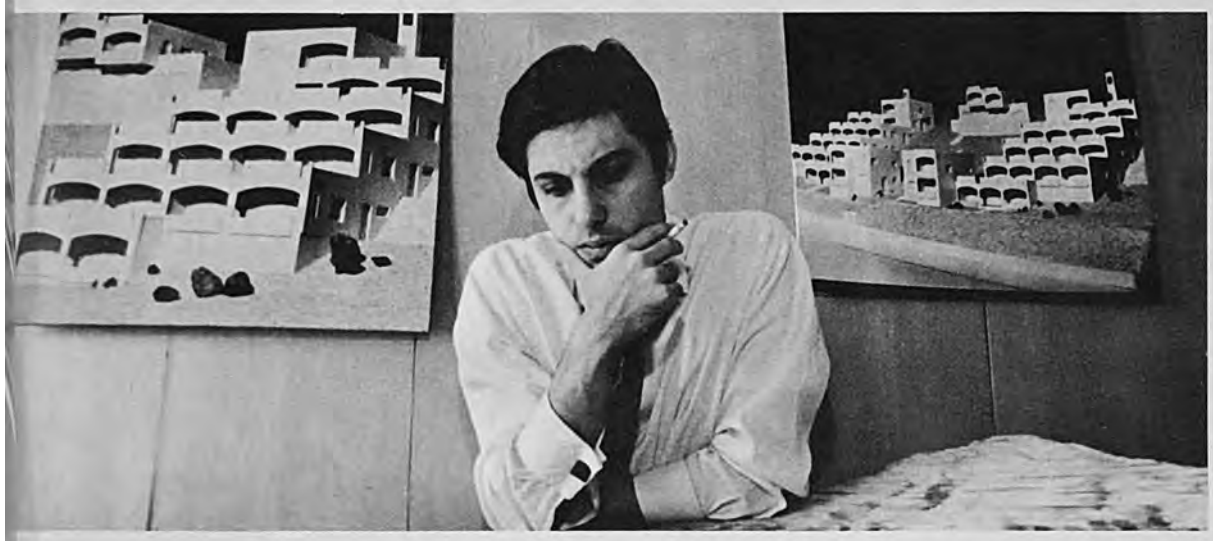
Even a person with the barest knowledge of architecture can see the beauty and lightness of the snow-white residential community he designed. The project looks as though it were suspended over the riverside in a rhythmic succession of terraces. The apartments, one above another, look like white nests on the cliffside. A vertical elevator descends to a floating restaurant on the dock. A similar project is planned for Tbilisi.

Tsintsadze tackled the Kislovodsk project after he graduated from the Tbilisi Academy of Fine Arts and began working in a design office.

Kislovodsk has long been famous for its mineral springs, pure mountain air and wonderful climate. The spa keeps attracting more people for both treatment and rest, which means that the town, too, keeps growing. Sanatoriums and resort hotels are being modernized and enlarged and new ones are being built.

But the town authorities had to grapple with a problem. Kislovodsk is hilly. The flat sections have, for the most part, been built up. The mountainsides are the only areas left. Can they be used for housing? Tsintsadze's first efforts (he got the commission, even though Kislovodsk is part of the Russian Federation, not part of Georgia) were unsuccessful, presumably because he lacked experience, but mainly, as he later admitted to himself, because the project called for a much better background than he had. Vladimir went back to the academy to do graduate work, and there, together with his colleagues, really got into the Kislovodsk project. These long months of stubborn searching were rewarded when his design was accepted.

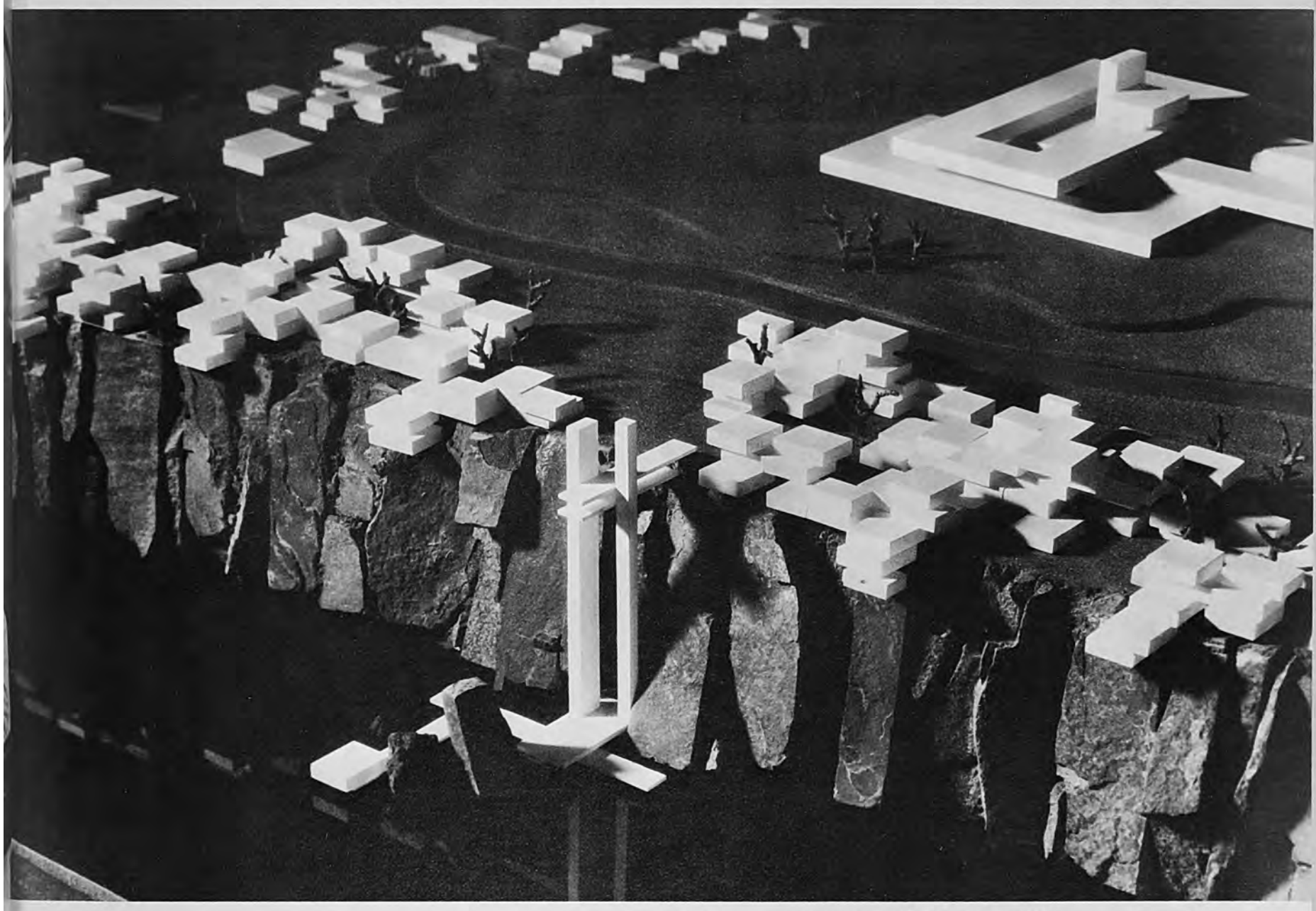




The experimental residential block in Kislovodsk differs markedly, of course, from the standard type of urban project. It has to—the site, a hillside with a 30 to 35 degree angle of incline, would not take conventional housing construction.

The complex fits in nicely with the adjoining residential districts and the surrounding landscape. In this project art merges with architecture, and traditional forms with modern. You feel this in both the designer's attachment for the local terrain and the many loggias, typical of southern cities. The flat roofs also follow national traditions.

Simple and light construction is one of the great merits of the design. Another is that local building materials, brick and concrete, can be used.





This terraced project on the Kura River earned Tsintsadze a major prize at the 1967 Prague competition. He combines a love of traditional Georgian architecture with a strong interest in modern forms. Left: With his colleagues at the design office. Opposite page: Young Achico gets just as excited as his father about new construction.

A CITY OF NEW ADDRESSES



By Ivan Sevastyanov
Chairman, Executive Committee,
Novosibirsk City Soviet

Novosibirsk, a major industrial city in Western Siberia, spreads along the banks of the Ob River. Its area is 193 square miles and its population 1.2 million. In addition to big machine-building and other enterprises, the city has three Academy of Sciences centers and more than 100 research and design institutes.



NOVOSIBIRSK did not suffer the destruction of so many other Soviet cities during the war years, but the need for modern housing is no less pressing here. The city's industries are growing vigorously, and so is its population.

Between 1961 and 1970 Novosibirsk residents moved to 130,000 new apartments. In the current five-year plan period builders will have ready for occupancy, on the average, 14,000 new apartments a year. Forty housewarming parties a day—that is the rate of housing construction in this "city of new addresses." The rate is backed by a powerful building industry that includes ferro-concrete prefabrication factories and other building materials plants.

Large and well-equipped construction agencies are responsible for house-building.

How is housing distributed?

Of course, there are people who have priority—disabled veterans, the families of those who died in the war, sick people. We give them the first available apartments. Other categories high on the waiting list are teachers, doctors, those with long work records, as well as young graduates who take jobs in places far from their homes. The rest wait their turn. In the same apartment house you find a factory worker and a professor, a sales clerk and an artist, a truck driver and an engineer.

A definite procedure is followed in assigning new apartments. Requests are considered by the trade union committee and the management of the enterprise where the applicant is employed. Then the application goes to the housing commission of the District Soviet (Novosibirsk is divided into nine districts) and must be approved by the Executive Committee of the District Soviet. The actual decision is made by the trade union organization. The function of the District Soviet is to see that the housing distribution regulations are not violated. The Soviet itself distributes housing to pensioners and invalids.

The city is being built by neighborhoods under a long-term master plan approved by the City Soviet. The Soviet's capital construction board, chief architect and city planning commission coordinate new projects. The new residential areas must provide roads, communications, transport, stores, street lighting, cafés, parks, movie houses, schools, kindergartens and nurseries. These are all built with funds allocated by the state and Novosibirsk enterprises.

No one-family houses are permitted inside the city limits. The local Soviets allocate plots of land in the suburbs without charge for individual development. The only proviso is that the building plan be approved by the city architect's office.

Housing cooperatives are organized at places of employment and by the District Soviets. Members pay about a third down for their apartments. The balance is covered by a low-interest state loan repayable over 15 to 20 years.

Most housing, however, is built directly by the state. Rent is minimal—1.2 kopecks per square foot per month—and does not begin to cover the construction, maintenance of the buildings and such services as cleaning hallways and stairways, courtyards, and streets. That work is done by a maintenance staff paid with funds from the budget of the District Soviet.

Thinking of new designs

High-rises and garden apartments are changing the city's skyline.



This design by some of the younger architects has the advantage of three roof gardens instead of one.



Proof that all skyscrapers need not look the same.





Architectural styles here are likely to be new arrivals. This one is described as "trapezoid."

Many of the residential neighborhoods show horizontal rather than vertical profiles.



The traditional and functional are still stressed by young architects.



TRYING TO UNDERSTAND EACH OTHER BETTER

By Academician Nikolai Blokhin
President, Institute of Soviet-American Relations

IN JULY 1969 Nikolai Podgorny, President of the Presidium of the USSR Supreme Soviet, welcomed American astronaut Frank Borman, the first Earthman to circle the Moon; this was the central event in Frank Borman's busy and interesting stay in the Soviet Union. The American astronaut was obviously much impressed by what he saw. On parting with his Soviet friends, he said: "We shall long remember the warmth and cordiality of the Soviet people. I have already said that I want to devote the remainder of my life to the improvement of relations between our two countries."

Frank Borman's visit to the Soviet Union was sponsored by the Institute of Soviet-American Relations.

Our country has been visited at various times by such prominent Americans as Senator Vance Hartke, former Governor of Michigan George Romney, General Hugh Hester, playwright Arthur Miller, industrialist Cyrus Eaton, Democratic Party National Committee Chairman Lawrence O'Brien and Capitol architect George White. They were all invited by the Institute of Soviet-American Relations.



In May 1971 Academician Blokhin was named honorary chief of the Kikaru Indian tribe.

Conferences of Soviet and American women were held in 1963 and 1964 at Bryn Mawr College in the United States and then in Moscow. Mothers of the two continents, separated by thousands of miles of ocean, got together to discuss the vital problems of our day—peace, disarmament, better Soviet-American relations. These forums were organized with the very active participation of the Institute of Soviet-American Relations.

A conference of Soviet and American public figures convened in May 1970 in the United States to discuss problems that con-



January 1972: Institute secretary Vladimir Molchanov opens a meeting of Soviet and American students. ISAF sponsored the exchange.



October 1972: Representatives of American Women for International Understanding are addressed by Lydia Kislova, chairman of the institute's women's committee. The U.S. group was led by Louise Hutton.

cerned the people of both countries. Speaking at this gathering, John Galbraith, former U.S. Ambassador to India, noted that despite the serious differences, ideological included, between the USA and the USSR, the people's vital interests called for a categorical rejection of the "cold war" legacy.

That conference was sponsored, for the United States, by the Fund for Peace and the Center for the Study of Democratic Institutions and, for the Soviet Union, by the Institute of Soviet-American Relations.

These are only some of the activities of the institute I have had the honor to head these past 10 years.

What kind of organization is it? What are its aims? Who are its members?

Ten years ago Soviet scientific, cultural and other public groups decided to form an organization whose purpose was to promote better understanding and trust, cultural cooperation and friendship between the peoples of the Soviet Union and the United States.

The motives for this initiative should be obvious. They stemmed from the strong mutual respect and lively human interest the peoples of our two countries have long had for each other, as well as the great bearing the state of Soviet-American relations has on the international situation. In World War II our peoples fought shoulder to shoulder against German fascism. The blood shed on the battlefields, our enormous losses and sacrifices in the war against fascism, make us particularly responsible for the prevention of a new world war.

A founding conference was called in 1962 which elected the institute board and other executive bodies. The institute is headed by well-known and honored representatives from all branches of scientific, cultural and public endeavor—Academician Ivan Petrovsky, journalist Yuri Zhukov, astronomer Alla Masevich, film director Sergei Gerasimov, Academician Ivan Artobolevsky and writer Alexander Chakovsky.

Our institute is a public, not a governmental or commercial organization. It is evident that we could not have moved forward our goals without the active day-to-day participation of a wide range of interested people from all walks of life in Moscow and Leningrad, in the union republics and in almost all the large Soviet cities.

Besides individual members, our institute has 40 affiliated members—institutes and schools, the USSR Chamber of Trade and Industry, the Union of Journalists of the USSR, the All-Union Theatrical Society and major enterprises in Moscow, the Ukraine and Byelorussia.

American well-wishers greeted the founding of a Soviet organization dedicated to better Soviet-American relations. We received numerous congratulatory letters and much useful advice on how to make the institute's work effective.

We ourselves, naturally, gave much thought to the most effective organizational structure for the institute and adopted, to my mind, the best solution—a membership organization according to trades and professions. It is common knowledge that people of similar or related trades and professions are particularly interested in their counterparts elsewhere and are likely to understand each other more readily.

So we set up 10 working sections: educational, juridical, scientific and technological, philosophical, student and others. The sections are headed by distinguished Soviet specialists in the corresponding fields.

Our institute is now celebrating its tenth birthday. Over the years it has earned itself an admirable reputation among Americans. It has established and maintained contact with 100 U.S. public and cultural organizations, including the Fund for Peace, the Center for the Study of Democratic Institutions, the Citizen Exchange Corps and the Association of American Law Schools.

We are very appreciative of the activities of these and other organizations directed toward better Soviet-American relations and are ready to support any of their efforts to strengthen confidence, understanding and friendship between our peoples.

Our institute is an active participant in the Dartmouth Talks of public figures of both countries. We have met on four occasions with the American Friends Service Committee. The range of questions discussed at these gatherings was wide—from disarmament and international relations to the effect of the scientific and technological revolution on living standards. The participants repeatedly emphasized that the Soviet Union and the United States had to find new ways of developing mutual cooperation to preserve and strengthen peace throughout the world.

The institute is very active in fostering tourist exchange between our two countries. As we say here, "One look is better than a hundred hearsays." The number of Americans we have hosted in these 10 years has grown tenfold. Our programs now account for about 5,000 visiting Americans annually. These are people from all sorts of occupations, ages and walks of life. They arrive individually and in groups, sometimes as many as 300. We arrange lectures for them, visits to the institutions and enterprises they are interested in, and meetings with their colleagues in Moscow and other cities. The institute gets many letters of thanks from American citizens. During these 10 years we sent 20 Soviet tourist groups to the United States.

Soviet people have always been interested in how people live in America. The institute has a permanent seminar, "Contemporary Culture and Science in the USA," to which eminent Soviet scientists and cultural workers, as well as American guests, frequently contribute. Several popular lectures were delivered here recently, including talks on the American theater by Lee Strasberg and Harold Clurman, one on the Constitution of the United States by Professor Harold Berman and one on scientific methods in industrial management by Frank Lamb.

We sponsor topical and holiday gatherings, jubilees and special days commemorating significant events in American science and culture and honoring American men of letters.

We have had get-togethers commemorating writers O. Henry, Ernest Hemingway, F. Scott Fitzgerald and Eugene O'Neill and astronomer William Wallace Campbell, among others.

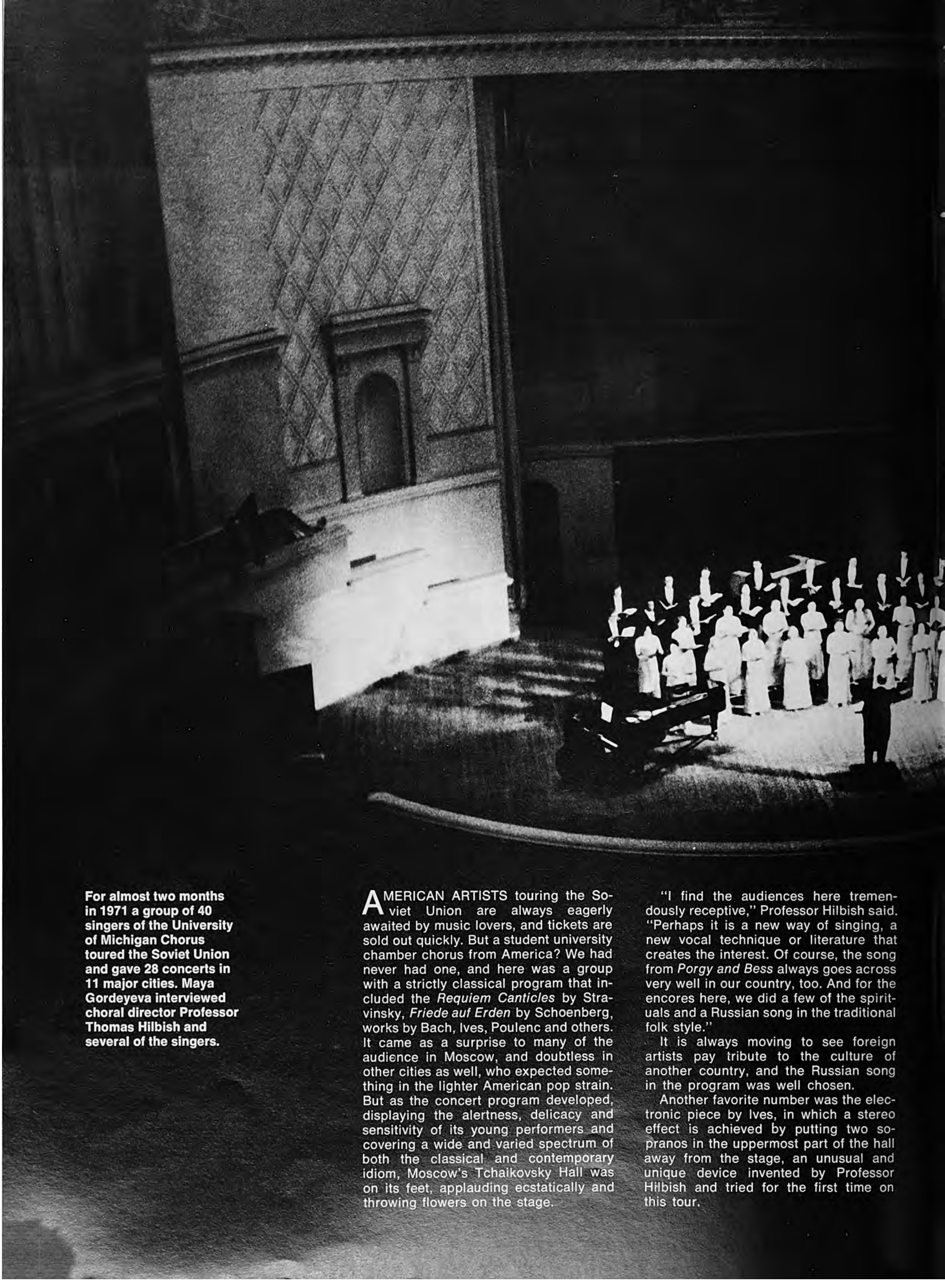
We systematically exchange photos, books, albums and the like with interested American organizations.

I would like to close on the note that the level and character of existing Soviet-American relations cannot help but affect the activities of our institute.

The relations between our countries are complex because of the fundamental differences of our social systems. But these differences do not preclude the continued development of mutually beneficial contacts. The activities of our institute testify to that. We are guided by the statement of the General Secretary of the Communist Party of the Soviet Union Leonid I. Brezhnev, who said from the rostrum of the Twenty-fourth CPSU Congress: "We proceed from the assumption that it is possible to improve relations between the USSR and the USA."

We are also aware of the fact that the Soviet Union and the United States are economically and militarily the most powerful nations in the world, and this makes them particularly responsible for the world's destiny.

We are ready to do our utmost to better Soviet-American relations in the interests of the peace and security of all the peoples of the world.



For almost two months in 1971 a group of 40 singers of the University of Michigan Chorus toured the Soviet Union and gave 28 concerts in 11 major cities. Maya Gordeyeva interviewed choral director Professor Thomas Hilbish and several of the singers.

AMERICAN ARTISTS touring the Soviet Union are always eagerly awaited by music lovers, and tickets are sold out quickly. But a student university chamber chorus from America? We had never had one, and here was a group with a strictly classical program that included the *Requiem Canticles* by Stravinsky, *Friede auf Erden* by Schoenberg, works by Bach, Ives, Poulenc and others. It came as a surprise to many of the audience in Moscow, and doubtless in other cities as well, who expected something in the lighter American pop strain. But as the concert program developed, displaying the alertness, delicacy and sensitivity of its young performers and covering a wide and varied spectrum of both the classical and contemporary idiom, Moscow's Tchaikovsky Hall was on its feet, applauding ecstatically and throwing flowers on the stage.

"I find the audiences here tremendously receptive," Professor Hilbish said. "Perhaps it is a new way of singing, a new vocal technique or literature that creates the interest. Of course, the song from *Porgy and Bess* always goes across very well in our country, too. And for the encores here, we did a few of the spirituals and a Russian song in the traditional folk style."

It is always moving to see foreign artists pay tribute to the culture of another country, and the Russian song in the program was well chosen.

Another favorite number was the electronic piece by Ives, in which a stereo effect is achieved by putting two sopranos in the uppermost part of the hall away from the stage, an unusual and unique device invented by Professor Hilbish and tried for the first time on this tour.



University of Michigan Chamber Chorus

UNFORGETTABLE CROSS-COUNTRY TOUR

"The audience was overwhelmingly pleasant everywhere," soprano Barbara Hall said. "They were enthusiastic, and it was very easy to communicate on a person-to-person basis with them, especially in the smaller houses throughout the tour."

There was a great deal of rhythmic clapping both in small and big auditoriums, the highest acclaim of artistic merit in this country. Many of the singers said it was the most exciting thing they had ever heard.

When you give 28 concerts in 49 days and are constantly on the road, there isn't too much time left to go sightseeing and get to really know people. It takes the eagerness, earnestness, spirit and stamina of youth. The students from the University of Michigan made the most of their time.

James Bryan said: "Most citizens of the United States know very little about the Soviet Union, and their reaction is a fairly emotional one. I am very happy to be an American traveling in the Soviet Union and getting rid of a lot of the emotional responses I had about this country."

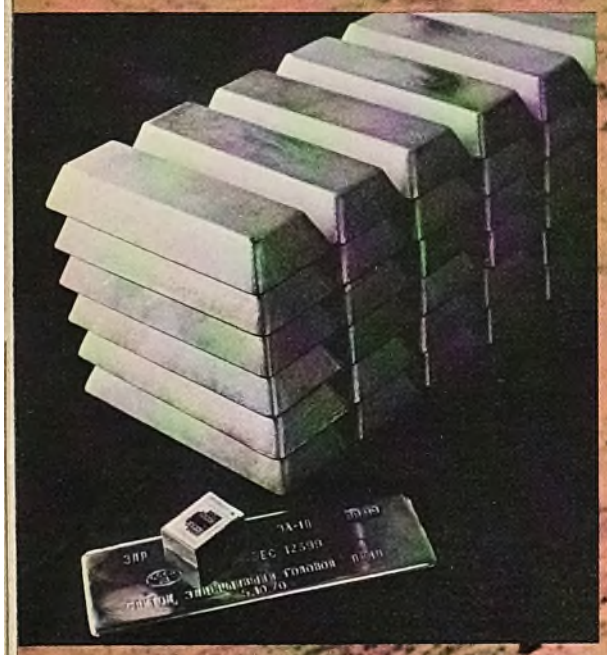
West—North—South

The singers covered a lot of territory (close to 6,000 miles) and were able to perform for audiences in seven cities in the Ukraine, the Moldavian capital Kishinev, Moscow, Leningrad and the Georgian capital Tbilisi. One of the things they seemed most unprepared for was the country's heterogeneity.

Said soprano Andrea Olde: "I wasn't aware of the geographical locations and

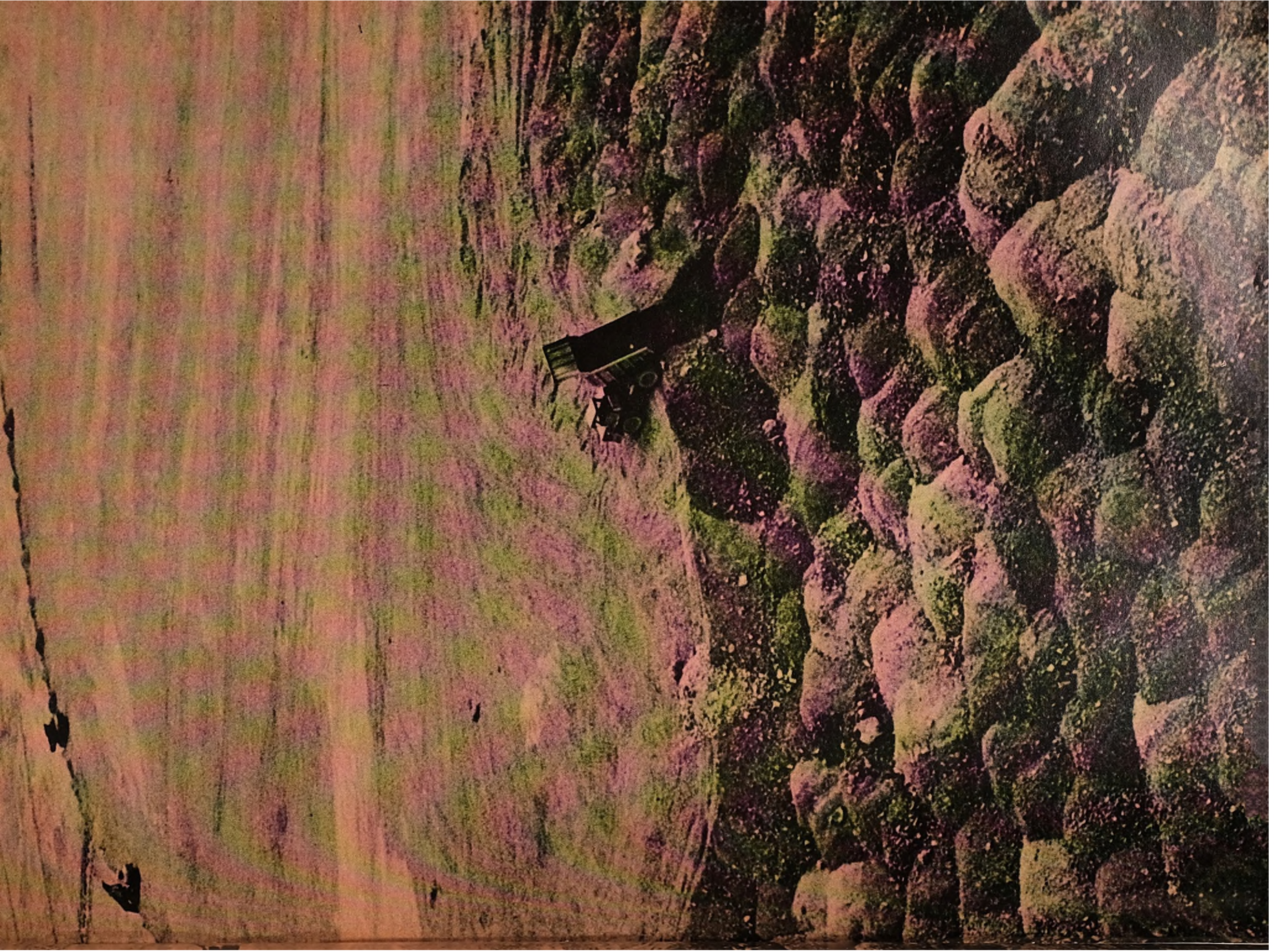
Continued on page 39

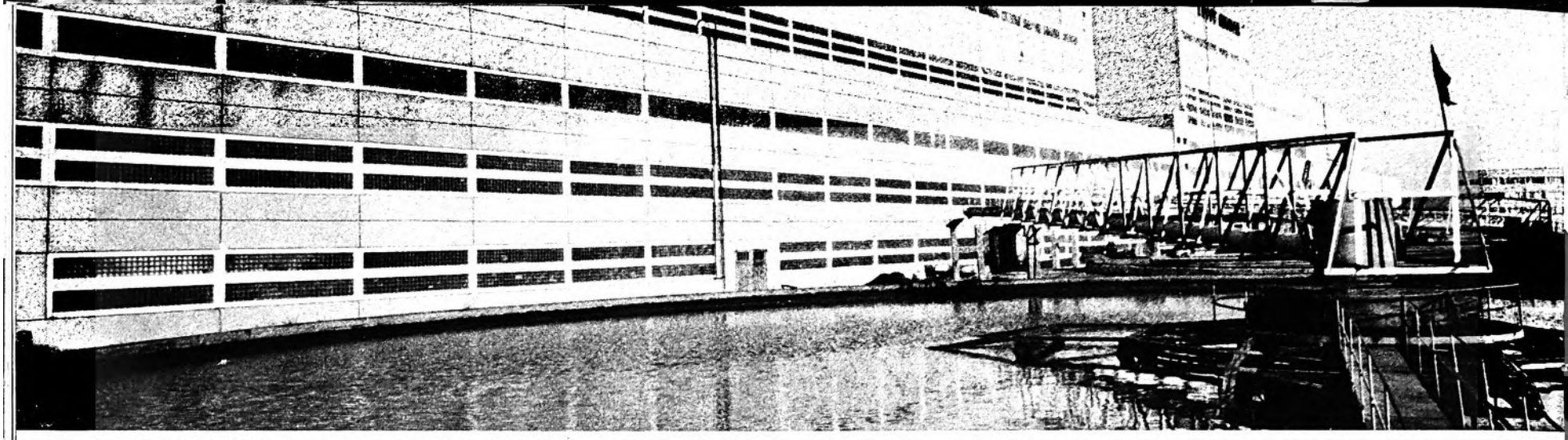
GOLD OF KYZYL-KUM



By Konstantin Barykin

Photographs by Dmitri Baltermants





A gold refinery in the Kyzyl-Kum Desert. Its sophisticated machinery (below) keeps production costs lower than anywhere else in the country.

KYZYL-KUM is a desert in Uzbekistan, Central Asia. Some 2500 years ago the Greek historian Herodotus wrote that the tribes of Kyzyl-Kum "do not use iron and silver. These metals are not available in their country while gold and copper are found in abundance."

When Peter the Great (1672-1725) heard about the gold of Kyzyl-Kum, he sent a party commanded by Prince Cherkassky to find it. The expedition was a failure—the commander lost his life during the exploration, and those who got back could tell the czar only about legends and promising place names: Zeravshan—"a gold-carrying river," Altyn-tau—"Gold Mountain," Altyn-Topkan—"Gold Treasure," and the like. They found gold in the names but nowhere else.

It is only in our time, a few years ago, that gold was discovered in the Kyzyl-Kum, and in a locality whose name had no reference to the precious metal, Muruntau—Nose Mountain.

A stroke of luck? Hardly. It was the logical result of the hard and persistent work of many people, primarily geologists. Today in the heart of the Kyzyl-Kum Desert there is an enterprise with the prosaic name Gold-Extraction Factory.

Standing at the edge of an open pit, I can see excavators scooping up gold ore with their huge buckets and emptying it into dumpers. The trucks squat down a little under the weight of the load. The excavators keep moving the ore.

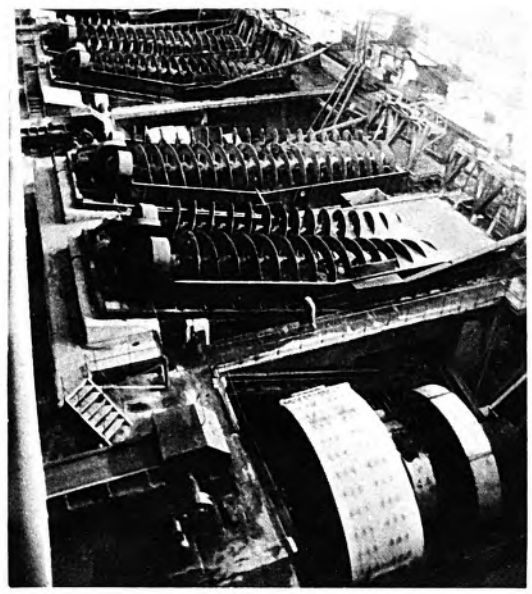
At the wheel of the jeep-type vehicle carrying me down to the bottom of the pit is superintendent Vadim Burian, a young engineer who came here from Krivoi Rog, in the Ukraine, where he got his schooling and production training. Burian's father and grandfather were miners. Here is what he told me:

"It was very hard at first. We dug for gold but got only gangue. In 1968 we had an unusually cold winter, as though the desert was trying to test man's endurance. The frosts alternated with bitter snowstorms. The frozen earth twanged like metal. People say a winter like that comes once in a hundred years. And it chose exactly the year we had to get the factory going and adjust the machinery. Factory manager Yevgeni Lebedev, director of the mining complex Zarab Zarapetyan and other engineers slept in temporary barracks right at the construction site. Late in the evening they would get together to check on the current day's work and make plans for the next."

In spite of all that, the factory buildings went up. Power transmission lines were constructed, and water was brought all the way from the Amu Darya. You must have water to dig gold. The channel was a high point in the history of the construction project. The "life line" runs about 125 miles across the treacherous sand dunes.

Although we have been riding over the gold-bearing ore layer for 15 minutes now, we still don't seem to be coming to the end. An excavator is at work on a bench far away.

We pull up near the excavator, and I am introduced to the operator, Victor Yelagin. He is on the morning shift today. Yelagin



and other excavator drivers are in the middle of an emulation contest.

"He is a first-class worker," the pit superintendent tells me. "The rest of them are pretty good, too."

The hut on runners at the side houses a dispatcher control post. There are telephones and the selector of a loudspeaker communication system on the table.

"Attention, first section! Why are two of your trucks idle?"

Two dump trucks mean 60 tons of ore with gold in it.

The pit is growing and will continue to for a time. It has been decided to start underground ore mining concurrently. The site has already been located. It won't take long to build. You grow accustomed to the high construction speeds that have become normal here. No question but that in a year or a year and a half a big mine will be operating on this spot. Now there is only a sign reading "A mine will be built here." Its first stage will cut through a gold-bearing vein about 1600 feet down, and tunnels will be driven level, up and down. A large body of ore has been found underground—it will take many years of intensive mining to get it all out.

How come so much wealth? A geologist answered the question with a joke: "In the Kyzyl-Kum it's easier to find a place with gold than without it."

In the main factory building the metal jaws of mills grind the ore into pulp. The thick, gold-infused and slightly viscous pulp flows into vertical columns that look like tubes standing on end. Once in the columns, the pulp is attacked by ion exchange resins. I won't give you the particulars of the technology, but the transformation takes place in the vertical columns. This is a new technology used for the first time in the gold-mining industry, and it makes the local gold the cheapest to produce in the country.

In the finished product department, as throughout the factory, young people make up most of the staff. In the bright tiled room stand electrolytic baths. This is where pure gold makes its first appearance.

Grigori Kim, department head, is also a young man.

"And do you have veteran workers?"

The factory director smiles.

"All of them are veterans. Kim, too. He's been here since the first day."

The one who has been here the longest is Victor Arzhantsev. He cast the first bar and was photographed with the minister on that occasion. The distinction also earned him a bonus.

A great many gold bars pass through the hands of each gold worker before they are wrapped in green cloth, stowed away in trunks and carried to the treasury.

But let us get back to the electrolytic baths. A layer of dirty gold is deposited on their titanium cathodes and anodes. We consider it dirty because it contains about a half per cent of impurities. These are rapidly disposed of. As soon as a gold jacket a tenth of an inch thick grows on the titanium plate, it is forced off by an ordinary knife, the gold leaf readily separating from the titanium. The gold is rolled up and sent for remelting. The rolled gold is lowered into red-hot furnaces where it liquefies. The seething liquid gold is then poured into molds. This is pure, currency metal. Waves of gold so dazzling bright it is painful to look at without glasses strike against the cast-iron banks and are immediately cooled. The bar is smoothed out by an overhead jet of fire. In a minute or two the first one is delivered to the quality control table. This is followed by a second, a third, and so on. A control assay consisting of three pillars on a support is also made. The pillars will be sawn off and sent to laboratories while the support will be kept as a sample in the smelting shop.

Production foreman Nikolai Zakharov puts the bar on the assay balance. With a practiced hand he sets two weights—10 and 2 kilograms—on the balance and proceeds to manipulate counterweights. Thereafter, four nines (99.99) are stamped on the finished gold bar. That is an index of purity. From a layman's point of view, it is crystal pure. No gold has ever been so pure. I was told that the gold here is getting purer with time, and the day is not far off when five nines (99.999) will be stamped on the gold bars. Such product purity is known perhaps only at semiconductor plants.

Some bars are kept at the factory. I saw one, a jubilee bar. On it were stamped the words: "The last bar of the annual plan. 12,399 g. October 5, 1970."

Everything you see in this gold factory has been made within recent years. Its frontiers are clearly visible: The Twenty-third CPSU Congress mapped out the targets, which were met by the opening of the Twenty-fourth Congress. The factory is to step up its output of this precious metal in the new five-year plan.

Mikhail Lomonosov, the great Russian scientist, said: "The first noble metal is gold."

And, indeed, it still is.

Courtesy of the magazine *Ogonyok*

University of Michigan Chamber Chorus

Continued from page 35

was astounded at the differences between Moldavia, Russia and the Ukraine. And going to Georgia is like going to a different country."

Andrea Olde liked the lakes, bridges and landscape of Leningrad and enjoyed the museums. "The Hermitage is fabulous," she remarked.

Many singers admired the Metro and thought the trains and escalators moved very fast. "They're putting in a subway in my home town, Washington, D.C.," said Barbara Hall. "I hope it will be as beautiful as the ones in Leningrad, Kiev and Moscow."

"Intense National Culture"

Of all the things they saw in this country, the Americans were most impressed by the artistic world and the way it functions. No detail seemed to escape them. It was a subject for discussion not only with Soviet music students but among themselves as well.

For one thing they never missed a chance to go to the opera—and not only in Moscow or Leningrad, but in Kiev, Odessa, Kishinev, Lvov and Tbilisi as well. They saw the international classics *Carmen, The Marriage of Figaro, The Barber of Seville* and *Madame Butterfly* as well as Tchaikovsky's *Eugene Onegin* and *Queen of Spades,* and Ukrainian and Georgian operas and ballets. It was not only the productions themselves that fascinated them.

"I can say that the singers were on a par with the New York Met. Very excellent, very fine singers," Professor Hilbish said. "And I was surprised to find so many beautiful opera houses throughout the country. The one in Odessa is breathtaking. I think it is a wonderful idea to have so many theaters because this contributes to culture and more people have a chance to participate."

Many of the singers took particular notice of the way theaters are maintained. James Bryan was surprised to see "the housekeeping so good" and said that "obviously a great deal of money is being spent keeping them in shape." Baritone Mark Gruett stressed the merits of the Soviet repertory system with six or seven productions a week.

Barbara Hall noticed another relevant aspect—tickets, even for the opera, are very cheap. "The 45 kopecks we had to pay for the show in Odessa for instance," she said, "is pretty convincing evidence that the whole town can go, and they obviously do."

Many of the singers were delighted to find that the music by national composers they did not know is varied and exciting. Perhaps Andrea Olde put her finger on it when she pointed out how unexpected it was to see the "intense national culture within the different republics."

The Folk Idiom

Many members of the group also said, as did James Bryan, that of the performances they had seen "the highest quality found expression in the folk idiom." Barbara Hall was even more explicit: "I was impressed with the pride students here seem to take in the folk heritage of this country, something that in our own musical upbringing we have been steered away from in our emphasis on the classical. It has been so exciting to hear a really fantastic balalaika and bandura ensemble at a conservatory. I think we should explore much more the origins of our own popular jazz."

Some of the singers expressed the view that Soviet people have the advantage of their longer history, and have a wider range not just in the dance or the opera genres but in choral music as well. As one of them pointed out, the Michigan chorus sang in languages the audience did not know for the most part, but they were received overwhelmingly as though both language and idiom were completely understood. This clearly pointed to a much greater appreciation for a choral ensemble in the Soviet Union than expected.

How did this happen? How was it achieved? Perhaps the answer lay in the view Abbie Van de Walker expressed: "Here at the university they have a choral ensemble from a philology department, and another from the biology department, and so on." She noticed that "there were also many workers who were members of choruses and so ready to accept a choral ensemble, while at home, as she put it, "it is not the most popular or the most common ensemble in the country."

Another interesting and penetrating remark came from Mark Gruett, who thought the training of children in a cultural atmosphere had a lot to do with appreciation of the national heritage: "We attended a matinée performance of *Eugene Onegin* in Moscow. It's not exactly on the "Three Little Pigs" level, but there were an amazing number of children present, and they sat right through it. It is evidently part of their cultural upbringing, not just a special event."

Linda Sperling thought she had learned more from the trip than she could have in a year's intensive study of Russian culture and Soviet society at home "So cultural exchange is marvelous, I think," she concluded.

And the tour as a whole, the singers agreed, was an unforgettable experience. Many said they hoped to come back and do another "cultural exchange program." If they do, an enthusiastic audience will be here to meet them.

There was standing room only at all the concerts.



Lilies of the valley for choral director Hilbish.





Around the Country



SOLAR POWER STATION

An installation to convert solar energy into electricity has been developed by the Gleb Krzhizhanovsky Power Research Institute in Moscow. This original solar power station is equipped with semiconductor generators which are placed in glass tubes mounted in the center of reflectors. Sunrays falling on a reflector are brought to a focus, and electric current is generated in the semiconductor device by the heating effect. A special attachment automatically turns the reflector system toward the Sun. This allows for maximum use of solar radiation during the day.

The new generator is designed for the arid regions of the country. As power sources for electric pumps, these small stations will provide irrigation for new pasturelands.

CHILDREN'S TV STUDIO

A TV studio was set up at the Young Pioneer Palace in Kursk, Central European Russia, a few years ago. Aided by adults, the girls and boys fitted out their studio, studied their complex equipment and the principles of direction and camera work.

The performers, spectators, cameramen and directors are all children.

The studio now offers several programs which are very popular with youngsters.

FAR NORTHERN FOLK DANCES

Over 200 students representing 17 Northern nationalities are enrolled in the Department of Far Northern Peoples at Leningrad Teachers Institute. A company called Northern Lights has been formed at the institute.

Included in their repertoire is



HISTORY IN AMBER

The Amber Museum in the Lithuanian city of Palanga has set up a research center. The museum's collection of more than 16,000 items is unique for its wealth and variety. Among the exhibits are imprints on amber of the skin of prehistoric reptiles, fragments of insects, leaves and flowers of ancient plants, figures of men and animals fashioned from amber in the Neolithic age. The center's laboratories study the Baltic amber as well as fossil resins from Burma, Rumania and other countries.

ARTIST'S CENTENNIAL

A retrospective exhibit of works by artist Anna Ostroumova-Lebedeva (1871-1955) was held in Moscow on the hundredth anniversary of her birth.

Ostroumova-Lebedeva, a widely recognized engraver, studied painting with Iya Repin and engraving with Vasili Mate. She continued her professional education in Paris at the studio of James McNeill Whistler and studied Japanese etchings. Tradition and a wide-ranging curiosity were Ostroumova-Lebedeva s credo. She specialized in wood engraveing.



SOVIET PIERROT

Skomorokh (Buffoon) and Pierrot, popular characters of the Russian and French puppet theater, meet in *Show Booth*, a new production by the young Leningrad artist Victor Kharitonov.

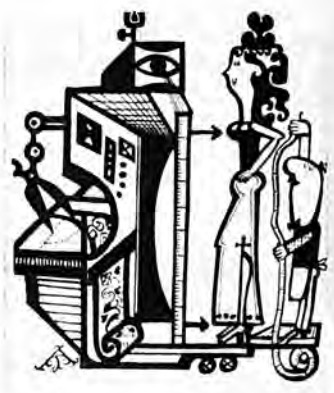
In the *commedia dell'arte* style, Kharitonov uses these two va-

STUDENT DESIGNERS

Moscow Students Contribute to Science, Culture and Production—that is the name of a Moscow exhibition which culminates a two-year review of research activities. Students from 57 Moscow institutes contributed the 2,000 displays. Many of the projects were commissioned by industrial plants and were subsequently used in production.

In 1969, for instance, students of the Moscow Textile Institute worked out 556 diploma projects which were introduced in production; their economic value came to 293,000 rubles.

The display of the Moscow Power Engineering Institute includes a parabolic mirror radio telescope for radio astronomy, space communication and television. Ordered by the USSR Ministry of Communications, it is used as an antenna for superlong-distance space television via sputniks and for programs telecast to remote areas of Siberia, the Soviet Far North, the Far East and Central Asia.



ELECTRONIC CUTTER

The Institute of Cybernetics, Ukrainian Academy of Sciences, has built a new electronic computer, the Kashtan, that can plan the most economical arrangement for cutting a piece of material to pattern. The machine not only reduces waste to a minimum but takes into account the specifications for each pattern. Working at a speed of 125,000 operations per second, it can calculate the size of each piece of material and arrange an optimum number of articles with predetermined measurements on the available area. Only two indicators must be fed into the computer—the length and width of a given piece of fabric or metal and the required size of the patterns. Incidentally, the machine can simultaneously calculate eight different basic and three additional patterns.

The Koshtan can arrange 39 articles, each up to 430 square feet in size, on a piece of material up to 5,000 feet long.

The machine is very easy to operate.

ARCHITECTURAL CAKE

An extraordinary cake was made by chef Nikolai Tertyshnikov of Andizhan, Uzbekistan. The chef reproduced the magnificent architectural ensemble on Registan Square in Samarkand, an ancient city in Central Asia. The cake weighs 155 pounds.

"The Spear Dance," a folk-dance of the Ulchi people.



IL-76 IN THE AIR

A new transport aircraft, the IL-76, designed for service on medium and long-distance routes, was placed in operation recently. The four-engined craft can carry a 44-ton payload 3,000 miles at a speed of 530-560 miles per hour.

The IL-76 has a short run at takeoff and a short landing roll. It can operate from both concrete-paved runways and ordinary landing strips at any time of year and in any weather.

FAST NEUTRONS

The world's first nuclear power station with a fast-neutron reactor has been built in Shevchenko, Kazakhstan. "FN-350" is the name physicists have given the reactor.

The station has a capacity of 350,000 kilowatts and will provide power for six desalination plants. One section is already in operation.



CONCERTS IN A CASTLE

In ancient Lielstraupe castle, Straupe, located in one of the most picturesque parts of Latvia, a room has been set up for concert performances. The Latvian Opera and Ballet Theater presented an organ to the new concert room.

Well-known Latvian organists and choirs perform at Straupe.

PLANTS TO ORDER

Andrei Pasichny, staff member of the Ukrainian Horticultural Research Institute, has built a sensor that checks the condition of growing plants. It also registers reactions to environmental changes.

The new device works on the principle of ionization of the air between a metal electrode and the plant. It is provided with a programmed control system that permits prolonged automatic observations. The device paves the way for the regulation of plant development processes in the not too distant future.



GAS LASER

An optical communications line for the transmission of information over long distances with a continuous-wave gas laser has been developed by Soviet specialists. Experiments have shown that this method can significantly increase the range of transmission because of the laser's greater power output, its continuous operation and negligible loss of radiation to the atmosphere.

grants in a parable about the strength and vitality of genuine art. The story is built around the lives of French poet Pierre Jean de Béranger (1780-1857) and Russian poet and critic Appollon Grigoriyev (1822-1864). Grigoriyev was one of the first translators of Béranger's poems into Russian.

A LOOK AT THE MICROWORLD

Academician Alexander Terenin and Victor Yermolayev, Leningrad scientists, have discovered and observed experimentally the phenomenon of triplet-triplet energy transfer between organic molecules.

The finding is a scientific milestone of both theoretical and practical importance, with applications in photophysics, radiation chemistry, photobiology and photochemistry. The new phenomenon makes it possible to study the nature of certain diseases in a living organism and to unravel the mysterious processes of photosynthesis. The study of microparticles of matter now represents the future of technology.



CURATIVE PETROLEUM

A complex of measures has been developed to prolong the exploitation of the world's only curative petroleum deposit, located in Naftalan, Azerbaijan. Drugs made from the petroleum have been used with marked success to treat bone, skin and other diseases. Each year some 30,000 people stay at sanatoriums near the deposit, and new facilities are being built.

Geologists say the deposit's reserves are enormous. However, the petroleum has a high viscosity and high tar content, which means that no more than 10 per cent of the potential output can be extracted. Engineers believe that pumping steam into the oil reservoirs and heating the area near the wells electrically could lower the viscosity and thereby extend the term of operation of this unique deposit to perhaps 200 years.

SHIFTING COASTS

Vilnius, capital of Lithuania, was recently the site of a symposium on movements of the Earth's surface layers. Observations show that the Baltic Sea bottom has risen in the northern part and dropped in the southern and southwestern parts. As a result, the territory of Finland is growing by about 380 square miles every hundred years, while the coast of Denmark, the German Democratic Republic and Poland is dropping and receding into the sea by about one-eighth of an inch a year.

Scientists attribute the shifting of large areas to the continuous activity of the Earth's interior forces. Unless the Earth's crust changes its speed of movement, scientists believe by the year 3,000 the Aland Islands will form a broad isthmus connecting the eastern shore of Sweden with the western coast of Finland. The Gulf of Riga will become a lake, and the Lithuanian coast will recede into the sea.

Among other questions, the symposium discussed a report by Lithuanian specialists who have detected changes in the relief of the areas under big towns and cities.

Scientists have come to the conclusion that the ground sags under the weight of tall apartment and factory buildings as it did once under the weight of glaciers.

Practical recommendations worked out by the participants in the symposium will be of great help to geodicists, architects and city planners.



CLIFF DRAWINGS

Whole galleries of cliff drawings have been discovered by a paleontological expedition of the Kazakh Academy of Sciences in the Khantau Mountains, near Lake Balkhash. The primitive art dates back as far as the third and fourth millenniums B.C. It is the work of tribes of hunters who inhabited Kazakhstan in the Neolithic age.



PANTOMIME THEATER

The Pantomime Theater has been performing in Moscow for nearly 10 years. Its repertory includes modern Soviet plays and world classics.

The theater recently staged Aeschylus' *Prometheus Bound*, about the Titan's son who stole fire from the gods.

Maria Grakhova, in the role of Lo, the king's daughter, was a striking blend of fragility and stoicism.

PETROLEUM TRANSISTORS

Some unusual semiconductors have been invented at the Ivan Gubkin Institute of the Petrochemical and Gas Industries. Instead of germanium and silicon crystals, they use polymers produced from natural gas and oil, thus eliminating the need for complicated techniques at special plants. Since a polymer can be made in a matter of hours with the simplest equipment, the new semiconductors cost many times less than those manufactured by the old technology.

The staff members of the institute's Laboratory of Polymer Semiconductors have more than a score of inventions to their credit in this very important new branch of electronics.



HOSPITAL ON THE VOLGA

One of the biggest hospitals in the Soviet Union has been opened in Gorky on the Volga. The 1500-bed facility stands on a steep bank of the Volga and has a magnificent view. The out-patient department (three floors), wards (five floors), reception and administration offices and lecture rooms are all in one building, linked by corridors, elevators and underground passages.

CHOREOGRAPHIC MINIATURES

A dance group known as the Choreographic Miniatures has made a successful debut at the Maly Opera and Ballet Theater in Leningrad. The artistic director is Leonid Yakobson, Merited Art Worker of the Russian Federation and one of the oldest ballet masters in the Soviet Union. Under his direction 55 dancers (all of them recent ballet school graduates) prepared *Taglioni's Flight* by Mozart, *Vagrant Circus* by Igor Stravinsky, *Rodin's Triptych* to the music of Debussy, *The Dying Swan* by Saint-Saëns and other dance dramatizations.

The new theater will have no ornate sets or elaborate stage equipment, but will throw its doors wide open to inventiveness and creativity.

SAND PIPELINE

An experimental section of the first pneumatic pipeline in the Soviet Union has been placed in operation outside Shulavery in Georgia. It is used to bring sand from a quarry right to a building materials plan. The sand does not flow through the pipeline like a fluid—it is carried in containers mounted on wheels and pushed along by compressed air at a speed of 18 miles an hour. The pipeline, 40 inches in diameter, is provided with a siding so that two container trains can run independently back and forth.

Eventually the route will be extended to 28 miles and will handle an estimated 2.2 million tons of cargo a year. According to preliminary calculations, pumping sand through the pipeline will cost many times less than transporting it by dump truck.

To train champions or to make people healthy?

By Victor Kuprianov

Photographs by Victor Arsiria and Sergei Lidov



Soccer practice at a junior sports school on the Black Sea coast.

The sports and physical fitness program

WHATEVER the results of the Olympic Games may be, 1972 will go down as the year of the great sports boom. "The Olympic year is not just for Olympic stars!" could well be its motto. Parks and stadiums have held one junior sports event after another, and the newspapers have featured countless stories on the youngsters' activities. As for sports for pensioners, they get as much footage in the newsreels as do the national competitions. And morning exercises for all ages are the biggest sellers at the record shops.

Recently posters appeared all over town inviting parents to enroll their children from the age of five in figure skating and swimming activities. The response has been enthusiastic.

Statisticians find it difficult to give exact figures for Soviet involvement in sports since they run into eight digits. But officials have indicated that the preliminaries of the USSR People's Games attracted some 45 million athletes. These games, which include all the Olympic events, are an excellent way of spotting available talent.

The finals were held last summer with a participation figure exceeding that of the Olympics. This was one of the arguments in favor of holding the 1980 Summer Olympics in Moscow.

The idea, say officials, is not only to find Olympic material but to popularize sports on a countrywide scale, bring them to everybody's front door.

This concept has now become law: Every new housing project must include sports areas, varying from small courts and fields to gyms and swimming pools. Planners are not handicapped by private ownership of land.

Making the Population Sports-Minded

But providing the facilities is half the job. Making the population sports-minded is no less important. With the help of the mass media, headway has been made: Even TV, instead of spreading armchair paralysis among the fans each weekend, is doing its utmost to turn enthusiastic watchers into doers. The emphasis everywhere is on participation.

A Soviet television official explained it this way: "We give extensive coverage to mass-participation and physical fitness activities, as well as headlined sports. We judge a commentator not only by the way he keeps people glued to the TV set, but by the way he talks them into going out and trying for themselves."

The Soviet formula for sports sets no age ceilings. At a countrywide sports festival in Moscow that impressed Avery Brundage, then president of the International Olympic Committee, the parade was opened by a group of centenarians in the national costume of the Caucasus. They reminded the 104,000 spectators packed into Lenin Stadium that 100 is not really old, that it's never too late to go in for sports.

Another feature of the parade that had everyone talking was the appearance of a large group of women athletes wheeling baby carriages—a reminder that families are no hindrance to sports. Tennis star Anna Dmitriyeva, who took time out twice to have babies, is back again in competition. In gymnastics, too, babies have never been a hindrance. In fact, gymnasts often carry photographs of their children for good luck. Former Olympic champion Larissa Latynina, who is top coach of the USSR women's team, told us that she hit her full stride only after her baby was born. Other women athletes feel the same way, thus blasting the view that only ascetics can be champions nowadays.

The Earlier the Better

What is the best age to start in sports? The scientists have been disrupting our various theories from year to year. Now most people agree, the earlier the better.

There is a countrywide movement under way in the Soviet Union to teach youngsters to swim from the age of five and to get them to make swimming a hobby. Officials are just as energetic and enthusiastic inside the Arctic Circle as they are in the arid areas of Central Asia. Coaches in Norilsk, in the Arctic, are confident they will soon be producing Olympic stars.

A similar movement is under way in figure skating. In Moscow, for instance, skating schools advertise at every ice arena and park rink. They offer courses based on physical fitness activities, with elements of music appreciation and ballet dancing.

At the world championships in Calgary, Canada, a 13-year-old pupil of one of these schools, Marina Sanaya, appeared in the women's singles. So far her biggest reward has been the kiss and hug she got from her parents. She only placed twenty-first, but she skated with Karen Magnussen and Janet Lynn, and at their age she might be on the winner's podium too!

Junior hockey enthusiasts avidly follow the Golden Puck tournament, a nationwide fixture for back yard teams. There are two age categories, 11 to 13 and 14 to 15. To qualify for the tournament, a player must help lay out his club's hockey rink, train the younger boys and, what is most important, do well at school.

The Golden Puck club was founded seven years ago. Its leader is Anatolii Tarasov, top coach of the army club, which now holds the national championship. Tarasov said in a recent interview that he sees the Golden Puck tournament as a breeding ground for future stars. Meanwhile his own club has one of the best hockey schools for boys in the country. More than 300 youngsters from the age of seven are enrolled, and Tarasov expects to train enough high-caliber players to man all the big-league teams.

The Golden Puck playoff this year attracted more than three million contestants. The head coach of the USSR national team, Vsevolod Bobrov, spotted a 12-year-old Moscow schoolboy—Sasha Frolov—who, he predicts, will make the headlines some day.

The newest affiliate of the Golden Puck club is in Tashkent, Uzbekistan. The city built an ice arena, and a group of boys wrote to Moscow asking for hockey equipment, which isn't ordinarily available in Central Asia.

The junior soccer tournament is equally popular. As with the Golden Puck, its teams are coached by volunteers, and facilities and equipment are provided by local factories, housing projects and various organizations. The public takes a keen interest because junior sports are considered good character builders.

School Games: Olympic Preview

The USSR School Games, which involve youngsters from all over the country, also have an enthusiastic following. Competition starts at the local level and works up gradually to the national finals. This year the officials are laying particular stress on rural sports; teams that include rural boys and girls will be allowed extra points.

This ramified system of tournaments serves a dual purpose—it helps popularize sports and gives coaches a preview of Olympic talents. When an outstanding athlete is chosen as a candidate for the national team, his coach coordinates training programs with the national coach, and the athlete is then invited to all the major competitions. Officials believe this system is better than selecting an Olympic team on the basis of performance at a single qualification tournament or championship game. They recall the debut of high jumper Valeri Brumel. He was sent to the Rome Olym-



The annual cross-country races sponsored by Pravda *attract thousands of Soviet athletes. Right: A pole vaulter gets ready for the takeoff.*

pics on the strength of his coach's report that he had been progressing at a terrific pace. If the squad had been chosen merely on the basis of showings at a single tournament, Brumel would never have been given his chance.

Participation

Fortunately, the Soviet sports setup does not have to depend on gate receipts or payment for television showings to keep going. Sports and physical fitness activities are part of public health expenditure. The attitude is, every ruble invested in sports is really an investment in health. This has made it possible to provide facilities for the entire population and to include everyone in competition at every level. It has also permitted development of a new concept of stadiums, as not merely a place to watch but a place to participate. Entrance to the stadium grounds is free. The public is invited to come around and take part in a multitude of activities.

Science on Your Side

People sometimes marvel at the tremendous progress made in all sports in the past half-century. This is especially true of time and distance records. A look at the Olympic results in the early 1900s will evoke many a smile.

What is the explanation? Has the human race improved so much?

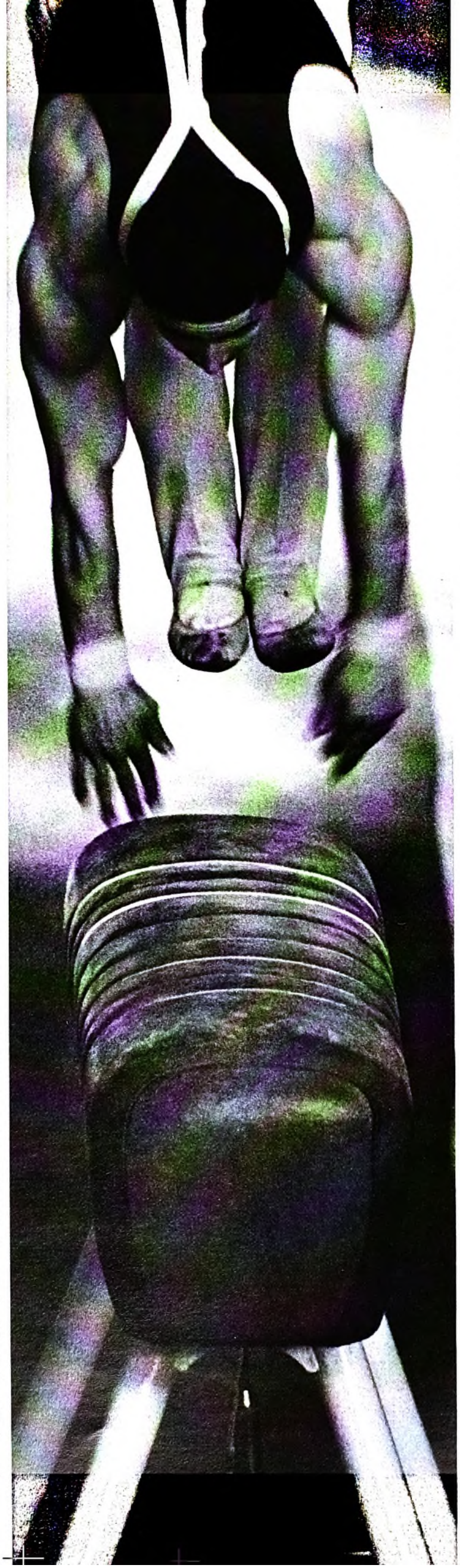
The clue is provided by science and scientific coaching methods.

Scientists are able to tell a high jumper exactly how fast to approach, how to angle his takeoff leg and how to apportion his energy to clear seven feet and more. Science teaches the coach at what age speed is best developed in a runner. It helps a coach foresee just how good or bad an athlete will turn out to be.

Victor Alexeyev, the Leningrad coach whose trainees have chalked up world records 45 times, believes that natural ability alone will not put an athlete on top: "A diamond becomes a diamond only after the jeweler has worked on it. It takes hard work to become a champion or break a record." He can remember only one case where talent almost unaided was enough. This was when Maria Pisareva won a silver Olympic medal in the high jump after only one and a half years of training.

The USSR Physical Culture Research Institute provides a good deal of assistance to Soviet coaches. The institute, with headquarters in Moscow, is actually a big research team studying everything connected with sports and physical fitness. It is headed by Leonid Khomenkov, a top track and field official who stood at the cradle of American-Soviet exchanges.

On March 1 a fitness program was introduced for everyone aged 10 to 60. Participants are required to pass proficiency tests in various sports. The reward is a handsome pin that would attract anyone. The institute put in a good deal of work determining what requirements should be set for what age. Its scientists also tell the schools what to include in physical training curriculums and even provide a fitness plan for kindergartens.



In the past parents were unhappy about their children running long distances. Old people clung to the idea that rest was more important, and coaches had their doubts about the advisability of distance and cross-country running for girls. Now these views have been blasted. Children are encouraged to run moderate distances. Girls too are being drawn into 1500-meter events; the European gold medal won by Tamara Pangelova of the Ukraine has been a great incentive. But probably most important is the enthusiastic approach of the older generation to jogging for health and longevity. Nowadays beards and gray hair no longer embarrass the jogging crowd.

It would be wrong to think that Leonid Khomenkov's institute is a championship mill. The focus is on fitness and health.

What is the Soviet Attitude Toward the Olympics?

Konstantin Andrianov, president of the USSR Olympic Committee, emphasizes the importance of the Games in encouraging sportsmanship and international friendship. We go to the Olympics not only to win medals but to make friends.

The Soviet Union will tolerate no discrimination, no racism in the Olympics. In fact, our Davis Cup participation is in jeopardy since the Soviet Union refuses to compete against any team put together on racial, apartheid lines.

Andrianov has appealed for greater democracy in the International Olympic Committee. He wants broader membership in the guiding Olympic bodies and wants the individual federations and national committees to have a bigger say in policy planning.

The Soviet official has complained that the Games have become too costly and unwieldy. He would like to see them streamlined, so that only the sports that are truly popular are included. He also thinks the swimming program should be tapered down since there are too many events practically repeating themselves. At the same time,Andrianov has made a powerful appeal for increased women's participation in the Games. He recommends that women's basketball and sculling be added, to start with. And why not return tennis to the Olympic Games?

These are some of the things officials will be thinking about as they go to Munich, for what everyone hopes will be a festival of sports and friendship.

SPORTS, SPORTSMEN AND THE OLYMPICS

We asked some of the Soviet athletes who will be competing in the Munich Olympics:
1. Who do you think will be your chief rival at the Munich Games? What result will have to be shown to win?
2. How popular is your sport in the Soviet Union? Is its popularity growing? What facilities are available for participants?
3. What encounter with American athletes made the biggest impression on you and why?
4. What is your trade or profession? What other interests have you besides sports?



1. I would rather not mention any names, because both in competition and training I don't think about my rivals but about the weight I have to lift. I believe that approximately 1,430 pounds for the three lifts would be enough for victory at the Olympics in our class. That is the result I'm aiming for.

2. Weightlifting is technically a very difficult sport that demands not only great strength but also self-discipline, in fact, complete dedication. It's not for everyone. Nonetheless, it has 470,000 regular participants in the Soviet Union. Excellent facilities for weightlifting are available to physical culture groups, factory sports clubs and sports societies.

The success of Soviet strongmen in the big international meets is based on our methods of training and preparing top-notch athletes—a big contribution has been made by scientists who were once outstanding weightlifters: Dr. Arkadi Vorobyov, a Candidate of Science in medicine; Robert Roman; Alexei Medvedev and others.

3. At the 1970 world championship in Columbus, Ohio, neither of the American heavyweights concealed his intentions. Joe Dube, in particular, said that my last successes had awakened in him—I am paraphrasing this — his temper, thirst for battle and confidence in success. As for Ken Patera, he publicly promised that he would be the first heavyweight in the world to jerk 500 pounds at the world championship. And someone really did lift that weight in Columbus, but it was me.

4. I'm a mining engineer, and I live in the city of Shakhty in the Donbas. There are many things that interest me, but none to the degree that sports do.

VASILI ALEXEYEV,
weightlifter; world, European and national champion and world record holder in the superheavyweight division

SERGEI BELOV,
basketball player; world, European and national champion

1. As at the preceding Olympics, our chief rivals in Munich will be the basketball squads of Brazil, the United States and Yugoslavia. But to win at the Olympics we must not only beat the favorites, but play our best, without loosening up, against obvious outsiders. They often demonstrate a remarkable will to win against powerful rivals and give the recognized leaders lots of trouble.

2. Basketball is tremendously popular here. In numbers of participants, it ranks right after soccer and ice hockey. Basketball is played everywhere in our country: in schools and universities, factories and offices, and on farms. It is especially popular in the universities. All the facilities are available there, and they keep on improving: New indoor and outdoor courts are being built and the coaching ranks are being strengthened.

3. I recall especially our encounter with American basketball players at the 1970 world championship in Ljubljana, Yugoslavia. We were winning, but literally in the final seconds of the match the Americans rushed to tie the score and beat our team by three points. Sometimes a defeat is more valuable than a victory. I personally learned a lot from that match!

4. I'm in my third year at the Malakhovka branch of the Smolensk Physical Culture Institute, near Moscow. I want to become a coach. My favorite leisure time occupations are the movies, wood carving and reading—the Russian classics, and Soviet and foreign authors.





1. Every boxer I meet in the Olympic ring in Munich will be my chief rival for the gold medal. As I see it, not only the representatives of such traditional boxing countries as Britain, Hungary, Mexico, Poland and the United States will be formidable opponents, but also the stars from the developing countries of Africa, Asia and Latin America, where this sport has become very popular in recent years.

2. Boxing is very popular in the Soviet Union, with more than 300,000 of our sportsmen participating. Its geographical distribution is extensive, too: Vladivostok and Kaliningrad, Murmansk and Tashkent, Ryazan and Alma-Ata, not to speak of such boxing centers as Moscow, Leningrad, Kiev and Minsk. I come from Cheboksary, capital of the Chuvash Autonomous Republic, and train in the Dynamo sports society there.

Boxing is unquestionably making progress in the Soviet Union, and facilities are growing correspondingly. The number of qualified coaches graduated by physical education colleges and secondary schools increases each year.

3. I remember especially our first match with the American boxing squad in Las Vegas in October 1969 because we won. I personally contributed a point to my team's victory, forcing Ray Lunny, who later turned pro, to leave the ring defeated.

4. I am an alumnus of the Cheboksary Agricultural Institute, where I'm now doing graduate work. I want to become a scientist. My other interests are the theater and music, and I have a large record collection that includes Duke Ellington and Louis Armstrong.

VALERIAN SOKOLOV,
featherweight boxer, 1968 Olympic and national champion

YEVGENI PETROV,
skeet shooter,
1968 Olympic and
many-time
European and national
champion

1. My chief rivals at the Munich Games will be Yuri Tsuranov, my teammate; Konrad Wirnhier of the Federal Republic of Germany; Italy's Antonio Garagnani, and Manfred Reschke of the German Democratic Republic. They are recognized sharpshooters who showed brilliant results not only at national meets but also at many international tournaments. In addition, there are another five or six skeet aces from different countries, including the United States, who can offer stiff competition.

To capture the skeet-shooting championship at the Munich Olympics, a result of 197-199 points will have to be shown.

2. Trapshooting, including skeet, is very popular in the Soviet Union. The event attracts sportsmen in every constituent republic and has a place in the USSR People's Games. Skeet shooting developed especially here after it was placed on the Olympic program in 1968.

3. I meet American marksmen frequently at world championships and Olympic Games. They are fine shots, always capable of springing a surprise. I took a special liking to John Gilmore, captain and coach of the U.S. trapshooting team. He's witty and resourceful, and always ready to offer valuable advice.

4. I have an engineer's diploma from the Moscow Polygraphic Institute. I also go in for hunting. Getting out in the wilderness is one of my greatest pleasures; I usually spend my vacation in the forest or the taiga.





GALINA STEPANOVA,
swimmer, Olympic
breaststroke champion
(Tokyo) and silver
medalist (Mexico),
two-time European title
holder and winner
of 11 national gold medals

1. Every season brings to the fore new talents in swimming. This is especially the case with young people in an Olympic year. Before the Mexico Olympics very few people had heard of the Yugoslavian swimmer Djurdjica Bjedov. But she won the 100-meter breaststroke title, and with a very high score. Lately there have been a whole group of women on the U.S. team who cover this distance in less than 1:18.0. And it is very difficult to say which of them will be the leading competitor for the title. The same goes for the 200-meter event. A clocking of about 1 minute 15 or 16 seconds in the 100-meter and 2 minutes 41 or 42 seconds in the 200-meter will have to be shown for a successful performance.

2. Swimming is becoming a mass sport in the Soviet Union. With present-day facilities, children can be taught to swim at the age of 3-5, when they are in kindergarten. Shallow areas are built for them at regular pools. Swimming classes at secondary schools go to the pool twice a day for training. Youngsters who look like potential champions are invited by coaches to attend special sports schools for teenagers, which provide swimming pools and gyms for general physical development, as well as stadiums and summer camps. A thorough medical check is a feature of every pool. Many have special groups for older people, who go in for swimming as a health activity.

3. What impressed me most was meeting American sportsmen at the Tokyo Olympics. I was only 15 at the time and having heard a lot about the fine technique of the American swimmers, I dreamed of seeing them in action. Don Schollander's victory left an indelible impression on me.

4. I am majoring in journalism at Moscow University. My other interests are Russian classical literature, music and painting.

VALERI BORZOV,
sprinter, many-time
European and
national champion

1. By long-standing tradition the American sprinters are the most successful at the Olympic Games. Obviously in Munich too the hardest thing for any European trackman, myself included, will be to defeat them. I believe that the Olympic victor in my favorite event, the 100-meter dash, will have to show a result on the world record level—9.9 seconds, or perhaps even 9.8.

2. The popularity of track and field events in the USSR may be judged by the fact that more than six million people, including about 3.5 million school athletes, participate. Sports schools for teenagers are staffed with specialists who train gifted jumpers, runners and hurlers. More than 42,000 coaches hold regular jobs in sports clubs and organizations, in factories, offices, educational institutions, and on farms and large construction sites. The country's stadiums and indoor sports facilities are open to all athletes, both novices and stars.

3. I have met American sprinters quite frequently in the last three years; what impressed me most were the starts in the American-Soviet matches. The Match of the Titans took place in 1971 in Leningrad, and for the first time in the annals of the 100-meter event I managed to come in ahead of the American sprinters. Evidently my success was a surprise to my rivals Ben Vaughan and Ivory Crockett. There was some hinting in the American sports press about a false start that the judges hadn't noticed. But that summer in Berkeley, California, I once again refuted the notion that American sprinters were invincible: In the 100-meter dash, Jim Greene and Delano Meruizer came in behind me.

4. I am doing graduate work at the Kiev Physical Culture Institute in preparation for research—following the example of my coach Valentin Petrovsky, who has a candidate's degree in biology. And I love to fish. There's no better way for me to relax than sitting with a fishing rod on the banks of the Dnieper.





1. For 15 years, until 1968, I performed in the singlehanded Finn class. During that time I got to know such famous sailing masters as Austria's Hubert Raudaschl, Wilhelm Kuhweide of the Federal Republic of Germany, the German Democratic Republic's Jurgen Mir and Bernd Dehmel, and George Bruder of Brazil. I hope to see many of them at the 1972 Olympics in Kiel (the Olympic Regatta is held on the open spaces of the Baltic Sea, far from Munich). But the point is that I won't be competing with these yachtsmen. I have been mastering a new Olympic class of boat, the Tempest, since the summer of 1969. Having taken part in a number of major regattas in this class, I believe the yachtsmen of Britain, the FRG, Denmark, Holland, Sweden and the U.S. show more stable results. World champion Michael Hoster of the U.S. stands out in this group of sailing stars.

2. Yachting, which at one time was considered a very expensive pleasure and was popular only in three or four cities in the Soviet Union, now has fine bases for its fleets in many of our ports.

Hundreds of boats are built annually at the shipyards in Tallinn and Leningrad. They are bought by sports clubs and factory sports organizations.

3. I recall meeting American Lowell North, Star class world champion. He came to Tallinn for the Baltic Regatta. It wasn't just a whim of his, taking part in the races. After the sensational victory scored by Soviet yachtsman Timir Pinegin at the 1960 Olympics in the Star class, North decided, like a real sportsman, to make a study of his Soviet rivals.

4. I am a building engineer by profession. My passion for sailing has awakened my interest in boat making. Now I build yachts in my free time.

VALENTIN MANKIN,
yachtsman; Olympic,
world and European
Finn class medalist,
six-time national champion

HEALTH THROUGH SPORTS AND KNOWLEDGE

By Bernard Cooper

WE ALL REMEMBER the story of the centipede who was asked: When you walk, which leg follows which? The poor thing perished—it couldn't take a step, trying to figure out which leg follows which.

Nowadays scientists can ask enough questions to render the entire human race immobile. The only difference is: The scientists who ask the questions have to answer them.

In the Soviet Union there are a number of research institutions whose job is just that—asking and answering questions pertaining to sports and physical fitness.

What causes fatigue? What makes one wrestler better than another, although they both have the same quality of muscles and are both equally trained? What is the right age to start in sports?

Teams of coaches, medical doctors, physiologists, psychologists and what have you are engaged in research using modern technical and scientific paraphernalia that leave the layman speechless.

Raising a healthy generation—getting and it to stay that way—takes scientific knowhow. Finding out how is the assignment of the USSR Research Institute of Physical Culture (RIPC for short).

The tendency of humans in this period of technological and scientific revolution is to rely more and more on pills to combat disease and prolong life. But there is also a growing tendency, fostered by RIPC teams, to make people independent of pills. Jogging for health is one way.

Scientists have found that muscular activity is one of the clues to health and longevity. They have learned to grade this activity. One result is the huge turnout at the physical fitness groups for the "over-middle-aged." These activities are conducted at all the stadiums and sports clubs in the country.

There are special fitness clinics operating in conjunction with RIPC. Anyone can walk in and get information. City planners must now make allowance for the early morning and late evenings joggers. "At the rate this thing is spreading," complained one official, "we'll have to keep all traffic off the streets these hours."

What puts RIPC in the headlines this and every Olympic year is the work it does to improve training methods and, as a result, performance.

Scientists set out, for instance, to discover what enables Nadezhda Chizhova to break world shotput records when her muscle power and physique are no better than those of other women shotputters. They studied the work of all her muscles, her heart and other organs. Chizhova intrigued the onlookers by going through her paces smiling with wires and sensors attached to her body. The scientists were measuring the speed and strength behind the so-called explosive force that puts the shot into motion. In scientific language, they were determining the athlete's ability to overcome resistance at maximum acceleration by short-term muscular effort.

Findings showed it is not only Chizhova's polished techniques that make her queen of the shotputters. It appeared that it takes her only 0.11 of a second to develop maximum muscular effort at the moment of final heave. Other women take 0.25 of a second, more than twice as long.

Next the scientists determined the physiological processes involved. Now they have a theoretical blueprint that serves as the basis for coaching.

The Leningrad school specializes in the muscle events. And it has done much to decipher the mechanics of muscular effort. The findings of researchers here and in Moscow have made it possible to push these events to unprecedented heights without developing a race of supermen.

One conclusion from all this study is that the ceiling has not been reached in human effort and achievement.

Research done in Moscow indicates that high jumpers, for instance, are still far from their peak. Eight feet two inches—and even more—is possible in the foreseeable future, say the experts.

Another sphere of investigation is the development of speed. What makes a fast runner? How much does evolution or ethnic origin have to do with it? Does one race have an advantage over the others?

Doctor Petrovsky in Kiev is focusing on this problem. One important point he has proved so far is that a runner can be trained to the point where his exact time is predictable. Sprinter Valeri Borzov, who serves as Petrovsky's model, has won the European crown twice. His best time for the 100-meter dash was 10 seconds. Now Borzov is training for even faster times at the Olympic Games.

After the Mexico Olympics one of the reasons given for the disappointing Soviet showing in track and field was that the athletes had not been primed for the results shown there. They had been trained for results already surpassed.

Doctor Petrovsky is considered one of the leading experts in this field. Borzov, who is a graduate student, hopes to solve the problem of training sprinters for his degree.

One big question RIPC will have to answer is why, in 26 fields out of the 35 being studied, Soviet records are still under the world highs. Clearly a thorough overhaul of the training system is needed. There is a special laboratory analyzing and reviewing the experience of the Olympic teams. While it hasn't come up with any sensational cure-alls, it has been able to gauge the development and rate of improvement of world records. This, too, is important. Since it takes years to raise an athlete to top rank, the coach must know what result to aim for.

The Dynamo stadium in Moscow has a track and field laboratory headed by Gavriil Korobkov, who for many years was national track and field coach. Coaches look to the laboratory for clues on how to improve athletic performance.

Isn't there a danger that science will dehumanize sports, push achievements to the point where there is no place else to go?

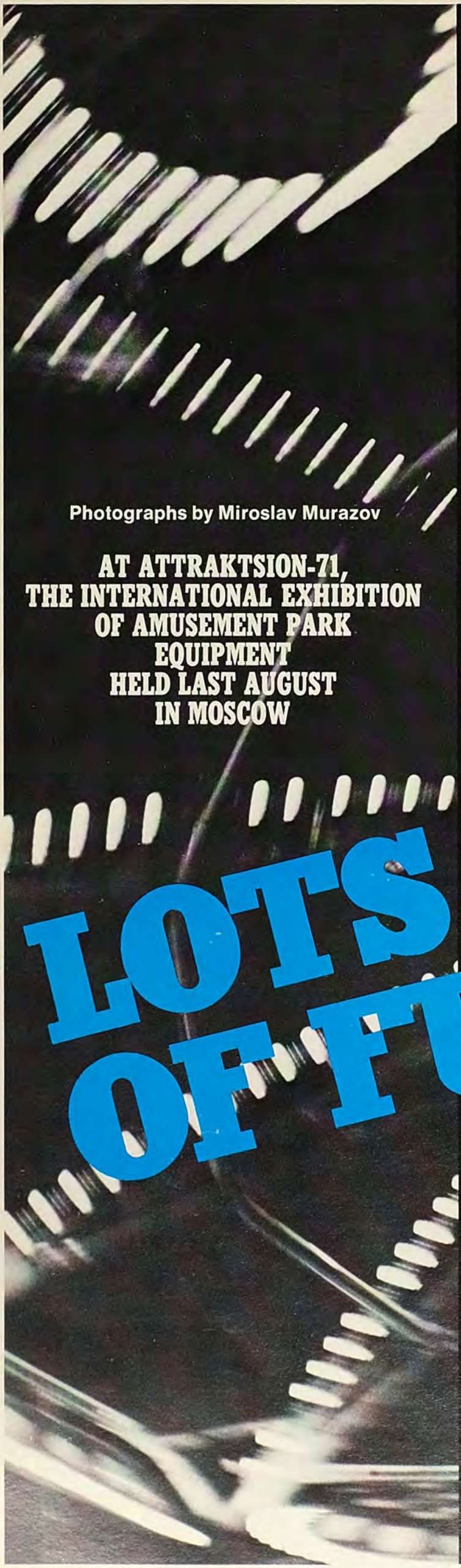
No, say the scientists. They are still in the fact-finding stage, still unraveling the mysteries of muscular and other functions involved in movement. And the facts they are accumulating are being used to develop fitness, not merely of the individual, but of the entire nation.

Doctor Dyachkov, in his exhaustive study of high jumping, was able to determine the ideal height of the jumper, the optimal speed of approach and force of takeoff. But more important was the definition of the role of high jumping in developing general physical fitness and in training for other sports. At the Golden Puck ice-hockey tournament for 11-13-year olds, the contestants were required to go through fitness tests that included speed skating, chinning and high jumping. This too is where RIPC comes in—figuring out just what exercises to recommend for what age group.

One feature of which RIPC director Leonid Khomenkov is particularly proud is that many of his researchers are former athletes themselves. Just the other day hammer thrower Bondarchuk, one-time world record holder, won his degree for a study of the physiological processes involved in the sport.

If RIPC had a motto it would be: Health Through Sports and Knowledge.

A lecture in the anatomy and physiology room of the USSR Research Institute of Physical Culture. Below: Staff members study the reactions of boxers.



Photographs by Miroslav Murazov

AT ATTRAKTSION-71, THE INTERNATIONAL EXHIBITION OF AMUSEMENT PARK EQUIPMENT HELD LAST AUGUST IN MOSCOW

LOTS OF FUN

ATTRAKTSION-71, an exhibition of amusement park equipment, was shown last August at the two most popular and most frequented parks in Moscow — Sokolniki and Izmailovo. Forty firms from 10 countries displayed some 50 attractions and over 150 different devices.

Sideshow history goes back to the ancient fairs, when "miracles" were, by present standards, more primitive, but probably provided much more pleasure. These days we've become so sophisticated, nothing surprises us. But the rides and games at amusement parks will always attract people of all ages. They give children a chance to lose themselves in their world of make-believe and permit adults to go back for a little while to the faraway world of their youth.

The rides and shows have changed very little with the years. It's their size, scale and technical design that have improved. What was formerly concealed is now open to view, the machinery itself becoming something to admire. And watching the whirling wheel suddenly lean over, you recall your childhood and the old merry-go-round with colorful beaded festoons and ribbons on the roof, dappled wooden horses on the platform, and a brightly decorated booth in the center, where the man played the hurdy-gurdy and another operated the winch.

Attraktsion-71 provided a lot of fun for Muscovites and guests of the capital. During the three weeks it was open, two and a half million people had a chance to test, sample and evaluate the amusement devices and contrivances manufactured by the world's biggest firms. The best exhibits are now permanent additions to the capital's parks.

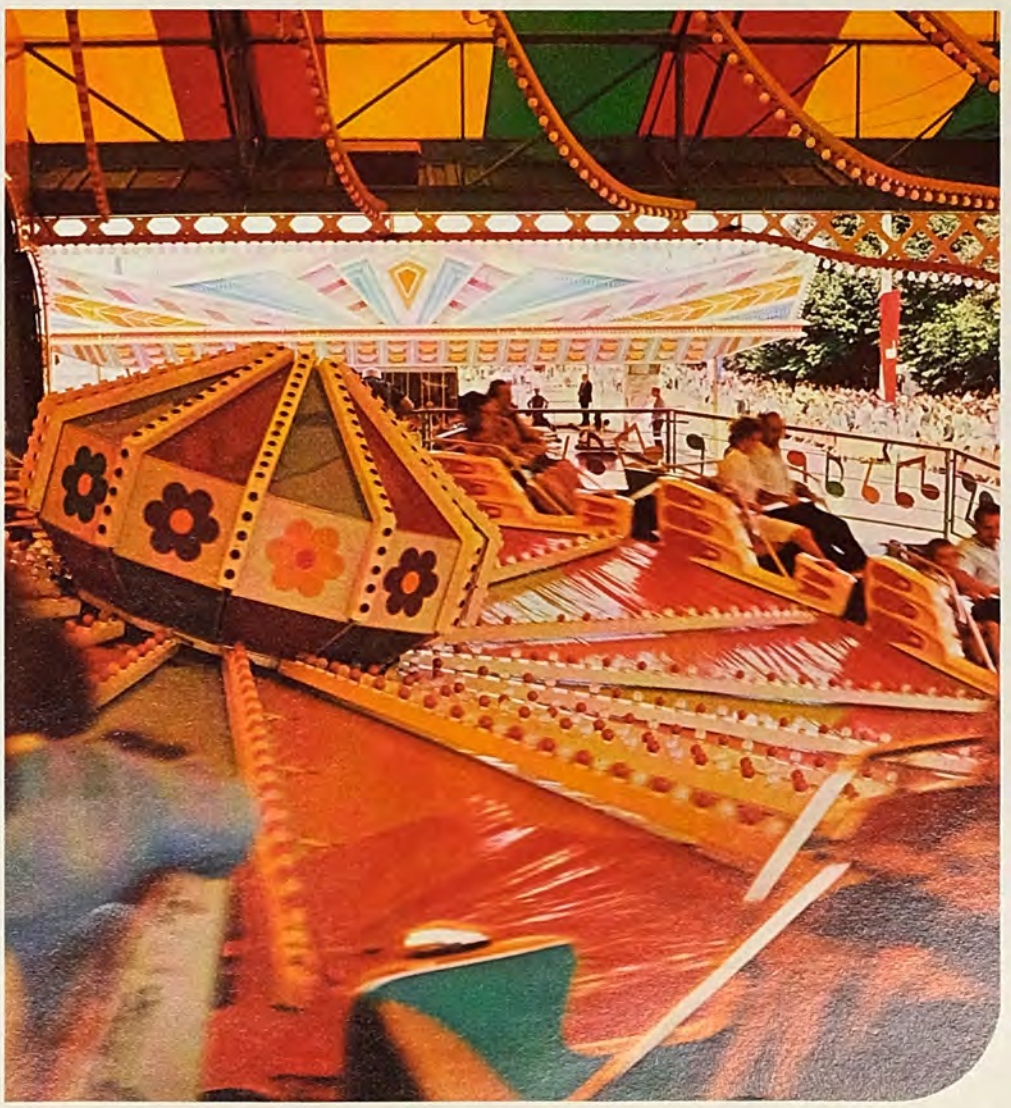






The do-it-yourself exhibits were the most popular of all. They included dodge'm cars (left) and (at far left) the Super-8.





Merry-go-rounds of all kinds were featured. The one, called Space 2,000, came with automobiles, sputniks and old-fashioned coaches. Left: Roller-coaster-eye view of a carousel.



A taste of the road.

A serious test
for would-be astronauts.





Above and right: Some fanciful conveyances on the merry-go-round. Opposite page (from left to right): The Hally-Gally and the American Mountains.







Krokodil, ***one of the most popular periodicals in the country, recently marked its fiftieth birthday. It is a humorous-satirical comment on everything and everybody.***

LAUGH AND THINK

By Mark Vilensky

We asked Mark Vilensky, a member of the* Krokodil *editorial staff, to tell our readers about this widely distributed magazine, which is published every 10 days.



Drawing by Lev Samoylov, *Krokodil's* cartoonist

OUR MAGAZINE was born in 1922 as a supplement to *Rabochaya Gazeta (Workers' Gazette)* and a few months later became an independent publication. Its circulation has grown from some tens of thousands to five million copies, and has doubled in the last four years alone. Since *Krokodil* is bought mostly by subscription and is therefore a family journal, we flatter ourselves that we have some 15 million readers.

If I haven't bored you with my figures yet, let me add that our editor in chief, Manuil Semyonov, is the thirteenth in succession and a living denial of the superstition that 13 is an unlucky number. Judging by our growth in circulation, he's doing all right.

A few words about our first editor in chief, Konstantin Yeremeyev. He was an old Bolshevik and fought in the Civil War. People who knew him say that you never saw him without his leather jacket and a pipe in his mouth. The latter explains why a crocodile with a pipe in his teeth served as our emblem for a long time. Manuil Semyonov, our present editor, had the pipe erased so the magazine would not seem to be pushing smoking (Semyonov himself is a cigarette smoker).

"Why a crocodile?" you might ask. There are several anecdotes on the subject, and this is the most authentic:

One day in 1922 Yeremeyev, Mikhail Koltsov (one of the most talented journalists of those years) and the other staff members were sitting in a room full of tobacco smoke racking their brains for a name for the new publication. The door opened, and a newspaper reporter who was nicknamed Krokodil poked his head in.

"Go away, Krokodil, don't you see we're busy!" said Yeremeyev irritably and then exclaimed:

"Hey! That's a wonderful title for a humor magazine—*Krokodil!*"

The reporter had earned his exotic name with an article about a crocodile that frequented the Moscow River. Many readers thought it was a new species of fish story, but the reporter was not imagining things. On one of the country estates whose former owners had emigrated after the Revolution, there was a terrarium with a live crocodile in it. The peasants had turned the former manor house into a club but didn't know what to do with the crocodile; in the years after the Civil War food was scarce everywhere in the country. So they let the animal out into the river to fend for itself, and it reached Moscow.

But I can already hear some impatient reader say: "Enough stories. Tell us about your magazine. What's its function?"

All right. *Krokodil* is armed with a powerful weapon, laughter, which it uses to crack down on everything that gets in the way of progress—red tape, drunkenness, hooliganism, theft of public property, graft and other unpleasant things. We attack them all with satire, cartoons and poems.

Topical satire is the magazine's chief weapon. As far as we know, there is nothing like it in the Western press. Our stories are always based on hard facts and give actual names and other identifying data. A satirical story in the pages of *Krokodil* generally has serious consequences for the person or persons to whom it is devoted—a severe reprimand on the job, dismissal or even court trial. So we could very well use as our motto the famous French saying that laughter kills.

"But," someone will ask, "what about you, dear *Krokodil*? Can't you be sued for libel?"

There have been such cases, but they are rare, since we check our facts carefully before publishing a story and can easily prove in court that we are right.

By its very existence *Krokodil* refutes the idea spread abroad that there is no freedom of the press in our country.

In any Soviet newspaper you can find articles criticizing half-hearted workers or slipshod factories. But the critical character of our press is most evident in our satirical magazines, of which *Krokodil* is the leading example.

William Davis, editor of the British humor magazine *Punch,* visited the Soviet Union and the United States in 1969. Davis commented about us over television channel 13 in New York:

"*Krokodil* is definitely allowed to criticize red tape, and it does it with more courage than many of our periodicals. This journal's freedom of criticism made a strong impression on me. I found that *Krokodil* in this respect allows itself much more leeway than the Western press."

The *Krokodil* satirist is usually inspired by a letter from a reader. The magazine gets 600 letters a day. Part of this Niagara of mail is made up of fables by readers, in the tradition of La Fontaine. We send most of these didactic works to the archives.

The other and larger part of our mail is more interesting. This is mostly information about some unhappy circumstance encountered by the letter writer. A dictum laid down by Lenin says that no letter to an editor should go unanswered. A special department of the *Krokodil* editorial office sends readers' letters to the ministries and agencies responsible for the situations described.

Among the letters there are usually some on subjects of social interest, with references that look tempting to a satirist. A special correspondent is sent to visit the writers.

We have six such correspondents—the firemen of the *Krokodil* staff. They are energetic and gifted young men who have little to do when they are in the Moscow office. But there is one thing they invariably do—look through the daily mail. A provocative letter for them is like a fire alarm for a fireman, and they will fly thousands of miles to help right a wrong. Sometimes they travel by cross-country vehicle, motor launch or even reindeer sledge to get their story.

But I do not want readers to get the impression that the *Krokodil* correspondents are public prosecutors, nor that their aim in life is to have some official fired from his job. Our purpose is to ridicule the wrongdoer. As the famous Russian writer Nikolai Gogol used to say, "Even those who are afraid of nothing are afraid of being laughed at." Therefore the news of the arrival of a *Krokodil* correspondent immediately spreads around town, and people who are guilty of something begin to feel a little uncomfortable.

But the *Krokodil* staff is not nearly as inquisitorial as that sounds. In one hand we hold the satirical whip of Juvenal, and in the other a soft goose quill. Laughter doesn't always kill, it often cheers people up, and what I might call soft humor is represented on our pages as well. The ratio between it and satire is about four to one in favor of satire.

I have already mentioned those inveterate letter writers who keep sending us their fables. But we don't sneer at amateur humorists, quite the contrary, we do everything to encourage them.

Our competitions for the best short story move thousands of people all over the country to try their hand at writing. And we find talent each time. Among our discoveries is Mark Zakharov, a theatrical producer who had never published anything before the *Krokodil* competition and is now the author of three collections of humorous stories.

Such Soviet humorists and satirists as Mikhail Zoshchenko,* Ilya Ilf and Yevgeni Petrov** first got their feet wet with articles for *Krokodil.* Soviet cartoonists have always considered it an honor to appear in the magazine.

If you like professional secrets, I can tell you that there is a sort of brain trust for cartoon ideas at the *Krokodil* office. So-called "subject conferences" are held every 10 days and are attended not only by artists, but by many witty people who have never held either a drawing pen or a paint brush. All of them have ideas for future cartoons. But the exacting editors choose only a tenth of the 200-250 subjects usually suggested. Then the subjects are distributed to the artists with due consideration for each one's specialty. Thus, for instance, subjects that have something to do with animals usually go to Aminadav Kanevsky or Yevgeni Vedernikov, both known for their animal cartoons. And no artist is insulted if an idea of his is turned over to a fellow cartoonist. This pool of ideas has been operating at the magazine for half a century.

Besides *Krokodil* 14 other satirical magazines are published in the union republics in the various national languages. (There are 15 union republics in the country, but the Russian Federation has no satirical journal of its own, since *Krokodil* is published in the Russian language.) These other publications have such descriptive names as *Perets (Pepper)* in the Ukraine, *Sluota (Broom)* in Lithuania and *Pikker (Thunder)* in Estonia. A large and talented army of satirists and humorists who are in no way imitators of *Krokodil* serve on their staffs.

Think of a common morning scene in any large city, when sanitation trucks come out to sweep and wash the dirt from the pavements. Apply it to social living and you get an idea of the part played by our satirical publications led by *Krokodil.*

*Mikhail Zoshchenko (1895-1958) wrote comic stories of everyday life.

**Ilya Ilf (1897-1937) and Yevgeni Petrov (1903-1942) were coauthors. They won great popularity with their two famous satirical novels *Diamonds to Sit On* (1928) and *Little Golden Calf* (1931), which have been translated into a number of languages. In 1935, after a trip to the United States, they wrote a travel book, *Little Golden America.*

"UNCLE AMBIJAN" AND THE CHILDREN OF STALINGRAD

By Victor Sapov

Photographs by Stanislav Golubev

During the Second World War an American organization, Ambijan, assumed the patronage of Stalingrad's homes for orphaned children.
This is an outline of a recently published book on that incident by the American writer David Seltzer and the archeologist Vladislav Mamontov.

WORLD WAR II was in its second year. The Soviet Union had suffered great losses as a result of the Hitlerite army's sudden attack. Many towns and villages were destroyed, families broken up and thousands of children orphaned. Deep in the rear, in the city of Stalingrad on the Volga, 76 children's homes were set up. But the Volga itself soon became front-line territory, and the Stalingraders, under enemy artillery fire, began moving the children



In the name of the people of the United States of America, I present this scroll to the City of Stalingrad to commemorate our admiration for its gallant defenders whose courage fortitude, and devotion during the siege of September 15, 1942 to January 31, 1943 will inspire forever the hearts of all free people. Their glorious victory stemmed the tide of invasion and marked the turning point in the war of the Allied Nations against the forces of aggression.

May 7th 1943 Franklin D. Roosevelt

Washington D.C.

out by boat and train to the Urals, Siberia and Kazakhstan. They were not able to evacuate all the children. Forty-seven in the Nizhnechir home fell into the hands of the fascists. They were loaded into a bus, driven out to the steppe and shot in cold blood. No less tragic was the fate of many other children who remained in the city. Thousands were killed in the artillery shelling and aerial bomb raids. Those who survived endured, together with the adults, 200 days and nights of front-line hardships and deprivation, taking shelter in mud huts and ruins, and sometimes even in trenches and dugouts with the fighting men, who shared their last crumb, their last drop of water.

One of the first problems, right after routing the fascist army on the Volga, was to shelter and look after the orphaned children.

Boarding schools were set up in houses that had not been destroyed. The first boarding school of this type was opened in the Archedynsk woods and named Serebryaniye Prudy (Silver Ponds).

The victory of the Soviet troops near Stalingrad evoked worldwide admiration.

Stalingrad Days and Weeks were arranged in many American cities and states. It was then that the people in the Stalingrad Region learned that Ambijan, a New York organization, had decided to take over the patronage of the children's homes in Stalingrad Region and had pledged to provide 500 children with footwear, clothing, school supplies, sugar and other foodstuffs, and medical supplies.

At Ambijan's request the Stalingrad Regional Soviet chose three children's homes—the Dubovka, Nizhnechir and Archedyn. This was the beginning of a long-standing friendship.

Dear friends,

Despite the distance separating America from Stalingrad, you are near and dear to us. There is not an American who does not have a heartfelt respect for Stalingrad, the city that symbolizes the struggle for freedom and victory over detested fascism.

Long live the children of Serebryaniye Prudy—future builders of a new world!

Long live Soviet-American friendship and lasting peace!

That was a letter the Stalingrad children received from "Uncle Ambijan," as they called their patrons in the United States.

Ambijan in New York launched a drive to aid the children of Stalingrad. Children's clubs named Serebryaniye Prudy were founded in 40 states.

In his pamphlet "The Children of Stalingrad" American writer David Seltzer (author of the book *The USSR in Images and Persons*) pointed out that such ties between the children of the two nations, ties based on mutual affection, sympathy and understanding, were an earnest of the friendship of the two nations, an earnest of understanding and cooperation.



Carnegie Hall, New York: Paul Robeson, the famous American basso, greets a children's ballet company after their benefit performance for Ambijan. Left: President Franklin D. Roosevelt's message on the victory at Stalingrad.

The Stalingrad children began receiving cordial letters and gifts from America. Members of the Upper Manhattan Society wrote:

With great joy and love we are sending you 100 sheepskin coats through Ambijan. We realize this is just a drop in the bucket, and we shall do everything we can to send more new and warm gifts.

In May, 1946, Serebryaniye Prudy was visited by writer and psychologist Mr. White, Vice President of Ambijan.

"It was a moving get-together," recalled Nikolai Agrinsky, a Pedagogical Institute teacher, who headed the regional department of education at that time and accompanied the American guest to Serebryaniye Prudy. "When

we were leaving, the children literally showered us with flowers."

The Soviet children sent their gifts—drawings, poems and embroidery work—to the United States. David Seltzer and his wife collected them and arranged an exhibition that toured many American cities. The exhibits were then carefully preserved in the home of the Seltzers, and two years ago they were turned over to the Volgograd Museum of Regional Ethnography.

The exhibition was shown in the Soviet Union and was again a success.

Visitors to the exhibition heard a rather imposing man exclaim: "Why, those are my rabbits." Written in Russian and English under a piece of embroidery picturing three rabbits was the legend "Oleg Krasavin, 13 years old."



Oleg Krasavin visits the banks of the Volga with his family. He grew up in a children's home near Stalingrad.



Nina Dikareva, another of Ambijan's "adopted children" is chief engineer at the Volgograd Sewing Plant.

Below: Gift sent to an American by one of Stalingrad's war orphans.







Another remembrance from a Stalingrad youngster. Above center: Americans contributed the materials for these handmade slippers.





Music teacher Nina Lomakina married her childhood sweetheart from the Serebryaniye Prudy home. Left: Vyacheslav Baltsevich is now a senior engineer at Volgogradstroi.



Nina Kuznetsova headed the Department of Children's Homes during World War II.

So Oleg Krasavin, brought up in the Nizhnechir children's home and now a production design engineer, encountered his childhood 25 years later.

Oleg Nazarov, a land improvement engineer from the area near Volgograd, turned up. He had written one of the letters to the children's American friends 25 years ago. It said:

> We were living in a wrecked house when the Germans began bombing Stalingrad heavily. But we had to leave it and take shelter in another one that was also minus windows and a wall. It was awful. I was with Mother, Father, my kid sister, Grandmother and Grandfather. As she was running to another house, Mother was wounded and died soon after. I was there when she died. Father went off with the Red Army, and I stayed with my Grandmother. Grandfather went every day to the wrecked grain elevator. The little grain he brought back we ground with a brick and Grandma made buns. Then there was no grain left, and Grandpa and Grandma starved to death. A woman took my little sister away, and a man brought me to a house where there were a lot of children.

It is impossible to read this and other accounts by Stalingrad children, collected in a handwritten book, without being deeply moved. All the creative work of the children in those years is stamped by the war. One of the drawings by Tolya Arsakov shows a steamship. Inscribed on its smokestack is the word Victory, and under the drawing is the legend, "Men returning from the front. Somebody's fathers are on their way home." Mothers and fathers of many Stalingrad children never returned.

I spoke to many of those who were brought up at the Serebryaniye Prudy children's home and now live in Volgograd.

Engineer Oleg Krasavin recalled: "I was placed in the children's home in July 1943. There were about 500 of us—Russians, Ukrainians, Byelorussians, Jews, Poles, Georgians and Letts. But we had one misfortune in common: Our fathers had been killed at the front.

"The children's home gave us a sense of collectivism and friendship."

Victor Lomakin, also an engineer, told me:

"Nina and I are probably the only married couple from Serebryaniye Prudy. We got married when I was almost finished with technical school and Nina was studying at a music school attached to the Saratov Conservatory. I had just turned 20, and Nina was 17. Our elders tried to talk us out of it: Why hurry, they said, you still have so little to start a home with. But we decided that it would all come with time. And it did. We have a nice apartment

now and a car. We have two children whom we love very much and, I must confess, pamper. The hardships we experienced are still fresh in my memory. I wouldn't want anyone to go through what we did. Both our children study music, and we already consider our six-year-old Pavlik a virtuoso violinist."

Valeri Torgashev is now director of the Metallist Plant, Valeri Anuchin is an aircraft designer, Lev Ryauzov a poet and journalist, and Lyuba Dudnik a biologist. They are typical of hundreds of the youngsters brought up in the Stalingrad children's homes.

There are many relics of Soviet-American friendship in Volgograd's museums. The City Defense Museum has a particularly large number of commemorative souvenirs and documents. Prominently displayed is a scroll from President Franklin D. Roosevelt on the occasion of the Red Army's victory near Stalingrad:

> In the name of the people of the United States of America, I present this scroll to the City of Stalingrad to commemorate our admiration for its gallant defenders whose courage, fortitude and devotion during the siege of September 13, 1942, to January 31, 1943, will inspire forever the hearts of all free people. Their glorious victory stemmed the tide of invasion and marked the turning point in the war of the Allied Nations against the forces of aggression.
>
> Franklin D. Roosevelt
> May 17, 1944
> Washington, D.C.

The museum preserves a poem entitled "Stalingrad" by Marlin Lounslen from Chicago, a message of greeting signed by 312 American children to children in Stalingrad, a miniature bale of cotton from Vicksburg on the Mississippi, and a poster announcing the première of the American film *A Boy From Stalingrad.*

On view alongside Roosevelt's scroll is a ring presented by an American soldier named Kramer. In the letter he sent with the ring he writes:

> My wife gave me this ring when I was leaving to fight with the U.S. Army in 1942. I wish to present this token to the inhabitants of Stalingrad in recognition of the fact that many young Americans are today alive thanks to the sacrifices made by the defenders of Stalingrad.

There are many souvenirs from the United States in the city's Museum of Regional Ethnography, but a special place is occupied by the collection of children's creative work presented by "Uncle Ambijan." The name is one everybody here knows, for it is associated with the memory of a friendship made during the trying years of the war.

NEXT ISSUE



Anniversaries are always a time for review. You look back to see what's been accomplished, and forward to get an idea of what's ahead. It's as true for a country as a person. The fiftieth anniversary of the formation of the Union of Soviet Socialist Republics is the occasion for a year-long look at the Soviet Union. In September Georgia and Azerbaijan, two of the Transcaucasian republics, will be featured. Americans perhaps know Georgia best for the spectacular dancers who performed in the United States, and Azerbaijan for the offshore oil derricks extending far out into the Caspian Sea. The issue will include articles on the history, economy and culture of these two republics.



The United Nations proclaimed 1972 the Year of the Book. In a country that prints 3,000 books a minute, the relationship between reader and book is a complex and interesting one. That is the theme of a group of articles in September. Sociologist Yelena Tarkhova analyzes the reading tastes of Soviet working youth. Valeri Genichev, director of Young Guard, tells about the great variety of books and periodicals for young people published by the largest youth publishing house in the country. Interviews with customers of Book House, one of Moscow's 180 state book stores, tries to get at answers to the questions: Why do people buy books? What books are most popular? What kind of people read them? Finally, there is an extensive article on popular-science literature, in great demand in the Soviet Union today.

Among a group of articles on medical care in the Soviet Union is one about the new concept of the heart's anatomy, one by the USSR Minister of Health, and one about the reaction of two American physicians who went to the Soviet Union on a HEW-sponsored visit, part of the Soviet-American Health Exchange Program, and saw how emergency health care is administered in Moscow, Leningrad, Kiev and a rural Ukrainian community.

An article by Boris Leontyev outlining the steps that have been taken since Lenin's days to guarantee the equality and sovereignty of the more than 100 different nationalities inhabiting the vast Soviet Union.

Composer Mikhail Tariverdiyev, well-known in the Soviet Union for his chamber pieces and songs, tells how he came to write music for films.

COMING SOON

6200 miles across the Russian Federation

QUERIES FROM READERS

QUESTION: Will you, please, publish an article on Grodno, where I lived as a very young girl with my parents? (Freda Steiner, Los Angeles, California)

ANSWER: Grodno is the principal city of the region of the same name in Byelorussia. Its population is a little more than 120,000.

The first mention of Grodno dates back to 1128. Visitors are struck by the mixture of architectural styles: Modern glass-and-concrete buildings stand next to medieval Polish Catholic churches and monasteries. Narrow, crooked streets alternate with straight, wide thoroughfares. Little of what Grodno craftsmen built over the centuries is still standing. In those remote times, the city was ravaged by destructive wars every 25 to 50 years, but it suffered most during the Great Patriotic War, when the Nazis destroyed practically every factory or packed off its equipment to Germany, blew up and burned down many buildings and monuments. Fourteen thousand civilians were tortured to death by the fascists. An obelisk has been erected in their memory.

But despite this, Grodno has kept abreast of modern progress. At one time it was a community of handicraftsmen and merchants; today it is a major center of the chemical industry. Its nitrogen fertilizer factory meets all Byelorussia's needs. Grodno is now building the Soviet Union's biggest caprolactam plant.

Grodno is also noted for its Neman glassware, named after the river which flows through the city. The glass won medals at international exhibitions in Brussels and Montreal. An engineering plant, building materials factory, cotton-spinning mill, garment and tobacco factories are among the other several dozen enterprises in the city.

Grodno has three colleges: a teachers institute, an agricultural institute and a medical institute. Teaching there and in the secondary schools is done in the Byelorussian language. There are a drama theater, 80 clubs, dozens of movies and 10 libraries in the city.

Despite devastating wars, the city still has some architectural monuments—the twelfth century Borisogleb Church (Kolojskaya), the late sixteenth to early seventeenth century Farny (parish) and Bernardine Catholic churches and the sixteenth century Bathory castle.

Archeologists have begun frequenting this area. Only recently, workers in the local quarries uncovered some prehistoric flint mines and workshops.

QUESTION: How is the Soviet theater organized, the repertoire chosen, and casting done? (T. M. Auer, Neenah, Wisconsin)

ANSWER: All professional theaters in our country are subsidized by the state and have permanent companies and premises. The Soviet Union now has 543 drama, opera, children's and other theaters. It averages out to one professional theater per 450,000 people. There are also a great many permanent amateur theater companies.

The Russian theater will be celebrating its 300th birthday this year. The Uzbek, Tajik, Kazakh and other national theaters are not yet 50 years old. They first appeared only after the October Revolution. Today every union and autonomous republic has its own national theater. The Daghestan Autonomous Republic, in the Northern Caucasus, with a population of about one million, for example, has theatres that give performances in five different languages. Plays are presented in our country in 40 languages.

In over-all charge is the USSR Ministry of Culture. A company's administrative and organizational affairs are handled by its director, but creative guidance is provided by a council made up of directors and leading actors from both the older and younger generations.

Plays are usually selected by the head director, but the final decision is largely the council's. Casting is also done at a council meeting with all members of the company present.

Most of our actors have majored in drama at college. Some got their start in amateur theater groups.

Each theater goes on tour in the Soviet Union and abroad for three months a year. Actors get a month's paid vacation. Besides their main work in the theater, many actors do films, variety shows, TV and radio programs. Some of them direct amateur groups.

The number of theaters in the Soviet Union keeps growing. In the next 10 years another 50 will be added to the 39 opened in the previous five-year plan period (1966-1970).

QUESTION: Why is it that all Russians are or have to be Communists? (Richard McClay Sylvester, Syracuse, New York)

ANSWER: Not all Soviet people are Communists, nor do they have to be. Joining the Communist Party is purely voluntary. Moreover, admission to the party has to be earned by deep personal commitment. Members of the party have always been in the lead and taken the most exposed positions in critical periods in our country's history. That is what they did on the fronts of the Civil War and the Second World War. Three million Communists lost their lives in World War II. They have also been in the lead in times of peace—in periods of industrialization and postwar rehabilitation.

Of our population of 246 million, 14.5 million are Communists. As for the social composition of the Communist Party of the Soviet Union, industrial workers account for 40.1 per cent, farmers for 15.1 per cent, and office workers and professionals for 44.8 per cent.

QUESTION: What happens to families that lose their homes as a result of fires or earthquakes? (George Smith)

ANSWER: Families struck by these disasters are given immediate assistance by the government.

In case of fire, a family is provided with new housing free of charge. The local Soviet (town, village or district) issues a grant-in-aid, and the local trade union committee a lump sum.

Privately owned homes must be insured, unlike other private property which may or may not be, as the owner pleases. In case of fire, earthquake or hurricane, the full amount is paid to the insured. Or the owner can have a new state-owned apartment instead of the insurance.

Sometimes a natural disaster destroys a whole community. In such cases, the whole country comes to the aid of the victims. For example, the Tashkent earthquake in 1966 left 78,000 families homeless. Whole blocks were reduced to rubble. Trainloads of food, medicines, building materials and machines poured into Tashkent from all parts of the country. Nearly 15,000 families were resettled in other cities. Hundreds volunteered to help rebuild the city. In a little over three years people from a hundred nationalities built 13 million square feet of housing, a dozen schools, two dozen children's preschool facilities accommodating 6700 youngsters, and eight movie theaters in the capital of Uzbekistan.

Not only did the state help the people of Tashkent but the general public did too: Contributions of personal savings came to some 10 million rubles.

QUESTION: Are there certain requirements a high school student has to fulfill to graduate? Could a student fulfill these requirements and graduate early? (Margaret Moore, Bay City, Michigan)

ANSWER: First, a few words about our secondary school, which is roughly equivalent to combined elementary and high school in the United States. Ours is a 10-year school, with children starting at the age of 7 and finishing at 17 or 18. The course of study is identical in all schools. Subjects are taught in the national language of the particular union republic.

And now, about requirements. At the end of the school term students take graduation exams in mathematics, physics, literature, history and other subjects. If they pass, they get a matriculation certificate showing their final marks in all subjects, calculated on the basis of average marks for the year and examination marks. Graduates with Excellent in all subjects are awarded a gold medal, and those with Good in two subjects and Excellent in the rest, a silver medal. Matriculation certificates entitle the holder to enter a college or university after passing entrance examinations. Students awarded a gold or silver medal have to take an entrance exam in only one subject.

Very bright students skip one or two grades and graduate earlier.

THE CAT IS OUT OF THE BAG

By Victor Dragunsky



ONE DAY I heard my mother saying to one of the neighbors:

"The cat is out of the bag, that's how it always happens."

When Mother came in I asked her:

"What does it mean, the cat is out of the bag?"

"I'll tell you. It means that whenever you do something dishonest, people find out sooner or later and you feel ashamed and get punished. Understand? Now off to bed!"

I brushed my teeth and went to bed, but I couldn't fall asleep. I kept thinking hard. How does it happen that people find out about something you do secretly? I fell asleep late, and when I woke up the sun was bright and Daddy had gone to work. Mother and I were alone. I brushed my teeth again (what a nuisance) and started breakfast.

First I ate an egg. It was not too bad so I ate only the yolk and smashed up the white of the egg with the shell so that Mother wouldn't see it. But then she brought me a plate of farina.

"You must eat it all, no arguments," Mother said.

"But I can't stand it!"

Mother raised her voice.

"Look how skinny you are, just a skeleton! You must eat and put on some weight."

"But I choke on it!"

Then Mother sat down next to me, put her arm around my shoulders and asked me tenderly:

"Would you like to go for a walk with with me? Anywhere you want to."

She didn't have to ask me. I knew right away that I could persuade Mother to go to the Kremlin. I don't know a place more beautiful that the Kremlin. I've been there and I saw the Palace of Facets and the armory. I stood next to the Czar Cannon and saw where Ivan the Terrible sat on his throne. There are a lot more interesting things there. That's why I said right away:

"Of course I would. I want to go with you very much."

Mother smiled and said:

"All right. But first you must finish your breakfast, and I'll do the dishes in the meantime. Remember, you must eat it all."

Mother went to the kitchen and I was left alone with that farina I hated. I slapped it with my spoon, then I salted it and tasted. It was terrible. I thought maybe it would taste better with sugar. So I put some sugar in the farina and tasted it again. It was worse. I can tell you, I just hate it.

Besides, it was thick, too. If it had been liquid, I could have shut my eyes and gulped it down. I poured some hot water in my plate. The cereal was slippery, sticky and disgusting. Things were very bad because when I tried to swallow it my throat tightened up and pushed it back. A shame! I wanted to go to the Kremlin so much. Then I remembered that we had some horse-radish. I poured the whole jar of horse-radish into the plate, but when I tried a spoonful my eyes bulged and I was breathless for a moment. I guess I must have lost my sense of right and wrong—how else can I explain that I took the plate, ran to the window and emptied the cereal outside? Then I went right back to the table and sat down. At this moment Mother came into the room. She looked at my empty plate and said:

"That's the boy. You've finished your meal. Now, Deniska, get dressed and let's go to the Kremlin." And she kissed me.

But then the door opened and a militiaman entered and said:

"How do you do?" He went to the window and looked down. "And you call yourself respectable people?"

"What do you want?" Mother inquired sternly.

"You ought to be ashamed," the militiaman said and even stood at attention to sound more impressive.

"The state gives you fine new housing. You have all the conveniences, including a garbage chute, by the way. But you throw your garbage out of the window."

"That's a lie. I do nothing of the kind."

"You do nothing of the kind, do you?" the militiaman asked with a caustic smile. He opened the door to the hallway and called somebody. "Come in here, please." A gentleman I never saw before came in. As soon as I looked at him I realized that there was no hope for me to go to the Kremlin.

The gentleman was wearing a hat and that awful farina was right on top of it, almost in the very middle. It was also on the brim and ribbon, behind his collar, on his shoulders and on his left trouser leg. He started stammering:

"I was on my way to the photographer . . . and th-this . . . f-farina . . . hot, by the way. It b-b-b-burns even through the h-h-hat. . . . How c-c-can I g-g-g-get my ph-ph-photo taken all smeared with this stuff?"

At this point Mother looked at me and her eyes were as green as gooseberries, the sign that she was furious. I knew it too well.

"Excuse me," she said softly. "Will you please come with me and I'll clean it off."

The three of them went into the hallway.

When Mother came back I was afraid to look at her, but I forced myself to come up to her and say:

"Yesterday you were right when you said it always happened like that. The cat is out of the bag!"

Mother looked into my eyes for a long time and then asked me:

"Will you remember it all your life?" And I said:

"I will."

RICHMOND TRACK AND FIELD MEET

The First U.S.-USSR Indoor Match

By Alexei Srebnitsky

THE FIRST indoor encounter in the history of American-Soviet athletic meets was so important to us that several of our leading athletes stayed away from the European indoor championship a week earlier in order to train for Richmond.

"Obviously the main event of the season is the Munich Olympics," Ivan Stepanchonok, head coach of the Soviet squad, told me, "and any preliminary meet, even the European championship, is only a stage along the road. We figured that in some events our future Olympic team would benefit much more from competition with the Americans than from the European title meet."

It is noteworthy that Soviet coaches had no illusions about the outcome of the March 17 match in Richmond. Authorities I talked with long before the meet frankly aired their views that the United States squad, certainly the men's division, would come out on top. "We know the traditions of the American athletes," Stepanchonok said in this connection. "Usually they develop real summer speeds as early as winter. But we are trying to get our contenders into shape gradually, so that they reach the peak for the most important meets." That is why the over-all score of 131:112 in favor of the hosts (79:69 in the men's division) did not unduly disturb Soviet sports fans. It is true, though, that the results in the women's contest (52:43 in favor of the United States) came as something of a surprise. American commentators emphasized that the U.S. had fielded the youngest women's track and field squad in its entire history, and it started its Olympic season with a triumph.

The explanation is that the Soviet women's team is now undergoing a dramatic change of generations, which the American sportswomen have already successfully completed, as shown by their performance in Richmond.

Despite the defeat, the heads of the Soviet squad believe that the job they set themselves when they took the team overseas was done. Athletic strength can be tested in a meet regardless of whether it is outdoors or in, and in this respect the Richmond arena was a good proving ground.

To all intents and purposes, this was the initial test for young Soviet pole vaulters Yevgeni Tananika of Kharkov and Gennadi Gusev of Lvov. Both are college students. Tananika was born in 1951, and Gusev two years earlier. Both have been active in sports since 1964, and they came to Richmond with the same personal record of 17 feet. Too bad there was no real contest for the pole vaulters: Of the two Americans, Wallick could do no better than 15 feet 11¾ inches, and his teammate Carter did not even clear the starting height. Nonetheless, the personal records set in Richmond by Tananika and Gusev (17 feet 3 inches for each) show that prospects are improving for the Soviet squad in this event. The famous American pole vaulter Don Bragg, a former world record holder, said later that both the Soviet athletes had fine technique and a promising future.

In this meet Alexander Kornelyuk was clearly the leader of the Soviet sprinters. He came to Richmond from Grenoble, where he won the silver medal in the 50-meter dash. Kornelyuk covered the distance at the same speed as Pender, losing to the latter in a photo finish.

Kornelyuk moved to second place among Soviet sprinters, after Borzov, about two years ago. His personal record in the 100-meter event is 10.1 seconds. The son of weightlifter Oleg Kornelyuk, many-time champion and record holder of Azerbaijan, he has a build quite different from his herculean father's. He is small (5 feet 4 inches) and reacts fast, as a sprinter should.

Apparently Lee Evans, Olympic champion in the 400-meter dash, did not expect that Soviet runners would give him such serious competition in the 600 yards. It is true that Alexander Bratchikov is a well-known athlete, holding the national record (45.9 seconds) in the 400 meters, but Semyon Kocher, who came in behind Evans by a mere 0.1 of a second, is a complete novice in big-time sports. This 20-year-old student, a zootechnology major from Orjonikidze in the Northern Caucasus, may look as though he lacks technique—running in spurts—but the style seems to suit him. His progress in the classical Olympic event of 400 meters makes that clear: 48.5 seconds in 1969, 47.2 in 1970 and 46.4 in 1971.

Yevgeni Arzhanov, leader of the Soviet middle-distance trackmen, did not get to either Grenoble or Richmond because of an injury. For that reason everybody expected the Americans to dictate the conditions of the race in the 1,000 yards. After the finish, however, the audience in the Coliseum applauded not Luzins or Nearing, but 24-year-old Muscovite Ivan Ivanov, who won by a strong spurt. It should be pointed out, however, that Ivanov's times last year in the 800 meters (1:46.0) and 1500 meters (3:41.6) were quite good, especially in the former event. Ivanov likes to say that a good middle-distance man must not only run well, but run to win. The Richmond victory is one of his first in international competition.

Mikhail Bariban, 23, of Krasnodar appeared in a new capacity in Richmond. A well-known national long jumper, he decided to shift to the triple jump. Quite unexpectedly, Bariban had to assume the role of the Soviet side's No. 1 man in this event when Olympic champion Victor Saneyev, worn out from his Moscow—Grenoble—Moscow—Richmond air travels, came nowhere near his usual results. Under the circumstances Bariban measured up, even though he only placed second, lagging behind John Craft by an inch. But with his farthest jump (55 feet 3⅝ inches) he improved on his record by a seven inches.

High jumper Galina Filatova, a 22-year-old history teacher from Yaroslavl, made a successful international debut. Filatova, who is 6 feet 1 inch tall, uses the Fosbury flop, but she has still not shown results in keeping with her physique and abilities. Before leaving for Richmond her coach Yuri Chistyakov told me: "I'm trying to convince Galina that her present limit of 6 feet 2 inches is a mere nothing for her. Once she breaks through the psychological barrier, she'll reach the world record fast." In Richmond Filatova cleared the bar at the same height as 31-year-old Antonina Lazareva: 6 feet 2 inches.

Of course, it was also beneficial for the Americans to test their young people at a high-level official meet. If in the men's competition there was only one surprise—Craft's victory—in the women's contest many of the winners had names the sports world had never heard of. Sixteen-year-old Wendy Koening, the victor in the very adult 880 yards, made an especially strong impression on Soviet athletes and coaches. Wendy's running mate Carol Hudson, who placed third, was not much older than her. The youthful American women's squad lost to their guests in only three events—the high jump, the 880-yard relay and the shotput.

The meet in Richmond cast doubt on the traditional notion of "sure victories" for either side. I have already mentioned the surprises in the pole vault, the middle-distance track events and the triple jump. For the first time in recent years Soviet long jumpers lost almost without putting up a battle: Igor Ter-Ovanesyan, 34, was clearly unprepared, though until then he had had no rivals. Tamara Pangelova, 29, who set a world record in the 1500 meters in Grenoble, lost the mile race to Debbie Heald. But in some of the events the traditional leaders retained their positions. Thus, in the women's shotput the Soviet squad had a clear advantage, just as before, and in the men's, the Americans came out ahead. The high jumpers were just about equal, as usual. European champion Kestutis Sapka, 23, proved a bit luckier, as he did at the February international tournament in Moscow. White repeated his Moscow result of 7 feet 2½ inches, while Sapka added an inch to his and came close to the world indoor record of 7 feet 5 inches.

Soviet sportsmen agreed the first indoor match between the American and Soviet squads was a success. Besides everything else, the match made it possible to get acquainted with future Olympic rivals and indicated where corrections must be made in preparing for the Games. It is an open secret that despite the growing competition from other countries, the athletes of the United States and the Soviet Union joined in recent years by their counterparts from the German Democratic Republic, are the world leaders.

GYMNAST TAMARA LAZAKOVICH

By Lev Kuleshov

Photographs by Sergei Lidov

Magazine *Soviet Union*



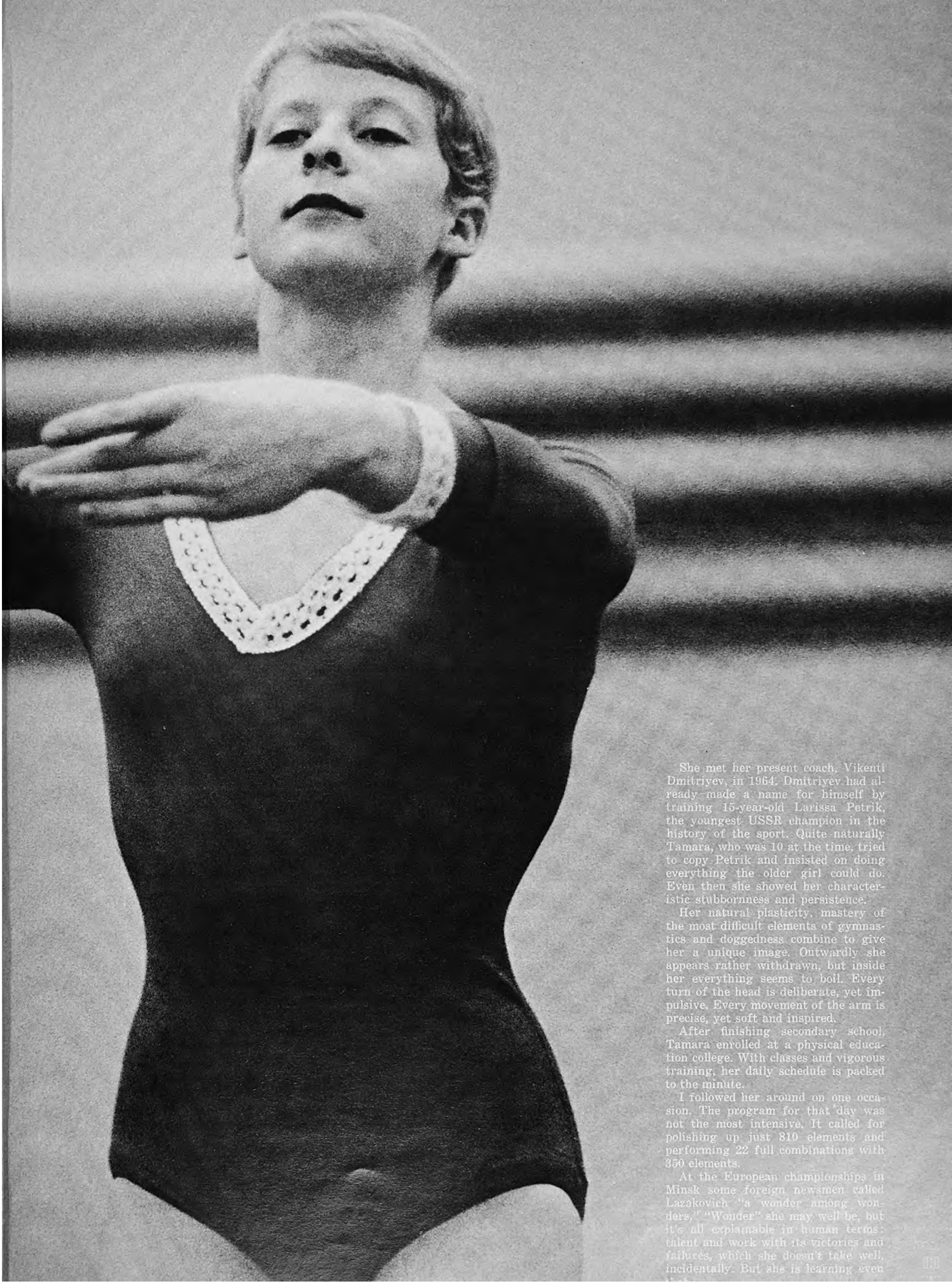
WE ARE ACCUSTOMED to seeing very young athletes mount the winner's stand at major international competitions. In swimming, for instance, world records have been smashed by 12-year-olds. That trend, however, does not seem evident in gymnastics, perhaps because the sport demands not only skill but psychological conditioning.

Tamara Lazakovich is 17. She first walked into a gym nine years ago. At 14 she became the youngest Master of Sports in gymnastics, and in 1968 she won the junior championship of the Soviet Union.

Tamara Manina, a leading Soviet gymnast and winner of many competitions, said at the time: "She has everything I like to see in a gymnast of her age—good proportions, purity of lines, an athletic look and not a hint of stiffness."

Tamara won her first adult national championship on the beam, that trickiest piece of apparatus, in 1970. She made the national team, returning from the world championship with a gold medal for the team victory. Thus far, 1971 has been her peak year: She won three gold medals at the National Summer Games, became the all-round champion of the Soviet Union, and in the autumn shared first place with teammate Ludmila Turishcheva at the Eighth European Championship in Minsk.

Tamara lives in Vitebsk, Byelorussia, a town that has produced many famous gymnasts.



She met her present coach, Vikenti Dmitriyev, in 1964. Dmitriyev had already made a name for himself by training 15-year-old Larissa Petrik, the youngest USSR champion in the history of the sport. Quite naturally Tamara, who was 10 at the time, tried to copy Petrik and insisted on doing everything the older girl could do. Even then she showed her characteristic stubbornness and persistence.

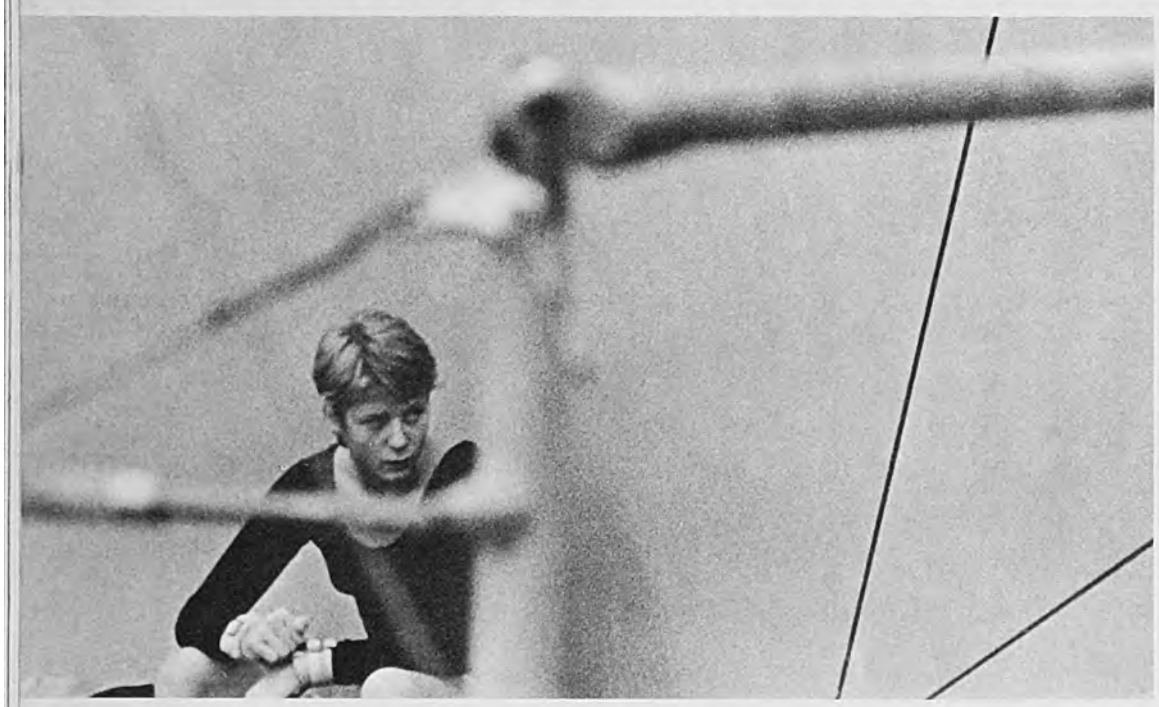
Her natural plasticity, mastery of the most difficult elements of gymnastics and doggedness combine to give her a unique image. Outwardly she appears rather withdrawn, but inside her everything seems to boil. Every turn of the head is deliberate, yet impulsive. Every movement of the arm is precise, yet soft and inspired.

After finishing secondary school, Tamara enrolled at a physical education college. With classes and vigorous training, her daily schedule is packed to the minute.

I followed her around on one occasion. The program for that day was not the most intensive. It called for polishing up just 810 elements and performing 22 full combinations with 350 elements.

At the European championships in Minsk some foreign newsmen called Lazakovich "a wonder among wonders." "Wonder" she may well be, but it's all explainable in human terms: talent and work with its victories and failures, which she doesn't take well, incidentally. But she is learning even







With coach Vikenti Dmitriyev.





A warm welcome in Tamara's home town of Vitebsk, which has produced a number of famous gymnasts.

A hard worker, and stubborn



The race begins.

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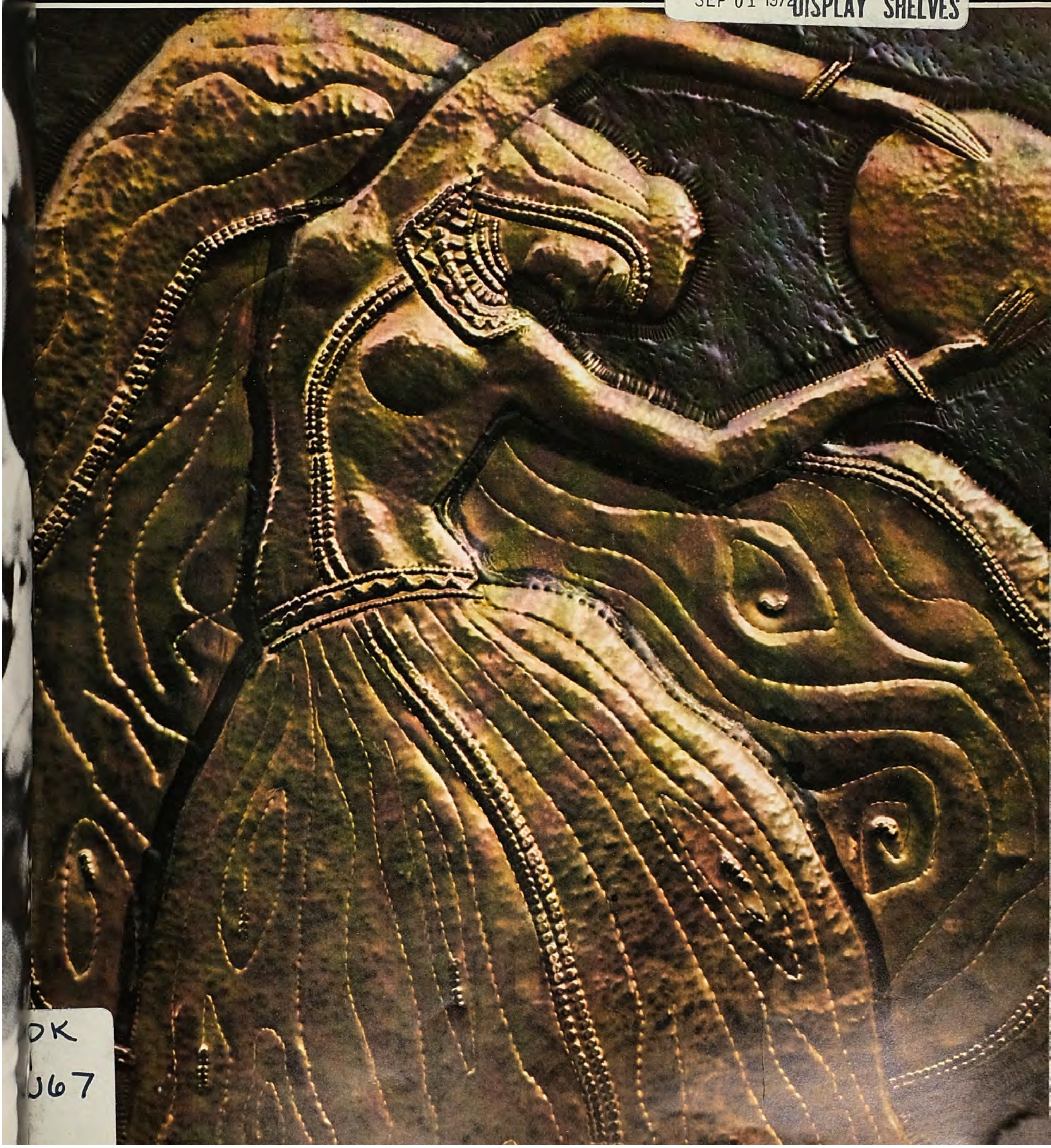

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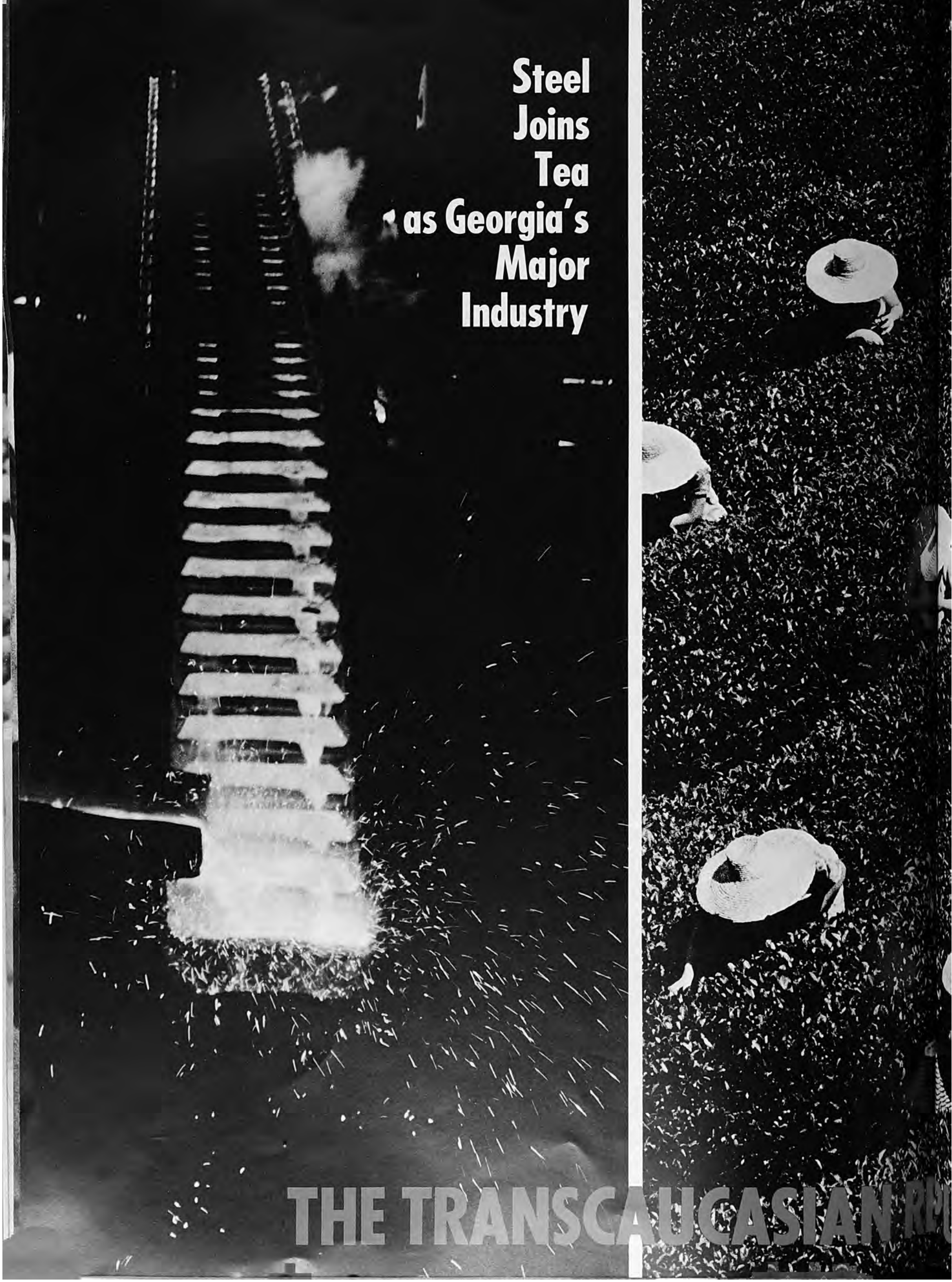
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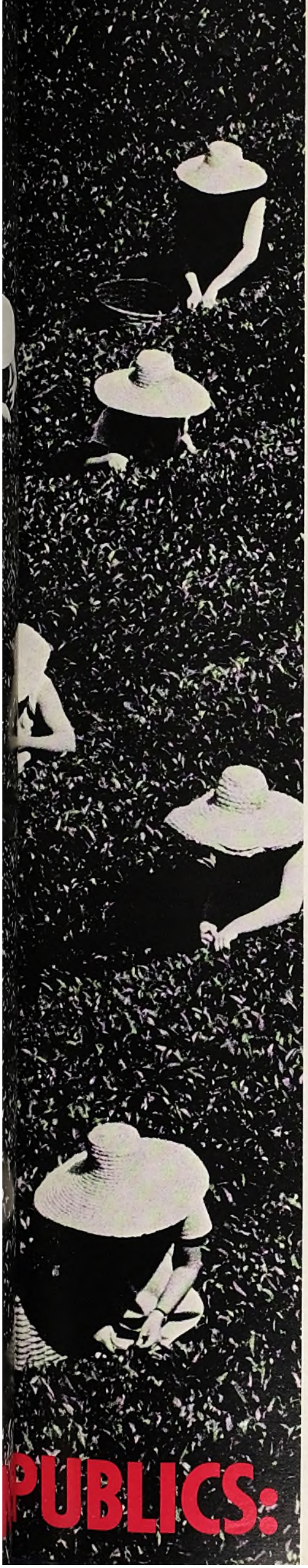

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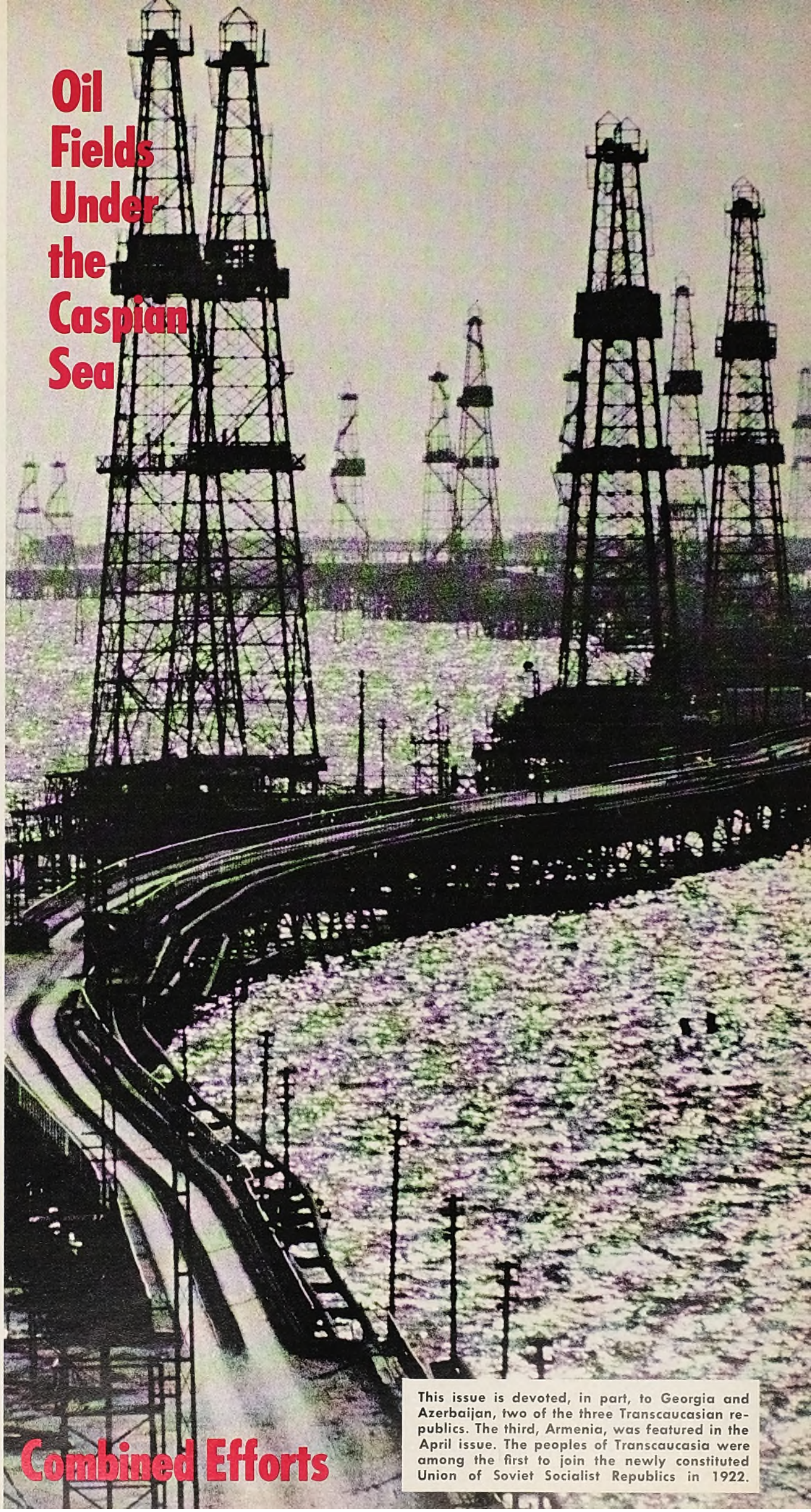

Oil Fields Under the Caspian Sea

Combined Efforts

This issue is devoted, in part, to Georgia and Azerbaijan, two of the three Transcaucasian republics. The third, Armenia, was featured in the April issue. The peoples of Transcaucasia were among the first to join the newly constituted Union of Soviet Socialist Republics in 1922.

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LETTERS TO THE EDITOR

Unless the nations of the world can solve the problems of environment in 40 years, no communist or capitalist society will have air to breathe or water to drink. We are all trapped on the ruin of the world. To fight now is to fight over a cadaver. Are we really homo sapiens?

Charles D. Strong

Receiving Soviet Life over the years has given me many new insights into the educational, cultural, economic and political aspects of your country. Articles, which you featured, concerning Moscow and Leningrad prepared me for two visits I made to the Soviet Union. On my most recent visit, I also took my niece Deborah Kurello and my nephew Drew Stetz, who were very impressed in observing the progress your country has made. Their impressions included comments, such as:

The rain and snow we had during our visit in Moscow added to the serious, determined and dedicate expressions we noted on the faces of the Soviet people. In Leningrad the sunshine and fairer weather we had during our stay helped us see the more lighthearted, cheerful enthusiasm that characterizes your people in their concern to build their country.

Meeting students at the Pioneer Palace in Moscow and at the Friendship House in Leningrad and having the opportunity to converse with them as they willingly took us anywhere we wanted to go was most enjoyable. We will always remember their warm friendship and hospitality.

Yours sincerely,
Irene Mitchel
728 Hazle St.
Ashley, Pennsylvania

EDITOR'S NOTES

FREE MEDICAL CARE FOR ALL

PROVIDING working people with good medical care was one of the first undertakings of the new Soviet state. The results of measures taken toward this end in the intervening 50 years are impressive indeed. For example: Czarist Russia had only 28,000 doctors. Today, that same number graduate from medical institutes every year. Extensive medical research and welfare measures have considerably, if not completely, wiped out killer diseases that used to claim millions of lives, for example, diphtheria and poliomyelitis.

The Soviet Union has always helped other countries combat epidemics by sending specialists and supplying the latest medicines. Soviet scientists have collaborated with scientists of other countries in studying unknown diseases and developing vaccines and antitoxins.

Everyone remembers the flu outbreaks that swept the world in recent years. It is not hard to imagine the consequences of a similar outbreak of an acute infectious disease like smallpox with the present means of transportation. It could travel from one continent to another in a matter of hours. True, smallpox foci are now limited to six countries, and the disease will unquestionably be eradicated in a couple of years.

Cancer and cardiovascular diseases, which cause around 70 per cent of all deaths, are the subject of intense research.

Medical specialists in many countries are trying to find ways of combating the diseases that are still a threat to human health and life. Speedy and successful elimination quite understandably depends on the collective efforts of scientists of all countries. The Soviet Union has been working along with other countries in the World Health Organization and also has concluded agreements on health cooperation with many of them.

The Soviet-American agreement on cooperation in medical science and public health signed during the Moscow summit talks is the most recent of these. It takes account of the interests not only of our two countries, but of all nations. The thing that is so promising is that the two leading countries in medical science and biology will be pooling their knowledge and efforts in medical research.

Evaluating this document in an interview with a *Komsomolskaya Pravda* correspondent, Dmitri Venediktov, cochairman of the Joint Soviet-American Public Health Cooperation Commission, noted that its main significance is that it offers possibilities for coordinating the work of the scientists of the two countries.

The meetings that Soviet and U.S. medical scientists have had over the years show that there is a great deal they can learn from each other.

Soviet specialists were tremendously interested in familiarizing themselves with hospital design and construction in the United States, layout, built-in patient care systems and equipment in medical institutions, and the organization of scientific research.

Their American counterparts were interested in the medical research being done by Soviet scientists and were especially eager to learn about the health services. On page 24 there is an article about two American doctors who observed emergency care in the Soviet Union and were very impressed by the efficiency of the ambulance service. We never give this much thought any more. We take it for granted that it will be there when we need it, and it always is.

Many foreign specialists consider that the Soviet organization of public health optimally meets the requirements of the population. It is an unqualified fact that any citizen in our country can have the best medical care, consultation with top specialists, the most complicated operation and inpatient treatment of any duration. There is no charge for any of this.

Over 100 million people have yearly physical checkups. Prevention is the basic principle of the Soviet health service. Prevention is the aim of doctors working in the sanitary and hygienic service, whose word carries weight with those responsible for city planning, and locating plants, schools, kindergartens and housing. Prevention is the objective of popular education in hygiene.

Some aspects of our public health services and medical science are discussed in an interview with USSR Minister of Health Boris Petrovsky on page 23.

We have already spoken of the availability to all of every kind of medical facility and preventive care. The foundation for this is a wide network of medical establishments and a large contingent of qualified medical workers, graduates of numerous institutes and schools.

The territory of our country is huge, and so is the population. Over the expanses of the North, in the Siberian taiga, the Kazakh steppes, the Caucasus and Pamir mountains there are a great many settlements and villages that are far from populated areas and have no specialized medical institutions. Nevertheless, the people who live in these remote regions also get qualified medical assistance when they need it. Our newspapers proudly publish accounts of how a brave plane or helicopter crew flew an expert surgeon to a patient in spite of bad weather or took a patient who needed an emergency operation to a hospital equipped to handle it. Our medical aviation service helps 200,000 patients a year. This, too, is free of charge.

Widely scattered villages in far-off regions do, of course, create certain difficulties. The main one is remoteness from large centers with hospitals and polyclinics. The problem is partially solved by modern means of communication and transport. But the main thing is that the facilities of rural medical establishments are improving. Local hospitals and polyclinics are being equipped with the latest apparatus. They have at their disposal ambulances especially adapted for rapid diagnosis and treatment of serious injuries and diseases, including apparatus for doing blood transfusions and artificial respiration en route.

Public health problems are solved in a comprehensive manner. They are the responsibility not only of the Ministry of Health of the USSR and the individual republics but of various other offices and departments. Public health legislation of the USSR and the union republics obliges all government agencies, enterprises, offices and organizations to carry out concrete measures for the protection of working people's health. This not only assumes a definite social policy, but requires the material base that can be guaranteed only by a planned economy.

The concern of the state for the health of its citizens is shown by the continual increase in budget appropriations for public health. These funds are set aside for medical research, training specialists and building hospitals, polyclinics, sanatoriums and rest homes. Funds are also allocated for these purposes by all Soviet enterprises and organizations.

Here are the figures. In the Eighth Five-Year Plan period more than 67 million people spent their vacations and received medical treatment at sanatoriums, rest homes and tourist facilities. Most of them paid nothing at all or 30 per cent of the cost. The balance was covered by state social insurance funds distributed by the trade unions.

The state deeply appreciates the important contribution of its medical workers. This profession is honored and respected in our country. The salaries of all medical workers have been raised, and the best specialists have received government awards.

Thus, concern for man's health, elevated to the rank of national policy, has become an everyday reality.

FROM THE HISTORY OF TRANSCAUCASIA



TO THE SOUTH of the Caucasus range, between the Black and Caspian Seas, in green valleys amid snow-covered mountains, there are old and new towns and settlements, ancient temples and young universities, modern factories and power stations, blossoming orchards, oil wells, derricks, research institutes, theaters.

Georgians, Armenians and Azerbaijanians have lived here, in the Transcaucasus, from time immemorial. Today they are citizens of three Soviet republics—Azerbaijan, Armenia and Georgia. The fruits of their 50 years of close friendship with other fraternal nations in the Union of Soviet Socialist Republics are a spiritual, economic and cultural renascence, statehood and a secure future.

There were Georgian and Armenian states here when the armies of Alexander of Macedon and the legions of the Roman Empire fought their way to world power. For centuries the peoples of the Transcaucasus battled stubbornly against foreign conquerors and local oppressors. They suffered torture and death, smouldering fires and orphans' tears.

Forward-looking people in the three regions came to the conclusion that the salvation of their motherland lay in union with Russia. Despite the colonial oppression of czarism, that union of the Transcaucasus peoples early in the last century saved them from annihilation, it put an end to invasion and domestic feudal war.

The development of capitalism in Russia drew the Transcaucasus and the other outlying colonial provinces into the general stream of social transformation. The alliance of the working people of these areas and of the Russian workers took shape and strengthened in the class struggle. The first organizations of the Russian Social-Democratic Labor Party were formed in the Transcaucasus. The workers of Russia and their Bolshevik party gave undeviating support to the liberation movement of the oppressed peoples of the country and fought the chauvinist policy of the czarist autocracy.

The national problem in the Caucasus before the victory of Soviet power was an explosive one. It was the policy of czarism, which exploited the non-Russian peoples, to force Russification, to play off one nation against another, with the purpose of provoking clashes between different national groups that sometimes ended in massacres. The complicated political atmosphere was further aggravated by nationalist parties' activities which played into the hands of czarism.

The Bolsheviks worked to inculcate a sense of community of class interests, a sense of international unity.

The October 1917 Socialist Revolution in Russia triggered a fight for Soviet power in the Transcaucasus as well. Only days after the victory of the armed uprising in Petrograd, the red flag was hoisted over Baku.

The Baku Council of People's Commissars was formed on April 25, 1918. It included such leading Baku Bolsheviks as Stepan Shaumyan, an Armenian, Prokofi Dzhaparadze, a Georgian, and Ivan Fioletov, a Russian.

"The Moslem, Armenian and Russian workers," said the newspaper Bakinsky Rabochy *(Baku Worker), "formed a close family at the time. This was a fact of some tremendous*



importance, a major victory of the working-class movement in the Caucasus."

The Baku commune had a life of some four months. British interventionist forces took the city in August 1918, arrested the leaders of the commune and transported them to Turkmenia, where they were shot.

But the brief existence of the Baku commune was significant for the socialist revolution in the Transcaucasus. The selfless struggle of the workers of Baku, headed by the Bolsheviks, served as an example for all the working people of the area, inspired their revolutionary action against internal counter-revolution, their struggle for Soviet power in the Transcaucasus.

Lacking the forces to put down the revolutionary workers and peasants, the Transcaucasian counterrevolutionaries made an alliance with imperialist Germany and Turkey. Their troops occupied this region in April 1918 and proclaimed the "independence" of Georgia, Azerbaijan and Armenia. These bourgeois-nationalist regimes had no popular support; they leaned upon German and Turkish bayonets and, later, the British and French armies.

The imperialists stripped Azerbaijan, Armenia and Georgia of their wealth and resources, undermining their economies. The terror and repression, the antipopular policy of nationalists and petty bourgeois cliques stimulated the growing resistance of the workers and peasants. The Communists of the area called for the formation of independent socialist republics in the Transcaucasus. This slogan, which embodied Lenin's principal of self-determination, combined the interests of social and national liberation.

The working class and toiling peasantry, headed by the Communist Party, and with the fraternal aid of Soviet Russia, overthrew the bourgeois-nationalist governments and drove out the interventionists. The Azerbaijan Soviet Socialist Republic was proclaimed on April 28, 1920, the Armenian Soviet Socialist Republic on November 29, 1920, and the Georgian Soviet Socialist Republic on February 25, 1921.

The need for a federal union that would pool efforts was very clear. On March 12, 1922, a conference in Tbilisi approved a union of the three republics. At the first Transcaucasian Congress of Soviets, held in Baku on December 13, 1922, they formed the Transcaucasian Socialist Federative Soviet Republic. And on December 30, 1922, the Russian Federation, the Ukraine, Byelorussia and the Transcaucasian Federation together became the Union of Soviet Socialist Republics.

The most important accomplishment of the Transcaucasian Federation was to strengthen the friendship of the Azerbaijan, Armenian and Georgian peoples, to create a model of national peace which, as Lenin declared, would have been impossible in a bourgeois system.

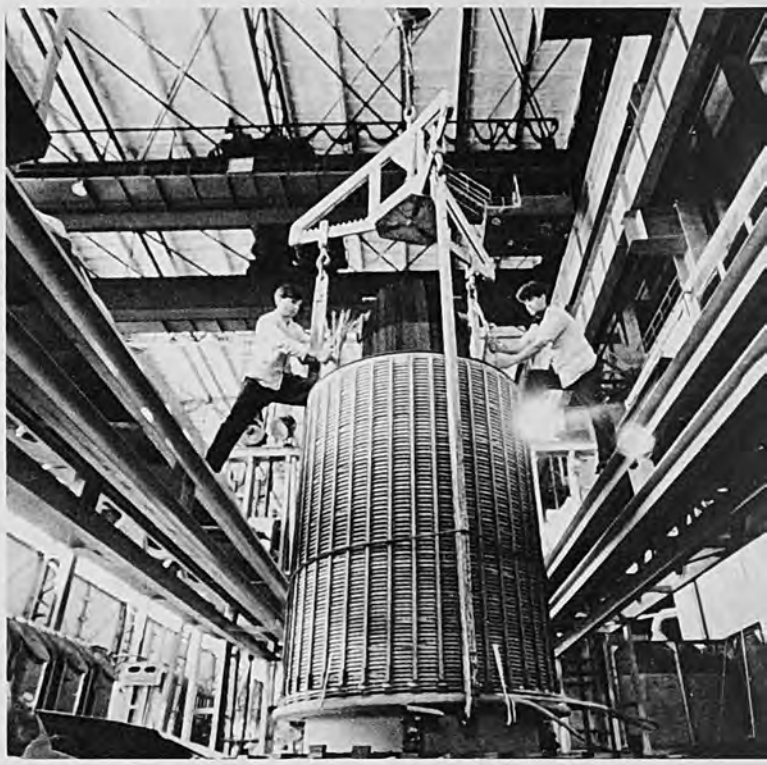
The victory of socialism and the adoption of a new Soviet constitution in 1936 made a Transcaucasian Federation unnecessary. Azerbaijan, Armenia and Georgia are now union republics of the USSR.

This issue is devoted to Georgia and Azerbaijan. Armenia was the subject of the April 1972 issue.



Soviet Exports Expand

Soviet machine tools and electrical equipment are exported to over 78 countries. Last year more than 15,000 metal-cutting machines and forging presses were sold abroad. Exports to the socialist countries, including large forging and pipe presses and other equipment, and to the developed capitalist countries—Japan, France, Italy and Finland—increased considerably. At the Zaporozhye plant in the Ukraine, for instance, powerful transformers are produced for shipment abroad. The delivery of heavy presses to France rose by 80 per cent in 1971-1972.



Jazz Combo in the USSR

The Thad Jones and Mel Lewis jazz combo, made up of American radio and TV musicians, played in Moscow, Leningrad, Kiev (capital of the Ukraine) and Yaroslavl on the Volga to enthusiastic Soviet audiences.

Jazz is popular in the Soviet Union. There are jazz clubs in many cities and frequent jam sessions.

Soloists Deedee Bridgewater and Mel Dancy got a big hand. This was Deedee Bridgewater's second Soviet tour; she was here in 1969 with the Illinois University ensemble.

Although they had little spare time, the jazzmen saw the sights of the cities they visited. They were much impressed by Leningrad. "The most wonderful city I've ever seen," said Thad Jones. He also liked that "especially warm reception we had in Yaroslavl."





"We have worked up a good momentum and expect to maintain it."



By Ali Ibragimov

CHAIRMAN OF THE COUNCIL OF MINISTERS OF THE AZERBAIJAN SSR

AZERBAIJAN

LOOKING AHEAD

THIS IS A GREAT DAY in the country's history—the fiftieth anniversary of the formation of the USSR—and in the history of Azerbaijan as well. In the past 50 years our republic has made an unprecedented leap from economic backwardness to modern industry, mechanized agriculture and socialist culture.

Azerbaijan today is a whole forest of derricks that have stepped into the sea, of boundless cotton fields, of giant industrial complexes.

We are proud of our people, who are creating the republic's material and cultural values. Fifty years ago you could count the number of literate Azerbaijanians on your fingers. Today we have total literacy. More than 17,000 specialists work at our 140 research institutes. We have 12 theaters, a philharmonic society, 37 museums, over 2,000 clubs and about 3,000 public libraries.

But perhaps the most striking change has come in the lives of our women. Moslem women, not long ago, had no rights whatsoever. Now the women of Azerbaijan have equal rights with men. They work in government offices, scientific laboratories, industrial and agricultural enterprises. You see them bent over technical drawings and at the conference tables of legislative bodies. Twenty-two of the 63 Azerbaijan deputies to the USSR Supreme Soviet are women. One hundred forty-two women are deputies to the Supreme Soviet of our republic.

The changes that have so miraculously transformed our ancient land were made possible by the Soviet national policy and the assistance of all the Soviet peoples.

When the construction of the Mingechaur hydroelectric station on the Kura, the largest in Transcaucasia, began in Azerbaijan in 1945, specialists from the Russian Federation, the Ukraine, Byelorussia and other republics came to work there. The station became an interrepublican project, one which facilitated the creation of a single power system for Transcaucasia. The Baku-Tbilisi-Yerevan gas pipeline was built by three of our republics—Azerbaijan, Georgia and Armenia—and brought gas to many thousands of houses and apartments in the towns and villages of Transcaucasia.

I could give many such examples of the fraternal cooperation of the union republics, but I will mention just one more. The Rustavi Metallurgical Plant, the largest in Georgia, processes the ore mined in Azerbaijan. It then goes to the tube-rolling mill in the Azerbaijan city of Sumgait, which makes drilling and gas tubes. Sumgait provides the oil and gas industry of Azerbaijan with steel pipe, fills orders from other republics and exports its products abroad. By the way, this city that grew up 20 miles from Baku is dramatic testimony to the friendship of the Soviet peoples. It was built on the deserted shore of the Caspian Sea by young people who came from many parts of the Soviet Union.

In our society this objective law operates: The higher the level of economic and cultural development of the national republics, the stronger and more varied their mutual relations and cooperation and the more intensive the process of mutual enrichment. That holds true for Azerbaijan. Its economy is developing not in isolation, but as a component of the national economic system. Specialization and cooperation make it possible to utilize the natural resources and industry of each republic most efficiently and to the greatest mutual benefit.

Azerbaijan shares its iron ore, oil, gas, electric power, oil industry equipment and machines, fruits, vegetables, cotton and wine with the whole country. In exchange, we get automobiles, timber, all kinds of foods and light industry products.

Socialist emulation has been going on for years between the oilmen of Azerbaijan, the Ukraine, Bashkiria and Tataria. This is not the unhealthy sort of competition in which production secrets are zealously guarded. Quite the contrary, the emulators generously share their experience. Recently our specialists helped the oilmen in the eastern districts of the country develop new deposits. Now they are involved in the exploitation of the oil deposits in Siberia, Kazakhstan and the Far East.

A word on Azerbaijan's future. At the end of last year the Supreme Soviet of the republic approved the state plan for Azerbaijan's economic development for 1971-1975. It calls for a 46 per cent increase in industrial production.

In accordance with the Directives of the Twenty-fourth CPSU Congress special attention is being paid to the development of marine oil and gas deposits. Our oilworkers were the pioneers in prospecting and developing oil in the Caspian Sea. They built the famous town in the Caspian called Neftyanye Kamni (Oil Rocks). The underwater deposits make the largest contribution to Azerbaijan oil. In the next five-year plan period we will begin to develop the oilfields in the deep-water areas of the sea. Fleets of special vessels, mobile installations and other modern equipment will be used.

A distinguishing feature of the new five-year plan is the continued transformation of the structure of industry. The machine-building industry is to play an important role. The plan provides for the expanded production of oil and electrotechnical equipment, instruments and means of automation. In the current five-year plan period electronic, instrument-making and household appliance industries, new to Azerbaijan, will be created.

The geographic distribution of the productive forces is also changing. The new industrial enterprises (the plan calls for 130 new operating capacities in the current five-year plan period) will be built mainly in small and medium-sized towns. That will make for better urban development and more efficient use of manpower, and it will bring industry closer to the sources of raw materials.

In 1975, farm production will grow by more than 33 per cent as compared with 1970. The rise will be achieved by land improvement, more efficient use of arable land, specialization and intensification of production, mechanization and chemical fertilizers. The countryside will be getting an additional 16,500 tractors and over 11,000 trucks.

The main goal of the current five-year plan—a further rise in the standard of living and the cultural level—requires a considerable increase in the production of consumer goods, greater assortment and better quality. In 1975, the production of consumer goods will grow by 50 per cent over 1971.

During the five-year period real per capita income will grow by 33 per cent in our republic. Over 75.3 million square feet of housing is to be built. Medical services will be improved, especially in rural districts. The number of hospital beds is to increase by 7,000. More health resort facilities and medical institutions will be built.

Our plans are concrete and realistic. Testimony to that is the fact that we met the targets for the first year of the Ninth Five-Year Plan ahead of time. We have worked up a good momentum and expect to maintain it.

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By Ali Ibragimov

CHAIRMAN OF THE COUNCIL OF MINISTERS OF THE AZERBAIJAN SSR

AZERBAIJAN

LOOKING AHEAD

THIS IS A GREAT DAY in the country's history—the fiftieth anniversary of the formation of the USSR—and in the history of Azerbaijan as well. In the past 50 years our republic has made an unprecedented leap from economic backwardness to modern industry, mechanized agriculture and socialist culture.

Azerbaijan today is a whole forest of derricks that have stepped into the sea, of boundless cotton fields, of giant industrial complexes.

We are proud of our people, who are creating the republic's material and cultural values. Fifty years ago you could count the number of literate Azerbaijanians on your fingers. Today we have total literacy. More than 17,000 specialists work at our 140 research institutes. We have 12 theaters, a philharmonic society, 37 museums, over 2,000 clubs and about 3,000 public libraries.

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DERRICKS IN THE SEA

NEW FRONTIERS FOR AZERBAIJAN'S OILMEN

More than half the oil Azerbaijan extracts now comes from under the Caspian Sea

Photographs by Valeri Shustov and Vladimir Kalinin

I MADE TWO TRIPS to the Caspian seashore last year: In the spring I visited the oilmen of Cheleken Peninsula, in Turkmenia, and in autumn their counterparts, the oilmen of Apsheron, on the opposite shore of the Caspian, in Azerbaijan.

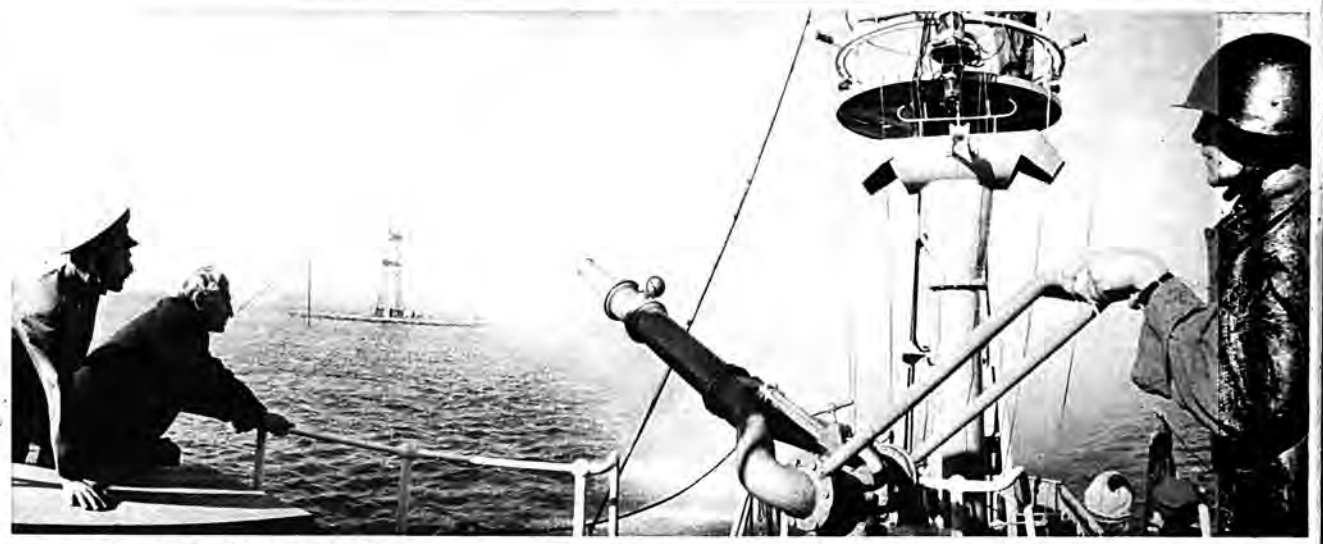
The oilmen, crowded on land, moved their derricks out into the sea. Expectations for sea oil drilling are very great indeed. Some 62 per cent of Azerbaijanian oil now comes from the bottom of the Caspian, and the five-year plan for 1971-1975 forecasts a rise in this figure.

The steel bridges on both sides keep stretching out, bringing Cheleken and Apsheron closer to each other. Enver Gasanov, the Azerbaijanian chief engineer of the Serebrovsky Oilfields, told me that.

Handsome and trim, with the Caucasus look about him, young for his 60-odd years, Gasanov never seems to tire. He

Keeping The Caspian Clean Is Our Job Too





is out on the bridges at sea even on his days off. It may be that the secret of his youth is this ceaseless work that seems to give him so much pleasure. And he often has reason to be pleased, for the Caspian is an inexhaustible storehouse. While he was talking to me, news came of an oil strike at a depth of 15,000 feet in the new Bakhar district. Preliminary estimates showed that the well would yield up to 165 tons a day.

"Our prediction for Bakhar has been borne out," he said. "From the seven wells in operation here, we get 150 million cubic feet of natural gas, 1,550 tons of oil and 600 tons of condensate daily."

"We figured on that much," put in a young oilman by the name of Akhudar Mamedov. "Still, it's hard to get used to our tempo. Eight months ago we celebrated the extraction of the billionth ton of oil at Apsheron. You would think the oil should be running out by now, but our next well is preparing a new surprise for us."

"The deposits of oil under the bottom of the Caspian," Gasanov said, "are quite large. But it's not easy to get at them, special machines are needed. We use a floating device —a kind of artificial island on steel legs—from which we drill wells in the sea down to 300 feet and deeper.

"Another thing is that the exploitation of sea deposits can do a lot of damage to marine life, the enormous reserves of valuable fish. We have this in mind, and we're investing a lot of money in purification devices. You won't find a drop of oil in the sea anywhere around our fields."

I met Gasanov the second time in Baku, at the home of Niyazi, the well-known Azerbaijanian conductor and composer. Gasanov was talking about Gujarat State in India, where he was senior adviser on oil extraction. I learned later about the reputation he made for himself there, when I saw the citation given to him: "Gasanov's group of Soviet oil specialists, jointly with Indian engineers, stepped up oil and gas output in the 1969-1970 fiscal year by 20 per cent over 1968-1969. . . . Gasanov organized a Russian language course for Indian specialists, thus facilitating business relations between the Soviet and Indian oil specialists."

Of course, he himself said nothing about all that, his talk was about the customs and sights of India. Niyazi knows and admires India (he wrote the music for the ballet *Chitra,* from the story by Rabindranath Tagore). He listened with great interest to Gasanov's lively and colorful report and then proposed the traditional Caucasus toast to his guest and friend.

He said, raising his glass, "To my friend. You did more than your duty. You left your home, lived in a foreign land for years in order to help our friends. I drink to you."

Top to bottom: Guests from India. Chief Engineer Enver Gasanov (center) used to work there. Testing new fire equipment. Chief of the Serebrovsky Oilfields in his office. Meeting with experts to solve unexpected problems. Left: Showing the Indian guests around. With his close friend Azerbaijanian composer-conductor Niyazi (right). Far right: They are a long way from land, on structures battered by 30-foot waves.









WORK ON THE OPEN SEA



AZERBAIJAN

Facts and Figures

The Azerbaijan Soviet Socialist Republic was formed on April 28, 1920. It has an area of more than 33,000 square miles and a population of 5,117,000. The capital is Baku (population 852,000).

The republic's inhabitants include Azerbaijanians, Russians, Armenians, Lezghians, Avars, Udins, Tsakhurs and others. It joined the Union of Soviet Socialist Republics on December 30, 1922, as part of the Transcaucasian Socialist Federative Soviet Republic (Georgia, Armenia, Azerbaijan) and became a union republic in 1936.

The Azerbaijan Republic includes the Nakhichevan Autonomous Republic (capital Nakhichevan, area 2100 square miles, population 202,000) and the Nagorny Karabakh Autonomous Region (regional center Stepanakert, area 1700 square miles, population 150,000).

Largely agricultural before the Revolution, Azerbaijan today has flourishing oil, gas, chemical and chemical machine-building industries. Its products include electric power and nonferrous metals as well as foods and other consumer items. The republic has more than 800 industrial enterprises.

The development of chemicals, instrument making, electrical engineering, electronics, toolmaking and other key industries will be accelerated in the Ninth Five-Year Plan period (1971-1975). The output of the chemical and petrochemical industries will almost double during this period.

Oil is Azerbaijan's chief natural resource and its main industry. The republic has 48 oilfields and offshore installations.

Most of the collective and state farms depend on irrigation. Of the 1.5 billion rubles to be invested in the republic's agriculture in 1971-1975, about one-half will be used to bring water to arid lands. Agricultural output will rise by 40 per cent as compared with 1970, including a considerable increase in the production of cotton, fruits, vegetables, meat and wool. The republic's farms are highly mechanized: Their equipment includes 47,000 tractors, 4,000 grain harvesters, 1500 cotton harvesters and 18,000 trucks.

About 83.9 million square feet of housing was built during the last five-year plan period, and a dozen new towns have appeared on the map of the republic. Housing construction will be further increased in the Ninth Five-Year Plan period.

Azerbaijan's work force includes 295,000 specialists, 135,000 of them with a higher education. There are 13 institutions of higher learning with a total enrollment of about 100,000.

The republic has 573 hospitals (a total of 48,825 beds) staffed by 13,100 doctors. Seventy million rubles will be spent in the Ninth Five-Year Plan period on the construction of hospitals and other medical facilities.

Azerbaijan publishes more than 130 newspapers and 110 magazines.

The Azerbaijanians are famous for their longevity. Eight hundred people per million inhabitants live to an age of 100 or more, as compared with seven per million in France, six in Britain, and two in Japan.

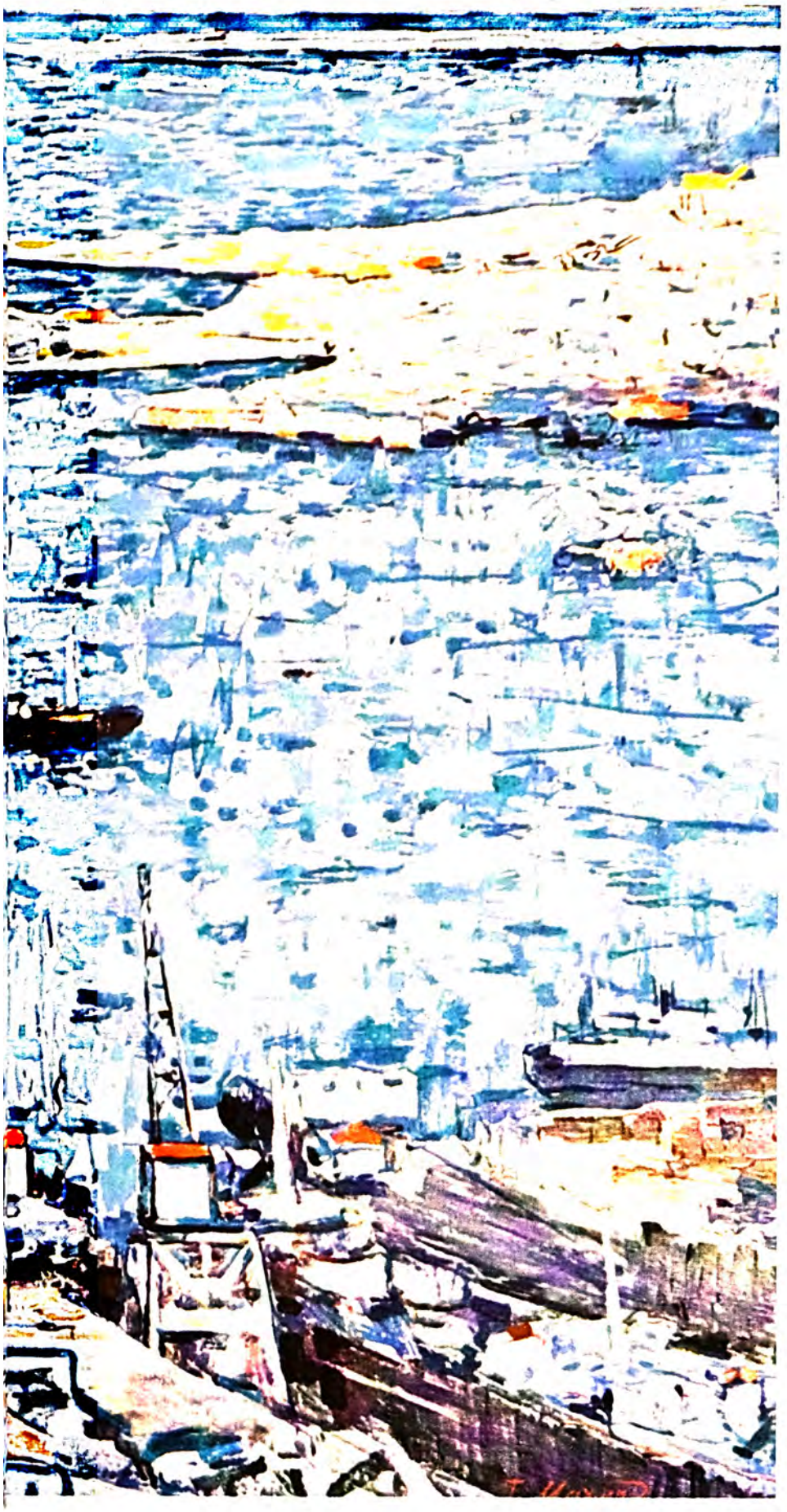


MODERN Azerbaijanian painting has no parallel in the early art of the republic: It was born of the new, socialist society established there in 1920. Before that time, the Moslem religion had limited artistic expression to the creation of ornamental designs. Today Azerbaijanian painting has its own highly individual features, as well as features common to Soviet painting generally. It is an example of how cross-fertilization of the arts in our multinational country has contributed to Soviet culture as a whole.

Forty-four-year-old Tair Salakhov is one of Azerbaijan's most gifted painters. He has created a striking contemporary image of this ancient land. Salakhov is consistent in his art: His diploma painting, *Off Duty,* done in 1957 at the Surikov Art Institute in Moscow, shows many of the techniques that he has developed further in his recent works. Born in Baku, Salakhov came to know the oilmen of the Caspian Sea and the rigors of their life, its beauty and grandeur. His well-known paintings, *Repairmen, The New Sea, Oilmen, Women of Apsheron,* reflect both the realities of this life and his own perception of it. Salakhov knows how to reveal the character of an individual oilworker, and his common humanity as well.

One of the artist's best works, in the estimation of Soviet critics, is his portrait of the Azerbaijanian composer Kara Karayev. Of all the genres, portrait painting is the least bound by tradition.

It is not easy to depict either the external likeness or the inner world of a contemporary man or woman through the artistic means of the past. The portrait of the new human being is a composite one because it reflects the character of the new society. In his portrait of People's Poet of Azerbaijan Rasul Rza, for example, Salakhov presents his subject's personality through the prism of the common features characterizing the Soviet people. A similarly modern approach is



ARTISTS OF AZERBAIJAN

My Baku *by Makhmud Tagiyev*

revealed in his still lifes and landscapes, and in the almost architectural concept of the portrait (right) of his four-year-old daughter Aidan, painted in 1968.

Salakhov ranks with the best artists in the Soviet Union. What strikes us most in his works is not the novelty of style, composition and form, but the emotion he brings to his subjects. Individual style does not exist apart from content: Only the synthesis of both can give rise to a real work of art. This can be seen in the paintings of another Azerbaijanian master, Makhmud Tagiyev, whose vivid, colorful *My Baku* (above) is an exhilarating tribute to his native city.

Aidan's Portrait *by Tair Salakhov*



QUERIES FROM READERS

QUESTION: What is the city of Tomsk like? (E. P. Tanda, Newport Beach, California)

ANSWER: Tomsk, the regional center of Western Siberia, is situated on the Tom River, from which it derives its name, some 35 miles from the point where the river flows into the Ob. Its population is 340,000.

Tomsk dates back more than three and a half centuries. It was originally a fortress and the trading center of a large area.

At present it is one of Siberia's big industrial and cultural centers. The computer factory built here, for instance, puts out apparatus for programming lathes. Tomsk bearings are used by tractor plants in many cities, and Tomsk measurement instruments are exported to 60 countries of the world.

Tomsk has played a major role in the cultural development of Western Siberia where, in the early part of the century, 80 out of 100 people were illiterate. At present Tomsk University, one of the oldest in the country, is considered one of its best institutions of higher education. Its library is used by scientists and students of 40 Siberian towns. Tomsk also has medical, polytechnic, teachers, construction engineering, radioelectronic and electronic engineering institutes. The scientists of Tomsk helped found higher educational establishments in such big centers of Siberia as Novosibirsk, Omsk, Kemerovo and Krasnoyarsk.

A new science center is now going up in Tomsk. After the discovery of rich oil deposits in Western Siberia, an institute of chemistry and petroleum was opened here. Buildings for another campus of the Moscow Institute of Pipeline Designing are now under construction.

Tomsk is famous for its wooden architecture, and many old, ornate mansions can still be found there. The City Soviet supervises the preservation and restoration of these monuments.

Nestling in greenery in summer, the city stretches along foothills and hillsides in several tiers. There is a great deal of housing now being constructed in both the suburbs and the central city. Many wooden houses of no historical or artistic value are being pulled down to make way for modern buildings.

Tomsk has its own TV center and drama theater.

QUESTION: I should like to know more about the Moscow Conservatory. When was it founded and by whom?

ANSWER: The Moscow Conservatory was founded in 1866 by the Russian pianist Nicholas Rubinstein. Some of its eminent teachers were Tchaikovsky, Taneyev, Safonov and Ippolitov-Ivanov. Rachmaninoff, Scriabin, Nezhdanova and Paliashvili are among its world-famous graduates.

The names of Prokofiev, Shostakovich and Shebalin are also closely associated with the conservatory. Among its present teachers are the composers and musicians Khachaturian, Kabalevsky, David Oistrakh, Igor Oistrakh Shaporin, Kogan, Rostropovich, Gilels and Oborin.

A music institute, the Central Music School and the College of Music are attached to the Moscow Conservatory.

The conservatory's institute has five departments with 29 chairs: piano, vocal, orchestra, theory of composition, and conducting, as well as graduate courses for musicians and musicologists.

Students, postgraduates and professional musicians from many countries attend the Moscow Conservatory, and Soviet students often study music in other countries on an exchange basis.

QUESTION: How do your people elect their congress? (D. U. Burke, Trinidad, Colorado).

ANSWER: The word Congress can only be conditionally applied to the USSR Supreme Soviet, our country's highest legislative body. Its deputies are elected directly and by secret ballot.

The first step in the process is the nomination of candidates in their election districts at meetings held at their place of work: factories, offices, schools, collective farms or state farms. Then, at a general conference of the given constituency to examine the merits of each nominee, the person considered best for the office is chosen to run as candidate.

Neither the voters nor the candidates spend any money for electioneering. All expenditures involved in the election campaign are financed by the state, including radio, press and TV coverage.

Voting is done in closed booths by secret ballot. If the voter feels that the candidate is not worthy of his trust, he has the right to vote against him.

A deputy who has not justified the trust of his constituents may be recalled before his term of office is up. This question is decided in the election district where he was nominated. A vote is taken at a general meeting of representatives of all the institutions of the area. The decision is considered adopted if more than 50 per cent of those present vote for it.

Now, about the structure of the Supreme Soviet of the USSR. Since ours is a multinational state, the Supreme Soviet consists of two chambers: the Soviet of the Union, representing the interests of all the working people of the country, and the Soviet of Nationalities, representing the interests of each of the republics, national areas and regions of the USSR. Both chambers have equal powers, and a bill is passed only if it is approved by both.

The USSR Supreme Soviet is elected for a term of four years. Deputies to the Soviet of the Union are elected on the basis of one deputy for each 300,000 of the population. The deputies to the Soviet of Nationalities are elected from each union and autonomous republic as well as from the autonomous regions and national areas on the basis of 32 deputies from each union republic, 11 from each autonomous republic, five from each autonomous region and one from each national area, regardless of population. The Russian Federation, the republic with the largest population, and Estonia, the republic with the smallest, have an equal number of deputies in the Soviet of Nationalities, *i.e.*, 32.

All citizens of the Soviet Union who have reached the age of 18, irrespective of race or nationality, sex, religion, education and social origin have the right to vote. Every citizen who has reached the age of 23 is eligible for election.

QUESTION: I am very interested in knowing about stone figures* (babas) *of the Ukraine and Russia. What is their age? Who built them? (John Krowchenko, Waterbury, Connecticut)

ANSWER: It is true that dozens of ancient stone statues are to be found in the southern steppes of our country.

Stone *babas* are primitive statues of from about six to eight feet high.

They are divided into sitting and standing statues and steles, the latter representing a carved head on a rectangular stone pillar. Some of the figures are adorned with fragments of garments, weapons, belts, boots or armor. It has been established that these decorations correspond to those worn by nomads in the southern part of our country between the eleventh and thirteenth centuries. Actually, at the time the stone *babas* were erected, these steppes were invaded by the Polovtsy, enemies of ancient Russia.

Aside from the Polovtsy statues, there are also Scythian and even earlier sculptures which were erected, it is believed, by tribes of the Bronze Age.

The question remains unclear as to whom the stone figures represent. There are two theories: Some believe that they personify vanquished enemies, others that they depict Russian heroes or their wives.



By Givi Dzhavakhishvili
Chairman of the Council of Ministers
of the Georgian SSR

ON THE EVE OF THE GRAND ANNIVERSARY

DECEMBER 30 will be a festive day for all the union republics. It marks the fiftieth anniversary of the formation of the USSR.

In recent years we have celebrated many half-century jubilees. Last year, for example, was the fiftieth anniversary of Soviet power in Georgia. It was a festive occasion all over the Soviet Union. The same is true of the jubilees of other republics—the Ukraine, Azerbaijan, Armenia. In our country, the celebration of one people is a celebration for all nationalities.

With a jubilee approaching, people usually look back to see what's been accomplished. In the initial Soviet years, on the instructions of Lenin, the Russian Federation made a loan from its meager budget of 750,000 gold rubles so Soviet Georgia could build its first hydroelectric station in Zemo-Avchala, near Tbilisi. Turbines for the station came from Leningrad. Muscovites made a gift of a textile factory to Kutaisi, now Georgia's second largest industrial center. This is how Georgia began to industrialize. Subsequently an oil refinery was commissioned in Batumi, the Chiatura manganese complex was restored, a ferroalloy plant was built in Zestafoni and the Kirov machine-tool plant was erected.

When our peaceful labors were interrupted by nazi aggression, 673,000 Georgians fought, along with other Soviet nationalities, against the Hitlerites near Moscow and Stalingrad, at the approaches to the Caucasus, near Kiev, at the Vistula and the Oder.

After the war, exchanging their army uniforms for overalls, Georgians rebuilt and expanded their socialist economy. Practically all sectors of the republic's economy have undergone radical transformations.

Today Georgia turns out nearly all types of manufactured goods. Rustavi makes steel, pig iron and rolled metal; Kutaisi makes automobiles, Tbilisi electric locomotives and lathes, and Batumi hydrofoils. These items are in demand throughout the country. Georgia's traditional exports were tea and its famous wines and brandies. Now we also export program-controlled machine tools, computers, electronic measuring instruments and hydrometeorological equipment. These achievements of Georgia were made possible by the assistance we received from other Soviet nationalities.

In the old days Georgia dreamed of a time when it would have a few dozen of its own college-trained specialists. Now we have 58 persons with a higher education for each 1,000 inhabitants, one of the highest figures in the world. We have our academy of sciences, university and dozens of institutes. But we never forget that the first generation of our specialists studied at universities and institutes in the Russian Federation and the Ukraine.

Of all Georgia's achievements, perhaps the greatest is the man of communist views, the man who thinks as an internationalist.

Over 100 nationalities live in the Soviet Union. The Transcaucasus, especially, is known for its motley population. Sixty nationalities live and work in Georgia: Close cooperation and mutual assistance have become our way of life. This holds for both our internal problems and our relations with other republics.

Kolkhida trucks, made in Georgia, are used to harvest crops in faraway Kazakhstan, and Georgians bake bread from Kazakh wheat. Georgian vines are planted in Moldavia, while Moldavian-made machines build roads in our republic. Moscow Metro stations are finished in Georgian marble, and Muscovites helped us build the Tbilisi subway. Some of our Georgian machine tools would be useless if not for Yakut diamonds, and Yakut children would be short of vitamins without our fruit grown in the Southern sun.

Soviet nationalities — Georgians, Armenians, Azerbaijanians, Russians, Ukrainians, Ossetians, Byelorussians, Latvians—speak different languages. But they have common plans and goals. We exchange specialists and know-how, organize socialist emulation drives. This is all implied in the Soviet national policy which, as the CPSU Congress noted, is "one of the greatest gains of socialism."

The present level of economic, scientific and cultural development has made it possible to forecast high rates of growth in the Ninth Five-Year Plan, whose prime goal is a sharp rise in living standards and the general cultural level. The plan provides for a rational combination of the industrial and territorial principles of economic development. The intention to locate the productive forces where they would be most effective opens large opportunities for Georgia's comprehensive development. The economic plan was prepared with due consideration given to our proposals, with due regard to the interests of every constituent republic.

Georgia's own five-year plan looks forward to a 32 per cent increase in income by the end of 1975, an ambitious figure. Radical changes will take place in our economic pattern by reason of priority rates of growth set for electric power, chemicals, and those branches of engineering that use comparatively little metal. The increased rates of growth of these industries will result from scientific and technological progress and subsequent higher productivity rather than from the construction of new capacities.

The geographical expansion of production will play an important part. Madneuli, a new center for the Georgian nonferrous metal industry, will be built in the eastern part of the republic. The large deposits of copper, barite, lead, sulphur and zinc will be worked by open-cast techniques.

In Western Georgia, manganese, a traditional Georgian industry, will be built up. The capacity of ore concentration plants will be expanded and the variety of their products enlarged.

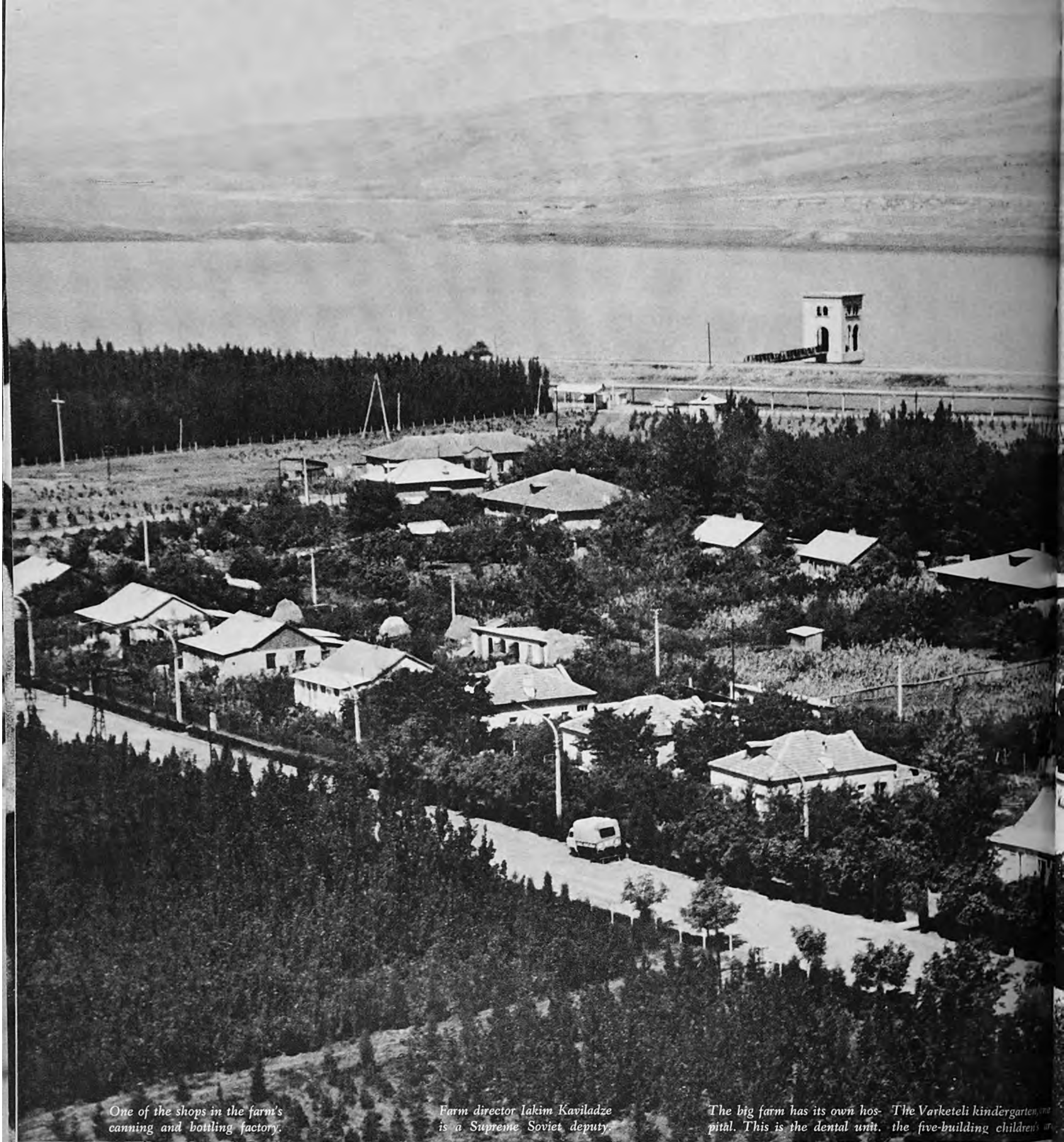
In 1971-1975, Georgia will increase the area of its orchards, vineyards and tea plantations by over 160,000 acres, irrigate 172,000 acres and drain 123,000 acres.

As elsewhere in the country, living and cultural standards will go up considerably. Compared with 1970, per capita income will rise 41.6 per cent and real income will increase markedly, as a result of rises in wages of workers and incomes of collective farmers as well as larger pensions and stipends.

The shift to universal compulsory 10-year schooling will be completed in the five-year period. Schools for 141,700 and preschool facilities for 29,000 will be built. The student facilities of universities, colleges, specialized secondary and vocational schools will be improved.

Because of its favorable geographical location and climate, Georgia has long been a health-building center. We are going to put up new sanatoriums, vacation resorts and sports and tourist centers.

Eventually this anniversary year will recede into the past, and the figures with which we are entering the second half-century of the USSR will become statistics. But they will remain memorable because they will represent the labors of the Soviet people, and their accomplishments.



One of the shops in the farm's canning and bottling factory.



Farm director Iakim Kaviladze is a Supreme Soviet deputy.



The big farm has its own hospital. This is the dental unit.



The Varketeli kindergarten, one of the five-building children's



THE VARKETILI STATE FARM IN GEORGIA

Georgia is richly endowed by nature: orange groves and eternal snow, towering mountains and green-carpeted valleys. In the years of Soviet power the Georgian village has scrapped the wooden plow for modern farm machinery. Today you see Georgian-designed Sakartvelo tea harvesters operating on 25-degree slopes, tree trimmers that chop the branches and dump them on the fields as fertilizer, and special harvesters for oil plants. All this technical equipment has brought an unprecedented development of tea, citrus and industrial crops. Viticulture, the oldest branch of Georgian farming, is also flourishing. This is the story of one Georgian state farm.

By Teimuraz Kokashvili

Photographs by Lev Ustinov and Yakov Khalip

The Varketili State Farm has an annual yield of 4200 tons of grapes. It has its own cold storage units, a fruit processing factory, an extensive irrigation system and 7500 acres of forest belts to shield the orchards and vineyards from the scorching Samgori winds.

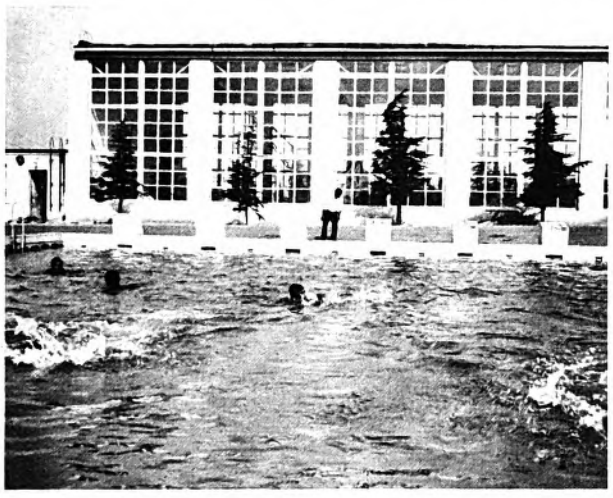
Guests in Georgia for the international Winemaking Congress.





THIS WAS ALMOST ALL DESERT ONLY FIFTEEN YEARS AGO.









Left, top: With flower beds everywhere, Varketili looks like a resort or botanical garden. The farm's decorative planting team grew 140,000 pine, cypress, quince and walnut trees.
Left, center: The new swimming pool. There is no lack of sports facilities for the 6,000 residents of this state farm. They include a stadium and well-equipped gymnasium.
Left, bottom: The opening of the school year is a special occasion for everybody at the farm.
Above: Harvesting begins. The farm turns out five million jars of juices a year.

THE VARKETILI State Farm is in the Tbilisi suburbs. It raises grapes and fruit for the Georgian capital and the republic's nearby metallurgical center, Rustavi. Varketili also has customers in other republics.

Farm director Iakim Kaviladze, a tall, lean man of 60, was our guide.

He took us first to the refrigeration section, which was piled from floor to ceiling with boxed grapes of the finest grades—more than 500 tons of them. Nothing like fresh grapes in winter, the farm decided when that unit was finished, and began building another of the same capacity.

Across the spacious yard, right opposite the cold storage units, is the fruit processing plant. Stacks of glass jars sparkle like precious stones in the hot Southern sun. There is the heady aroma of a bountiful summer in the air, of fruit and honey and, of course, juices of all kinds—pomegranate, quince, apple, cherry, plum, grape. The farm turns out five million bottles of juices annually.

"That alone will bring us 800,000 rubles this year," says the director. "The money is going to build a hotel. Eventually we hope to have our own vacation resort on the shores of the Tbilisi Sea."

I remarked that the farm itself looked like a resort or a botanical garden, with flower beds everywhere.

"Oh, we owe that to our specialist in decorative tree and flower planting. You must meet Irakli Dzhokhadze—he's a very interesting person. Dzhokhadze and his team grew 140,000 trees on 123 acres—deodar, eldar pine, cypress, Persian walnut, plane trees, Japanese quince and a whole lot of others. But Dzhokhadze didn't do it alone.

"I doubt if there's anyone among the nearly 6,000 people on our farm," added the director, "who didn't lend a hand at tree planting. This is really our source of health and beauty."

Iakim Kaviladze has that and many other reasons to be proud of the farm he directs. There is a story behind the name Varketili, by the way. About a decade and a half ago there was nothing here but the scorched Samgora Steppe. Varketili, the "unkind," Georgian shepherds used to call this place at the time. The Upper Samgora irrigation system and man-made Tbilisi Sea wrought truly fairy tale changes. Varketili took on a new meaning.

Forest belts planted by the farmers cover nearly 7500 acres of land. Big stands of poplars, evergreen and fruit trees shield the land from the scorching Samgora winds.

Everywhere we went on our trip around the farm we saw water pipelines, program-controlled sprinkling units, and vineyards stretching away to the horizon.

Everything on this once bare soil was created in the last 15 years.

The vines seemed to be growing higher as we looked at them. The over-all yield of grapes will come to 4200 tons.

Kaviladze is one of those leaders for whom people come first. His operating principal from the birth of the farm has been: "Urban living and working conditions with rural beauty."

Even at that early time the farm officials were building single-story, two-family cottages. Later on they decided that two-story, 12 unit apartment houses would be better and drafted a master plan for 46 such houses with one-, two-, and three-room apartments. Villagers like their own private plots, and the plan provides for that also.

Kaviladze took us to the local secondary school, where we looked into the foreign language study room equipped with tape recorders. At the house of culture we saw an interesting film by Georgian moviemakers on the history of the state farm. We admired a sports complex—a stadium, gym and swimming pool.

Five interconnected buildings make up the children's area. They are light, warm and pleasant structures with a rose garden and a wading pool in the yard.

Kaviladze has been director for the past 15 years. Born in the countryside, he was appointed chairman of a collective farm at the age of 19. He went through a worker's school, graduated from the agricultural institute, and then came the war.

"He can't sit still," the villagers say about him. "He's going on 70 and is just as full of energy and drive as he was 20 years ago. You should see him at harvest time. From May till October he's out in the vineyards or the orchards."

Says Kaviladze: "Every so often I take all my agronomists out with me in a bus for a tour of the farm. It gives them a chance to see how things are going. Then when we hand out the bonuses, they all know that those who get them really deserve them."

. . . At the entrance to the farm is a stone hand holding a brimful cup—a very appropriate symbol of Varketili.





THE STUDENT

The 15,000 students at the University of Tbilisi in the Georgian Republic (see its new buildings on this page), and those in the country's 51 other universities and hundreds of institutes, constitute the next





AND THE

generation of Soviet intellectuals. The world they face is full of complicated problems, and they must learn how to help solve them.



UNIVERSITY

Some five million students from all over the country are enrolled at institutes and universities, the higher educational institutions of the Soviet Union. The republics and the larger cities all have their own universities, 52 all told. Tbilisi University, in the Georgian capital, has a student body of 15,000 and a faculty of 1000. Teaching in its 15 departments and 103 subdepartments is in both the Georgian and Russian languages. Here Valeri Bakhradze, the Young Communist League Committee secretary at the university, is interviewed by correspondent Valeri Perekhvatov.

Correspondent: First of all, how does the Young Communist League function within the student body and the university administration?

Secretary: Of our 9,000 full-time students, only about 150 are not members of the YCL. In effect, then, the students and the YCL are really a single entity here. As for the administration, we meet each other halfway although our functions are different. The job of the administration is to see to it that the quality of the courses and of the instruction is the best that can be sustained. Our part of the job involves the students' independent work, campus and community activities and self-government.

Correspondent: What do you mean by self-government?

Secretary: The university's Academic Council is responsible for the program of studies, the budget and other such concerns. It includes representatives of the administration, the Communist Party and trade union organizations, the faculty and the students. The YCL committee is also represented. So the opinions of the student body have considerable weight when problems are discussed by the Academic Council. Such matters as stipends, dormitory accommodations and recreation are handled by the students themselves and their YCL organization. This is essentially what we mean by student self-government.

Correspondent: Do all those who need stipends and dormitory accommodations get them?

Secretary: We used to base our allotting of stipends on the student's financial need and on his grades. Now, however, we think the first qualification is obsolete. Almost everybody is pretty well off, so many students would not get their stipends if we used need as a requirement. Our only criterion now is grades—practically everybody gets a stipend. Dormitory space is given primarily to students from out of town, and to Tbilisi students whose family housing conditions are still inadequate. The Student Council examines each application.

We established the rules for dormitory residence ourselves and make sure that they are observed. There are no special restrictions; we just want to give students the best conditions for study and recreation.

Correspondent: And what if the student thinks he is not getting a fair deal? To whom does he appeal?

Secretary: Usually to his YCL organization. The department YCL bureau checks on all student complaints. If an important question has to be settled, it is discussed at the department general meeting. We have never had a case where the administration has not gone along with our decision.

Correspondent: What you are saying, then, is that every item of consequence gets discussed.

Secretary: Yes. People have different opinions, of course. But the majority decision at the general meeting is binding on everyone concerned. That is basic to YCL democracy.

Correspondent: You mentioned the students' independent work and campus and community activities. What is that all about?

Secretary: What we are after is all-round student development. We don't think lectures, classes and laboratory work are enough these days. For a student to become a really creative person, he must acquire a taste for independent research and for active civic participation while he is still at the university.

We have a Scientific Student Society (the SSS) in which future specialists are already doing research, some of which finds practical application in the economy of the country. The SSS holds conferences and symposiums and publishes the most interesting student papers.

We also have department clubs for



Georgia's epic poet Shota Rustaveli, symbol of the uncon









meetings with interesting people, for debates, talks and parties. The YCLers in the Physics Department have what is generally conceded to be the most popular club. It's not only a place where they can have a good time; it is a center for ideas and opinions. They've created a really exciting and inspiring intellectual atmosphere.

Correspondent: Does that take care of all the activity—the scientific society and the clubs?

Secretary: By no means. Take sports—a university isn't a university without them. You may have heard of our tennis player, Alexander Metreveli, and our chess player, Nana Alexandria. We have any number of stars! Twenty-one of our students are members of various countrywide teams. A big sports complex is going up here on our campus—a stadium, swimming pools, gyms and an athletic field.

We do have serious activities. Ten years ago, on the initiative of YCLers, the first summer-vacation building team was organized at the university. Our students went to the virgin lands of Kazakhstan to construct farm buildings. We're still doing that. Every summer we send 750 volunteers. That's all that's needed, but we have as many as 1500 eager to go. We choose the stronger girls and boys and those who have some measure of the skills required. They are paid, in addition to their stipends, 200 to 300 rubles a month, depending on their production.

Not all the members of the building teams go to the virgin lands. Some remain in Tbilisi to help restore monuments and build new annexes for the university. The clubs for the most part were built by our students.

The money is not of primary importance. Our students can earn money in easier ways. They are motivated, first and foremost, by their desire to be of service and the need to challenge their abilities and stamina.

As you see, we have many good traditions, and we want the students who come after us to carry them on. Several years ago, in remote districts of Georgia, we organized preparatory courses for those who want to enter Tbilisi University. Our students and faculty members have been traveling to the provinces regularly since then for talks and conferences with future matriculants. As a result, the university has gained many talented and energetic young men and women it might otherwise have lost. As they take over our traditions and attract fresh recruits, we see our school and our students are in good and capable hands.



A Center for Ideas and Opinions

SOCIALISM AND ECONOMIC DEVELOPMENT LEVELS



By Vladimir Lukin

Candidate of Science (History)

RAISING the levels of economic development of the socialist countries and bringing them closer is an objective process. Testimony to that fact is the cooperation of the member states of the Council for Mutual Economic Assistance.

In 1949, when the CMEA was formed, there were wide gaps in the economic development levels of its member countries. The Soviet Union, the German Democratic Republic and Czechoslovakia were developed industrial states with a high level of per capita national income. The other CMEA members—Bulgaria, Hungary, Poland, Rumania, Mongolia— were predominantly agrarian.

Since the principles that actuate the relations among the socialist countries are internationalism and mutual aid, the gap in their economic development levels is narrowing. In 1965 the share of industry in the gross industrial-agricultural output was 79.9 per cent in Bulgaria, 78.7 per cent in Hungary, 72.6 per cent in Poland, 71.9 per cent in Rumania.

In industry itself an ever growing role is played by machine building, an important index of a country's economic progress. In 1950 the share of machine building in the industrial output of the more developed socialist countries was 3.5 times higher than that of the less developed ones. Now the gap has narrowed to 1.5 times.

How was this leveling-off achieved?

First and foremost, the formerly agrarian countries, with the aid of those industrially more developed, went through the process of socialist industrialization. They set up, practically from scratch, entire branches of modern production. With the help of the Soviet Union and other socialist countries, Bulgaria built a metallurgical industry which last year turned out over two million tons of steel and about as much rolled metal. The credit which Bulgaria received in 1949-1965 from the fraternal countries totaled about one-fourth of all the capital investments it made in those years. As a result, not only are the country's needs in metals fully satisfied, but Bulgaria can now export metallurgical items to other countries.

Some CMEA member states have built their own petrochemical industries with oil received from the Soviet Union. In the past five years alone, with the assistance of the USSR, over 300 industrial and agricultural projects have been built and reconstructed in the socialist countries. An atomic power engineering industry, likewise with Soviet assistance, has been created in Hungary, the German Democratic Republic, Bulgaria and Czechoslovakia.

The Soviet Union has helped a number of Socialist countries set up industrial complexes and prospect their natural resources. Mongolia is one example.

The reconstruction of the economy of the socialist states was also greatly assisted by such industrially developed countries as Czechoslovakia and the GDR.

Secondly, scientific and technical cooperation was of enormous help in bringing up the level of economic development of the socialist countries. Scientific and technical assistance and the exchange of scientific and technical documentation speeds up the leveling process, helps by-pass certain intermediary stages to create a modern industrial structure, saves funds and resources. Thus, in shipbuilding, automobile and tractor building, and in electric machine building alone, the use of Soviet scientific and technical documentation and production experience helped Poland save at least one billion zloty.

In the postwar years, the CMEA member states exchanged 40,000 sets of scientific and technical documents, saving years and billions of rubles.

Thirdly, very important in speeding up the leveling process was CMEA emphasis on industrial cooperation and specialization. Both these processes permitted the socialist countries to rationalize their industries, to eliminate duplication, to organize more mass-scale production, to take a more active part in the international socialist and world division of labor.

Fourthly, as a result of all these measures, a very high annual industrial production growth rate was guaranteed in the formerly less developed countries, much higher than in those countries which had a more developed economy. Thus, the average annual growth rates of industrial output in the 1950s and 1960s were: in Bulgaria 13.7 per cent, in Rumania 13.3 per cent, in Mongolia 12.5 per cent, in Poland 11.4 per cent, while in Czechoslovakia they were 9.0 per cent, and in the GDR 9.5 per cent. It was these high rates of annual growth that served to bring the economic development levels of all the socialist states closer.

The leveling, despite achievements, has not yet been completed—the original gap was much too great. In the Comprehensive Program of Socialist Integration adopted by the twenty-fifth Session of the CMEA, the leveling of economic development is listed as one of the fundamental goals.



Academician Boris Petrovsky, USSR Minister of Health, answers questions asked by our correspondent Yuri Suchkov

MEDICAL CARE

WHAT ARE THE SPECIAL LINES OF DEVELOPMENT FOR THE SOVIET MEDICAL SERVICE IN 1971-1975 PLANNED BY THE TWENTY-FOURTH CONGRESS OF THE COMMUNIST PARTY OF THE SOVIET UNION?

In our society the people's health is considered a factor of prime importance. It follows that we try to do everything possible to deliver the very best care in the most efficient manner.

The Soviet Union has no private medical establishments.The state assumes entire responsibility for protecting and preserving the health of all citizens. The sum appropriated in the state budget for medical services in 1972 is about 9.7 billion rubles. In addition to that, Soviet enterprises and organizations independently allot considerable sums for the building and maintenance of health resorts and sanatoriums.

The average cost of medical aid for a family of four in the Soviet Union is over 150 rubles a year.

The sums appropriated in the state budget for medical services are increased regularly to pay for improving our system of health care and the latest medical and diagnostic equipment.

Free medical care is available to every citizen, regardless of the ailment: the common cold, a serious disease requiring a long period of hospitalization, a difficult operation performed by the greatest specialist and requiring the use of expensive, sometimes unique, equipment. This system of free medical aid creates relations based on mutual trust and respect between physician and patient.

Our main facility for **general medical care** is the district polyclinic. There are, at present, about 40,000 polyclinics and dispensaries, and some 500 more large polyclinics will be opened by 1975. Most of them have departments specializing in internal medicine, surgery, gynecology, neurology, diseases of the ear, nose and throat, ophthalmology, stomatology and pediatrics, examination and treatment rooms, and laboratories for diagnostic tests. They also have first-aid departments open around the clock.

The present aim of the Soviet medical service is to provide comprehensive care in the polyclinics. New specialized departments are being opened and their equipment is updated regularly.

In 1971 Soviet hospitals provided accommodations for almost 2.8 million patients. By the end of 1975 the number will have reached three million—113 out of every 10,000 of the population.

In spite of the fact that a number of infectious diseases have been wiped out, the demand for hospital beds has been rising. This is a direct result of advances in medical science and medical knowledge. Cardiac and vascular operations, for example, have necessitated opening specialized surgical departments in existing facilities and building new hospitals and research establishments. Kidney transplants and treatment with the artificial kidney apparatus have resulted in entirely new types of medical centers. This is true in many other branches of medical science. The process is natural, and the important thing is to reduce the time lag between the scientific discovery and its practical application to a minimum. The Soviet Union will, therefore, continue to give priority to the construction of 1,000-bed or larger specialized hospitals in cities and 300- to 400-bed hospitals in rural districts in an effort to improve the organization of specialized medical aid and the quality of treatment and preventive care.

The same principle will be applied to **first-aid stations,** which are being merged with hospitals specializing in emergency surgical, therapeutic or other medical aid. The gap between first-aid and highly qualified hospital treatment is thus reduced to a minimum.

Preventive care, the guiding principle of Soviet medicine, will be even more extensively developed during this period. Annual checkups are presently given to more than 100 million people through medical establishments specializing in such fields as tuberculosis, cancer and neuropsychology as well as through neighborhood polyclinics. The examination of millions of outwardly healthy people makes detection of various diseases possible in their initial stage, when they can be treated much more effectively.

The **sanitary-epidemiological service** is growing in importance due to the increasing effect of technology, urbanization and industrialization on the environment. In the Soviet Union this branch is granted very broad powers. Its duties include sanitary inspection and participation in city planning, siting industrial, commercial and children's establishments, supervision of labor hygiene and enforcement of urban anti-noise measures.

Another factor in the extension of medical services is the growing number of medical workers and the higher level of medical training. The Soviet Union has the largest number of medical personnel in the world. In 1971 we had nearly 700,000 physicians of all kinds, or 28 for every 10,000 of the population.

We have more than 90 institutes for advanced medical education. In the 1971-1975 period they will train about 212,000 physicians, so that by the end of 1975 the total number of doctors in the country will exceed 830,000—about 32.5 for every 10,000 of the population, or one doctor for every 308 people.

Our specialized secondary schools annually train 130,000 paramedics, whose number now exceeds 2.2 million.

We also have a great number of institutes for updating medical knowledge. Every doctor must regularly take courses to improve his skills and keep abreast of the latest findings in medical science.

The fulfillment of the Communist Party's program for further raising the standard of living and combining social and economic measures with preventive treatment and medical care will make the Soviet medical system even more effective.

COULD YOU DESCRIBE THE BASIC DIRECTIONS MEDICAL RESEARCH IS TAKING?

Various projects are being worked on in about 400 big research establishments.

In the next few years Soviet scientists will continue to study the most immediate problems connected with the treatment and prevention of cardiovascular and virus diseases as well as cancer.

Further research will be conducted in the following branches: immunology, endocrinology, allergies, medical genetics, anesthesiology, intensive care, space medicine, supervised broadening of organ and tissue transplants and the design of artificial organs.

Greater attention will be paid to the development of major theoretical branches of medical science, particularly to the study of the structure and synthesis of proteins, hormones and vitamins, and increasingly wide use in medicine of the latest findings in physics, chemistry, cybernetics and other branches of science and technology.

New scientific institutes are being set up. The cancer institute of the Academy of Sciences in Moscow, a large and important establishment for investigating major cancer problems, combines scientific research with medical treatment in its 1,000-bed clinical center. A heart research and medical center with similar facilities will be built in Moscow. These along with a new branch of the research institute of obstetrics and gynecology and other scientific institutes will considerably promote research in many branches of medicine.

COULD YOU TELL US SOMETHING ABOUT COOPERATION BETWEEN THE SOVIET UNION AND OTHER COUNTRIES IN THE MEDICAL FIELD?

Our country has concluded agreements on cooperation in the fields of medical service and medical science with more than 50 countries. We also are active participants in the World Health Organization.

In May 1972, during the visit of the President of the United States to the Soviet Union, some important agreements were concluded between the governments of the two countries.

Among them were agreements on cooperation in studying the effects of pollution on the environment and developing basic principles to control the human influence on nature in order to work out effective measures for the prevention of pollution of the air, water and soil.

Agreements in the field of medicine provide for joint efforts in fighting the most dangerous and widespread diseases—heart ailments and cancer—and in solving other major medical problems.

IN YOUR OPINION, WHAT WILL BE THE RESULTS OF JOINT SOVIET-AMERICAN RESEARCH?

I would say that up to now American scientists have not always been well informed about the latest achievements of Soviet specialists. We hope that this will be remedied. In pharmacology and organ transplants, for example, our joint work may prove very fruitful in the near future. The testing of new medicines by physicians using the most varied methods of treatment will provide invaluable information for both Soviet and American doctors. Broader contact between specialists in performing transplants will surely be beneficial.

Cooperation is bound to prove useful for both countries, especially in avoiding duplication in research.

The development of cooperation outlined in the agreement concluded between the USSR and USA, countries with a strong economic background, a high level of medical science and great possibilities for further development, will undoubtedly serve the interests of humanity as a whole as well as the peoples of both countries.

AMERICAN DOCTORS COMMENT ON EMERGENCY MEDICAL CARE IN THE SOVIET UNION

During a visit to the Soviet Union sponsored by the Department of Health, Education and Welfare as part of the Soviet-American Health Exchange Program, Professor Patrick B. Storey and Dr. Russell B. Roth had an opportunity to see *Skoraya Meditsinskaya Pomoshch* (Emèrgency Medical Care) in Moscow, Leningrad, Kiev, and Kalinynka, a rural community in the Ukraine. This is an abbreviated version of their observations.

EMERGENCY CARE is provided in the Soviet Union free of charge, as are other forms of medical service.

Hospitals must admit patients brought in by an ambulance regardless of the availability of beds.

Specialists working in the field of emergency care try to figure out the causes of accidents and are instrumental in introducing measures for their prevention, for example, regulation of street traffic, maintenance of safety in municipal transportation, public instruction in street traffic rules and the proper use of gas and electricity.

An ambulance must be dispatched no later than three minutes after an emergency call is received.

All public pay telephones are equipped with a pushbutton system, obviating the need for a coin to operate them. Dialing instructions are engraved next to the button: 01 for fire, 02 for the militia, 03 for medical help.

The 03 dialed call goes to the central station of the city's emergency care network. In Moscow, Kiev and Leningrad this station is located in the downtown area.

There are two kinds of vehicles in use: a standard vehicle or general service ambulance, and a specialized ambulance. Each is equipped for fairly elaborate diagnostic procedures, prompt treatment (including resuscitation) and further care of the patient. About 30 per cent of the patients seen are hospitalized.

The Kiev emergency care setup now serves the 1.6 million residents of the city. In addition to the central station there are nine substations throughout the city, located in such a way as to provide care within three to five minutes after being called. There is a new residential district under construction in Kiev which will have a population of 350,000. The plans include a new substation for emergency care.

There are 125 vehicles on day duty, and 90 vehicles on night duty. Because Kiev lies along the Dnieper River and its islands are part of the city complex, two speedboats are equipped to bring emergency service along the waterfront to the islands on the Dnieper.

As in Moscow and Leningrad, the type of vehicle and its crew are either regular (line) or specialized. The regular team includes a doctor, a paramedic and a driver. The crew can call for a specialized team, or the dispatcher may make the initial decision to send out a specialized vehicle.

These ambulances are magnificently equipped with small, compact electrocardiographs, a monitoring cardioscope, equipment to measure arterial and venous pressure, a direct current defibrillator, a pacemaker, equipment for administering oxygen and nitrous oxide, a portable laboratory for blood and urine determinations, and all equipment necessary for artificial respiration and maintenance of circulation.

One of the authors had the opportunity to go out on call with one of the cardiac ambulances. A line crew had radioed a call for help, thinking that a patient complaining of chest pain might be suffering myocardial infarction.

The vehicle proceeded at high speed to the point of call. No siren was used, but it was clear that traffic must yield to the vehicle, and the driver passed through yellow and red lights, signaling with his horn when necessary. On arrival at the apartment building in question, the vehicle pulled up onto the sidewalk, the team selected the equipment likely to be needed and proceeded to the apartment.

The line crew physician briefed the cardiologist, who then took over. While his assistants were setting up the portable laboratory and the EKG machine, he took the patient's medical history and the details of her present illness, and gave her a physical examination. Blood was drawn for a white cell count, and the paramedic did an EKG. The patient had two principal complaints, and she was given medicine to relieve her symptoms. Intravenous and intramuscular medications were administered. The EKG was analyzed in detail and recorded on a specially printed EKG section of the clinical record form.

The entire procedure was unhurried and efficient, indicating a considerable degree of confidence gained in practice. The physician carefully repeated key phrases in his dictation or instructions, so that there was no question about the term used or the dose of a drug.

Conclusions

There are some remarkable features of the Emergency Medical Care network which should be noted by anyone concerned with the all-pervasive problems of trauma and sudden attacks of serious illness. It is the special section of the Soviet public health system responsible for bringing the best in modern medical care to the victim rather than bringing the patient to the source of care.

Since the process of emergency care is a medical responsibility, all ambulances are staffed by physicians who are specially trained for the various contingencies. The immediate attention of a qualified physician is assured.

The assignment of patients to appropriate health facilities can be accomplished without delay and with minimal error.

Since emergency care is part of the public health system, it has become a medical specialty, with its own scientific research base.

As an extension of the public health system, it provides for active collaboration in service and research with other medical disciplines. The most striking examples of this are the areas of traumatology and resuscitation. In cardiology, neurology and other fields, there are many problems that require immediate and elaborate attention.

Since the Emergency Medical Care exists as an organized entity, other parallel elements of the health care system can be developed in relation to it. For example, the maintenance of medical posts on every subway station staffed by paramedical personnel is quite feasible because of the rapid availability of emergency care.

The list of possibilities revolve around the proposition that adequate emergency care is an essential part of any health care system. The outstanding feature of the Soviet system is that emergency care is a specialty within the medical field.

The Soviet Union currently has approximately 699,000 physicians. It is apparently not regarded as unduly wasteful of medical talent to have physicians "at the ready" in the central and subsidiary emergency stations reading, writing and chatting while waiting for calls.

The Soviet medical profession as well as the ordinary Russian citizen is justifiably proud of its highly developed emergency medical care system.

Professor Storey and Dr. Roth expressed the hope that their presentation of some of the details of the way *Skoraya Meditsinskaya Pomoshch* functions in several of the principal cities of the Soviet Union will be a useful source of data for American traumatologists, experts in acute cardiac emergency care and others interested in improving mobile medical services.











REST IN THE COUNTRYSIDE

This health resort was recently built in Estonia. It serves a farm clientele. Appropriately enough, it is called Tervis, Estonian for "good health." It accommodates 125 people and has a staff of 62, including doctors, nurses and cooks. Some of them are in the photo above. The ratio is not uncommon for Soviet spas. The decorative panels shown here use traditional folk and work motifs.

NEAR Pärnu, the famous Estonian health resort, the Tervis sanatorium stands amid pine trees and sand dunes on the shore of the Baltic Sea. Its windows face the breezes blowing from the water. The building itself looks very much like a museum of local rural crafts. Most of the "exhibits," however, were made by local artisans to be used, not just to be looked at—furniture, candlesticks, dishes and ornaments of every kind. The sanatorium was built and equipped with funds from Estonian collective and state farms.

"Among the shareholders who own this sanatorium are 24 collective farms, 21 state farms and 12 intercollective-farm building organizations," explained Leonard Vernik, head physician. "A few government offices in Estonia have also invested in the sanatorium. An average share, say 10,000 rubles, gives the shareholder (a collective or a state farm) 15 annual accommodations of 24 days each or, if preferred, 30 accommodations of 12 days each. The first six months after we opened a thousand of our republic's rural citizens spent their vacations here."

The big decisions, as in any other cooperative, are made at a general meeting of shareholder representatives. Between general meetings problems are handled by a board, which includes representatives of the shareholders from Pärnu district as well as from two republic ministries—agriculture and public health—and the head physician of the sanatorium.

Although Tervis was built recently, it has already more than justified all the labor and expense, and there are plans afoot for a new hotel building, new laboratories and rooms exclusively for diagnosing medical problems. Said Dr. Vernik: "We want our own facilities for water and mud cures; now our patients use those of the Pärnu health resort. We also plan to build a swimming pool, a gymnasium and a movie theater."

Chess corner. All the relaxation of a holiday resort plus therapy.



"Won't that be a bit too rich?" some people apparently queried at the general meeting held recently. "We have a nice place as it is, with large living rooms open to the public, a Finnish sauna and even a bar."

The majority of the shareholders, however, voted for expansion. The state and collective farms again agreed to build on a share basis.

How much does medical treatment cost at the sanatorium? Heino Konda, a welder for a construction organization, paid nothing—his trade union took care of everything. Young collective-farm tractor driver Uno Tokht paid half the cost of the medical treatment and accommodation (77.5 rubles). According to the rules and regulations of his collective farm, how much of the bill the farm covers depends on the individual's length of service. Uno hasn't been working long; older collective farmers pay much less for their stay at the sanatorium. Real old-timers pay nothing at all.

Are outsiders, people not from a shareholder organization, accommodated? Yes. Recently two fellows from Finland received treatment at the Tervis—Yaakko Raunio and Yurje Pilparihnen. They were given accommodations by the Soviet-Finnish Friendship Society. Dr. Vernik happens to be chairman of the Pärnu branch of the organization. The foreign guests felt quite at home at the Tervis, particularly since Estonia's climate is so much like Finland's. The languages are also similar, so it didn't take long to make friends. When they left, Yaakko and Yurje wrote in the visitors' book:

"A thousand thanks for all the good you did us. Good health is worth its weight in gold."

Incidentally, "tervis" is Estonian for "health."



Dentist Kesti Manna is not overburdened with patients. Tervis vacationers are inclined to skip her office except for unavoidable emergency treatment.
(Below) The dining room. Next best thing to eating outdoors.



Bar at a health resort? Nothing immoderate. Not with doctors in attendance. Besides, those bottles all contain mineral water and wine.



Bicycling along the Baltic seashore. A favorite sport at Tervis.



SPINE STRAIGHTENERS

SCOLIOSIS, A COMMON MALFORMATION OF THE SPINE, HAS BEEN TREATED IN MANY COUNTRIES WITH NO NOTABLE SUCCESS.

DR. ZHARDINOVSKY WORKED OUT A METHOD OF THERAPY BUILT AROUND EXERCISES THAT HAS DONE WONDERS TO STRAIGHTEN THE SPINE.

A SPECIAL BOARDING SCHOOL FOR CHILDREN AFFLICTED WITH SCOLIOSIS HAS BEEN OPENED IN KIEV UNDER HIS DIRECT GUIDANCE.

By Vladimir Khotinsky

Photographs by Sergei Lidov



MIKHAIL ZHARDINOVSKY, who lives in Kiev, is neither pop singer, actor nor radio announcer, but his voice, recorded on magnetic tape, is heard in a number of homes. Zhardinovsky's phonograph records help cure scoliosis, an ailment often regarded as incurable.

Recently the doctor celebrated his seventy-third birthday. One of the Ukraine's most eminent specialists in medical gymnastics and massage, he treats people suffering from hypotension, hypertension, radiculitis and other diseases. He is especially effective with scoliosis—lateral curvature of the spine—an ailment that afflicts about 6 per cent of all the children and adolescents in the world.

Zhardinovsky declared war on scoliosis 40 years ago. It was a long time before he scored his first success. Physicians before him had tried to fight the disease with remedial gymnastics. But medical gymnastics was not developed, so that treatment rarely gave results. And a surgical operation on the spine meant a year in bed and two more years in a brace.

Zhardinovsky decided to create his own system of exercises. In process, he systematically went through almost the entire scientific-methodological literature on physical culture, borrowing some elements, inventing new ones, rejecting what was dated.

His exercises are precisely timed according to the degree of development of the disease and the patient's age and capacities. By strengthening the spinal and stomach muscles, they gradually straighten the spine.

It was in 1959, when Zhardinovsky was a doctor at a resort polyclinic in Kiev, that he first proved his method in practice. His patients, after a period of daily exercises that lasted an hour and sometimes two, showed dramatic improvement, evident in their posture. But there were still unsolved problems. The main one was how to get children to do the exercises, not only at polyclinics, but at home—how to develop the kind of exercises they would like doing.

One day he got the idea of tape-recording himself leading the exercises with a musical accompaniment, just as the radio stations did with morning setting-up exercises. This proved to be quite a project. The music in each case had to conform precisely in mood and tempo to the exercise. After 400 experimental phonograph records and six months of testing, he had his first album of exercises—remedial gymnastics sessions that soon became famous.

Here, for instance, is a judgment by Galina Likhvar, professor at the Kiev Institute of Orthopedics:

"Zhardinovsky's sets of exercises do a multipurpose job. Each set has three times as many exercises as those offered in the physical therapy departments. The music was chosen with fine discrimination, and this makes the sessions pleasant rather than tiring."

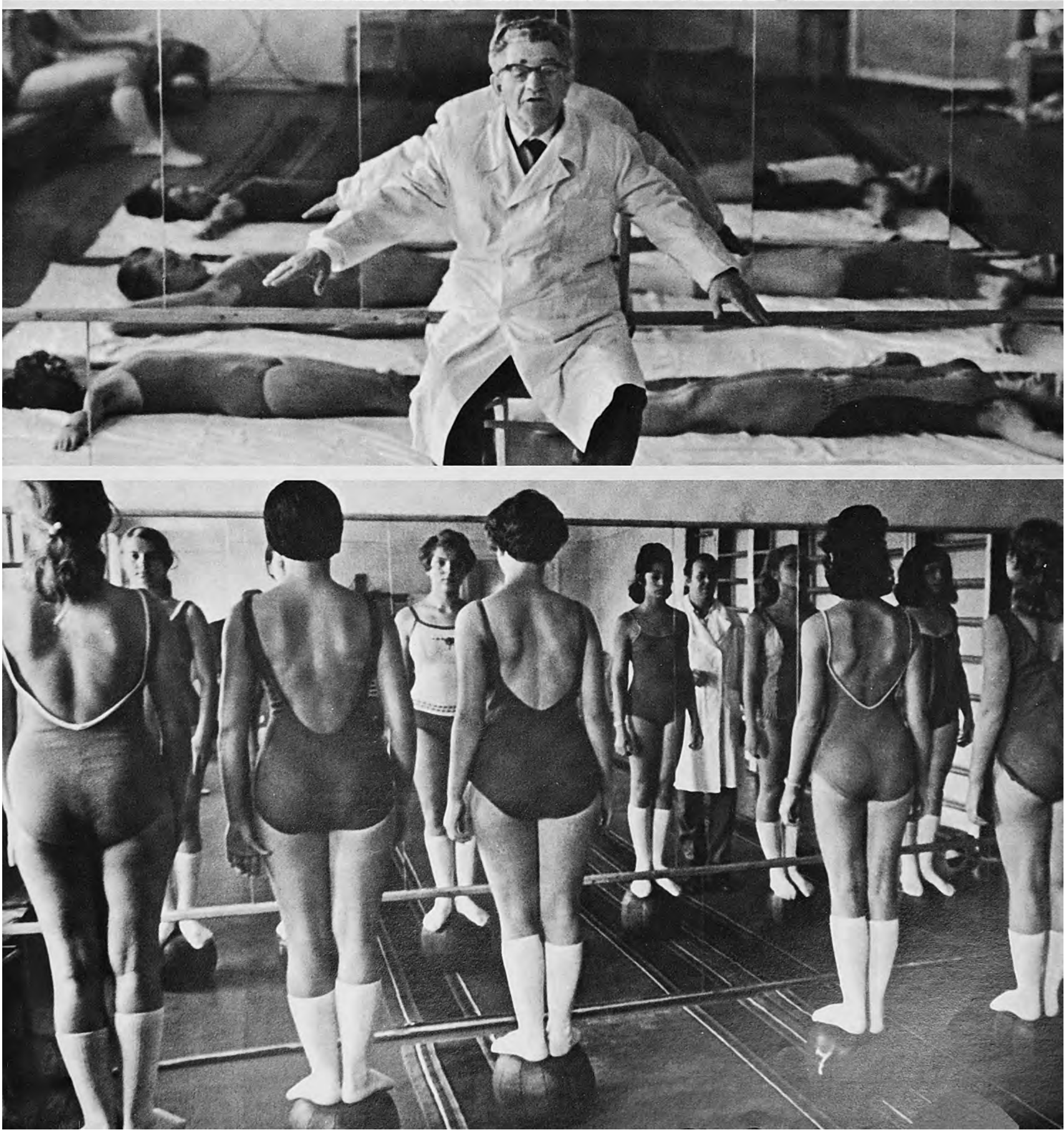
Three years ago, following a proposal of the Kiev Institute of Orthopedics, a special institute with an inpatient department for 400 children suffering from scoliosis was opened in the city.

Last summer the city recording studio put out records with the first set of Zhardinovsky's exercises. This year the second and third sets came out.

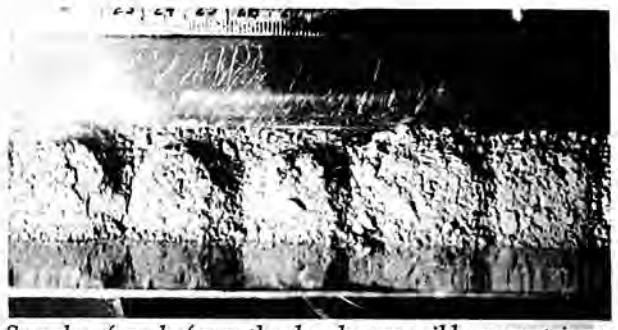
Many thousands of children have benefited from the doctor's work. According to the latest data of the Kiev Central Polyclinic, where 366 children were getting treatment, posture improvement was observed in 238 of the cases (65 per cent) and reduction of spine curvature in 53 (14.5 per cent). In 72 cases the condition of the children remained unchanged. Only in three cases (0.8 of a per cent) did it deteriorate somewhat.

Zhardinovsky is always on the move. In the morning he goes to the inpatient department of the institute for consultations. Afternoons he sees his patients at the city children's hospital, and in the evening he works on new sets of exercises.





LUNA 20: ANOTHER STEP FORWARD



Sample of rock from the barely accessible mountainous area of the Moon. The continental rock from which it was taken was so hard it stopped the drill several times.



There are two hypotheses on the origin of the Moon. The first says that the Moon is an alien body captured by the Earth. The second says that the Moon is a piece of the Earth that has broken away. In either case the Moon's orbit should be greatly drawn out. In fact, however, it is nearly circular. The ancient rocks from the lunar surface will help answer the question.

THE LUNA 20 automatic probe, a new space experiment, has returned to Earth with a sample of lunar rock.

This probe would seem little different from a previous experiment, the flight of Luna 16, except for one vital fact: The Luna 20 station landed in an area that differs significantly from all those previously explored.

Before the flight of Luna 20, nearly all information about the Moon obtained by means of spacecraft had come from the so-called lunar seas. The "continents," which account for four-fifths of the lunar surface, had hardly been studied. That is why Luna 20 was designed to deliver to Earth samples of the most ancient rocks, those found in the almost inaccessible mountain areas.

An unusually complex technical problem was involved: To make a soft landing in rugged mountain terrain and then lift off so as to land at a specified point in the Soviet Union, the automatic probe needed automated equipment of extraordinary precision.

On February 21 the Luna 20 automatic probe made a soft landing in a mountainous continental area between the Sea of Fertility and the Sea of Crisis. The distance between the western "shore" of the Sea of Rains, where the first Soviet self-propelled vehicle, Lunokhod 1, landed and the mainland where Luna 20 set down is about 1900 miles. The Moon's diameter is about 2200 miles, which gives some idea of how great the distance is on the lunar scale.

As we have said, Luna 16 and Luna 20 were fairly similar. Both had a unified landing stage that carried scientific equipment. But the engineering details of the two spacecraft were somewhat different. Luna 16 was designed to take loose ground samples. Luna 20 was to dig out harder rocks and therefore needed tough, heavy-duty drilling equipment.

The Luna 20 drill was tested under conditions that closely approached those on the Moon. A special effort was made to ensure that the rock samples did not fall out while the drill was being raised and that they could be stowed away in a hermetically sealed container in the return module. The task was complicated by the fact that the equipment had to meet very contradictory requirements. For loose soil a kind of valve had to be fitted to the underside of the drill to make sure the precious trophy was not lost. But hard rock might break down such a device. In addition, an attachment was needed that could cut out large chunks of rock. The designers met both these difficulties.

Prior to drilling, the lunar surface was surveyed from the ground-based flight control center and the station's position determined. Special panoramic optical-engineering television cameras took stereoscopic pictures of the surface.

After the survey was completed, the control center chose a site for taking samples. All sampling operations were performed on commands from the Earth. The drill, attached to a long rod, moved away from the return capsule, took up its position and set to work.

The continental rock proved hard enough to stop the drill several times. Later the samples obtained were placed in a container in the return capsule and hermetically sealed. On command from Earth, the television cameras took pictures of the drilling site showing traces of the work.

On February 23 the space rocket with the return vehicle took off from the Moon as planned, in a vertical line. The landing stage was used as a launching pad.

On February 25 the re-entry vehicle landed in a predetermined area 25 miles northwest of Djezkazgan, in the Kazakh Republic.

A study of the specific features of the Moon's structure is important to reconstruct the picture of our planet's evolution. Though the Earth is as old as the Moon, it has no geological structures older than three and a half billion years: Because of the presence of water and air, the processes of soil transfer are more intensive here than on the Moon and the matter of our planet has been completely transformed. But what was the Earth like in the first geological period—in those billion years about which there is no information available here?

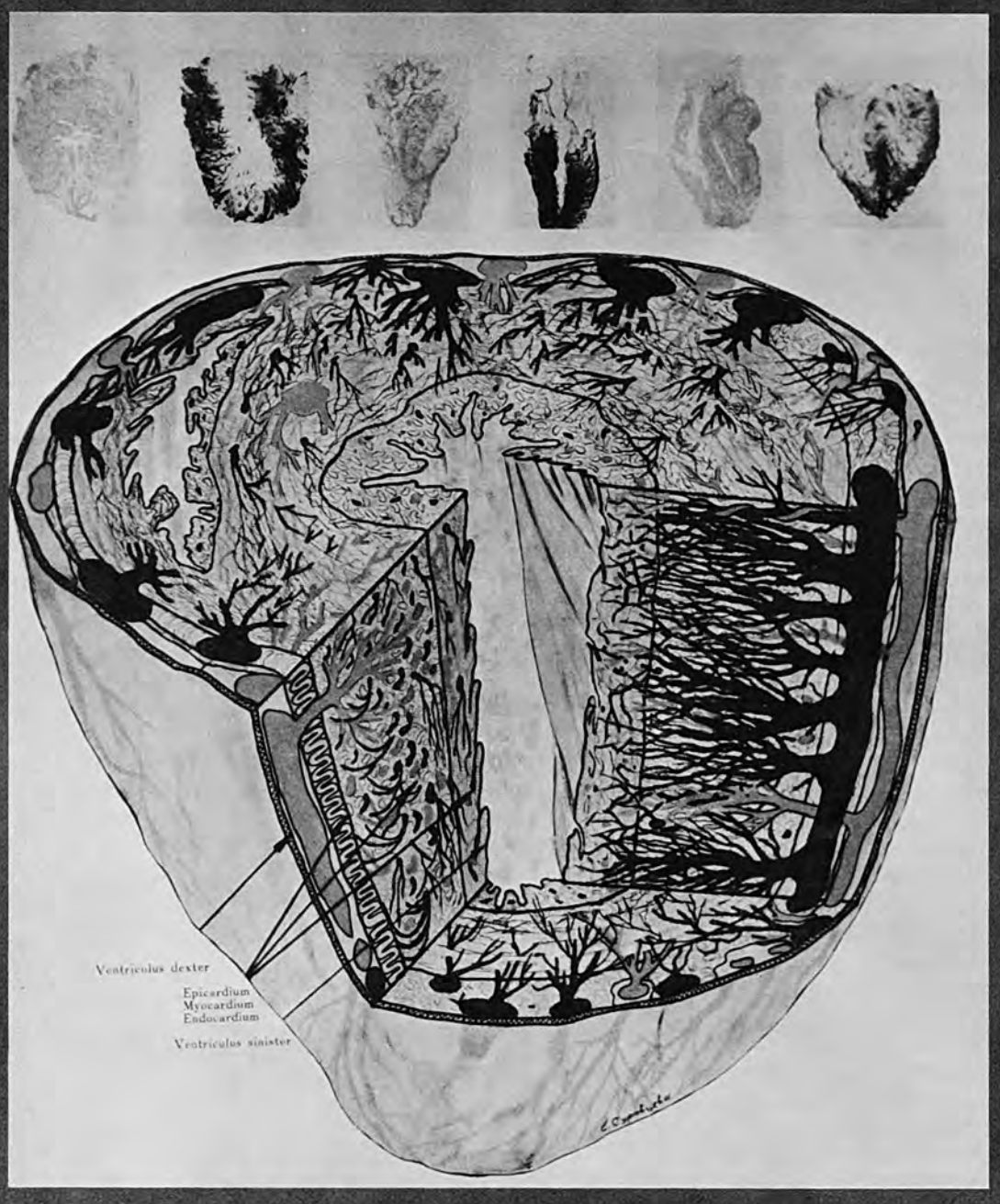
Finally, how did the Moon get so close to the Earth? Did they begin to revolve around the Sun together, or did the Moon join the Earth at a later period when it had already reached "maturity"?

There are two hypotheses on the origin of the Moon. According to the first, it is an alien body captured by the Earth and according to the second, a piece of the Earth that has broken away. In either case the Moon's orbit should be highly elliptical. Then why is it almost circular? The ancient rocks of the Moon should help answer some of these questions.

ATLAS OF THE HEART

By Yuliya Shishina

"The human heart, a double muscular pump, lies within the thorax . . . ." (Encyclopedia Britannica, 1965, Volume XI) 'The heart is a vascular organ with powerful muscle tissue." (Serafima Samoilova, surgeon, 1970)



***From* Atlas of the Heart.**

IT WILL TAKE years, probably, for the new depiction of the human heart to become firmly established in the medical mind. Since the early 1950s, operations on the heart have become standard practice. Surgeons replace cardiac valves, operate for infarctions. In a word, they make their way into an organ with vessels whose topography they knew little about until very recently.

The belief that the heart is a cone-shaped muscle covered with a network of coronary arteries has been accepted unquestionably by physicians from the time of Harvey (first half of the seventeenth century) and has been carried over from one medical atlas and textbook to another.

It took surgeon Serafima Samoilova 20 years to disprove that definition with her *Atlas of the Heart,* published in 1970. It was the first such volume to appear anywhere, and in our country and many others it has become an indispensable guide for the most complicated operations on the vessels of the human heart.

Surgeon Serafima Samoilova became a researcher later than is usually the case. She started her work without expectation of any material reward, without any assurance of success or thought of winning a title of honor. Samoilova wanted to revise the accepted anatomy of the heart by studying the cardiac vessels in detail.

The idea of this project had intrigued her for a long time, ever since she had became the pupil of a famous surgeon,

Sergei Yudin.* The early period of Samoilova's medical career coincided with the peak years of Yudin's surgical skill.

When she asked him to take her on as his assistant, Yudin replied that there was no vacancy, but if Serafima wished, she could work with him evenings without pay. Samoilova agreed. She became a surgeon at the medical unit of Metrostroi, the agency that was building the Moscow subway. Yudin was then head of the surgical department of the Sklifasovsky institute, a happy coincidence that determined her medical future.

Surgery was 50 years younger than it is today. The science of anesthesiology was barely at the threshold of its development. Yudin originated techniques in operations on the esophagus and the stomach which are now used by many physicians. As for cardiac surgery, there was none. The statement of Bilrotte—"The surgeon who dares to operate on the heart will evoke the ridicule of his colleagues"—was accepted as axiomatic.

The atmosphere at the Sklifasovsky institute was then reminiscent (as it is now on occasion) of a front-line hospital. The giant city brought people with every kind of wound and ailment to its operating tables, and surgeons had to move boldly and independently. Like it or not, crises forced them to violate the prohibitions set by the great predecessors of modern surgery and even try to suture wounds of the heart. And in a number of cases such operations were successful.

Yudin often spent a whole day and night at the surgical department and came at once whenever he was summoned. Many times Samoilova assisted him at operations performed at all hours. She remembers his saying: "We still know nothing about the heart. We must study it, but that's for the future."

Yudin had many pupils, he willingly shared what he knew. It was one of his ideas that became a reality in Serafima Samoilova's unique project. Why not? She had all the makings of a scientist: singleness of purpose, will power, an enormous capacity for work and a passion for creativity.

The seeds sown by Samoilova's teacher produced their shoots much later, when he was no longer alive. The war got in the way.

From 1941 to 1945 Serafima Samoilova had the backbreaking job of organizing hospitals and sanatariums for the wounded. She still sutured wounds at the Sklifasovsky institute,but she was also busy with the restoration of bombed-out hospitals in the area close to the front. In two weeks, during the battle near Moscow, a windowless, doorless building near the Skhodnya railway station was transformed into a working branch of the Sklifasovsky institute. Soldiers who had lost their arms and legs were hospitalized there. She also opened in the area a sanatarium for convalescent patients. At the railway station of Dorokhovo she turned a ruined building into a TB sanatarium which is still operating today. And so it went through all four years of the war.

At last the war ended. Samoilova, her husband and little son moved to Leningrad, but it was a long time before she could start working on her heart project. Everything had to be restored—people's health, hospitals, housing and her own personal life.

As she had done in Moscow before the war, Serafima worked at a Leningrad polyclinic days and spent her evenings doing research at the Institute for Advanced Medical Training. And in a room she was given near the morgue, she started her 20 years of "wanderings" through the labyrinths of the heart.

She was not a professional anatomist and had to spend two years mastering the technique of preparing vessels for experiment. These technical difficulties overcome, Serafima arrived at the procedure of stripping the layers of muscle tissue from the coronary network.

Hundreds of human hearts passed through her hands—old hearts and young ones, healthy hearts and those deformed by sclerosis or stopped by infarction, hearts that had not had time to bloom, strong hearts and some too weak to survive. Each of them was as unique as a human face.

The deeper she dug, the more discoveries she made. The coronary vessels that covered the heart on the outside turned out to be only small branches of a very powerful network of vascular channels that ran through the heart, just as underground rivers run through the Earth. The great number of arteries, whose existence was not known to anatomists up to then, interlaced with the veins, were crossed by anastomoses and grew branches like those of a strong tree.

A new and unknown picture of the heart emerged, one never reproduced in any of the textbooks. Samoilova learned all the heart's channels, turns and lines, its inlets and outlets, its whole, amazing complexity.

First she followed the labyrinth with the naked eye, then she turned to the microscope. She identified and marked the vessels and determined what was typical. Gradually the isolated impressions began to form an integral whole. For the first time, some 30 arteries were given names. The mechanism of the interaction of vessels was becoming clearer. But some qualitatively new steps were needed for further progress.

Then in 1954 Samoilov a met Sergei Andreyev, a distinguished pathophysiologist. The meeting was a boon to both scientists, who then began what proved to be a collaboration of many fruitful years. Andreyev had also devoted years of his life to the human heart. He is the author of a monograph, the only one of its kind, on "The Restoration of the Activity of the Human Heart After Death." Reviving the human heart experimentally, he established the functional abilities of the organ, the limits of its endurance in various diseases.

The two colleagues studied the same organ, but they used different and complementary methods. As always, physiology could not take a single step without anatomy, while anatomic research meant very little without physiology. Andreyev suggested that he and Samoilova investigate sick hearts together and that she help him make a science film dealing with experimental research on cardiac vessels. Two and a half years of strenuous experimental work went into the film, which was awarded a Silver Medal and an Honorary Diploma at the film festival in Cannes. It has been dubbed into many languages and is used as an educational aid. In this film Samoilova's new data on the heart were first made public.

At about that time she began to compile an atlas of cardiac vessels. Many people asked her why. Even specialists did not see its purpose, they were still thinking of the heart in terms of the old delineations.

When the atlas finally reached publication, it was clearly a fundamental, theoretical work whose purpose was not only to elucidate particulars; it's aim was also to change completely the traditional idea of the heart by means of the study's psychological impact on the professional mind. The atlas brings one back to the origin of the heart and shows it not as a muscle but as a vessel, for vessels occupy half the volume of this organ covered with a strong muscle armor.

Serafima Samoilova is past 60, but she continues her work, supplementing and refining her atlas to make it an even better surgical instrument.

***Dr. Samoilova with her* Atlas of the Heart.**



*Sergei Yudin (1891-1954) an eminent Soviet surgeon, Academician, Honorary Member of the British Royal College, of the French Academy and of the Association of American Surgeons, the author of numerous works on gastric surgery, anesthesia and other procedures. The transfusion of cadaveric blood to man, which he proved feasible, was a discovery of world importance. In the 193us Yudin reorganized the first-aid service in Moscow, making it a model for other countries. He was chief surgeon at the Sklifasovsky Research Institute for Emergency Medical Care.

THE GORDELA OCTET OF GEORGIA

By Ludmila Gerasimova
Musicologist

Characteristic of the old Georgian songs is a complex and harmonious polyphony that demands great versatility and flawless taste from the singers. These are the special qualities of the Gordela Song Company, plus a feeling for the spirit of the choral folk song. When Igor Stravinsky heard the company on recordings, he called it one of his most striking musical impressions.

Gordela is a vocal octet. Though it has been performing for some years, it is still a unique ensemble. The Georgian singers familiarize us with one of the oldest musical forms of their country—choral polyphony—a background for epic poems that have come down from ancient times.

Soviet archeologists, literary historians and restorers are painstakingly brushing the dust of ages off the monuments of the past. Audiences today are very much interested in the art of former times, in history and folklore. And the talent for research and inexhaustible enthusiasm of the eight Georgian singers is universally applauded.

They came to the Tbilisi Conservatory in the early sixties from different parts of Georgia. But it was not the chorus conductors department that brought them together as much as their common appreciation for their country's musical lore. They were very young and full of faith in themselves. They didn't have to wait long for success. The company passed its first test in the conservatory's concert hall with honors. On the occasion of the jubilee of Artem Erkomaishvili, the well-known folk singer and collector of ancient choral epics in Western Georgia, the eight students stepped timidly onto the stage and offered the distinguished old man the tribute of the powerful Gurian song "Gordela." Recorded in Guria by Anzor Erkomaishvili, grandson of the famous folklorist, it had captivated the students with its fanciful polyphonic pattern and fragrance of the past. This song gave the company its name and served as a visiting card to announce its forte. *Gordela* is the Georgian for "short sword"; its second meaninq is "plow."

The Georgian peoples militancy and industry come through in the ensemble's offerings. The students learned to sing from the peasants. They hiked up the mountains to dozens of villaqes and collected the musical lore of different regions —Guria, Kakhetia, Kartalinia, Svanetia, Mingrelia and Imeretia—bit by bit. So ancient are the songs of these parts that few have come down to us in musical notation.

How, indeed, can so evanescent a thing as the way a sonq is performed be set down in notes? But the boys of Gordela manaqed somehow. They revived the old songs, lifted the curtain of time which had concealed them from us. Gradually, like a fresco cleared of later coats of paints, the original folk songs emerged in their primeval beauty and purity. They sounded just as they had hundreds of years ago. To achieve that, the members of the company turned themselves from conductors and musicologists into archeologists and restorers.

Three of them come from Guria, the cradle of Georgian choral polyphony. There everybody sings, young and old. The old folks hand down their ways of performing the complex counterpoint songs—and with great success.

A major part of the company's repertoire consists of Gurian songs. Surprisingly, the structure of West Georgian music, despite its archaic quality, incorporates many principles of present-day composition.

A special place in Gordela's repertoire is held by *krimanchuli,* a song form that also originated in the Georgian west, on the coast of the Black Sea. *Krini* means "high singing." The fanciful translucent pattern is reminiscent of Tyrolese yodeling. *Manchi* is collective improvization, when all the vocalists sing in different tonalities. The company has its own *krimanchulist,* conductor and composer Gomar Sikharulidze. He says that his main source of *krimanchuli* is his own centenarian grandfather, who is still living in the countryside. One of the best *krimanchuli* in the company's repertoire is the historical ballad *Khasanbegura,* based on actual events.

Another citadel of Georgian choral music is Kakhetia. There, as in the other districts of Central Georgia, the foundation of all songs is the bass part—majestic and drawn out. Kakhetia is represented in the company by Anzar Erkomaishvili, Baduri Toidze, Tomaz Anguladze and Albert Danelyan. The octet performs that unique choral symphony to peasant labor, the Kartalino-Kakhetian song "Namgluri," with real epic expressiveness.

The most eminent of historians can envy this company its passion for research. Looking for the oldest variant of the children's song "Batonsbo," they discarded a multitude of possibilities, spending an incredible amount of effort and time. At long last they discovered the right notes in a Tbilisi church archive. The title page was inscribed with the time-faded words: "This song should be sung at a child's bedside. Its medicinal qualities have been confirmed by many." The music is beautiful, pensive and really tranquilizing.

Gordela is not simply a fine ensemble that has returned to our contemporaries the treasures of old Georgian music. It is an unusual cultural contribution. When the lovely voices of Gordela sing melodies created ages ago, we feel the breath of history wafted down to our day by the magic power of art.

GEORGIA

Facts and Figures

The Georgian Soviet Socialist Republic was formed on February 25, 1921. It has an area of 26,500 square miles and a population of 4,688,000, including Georgians, Ossetians, Abkhazians, Armenians, Russians, Jews, Greeks, Ukrainians and Kurds. About 890,000 people live in Tbilisi, the capital, founded in 458.

Georgia joined the Union of Soviet Socialist Republics on December 30, 1922, as part of the Transcaucasian Socialist Federative Soviet Republic and became a union republic in 1936.

The Georgian Republic includes the Abkhazian Autonomous Republic (capital Sukhumi, area 3300 square miles, population 487,000), the Ajarian Autonomous Republic (capital Batumi, area 1100 square miles, population 310,000), and the South Ossetian Autonomous Region (regional center Tskhinvali, area 1500 square miles, population 99,000).

Among the republic's industrial products are pig iron, steel, rolled metal, trunkline electric locomotives, trucks, hydrofoils, electric motors, machine tools, precision instruments, computers, electric welding equipment, plastics and a variety of consumer goods.

The republic is rich in natural resources, especially anthracite and manganese. It has large deposits of other nonferrous metals, barite, talc and marble. Georgia's mines and quarries supply the hydraulic equipment plant in Poti, the steel mill in Rustavi, the automobile plant in Kutaisi, the Inguri pulp and paper mill, the Zestafoni ferromanganese plant, the Tbilisi aircraft factory and machine-tool plant, and other large enterprises.

Since much of Georgia is subtropical, grapes, fruit and tea are the main crops. Other branches of agriculture include field crops, and livestock and silkworm breeding.

Georgia's flavorful Chateau and table wines, cognacs, champagne, tea, tobacco and canned foods are sold throughout the Soviet Union and abroad.

Some 70 million square feet of new housing will be built during the Ninth Five-Year Plan.

Before the Revolution 76 per cent of Georgia's population was illiterate. Today the republic has more than 4500 general educational schools with a total enrollment of about one million, 18 higher schools and 200 research instituts. There are close to 180,000 specialists with a higher education.

Cultural facilities include 22 professional and 40 people's theaters, an academy of art, a conservatory and a philharmonic society.

Georgia publishes 146 newspapers and 121 magazines in a total printing of nearly four million copies. Ten publishing houses issue an average of 2,000 books each year (about 12 million copies) in the Georgian, Russian, Abkhazian, Ossetian, Armenian and Azerbaijanian languages.

Georgia has the world's highest ratio of doctors, 3.6 per thousand of the population according to 1970 statistics. It has 25 resorts and about 200 sanatoriums and vacation hotels which accommodate 1.5 million people a year.

THE CENSUS FINDINGS

BY YEVGENI GEORGIYEV
Sociologist

THE CENTRAL STATISTICAL BOARD of the USSR Council of Ministers recently published the first summary of the January 1970 national census. It tabulates the country's population of 241,720,134 by income, education, nationality, language, sex, age and marital status.

The census testifies to the country's social and cultural progress. The purpose of these notes is to analyze some of the figures and their implications for our socialist society.

Employment

A basic principle of socialist society, as we know, is that work is everyone's birthright and duty. This is confirmed by the following source-of-income figures.

MAJOR SOURCE OF INCOME	1959	1970
	(In millions of people)	
Job	99.1	115.5
Pension	12.4	33.1
Scholarship, stipend	1.7	3.5
Dependence on individuals, including family members who work on supplementary and personally owned farm plots	95.3	89.1
Other sources, not indicated	0.3	0.5
Total population	208.8	241.7

This is a typically socialist tabulation of incomes. A job is the source of livelihood for 47.8 per cent of the population. Another 15.2 per cent, living on a pension or stipend, derive their livelihood directly from the public consumption funds. Dependents of individuals (children, the aged and other persons engaged solely in the household or in bringing up children) comprise 36.8 per cent; this includes members of collective farm and worker families who take care of personally owned kitchen gardens or orchard plots.

But the term "dependents of individuals" needs clarifying. A large portion of the cost of maintaining these people is borne directly by the state. The state maintains nurseries and kindergartens, provides tuition-free eduoation, free medical services, and the like.

The percentage of dependents in the total population is declining. This is due largely to the fact that the state assumes a growing share of the burden of maintaining workers who reach retirement age, invalids, the aged, and school and university students. The number of pensioners—gainfully working, as well as not working—was 40.1 million at the beginning of 1970, compared with about 20 million in 1959, the year of the previous census. The number of scholarship and stipend recipients has gone up from 1.7 million in 1959 to 3.5 million in 1970. And the Directives for the Ninth Five-Year Plan of Economic Development envisage a further increase in welfare funds. Among other things, the plan calls for larger grants-in-aid to families with many children and those with low incomes, as well as higher pensions and stipends.

The high percentage of persons employed is another significant figure. Of the 130.5 million people of working age (under Soviet law 16 through 59 for men and 16 through 54 for women), those holding jobs plus students number 120.6 million, 92.4 per cent. In 1959 the figure was 82 per cent. In the years to come the Soviet economy will grow through more effective use of manpower (improved skills, automation and the like), rather than through a merely quantitative growth in employment.

Educational Level

The level of education has been rising steadily, and its structure improving.

EDUCATIONAL LEVEL OF GAINFULLY EMPLOYED	1959	1970
	Per cent of total	
Incomplete primary	24	10
Primary and incomplete seven- or eight-year schooling	33	25
Incomplete secondary	26	31
Secondary (general and specialized)	13	26
Higher (complete and incomplete)	4	8
	100	100

In previous Soviet censuses the increase in the number and percentage of literates was underscored as a measure of progress in education. Now progress is measured by the percentage decline of simply literate persons and persons with a primary or incomplete eight-year education, and the percentage increase of graduates of secondary and higher schools. This is as it should be in a country where illiteracy has been completely wiped out and eight years of schooling is compulsory. About 80 per cent of those who get through eight years of schooling go on to finish secondary (10-year) school. In the current five-year plan period the transition to universal compulsory secondary education will be completed.

	Those with a higher or secondary education (complete or incomplete) per 1,000 persons	
	1959	1970
Among gainfully employed	433	653
men	434	654
women	431	651
urban	564	748
rural	316	499

The table reveals typically socialist trends in education. Significantly, the percentage of men and women with a secondary or higher education is practically the same and has been rising at the same rate for both for at least the last 10 years. This is a product of the true equality of women.

No less significantly, the rise in the educational level is accounted for not only by the numerical increase of intellectuals but also by the higher educational level of workers and collective farmers. In 1959, of every 1,000 workers 386 had a higher or secondary education; now the figure exceeds 550. The educational level of the rural population has also gone up substantially. By the end of 1970 the percentage of people with a higher or secondary education was over 75 in towns and more than 50 for the employed population in the countryside.

The census also shows that the difference in the educational levels of the union and autonomous republics is gradually disappearing, while the general level is steadily rising. Cumulatively, this is evidence of the gradually lessening of social distinctions.

The Nationalities

The census shows clearly that the internationalization of the multinational Soviet people is continuing, that the objective process of free development of all nationalities, the coming together of Soviet nations, is well under way. Here are a few facts to prove it.

The number of people of all nationalities—with only one exception—has increased. Twenty-two nationalities number more than one million. The most numerous are the Russian with 129 million, Ukrainian with 40.7 million, Uzbek with 9.2 million, Byelorussian with 9 million, Tatar with 5.9 million, Kazakh with 5.3 million, Azerbaijanian with 4.4 million, Armenian with 3.5 million and the Georgian with 3.2 million.

Twenty-eight nationalities have populations of from 100,000 to one million and 10 nationalities have populations of from 50,000 to 100,000. There are dozens of other nations and nationalities besides. In all union republics the numerical growth of the nation that gave its name to the republic was accompanied by a growth in the number of people of other nationalities. Territories with ethnically mixed populations are growing.

The national structure of the population has changed somewhat due to the different rates of natural population growth of the different nationalities: The percentage of some has increased, while that of others has declined. The rate of natural growth is highest for the Uzbek, Tajik and Turkmen peoples. However, under socialism these demographic processes do not lead to political or social complications. On the contrary, they show that socialism provides scope for the free demographic movement of each nation.

National Languages

The percentage of people speaking their mother tongue is high, as a rule, amounting to from 80 to 90 per cent. At the same time the census returns show that the nations and nationalities of the Soviet Union have freely chosen the Russian language for mutual communication. This is evident from the following table:

	millions
People with a fluent command of Russian including:	183.7
Russians	128.9
Other peoples of the USSR	54.8

As we see, 76 per cent of the population speaks Russian fluently, which, apart from Russians, includes approximately half the non-Russian population. The following facts are also revealing. All in all, 141.8 million people (as against 124.1 million in 1959) gave Russian as their mother tongue in this census, including 128.8 million Russians and 13 million people of other nationalities. In 1959, 10.2 million people of other nationalities gave Russian as their mother tongue. A considerable number, 4.2 per cent of the population, gave the languages of other peoples of the USSR as their second fluent language.

Men and Women

The figures for age, sex and marital status, it should be noted, reveal some negative aspects, particularly certain demographic aftermaths of the war. The female population (53.9 per cent) is larger than the male (46.1 per cent.) There are more unmarried women than bachelors (in 1970 as many as 722 men per thousand were married, while for women the figure was 579). There are what demographers call "gaps" in the age structure: During the war the birth rate fell drastically, with the result that the number of young women in the most favorable child-bearing age declined, which, in turn, resulted in fewer births in recent years. The country's demographic policy is directed toward raising the birth rate. The Twenty-fourth CPSU Congress Directives schedule higher grants-in-aid to families with many children and more benefits for working mothers.

But however substantial the damage done by the war, the natural structure of the country's population is improving. The gap between the number of men and women is becoming smaller. In 1970 men and women struck a balance in the age groups up to 43 inclusive. With an aggregate population growth between 1959 and 1970 of 15.8 per cent, the number of those married increased by 23.8 per cent, and the number of married women has risen in all age brackets from 19 up. The age bracket of up to and including 15 grew by 11.2 million compared with 1959. More than half the country's population is under 30. The percentage of people of working age was 54. As a result of the higher average life span, now 70 years in the Soviet Union, the percentage of people in the higher age groups has risen.

The census figures not only reflect the actual state of the population in the Soviet Union today. They also provide rich factual data making it possible to scientifically determine the best avenues for future growth.



Academician Victor Ambartsumyan

FLARING STARS

By Elma Parsamyan

The Byurakan Astrophysical Observatory of the Armenian Academy of Sciences is located on picturesque Mount Ararat, near the old village of Byurakan. Its telescopes are pointed skyward and its powerful antennas seem to listen intently to the cosmic silence.

The observatory was founded during World War II. Despite the difficult wartime conditions, reports soon spread about the outstanding discoveries of the Armenian scientists. Their studies of extragalactic systems, unstable stars and galactic nebulae had a considerable influence on the development of modern astrophysics.

Today Byurakan is a world-famous research center. Academician Victor Ambartsumyan, its director, has been elected president of the International Astronomical Union. Scientists from Britain, Bulgaria, France, Italy, Mexico and the United States conduct experiments at the observatory.

Elma Parsamyan, the author of this article, is a senior reseacher there and a student of Ambartsumyan's. She is known abroad as the author of several studies and as a delegate to international congresses.

IN THE LAST TWO DECADES some momentous discoveries have been made in astronomy. Examples are the quasars and pulsars. Though the nature of these celestial objects is still unknown, they have provided new data on the various forms of matter in the universe.

This article is devoted to an equally interesting and puzzling phenomenon: the short but extremely powerful flares of the dwarf stars.

Scintillation in Distant Stellar Clusters

Let me first describe the phenomenon of flaring stars in associations and clusters—the names given to groups of stars connected by a common origin. Stellar associations, as Victor Ambartsumyan demonstrated two decades ago, are very young formations in contrast to the usual clusters; they originated only a few million years ago.

In 1949 American scientist Alfred Joy observed sudden flares on T Tauri stars and also on dwarf emission stars (those whose spectra show bright lines of hydrogen, potassium and other elements) in the vicinity on the Sun. Within a few minutes, a star that has appeared quite normal becomes hundreds of times as bright. Then, after several hours or even minutes, it returns to its usual state. It looks the same as before, but the process has left its traces: The spectrum of the star has changed, indicating changes in its physical structure. It is interesting to note that radiation transfer in normal stars cannot account for such a rapid increase in brightness.

Some years after Joy's observations, Mexican scientist Guillermo Haro, looking for emission stars in the area of the Orion association, also noted some flares. Since then investigations of flares in stellar associations and clusters have multiplied. The bulk of the work was done by Haro and his associates at the Tonanzintla Astrophysical Observatory in Mexico. Later the Byurakan Observatory in the USSR, the Asiago Observatory in Italy, and others launched similar studies.

Flare-ups are located by a very simple method. A star is photographed on a plate with an exposure time of five minutes. Then the cassette with the plate moves on and the star is photographed again. This is repeated five or six times. As a result, we have on the photographic plate a luminous chain of stars rather than a single picture. In the case of flaring stars, one or several pictures in the chain will be brighter than normal. To find just one flare, scientists have to look through pictures of many hundreds of stars.

Ambartsumyan found that 25 per cent of the T Tauri stars in the Orion association passed through the flare stage. Evidently this stage is a natural one in the star's development, although not all T Tauri stars necessarily go through it.

In recent years the study of flaring stars has yielded important new data. For example, Ambartsumyan and his coworkers have made a statistical analysis of flares in stellar clusters and determined some of their characteristics.

Flares in the Vicinity of the Sun

So far we have considered flaring stars in clusters. However, they also exist in the vicinity of the Sun. At present more than 20 stars of this type are known, and since they are closer to us, a different method is used to observe them. This is the photoelectric method, which gives us a continuous picture of the increase in brightness during a flare. It has shown that the process is of extremely short duration—sometimes just a few seconds.

When the study of flaring stars first began, scientists thought that those in clusters and those in the vicinity of the Sun were two quite different phenomena. But in 1957 Ambartsumyan and Haro independently came to the conclusion that they were closely connected. Apparently flaring stars near the Sun form a group in which the Sun is included.

A different point of view was expressed by American scientist George Herbig: He believes that flaring stars in the Sun's vicinity came from neighboring associations. However, many of the facts available today support Ambartsumyan's and Haro's theory. The main difference between the flaring stars in clusters and those near the Sun is their age. The latter are older than those in the Orion and Pleiades clusters.

Joint observations by scientists in Britain, Japan, the Soviet Union and the United States have contributed a good deal to our knowledge of flares. The spectral studies conducted by the Crimean Observatory (USSR) have been especially valuable.

It is important to note that the flare process—the sudden release of a huge amount of energy (10^{30} to 10^{31} ergs) and the rapid return to a normal state—cannot be traced to stellar heat radiation.

In 1953 Ambartsumyan came up with a hypothesis that explained the phenomenon fairly well: The flare energy is brought to the surface from deep inside a star. But this transfer process cannot take place through the usual means of heat conduction and radiation. Evidently the transferred energy, latent at first, is released at a tremendous speed, and processes of atomic decay take place simultaneously on a colossal scale. The amount of energy produced is so great that it must originate deep within the star and must be connected with the basic processes of the release of stellar energy.

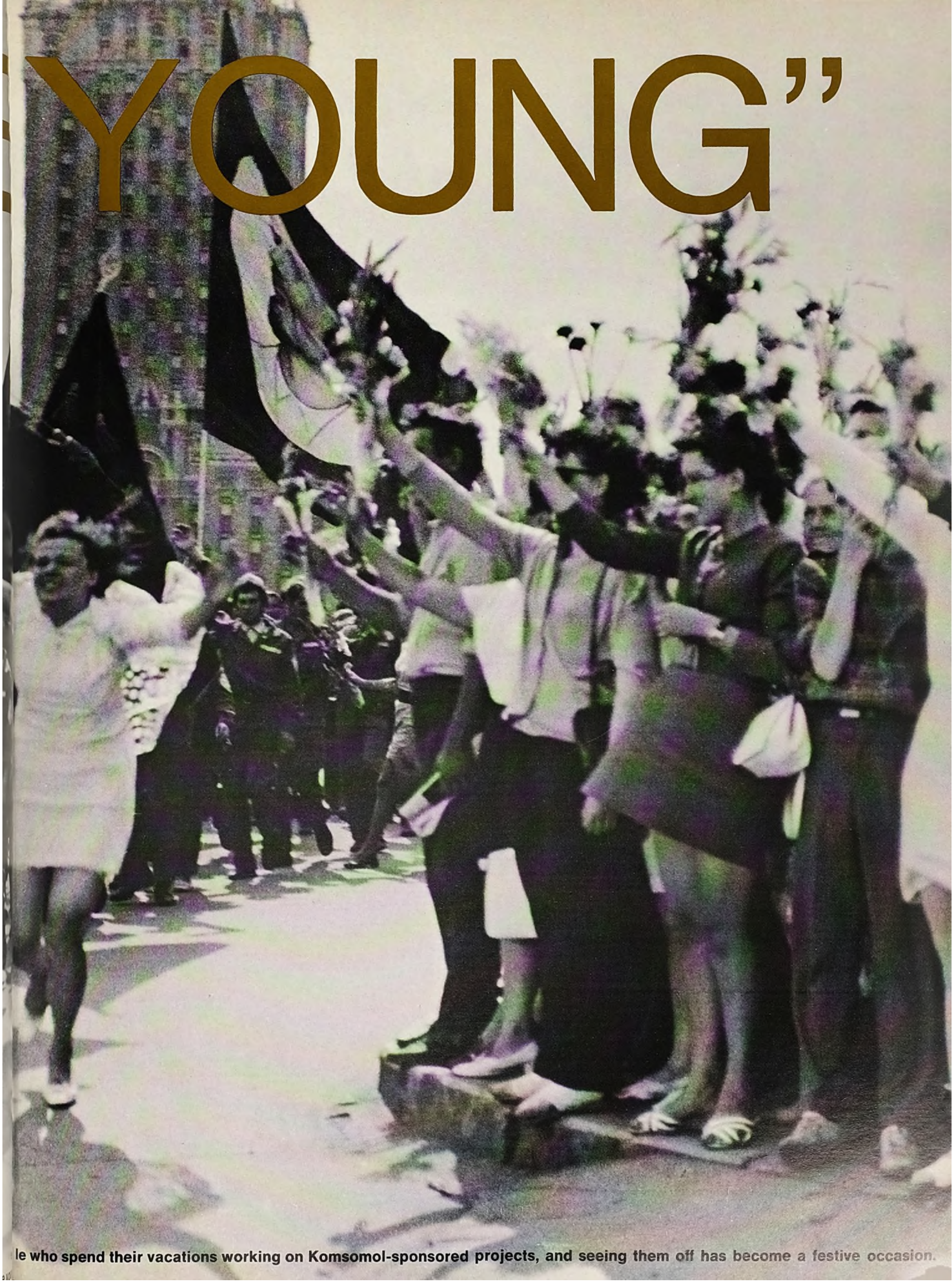
Astrophysicists have been confronted with the problem of flaring stars for two decades now. Why does a star begin to release such a vast amount of energy at a given moment? What is the source of this energy? Does it involve new kinds of atomic decay? Observatories are working on these and other questions. The efforts of scientists in different countries can help answer them.

"THE



Young Communist League members leaving for construction sites all over the country. The country is proud of these young peo

YOUNG”



le who spend their vacations working on Komsomol-sponsored projects, and seeing them off has become a festive occasion.

"THE



THE RELATIONSHIP of youth, society and social progress is a subject that concerns contemporary psychologists, sociologists, writers, publicists and theater and motion picture workers, but they approach it from different angles. Mosfilm Studios' *The Young*, directed by Nikolai Moskalenko and based on Alexander Andreyev's novel *Tell Us Who Is Right, People*, develops the same theme.







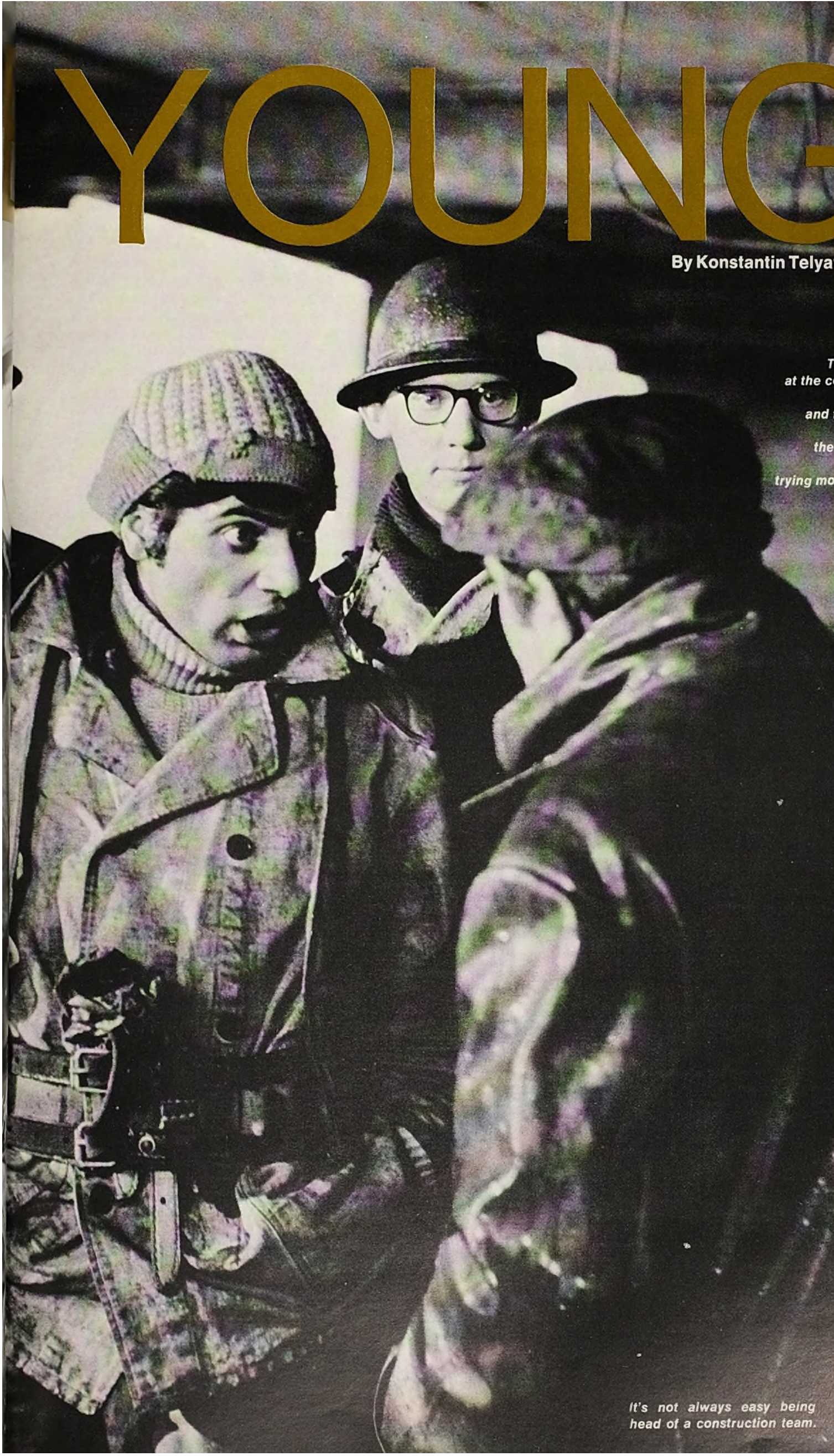
THE plot of *The Young* is rather simple and, in a way, typical. Alexei Nikolayev, played by Yevgeni Kindin, is a young construction worker and a college correspondence student. He is in love with Zhenya, a general's daughter, who grew up surrounded by all the comforts of life. Though Zhenya's mother is not happy about it, Zhenya and Alexei decide to get married. They moved to the contsruction workers rooming house where Alexei has been living. However, when Zhenya is confronted by all kinds of difficulties and a lack of the comforts she is accustomed to, she decides to return to her parents' home. But she is very unhappy separated from her husband. She hopes Alexei will ask her to come back, but he does not want to pressure her. He knows she must make this decision, probably the most important one in her life, independently. At the very end of the film Zhenya does go back to Alexei.

This is basically a love story. But the film really goes beyond that. Andreyev and Moskalenko try to show how the character of our young contemporary, his world outlook, his moral standards and his attitude toward life are being molded. They also deal with the problem of false values. Analyzing the personalities of their heroes, they show the different standards by which Alexei's friends and Zhenya's friends evaluate people and the world around them.

Here we have two diametrically opposed principles, two totally different ideals of life, two mutually exclusive moralities clashing in an irreconcilable conflict. At one pole, we see people dedicated to a cause and willing to take responsibility for their ac-

YOUNG”

By Konstantin Telyatnikov



Far left, top to bottom: The wedding reception is a gay affair at the construction workers rooming house. Zhenya and Alexei with relatives and friends after the wedding ceremony. Their goals in life are so different, they can barely understand each other. Living in the rooming house has its trying moments, like having to wait your turn.

It's not always easy being head of a construction team.

tions, comrades and colleagues for the society in which they live for the destiny of their country. At the other pole are people who are egotistical, who affect an air of skepticism which they dis guise as sophistication, the kind who are indifferent to everything except what concerns them per sonally and always try to take more than they give.

Zhenya's friend Arkadi is Al exei's opposite. He begins by re jecting lofty social ideals and ends with the kind of frustration that results in the complete disin tegration of personality. The mor al infantilism with which Zhenya and her friends are, to one degree or another, infected, turns into cynicism. This turns out not to be so harmless in Arkadi's case. Lena, Zhenya's girl friend, be comes its victim.

People like Arkadi constitute an insignificant minority in our life. Their moral bankruptcy is obvi ous. In our society the people who perform good deeds, not those who say a lot of flowery words, call the tune. And the bet ter we get to know the workers, engineers and students who work alongside Alexei, the more we like them. These are real humans, people whose attitude toward other people, toward their feel ings, toward everything created by man's talent and tireless effort is considerate and loving.

Unlike many film-script heroes, Alexei is far from an embodiment of human virtues. He is completely devoid of the primitive conform ism which, in the final analysis, is nothing more than the outward ex pression of indifference to what happens to others. When Alexei sees something evil, he fights against it ruthlessly, sometimes at the expense of tactfulness in his relations with comrades. But this is only a minor defect in his strong character. He is a man with an important purpose.

In the end, Alexei's moral credo wins over Arkadi's philistine prag matism, and this is the main idea of the film about our young con temporary.

HOW THE NATIONAL QUESTION IS BEING SOLVED IN THE USSR

By Boris Leontyev

IN THE STRUGGLE to strengthen Soviet power, Lenin and his comrades in the Communist Party clearly saw that to consolidate the political and economic victories won by the Socialist Revolution, to build the new society, it was necessary to unite the working people irrespective of their nationality. They underscored the fact that while capitalism divided people by their nationality and class, socialism grew out of the fraternal solidarity of the working people, out of the unity of their forces.

The creation of a multinational union state actuated by democratic principles was determined by the very international nature of the Soviet social system. It was a living, concrete realization of the Communist Party program in the sphere of national relations.

In 1903, long before the Great October Socialist Revolution, the Second Congress of the Russian Social-Democratic Labor Party, on Lenin's initiative, defined the immediate political task of the party in its first program: to overthrow the czarist autocracy and replace it with a democratic republic whose constitution would specifically guarantee the full equality of all citizens, regardless of sex, religion, race and nationality.

Lenin developed the policy of the Communist Party on the national question. In "The Right of Nations to Self-Determination," "Critical Remarks on the National Question," "The Socialist Revolution and the Right of Nations to Self-Determination" he called for the full equality, in fact, of nations, for the drawing together of proletarians of all nations. Proletarian internationalism, as Lenin understood it, presupposes the subordination of interests of the proletarian struggle in one country to the interests of this struggle on a world scale.

Lenin underlined this drawing together of the proletarians and all working people, irrespective of nationality, in their common struggle against the international bourgeoisie. "To achieve this object," Lenin pointed out, "the colonial and other nations which are oppressed, or whose rights are restricted, must be completely liberated and granted the right to secede as a guarantee that the sentiment inherited from capitalism, the distrust of the working people of the various nations and the wrath which the workers of the oppressed nations feel toward the workers of the oppressor nations, will be fully dispelled and replaced by a conscious and voluntary alliance."

Lenin noted that the right to self-determination and secession should not be confused with the real necessity (having in mind the interests of revolutionary struggle) for the disintegration of a big multinational state into its parts. He wrote: "We demand freedom of self-determination, *i.e.*, independence, *i.e.*, freedom of secession for the oppressed nations, not because we have dreamt of splitting up the country economically, or of the ideal of small states, but, on the contrary, because we want large states and the closer unity and even fusion of nations, but we want this only on a truly democratic, truly internationalist basis, which is inconceivable without the freedom to secede."

These scientific propositions of Marxism-Leninism became programmatic demands of the Russian Communist Party.

On November 16, 1917, the "Declaration of Rights of the Nations of Russia" was published. It proclaimed the principles of Soviet national policy: equality and sovereignty, the right to self-determination, including the right to secede and form independent states; abolition of all national and national-religious privileges and restrictions; freedom of development for all the national minorities and ethnographic groups in Russia.

The Soviet Government did more than make a declaration of the Marxist-Leninist principles of national policy, it applied them consistently in real situations. Approximately a month after the publication of the "Declaration of Rights of the Nations of Russia," the Finnish Government announced its country's desire for independence. On the eve of the year 1918 (December 31, 1917), the Council of People's Commissars of the Russian Socialist Federative Soviet Republic, headed by Lenin, recognized Finland as a soverign state. The whole world saw that the Soviet Government acted by the policy it had proclaimed.

But for most of the other nations that constituted part of former Russia, after 1917 the country ceased to be their "stepmother" and became their international, common motherland, the motherland of socialism.

The Ukraine, for instance, for its greater economic and social development, national freedom and security, remained allied with the RSFSR. Highly instructive in this connection is the "Letter to the Workers and Peasants of the Ukraine in Connection with the Victories over Denikin" written by Lenin in December 1919. It notes that the Communists want a voluntary union of nations, founded on complete confidence, and that secession, the separate existence of two big Soviet nations, would be of advantage only to the big capitalist powers, which had already financed all the counterrevolutionary armies that had fought the peoples of the Soviet Union.

The Declaration had great political and legislative importance. The Communist Party wanted to build new, equal relations between the formerly dominating nation—the Russians—and the nations that had been oppressed by czarism. Therefore the next, the second, program adopted by the Eighth Congress of the Russian Communist Party (Bolsheviks) in 1919 (after the Communists began to head the state) spoke of the need to pay careful and particular attention to the survivals of national feelings among the working people of the nations that were formerly oppressed or did not enjoy full rights.

Uzbekistan, Tajikistan, Turkmenia, Kirghizia and Kazakhstan were typical colonial outposts of czarism before 1917. But by the end of the nineteenth century the Russian working class had become one of the vanguard forces of the world revolutionary movement and exerted a progressive influence on the social

attitudes and on the political consciousness of the working people of the East. The peoples of Central Asia and Kazakhstan did not therefore distrust Russians "in general" but the czarist officials who carried out the colonialist policy. Uzbeks, Kirghiz, Tajiks, Turkmen and Kazakhs learned internationalism from the Russian revolutionaries the czarist government exiled to these remote areas.

After the victory of the October Revolution, the Russian workers and peasants, headed by the Russian Communist Party and its leader Lenin, did much to accelerate the development of the backward outlying areas of Russia. Despite postwar economic dislocation, the central government of Soviet Russia sent to Turkestan equipment for silk-winding and silk-weaving mills and a tannery, trainloads of grain and potatoes, oil, metal, machine tools and electric motors. On May 17, 1918, Lenin signed a decree that allocated 50 million rubles for irrigation in Turkestan (an immense sum for the time!) About 600 highly qualified specialists from Central Russia were sent to Central Asia. By 1918, the well-known Russian scientists Baranov, Brodsky, Vvedensky and others founded an adult education center in Tashkent and then became the nucleus of the faculty of the newly constituted Tashkent State University. And that was done at the time when only two per cent of the Uzbeks, for instance, were literate. That was a low percentage of literacy even for the czarist empire. Today (per 10,000 of the population), the Uzbek SSR has twice as many students as France, 2.7 times as many as Great Britain, three times as many as Italy, six times as many as Turkey and 13 times as many as Iran.

Without violating the economic and national peculiarities of the peoples of the outlying areas, the Communist Party has done everything possible in this relatively short historical period to end their backwardness. The rate of progress was accelerated so they could more speedily achieve the level of the central, more developed part of the country. Almost as soon as the country had recovered from the war and its aftermath, construction of the Turksib (Turkestan-Siberia Railroad) began. This line in the southeastern part of the Soviet Union was given priority over many other important construction projects in the central areas.

That was the state of affairs 40 or 45 years ago.

Turning to more recent history, we see, for instance, that during the Eighth Five-Year Plan period (1966-1970) the country's total volume of industrial production multiplied by 1.5 times, while in a number of union republics the growth during the same period was 160 to 180 per cent. The Ninth Five-Year Plan (1971-1975) calls for a 47 per cent increase in industrial production in the country as a whole, while in the Byelorussian Republic the growth is to be 58 per cent, in the Kazakh Republic 59 per cent and in the Armenian and Turkmen republics 64 per cent. And although the present differences in the over-all level of economic and cultural development of the union republics are insignificant, the Communist Party and the Soviet Government still give priority attention to critical problems of the national areas.

Lenin attached great importance to the federative principle, to a federation of states. Preparing to speak at the Second Congress of the Communist International on the national and colonial questions, he noted in his initial draft theses that federation was the "transitional form" to the full unity of nations. That was confirmed by the experience of the Russian Federation, both in its relations with the other neighboring republics and in the progress of those nationalities in Russia that in the past had no state sovereignty whatever. Examples are the Bashkir and Tatar autonomous republics in the Russian Socialist Federative Soviet Republic formed in 1919 and 1920.

As the subsequent 15 or 16 years showed, both the Transcaucasian and the Central Asian republics, before becoming union republics, passed through several periods of autonomy or federation.

In March 1922 the Transcaucasian Federation was formed; in December it took the official title Transcaucasian Socialist Federative Soviet Republic. In December of the same year, 1922, the congresses of the Soviets of the Ukrainian SSR, the Byelorussian SSR and the Transcaucasian Federation decided to join, together with the Russian Federation, into a single union state.

On December 30, 1922, the First Congress of Soviets of the USSR opened in Moscow. It discussed and confirmed a Treaty on the Formation of the Union of Soviet Socialist Republics. Initially it included, on an equal footing, the RSFSR, the Ukranian SSR, the Byelorussian BSSR and the Transcaucasian TSFSR.

The Turkestan Soviet Socialist Republic was originally part of the RSFSR as an autonomous republic (until October 1924). This was dictated by the very special circumstance of the time. Soviet Central Asia remained for a long time the arena of fierce class battles. In 1918 there were several counterrevolutionary uprisings, inspired by the British interventionists who invaded Turkestan through Persia and Afghanistan. In 1919 Turkestan was cut off from Central Russia. Only in 1920 were the Emir in Bukhara and the Khan in Khiva overthrown.

The best Communists, political and army leaders helped the peoples of Central Asia put down internal counterrevolution and armed invasion. The daily assistance by the Central Committee of the Party and the Soviet Government strengthened Soviet Turkestan and helped its economic and cultural growth.

On September 16, 1924, the Third Extraordinary Session of the Turkestan Central Executive Committee decided—consistent with Leninist national policy—to give the Uzbeks, Turkmen, Kirghiz, Tajiks and Kazakhs the right to withdraw from the Turkestan ASSR and form their own national states. The same decisions were made by a session of the All-Russian Central Executive Committee of the RSFSR. Thus, the Uzbek SSR and the Turkmen SSR were formed. The Kirghiz of Central Asia first formed their Kara-Kirghiz Autonomous Region; in 1926 it became the Kirghiz Autonomous Republic and in 1926 the Kirghiz Soviet Socialist Republic. Tajikistan, which from 1924 was an autonomous republic within the Uzbek Soviet Socialist Republic, in October 1929 was reorganized as a union republic. One of the reasons for that administrative reorganization was the fact that between 1924 and 1927 alone the budget of Tajikistan multiplied by almost nine times and the number of industrial workers doubled.

In 1936 Kazakhstan was reorganized from an autonomous republic within the RSFSR into an independent union republic. Almost simultaneously the three republics within the Transcaucasian Federation—Armenia, Azerbaijan and Georgia—also became union republics. In 1940 Latvia, Estonia, Lithuania and Moldavia joined the USSR.

The internationalism, friendship, equality and mutual assistance of the Soviet peoples became the powerful force that helped defeat the nazi obscurantists. The war against Hitler Germany became the Great Patriotic War of all Soviet peoples. The defense against the nazi invasion of Moscow and Leningrad, Minsk and Kiev, Kishinev and Riga was carried out by citizens of all the nationalities in the USSR.

The morale of the Soviet peoples, their international unity and fidelity to their socialist homeland and the ideas of communism withstood the severest trial.

The Communist Party emphasizes in every aspect of its work the harmonious development of the Soviet state, of all its national areas. The head of the Soviet Government, Alexei Kosygin, submitting for the consideration of the twenty-fourth CPSU Congress the Draft Directives for the Five-Year Economic Development Plan, said, in part, that one of the most important conditions for raising the efficiency of social production was the correct distribution of the productive forces, the industrial development of all the union republics, the consistent application of the Leninist national policy.

During the 54 years of Soviet power, the Communist Party, the party of Lenin, has raised the large and small nations of its great country to the summits of free creative activity and progress. In the process of joint construction of the new society, a new historical community of people has evolved—the Soviet people.

Doctor Maria Demchenko, Legislator

BY IRINA KALITENKO

PHOTOGRAPHS BY VSEVELOD TARASEVICH



The Moscow Soviet, the City Council, has 1,140 deputies. About half (506) are women; 271 of them are factory workers; 74 are engineers and technicians; 25 are medical personnel; 23 are teachers; 18 work in the sales and catering fields; 35 are scientists and artists; 8 are Communist Party and trade union officials; 46 are factory directors; 2 are lawyers, and 4 are students. The deputies are elected for a two-year period. Their duties are diverse, and the range of problems they are called on to solve is extensive, for they have the responsibility of administering one of the world's big capitals, a city with a population of seven million. Dr. Maria Demchenko, a pediatrician, has been elected to the Moscow Soviet four times.

I MET Dr. Maria Demchenko in her office at a children's hospital.

When I asked for a biographical outline, she shrugged her shoulders as if to say that there was really nothing special about her life. But once launched on reminiscences of childhood and youth and her studies at the medical institute, she warmed to the subject. She had begun working as a pediatrician at a polyclinic and then shifted to the hospital. She told me how she was elected to the Moscow Soviet for the first time, about her initial difficulties, and the times she had turned to that tried and tested means of consolation—tears. But to start from the beginning.

Past

". . . I was born in one of the oldest districts of Moscow, the *zaryadye*. My father worked in a shoe factory and my mother was a seamstress. She was often ill and bedridden, so that my elder sister Lydia and I had to take care of the house. We did our best to keep the place tidy and had Mother's room spotless whenever the doctor came. Mother had a great respect for people in the medical profession and often expressed the hope that we girls would become doctors.

"Next door to our house was a hospital, and each time I went there I was filled with awe. It seemed to me that miraculous rites were being performed there, and I dreamed of becoming part of that world.

"When I was seven, mother died."

Came 1941. Wartime Moscow was grim and cheerless. The hospitals were full of wounded soldiers. The white smocks of doctors and the blue robes of patients could even be glimpsed in some of the schools which had also been turned into hospitals. A blood bank was opened in the street the Demchenkos lived on. Maria went to work there as a lab assistant. People streamed in from morning to night to give blood to the wounded. Many of them refused to take payment.

As the years passed, the girl's dream of becoming a doctor did not fade, and in 1943 she entered a medical institute. Before the war ended, she was working evenings in a polyclinic. Calling on patients, she saw many things to sadden her—the unrelieved pain in the eyes of widows, the pallor and gauntness of hungry children. Sometimes, making a call, she would find the sick child alone and the mother's note on his pillow. During the war mothers often could not wait for the doctor, since they spent almost all their waking hours in the factory shops, replacing the men who had gone off to the front. Maria did more than examine her child patients. She treated them, brought them medicine and, whenever she thought it necessary, took them to the hospital.

When the war ended, a children's polyclinic opened in the building where the blood bank had been. After receiving her diploma, Dr. Demchenko went to work there. Though married by that time and living in another district of Moscow, she was drawn to the people she had known, those with whom she had weathered the adversities of war.

At the polyclinic she was responsible for the health of the children living in her district (she was called just that—district doctor). But people came to see her at the polyclinic for more than medical advice. Knowing her as a responsive person, they wanted her counsel on domestic problems; they came to share their news with her, to invite her to visit or to a wedding, to say good-by, for increasing numbers of them were moving to new apartments in other parts of the city.

Maria was nominated as deputy for the first time eight years ago. She was working at Children's Hospital No. 32 in the Kalinin District, where she still is.

"I remember how surprised I was to be nominated," she said with a smile. "I wondered whether I could cope. You see, I had two children and they were still very young. Being a deputy to the Moscow Soviet is no joke. It means representing 5,000 people in the Soviet of our capital. I have to admit that though I had some misgivings, it was nice to know that people put their trust in me."

During the pre-election campaign, Maria visited the different institutions in her district and met her constituents. She told them about herself, wrote down their suggestions and instructions, tried to think problems through as a potential legislator. She was unanimously elected deputy to the Moscow Soviet of Working People's Deputies.

Present

"I was recently elected for the fourth time," she told me. "Now I feel much surer of myself. But when you have the responsibility for other people's lives, you can never be completely sure"

The Moscow Soviet has sessions every second month to consider such problems as municipal facilities, the work of the city's medical institutions and the like. Between sessions, deputies serve on one or more of the 18 standing committees.

"I'm a member of the education committee, which handles preschool and school matters. Moscow has more than a thousand schools and a million schoolchildren, so you can see how important our work is. There are 15 deputies on our committee. It's headed by Alexander Serov, director of one of the schools. Besides ourselves, we have 40 activists—mainly teachers—who give us volunteer help.

"The committee's decisions," Maria continued, "are binding on the city and district departments of education, just as the decisions of the other committees are on the corresponding city and district leading bodies."

"And how does your pediatrics fit in with the work of the committee?"

"At first I thought I ought to be on the public health committee. But I soon found out that on the education committee, too, there was plenty for a doctor to do. For example, we are responsible for school lunchrooms. Menus must be okayed by the Institute of Hygiene and Nutrition. It is our job to see that the children's meals are cheap and nutritious (milk in our schools is provided free of charge).

"At the committee's suggestion many districts in the city have opened special dining rooms for schools. Milk is now given to children in small cardboard containers.

"Our committee likewise decided to organize so-called forest schools. Children recommended by the doctor spend a month or two in the country, where they continue with their schooling. The Bauman District built a whole health center for children of school and preschool age in the suburbs of Moscow.

"An important aspect of our work is school medical examinations. We make sure that 100 per cent of Moscow's schoolchildren get regular medical checkups. Then we follow up to see whether the nearsighted children get their glasses, whether teeth are attended to, and whether physically underdeveloped children are taken care of.

"In discussing the design for new school buildings, it is the pediatrician's job to check on whether the classrooms have enough daylight or proper artificial lighting, and whether the new desks and adjustable seats meet posture specifications. So you see, I have to do a lot of reading and inspecting to help the committee make the right decisions on a citywide scale.

"We always pay a lot of attention to sports facilities for the children. The 1971 Moscow budget calls for two new stadiums, 12 athletics schools, 20 sports fields and one sports complex. Besides, swimming pools are to be built in several schools. We are also seeing to it that all schools have gyms. Between 1961 and 1970 gyms were built in 91 schools with funds provided by the District Soviets. This year another 20 gyms will be built. By the end of 1972 every Moscow school will have one."

"I heard that you made an interesting suggestion at a recent committee meeting. Can you tell me about it?"

"My suggestion had to do with the pro-



Physician-legislator Maria Demchenko spends a rare evening at home with her sister.

longed-day groups in the schools for children whose parents work. The children have their dinner at school and do their homework under the guidance of teachers. They also play and rest under the teachers' vigilant eye. Since youngsters usually find it hard to adjust to the prolonged-day schedule, I suggested 'fusing' the schools with the neighboring kindergartens, so that the little children would be able to rest for an hour or so in special bedrooms provided by the kindergartens."

"Your committee also takes care of kindergartens. What are you doing for them?"

"We keep an eye on the need and see that the housing plans for the new districts allow for a sufficient number of preschool facilities. In Moscow the demand for kindergartens is completely satisfied. I believe that our committee contributed."

"What other duties do you have, aside from your work on the committee and Moscow Soviet sessions?"

"Once a month I receive my constituents. They come to me for help of various kinds. Recently, for instance, retired doctors came around to ask me to help them fix up a preventive treatment center in a big apartment house. Though there is a district polyclinic not far away, people don't feel like going there for every little complaint.

"I saw to it that they were given a room for their center. It was fixed up for them, and the doctors are now using it."



Legislator Demchenko at a meeting of the Moscow City Soviet and in the lobby during a recess.



"How often do you report to your constituents?"

"It's our practice to report once a year, early in December. Usually I make my report in a big club. The residents of the district gather to hear what the Moscow Soviet has done and intends to do. They ask questions and speak their minds. Sometimes the meeting lasts for several days—so many people want the floor."

"One more question. Isn't it hard for you to combine your medical work with your duties as deputy, besides looking after your family and home?"

"If I was just beginning to do all that now, I'd find it difficult. But I've gotten used to planning my day. I've been working like this all my life.

"Things are easier at home now. My daughter and son are finishing school and can take care of themselves. They are doing well at their studies. But neither of them is headed for medicine; they're more interested in mathematics and engineering.

"It's gratifying to know that people think your contribution as a deputy is necessary and important. Just as a doctor forgets, after a sleepless night spent at a bedside, about his fatigue when he sees his patient recovering, I too, as a deputy, get a lot of sustenance out of people. And every time I see happiness that I've had a hand in making, I forget all about being tired."





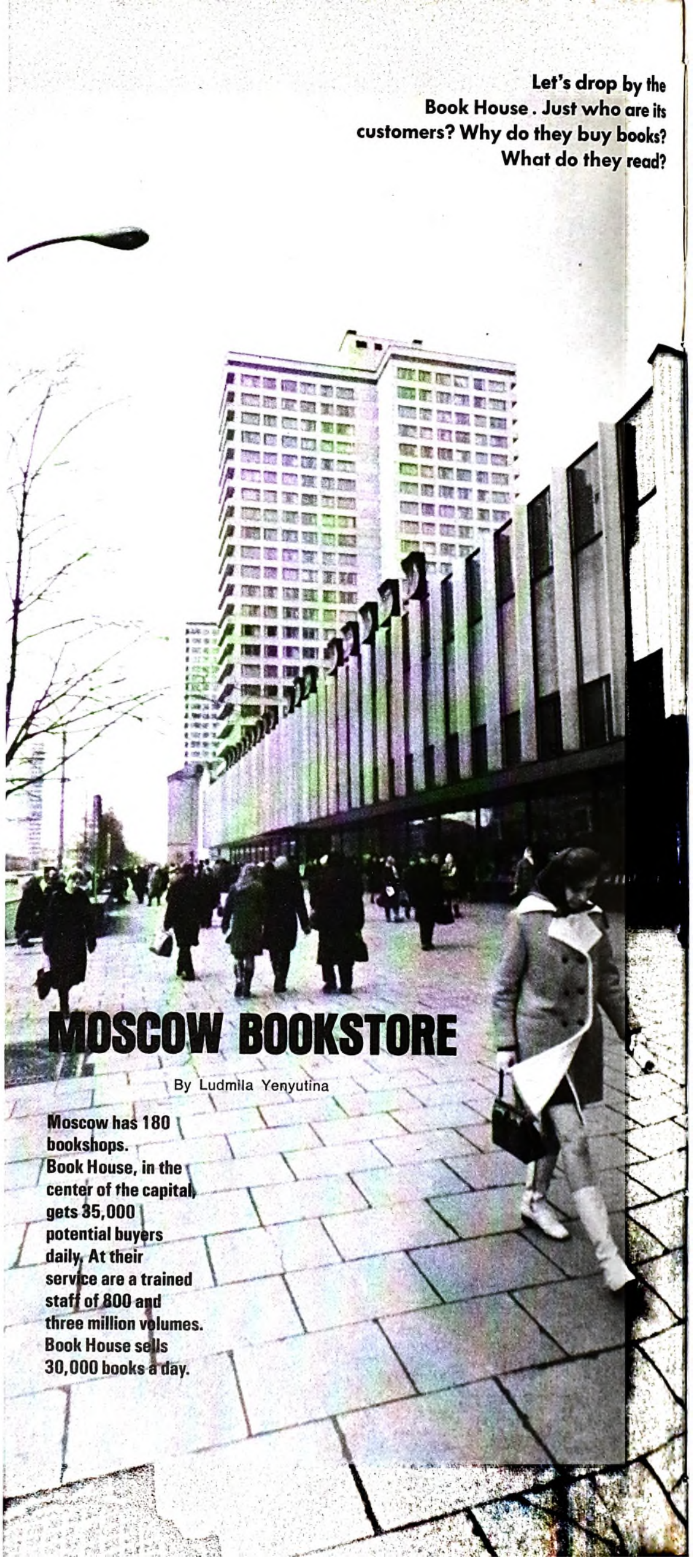
She is assigned to the school commitee, which can use her expertise on both health and children.



Pediatrician Demchenko with a patient. She has two children of her own, a teenage son and daughter.

BOOK INTERNATIONAL

On the USSR's initiative, UNESCO declared 1972 International Book Year. The idea is to acquaint people in all countries with the value of books as tools for social progress. In 1971 alone the Soviet Union published 86,000 titles in 108 languages; the average edition ran to more than 60,000 copies.



Let's drop by the Book House. Just who are its customers? Why do they buy books? What do they read?

MOSCOW BOOKSTORE

By Ludmila Yenyutina

Moscow has 180 bookshops. Book House, in the center of the capital, gets 35,000 potential buyers daily. At their service are a trained staff of 800 and three million volumes. Book House sells 30,000 books a day.



YEVGENI KISELYOV,

ninth-grade pupil in a Moscow school, 16.

I've grown up with books. My grandparents began our collection. We have some very rare books, for instance, one of the early editions of Leo Tolstoy's *War and Peace*.

When I was 10, I began buying books myself. Now I'm interested in Japanese romantic fiction. I believe this is a new literary trend in Japan, and there are already some fascinating examples. I've just finished a book of stories by Sakyo Komatsu.

I have a pretty good library of English and American writers, both in translation and in the original. I began with Agatha Christie. She has an easy style, and her plots are exciting. Now I'm trying to read Ray Bradbury and Robert Penn Warren in the original. I also buy books on modern painting. I buy at least one book a week.



VLADIMIR KHASANOV,

machinist at a building materials factory, 40, a Muscovite.

My daughters, Marina, 10, and Rosa, 8 are fourth and second graders.

Tomorrow is Marina's birthday. I promised to buy her a book. Generally I buy one or two books on payday, that is, twice a month. My wife and I planned it that way. We buy fiction, romantic novels, but more popular science books. We also subscribe to a lot of magazines, like *Communist, Science and Life* and *Engineering for the Youth.* Though Marina is only 10, she always grabs the magazines first. I don't think it can hurt her, even though she may not understand everything. I pick out chemistry books for her—she's interested in the subject. And classics, too, of course. I've subscribed for the collected works of Mikhail Sholokhov, Leo Tolstoy, Theodore Dreiser, Émile Zola and Victor Hugo. I also plan to buy the collected works of Jack London. I like his sea stories.





LUDMILA SAVENKOVA,

third year student at the Moscow Power Institute, 20.

I drop into bookstores once or twice a week. I love to read, particularly modern prose and poetry. My favorite writer is Alexander Kuprin. He is a fine psychologist and a very good writer. My father is a passionate reader. At home we have a big library, and father guards his books with his life.

I came here today to look for some music. I finished a piano course at music school, and I sing a little. I bought a new edition of old Russian ballads. I'm crazy about them.





SASHA VISHNYAKOV,

fifth grade, 12, born in Moscow.

I've been collecting stamps for two years. I have a whole album of them. I come here once a week. I also like to read. Adventure books mostly. I like poems, too, especially Pushkin. When I was a little boy, my mother gave me Yershov's *Little Hump-Backed Horse.* I still know whole pages by heart. I like Mark Twain best of the American writers, especially his *Adventures of Tom Sawyer.*





VERA CHIKMARYOVA,

Civil engineer, 57, pensioner, a Muscovite.

Books are my life. I can't live without them. I'm supposed to be food-shopping, but I couldn't help dropping in here to see what's new. I bought two books on tourism, *Roads in Vyatka* and *In the Mountains and Valleys of Transcarpathia.* You may be wondering why. You see, my husband and I used to travel a lot. He's ill now, but we still hope to get back on the road.

Our pride is our library on the history of Moscow. We have everything in and out of print on the subject, old editions and new.



The shop's information service answers some 500 reference questions asked by customers daily.







ALEXANDER IVANENKO,

railway signalman, 34, lives in Kursk.

This isn't my first visit to Moscow. I've been in many museums here, and I've taken in shows on my nights off. This time I have only one day free, I'm leaving this evening. I dropped in here to buy a few books on electronics in transport communications. These are the latest books on the subject. I also read fiction, of course. But my wife picks out the novels. She's a signalman on the railway like me. She likes modern poetry and prose, I prefer the classics. We have a small library, and we add two or three books a month to it.



NIKOLAI MIGITS,

Aeroflot steward on an AN-12 freight plane, 25, lives in Magadan, in the Far East.

I work on planes flying the Magadan—Moscow route, so I'm in the capital several times a month. I drop into the bookshops regularly. I have a small library of some 150 to 200 books. I also borrow books from the libraries. Novels, poetry, science fiction, adventure books and whodunits.

My favorite writers are Maxim Gorky, Alexei Tolstoy, Émile Zola and Alexander Fadeyev.

I've just bought a book on Marxist-Leninist philosophy and a textbook on radiodynamics.







IRA SHESTAK,

six years old, born in Moscow.

Daddy and I are going to a show today, but he promised to buy me a new book, too. See how pretty it is?—*Magician of Emerald City*. Alexander Volkov wrote it. I have lots of books, a whole shelf of them. Mom and Daddy have a whole bookcase. I like to read, only I can't read fast. It's better when Mom or Daddy reads to me. When I grow up, I'm going to buy a lot of books.



MIKHAIL GUTKOVICH,

radio engineer, 35, Muscovite.

I drop into bookstores every day and buy three or four books a month. My library is not too big yet—only some 500 or 600 books of fiction, history, political economy, philosophy and art.

Today I bought G. Sokolov's *Delphi,* a current issue of the *Cities and Museums of the World* series and *From My Life* by Martiros Saryan.

The Soviet Union's printshops turn out 3,000 books every minute. Do many of them gather dust in the warehouses? Between 1965 and 1970 Soviet readers bought six billion books and booklets. Add to that figure the great number bought by school and libraries.





KUSHENEI URISTEMBEKOV,

teacher, 26, lives in the village of Akzharsky. Kazakhstan.

At the present time, I am studying folklore at the *Institute of World Literature in Moscow.*

After college I taught the Kazakh language and literature at our state farm's secondary school. I've always been interested in folklore, and this led me to become a *zhirau,* or bard. I was sent to Moscow to study the folklore of the peoples of the USSR. When I return to Kazakhstan, I'll open a school for *zhirau.* I'm always on the lookout for books on the folklore of the Turkic peoples.

My favorite writers are the Russian Mikhail Sholokhov, the Kazakh Mukhtar Auezov, and the Kirghiz Chinghiz Aitmatov. Of foreign authors I like Theodore Dreiser, Ernest Hemingway, Walter Scott, Erich Maria Remarque and a lot of others.

I have many books of verse, and I'm particularly fond of Sergei Yesenin and the Kazakh Olzhas Suleimenov.





SERGEI YASTURZHANSKY,

second year student at the Moscow State Institute of International Relations, 18.

I go book-buying at least once a week. We have a library of more than a thousand books. My parents get the credit for that, of course. Now I make my small contribution. I'm interested chiefly in law books—I'm studying law—and political literature. I also buy the latest novels. I have a library on scientific communism, too.

Today I bought Colliard's *International Organizations and Institutions.* The author is a Frenchman, a professor of law at the Sorbonne, and he deals with many juridical questions. My special field is France, so I have a dual interest in that book.





Book House's always busy advance-order department takes care of some 300,000 customers annually.



Books are published in 89 languages of the Soviet peoples. Forty-three of these peoples had no written language of their own before the Revolution.



In the rare book department. Ulozheniye, *Code of Laws of Czar Alexei Mikhailovich (1629-1676).*



THE YOUNG HERO IN LIFE AND LITERATURE

SOVIET LIFE correspondent Marina Khachaturova interviews playwright Victor Rozov

MY FIRST EXPERIENCE with a grownup show was Victor Rozov's play *Her Friends*. That is why I remember it so well. It was a first not only for me, but for the playwright as well. Now, 23 years later, Victor Rozov's name is well known, and his 20 plays are running in scores of theaters throughout the country and abroad. But Rozov has remained true to the theme of his first production—young people maturing, striking out on their own, acquiring a sense of themselves as personalities, as citizens. His characters are confronted with the same ethical problems that the young have faced for generations, problems that demand new solutions in accordance with the new times. In Rozov's plays you can trace the changes that have taken place in our youth during the past 25 years. In 1957, for instance, the Sovremennik (Contemporary) Theater in Moscow opened its first season with his *Eternally Alive*, highlighting a theme characteristic of Russian literature, that of social responsibility.

Recently I interviewed Rozov on his view of the youth in real life and in his plays.

Correspondent: Do you think the interests and priorities of Soviet young people have changed in the last 25 years?

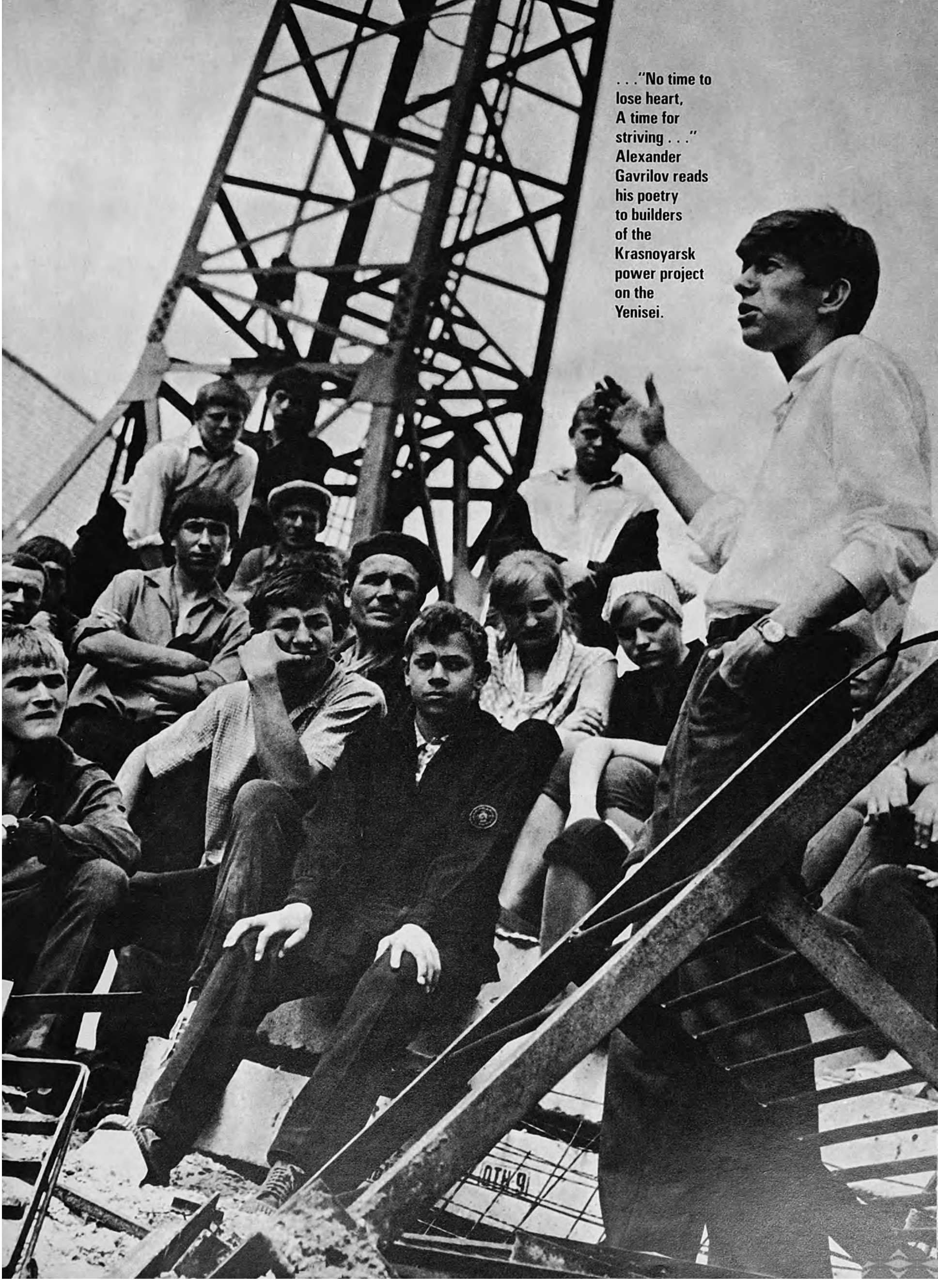
Rozov: Obviously the youth of today are far more mobile and more active socially. Distance presents no problems for them: They will go to the Far North or to the deserts of Central Asia if there is something there that interests them. But their interest is not based on false romanticism, on an ignorance of real-life problems. When young people change their occupation nowadays or move to a new place, they know what they're doing. Like their parents, they go where the country most needs their energy and enthusiasm to build communist society. At the same time, they know that the boundless spaces of Siberia, for instance—the construction sites whose dimensions defy the imagination—offer them the best opportunity to test their stamina. In other words, they are able to act independently instead of hiding behind somebody else's back, somebody else's authority. They get ahead by dint of youthful ambition, the desire to show what they can do. Particularly in sparsely populated places—in the East, at the construction sites of huge industrial complexes, hydroelectric stations, and oil and gas pipelines—the young specialist and even the trainee can enjoy the feeling of being needed. In just three to five years he can see transformations that would take a lifetime in the old industrial centers, with their established economies. The big construction sites offer novelty, unexpected problems and solutions and, finally, a group of like-minded people who value comradeship, resourcefulness, independence of thought and action.

Experience turns the young into "captains of production." This is especially true because of the rapid increase in the number and size of construction sites and, therefore, in the need for specialists. It is not unusual to find a 30-year-old production manager directing hundreds of workers and solving complex technical problems. In such positions of authority, young people are faced with ethical problems of direct interest to the writer.

These changes in the role of young people are taking place in every sector of our society. But the social dynamism of the young workers, especially, provides a rich mine of ideas for writers. It reflects some highly important changes in the social structure of

Continued on page 54





. . . "No time to lose heart,
A time for striving . . ."
Alexander Gavrilov reads his poetry to builders of the Krasnoyarsk power project on the Yenisei.

BOOKS FOR THE YOUNG



Valeri Ganichev is director of Molodaya Gvardiya (Young Guard), the largest publishing house of its kind in the country. Ludmila Borozdina of SOVIET LIFE interviewed him on books for young people.

Photographs by Mikhail Kharlampiyev
MOLODAYA GVARDIYA MAGAZINE

BOOKS FOR ALL! is the motto of both International Book Year and the Molodaya Gvardiya Publishing House, which puts out about 400 books a year in a total printing of some 40 million copies, 15 monthlies with circulations of up to five and a half million, and the newspaper *Pionerskaya Pravda,* whose circulation is 10 million.

As its name implies, the publishing house serves young readers from 10 to 30, with a wide range of interests and occupations.

Though there are some older, highly experienced editors, the work is handled mainly by young, energetic people familiar with their audience and its problems.

One of the older staff members is director Valeri Ganichev. He has a candidate's degree in history and was previously a Young Communist League leader and journalist, the author of a book about the origin and development of the youth press in the Soviet Union. He has been heading the publishing house for more than four years.

Mild in manner but firm when he's made his mind up, Ganichev is a man who values his own and other people's time. He is also an erudite bibliophile who can talk with writers in their own language. Ganichev was one of the four sons of a locomotive engineer. He began to build up his own library while attending school, not even imagining that he would become a publisher. Ganichev majored in journalism at Kiev University. After contributing for a number of years to Molodaya Gvardiya's monthly of the same name, he was appointed director of the publishing house.

Q: How does Molodaya Gvardiya determine readers' requirements and tastes?
A: There are a number of social and psychological indices of the books young people want—the kinds of books that will help them know the world and themselves better. Of course, their interests depend on age, profession, education, personal tastes. But they are always looking for ways to express themselves in society. They want to grasp everything new in every field of science, engineering, literature and the arts. They are keenly interested in sports.

That is the objective situation on which our work—our planning and publication of books—is based. We take into account the opinions as well as the needs of the readers. Of course, these needs change constantly as the reader's spiritual and intellectual horizons widen. Also, the development of the mass media has affected the traditional influence of books on most readers, and this makes it even more important to study readers' demands for purely practical reasons. We keep track of young people's opinions through the sociological team of the Russian Federation's Central Youth Library and other research groups. We also maintain direct contact with them through our mail. And we hold discussions on our publishing plans, of separate books and series.

Q: Is your mail large?
A: We get anywhere from 20,000 to 25,000 letters a year, not counting those that are addressed to the authors through us.

Q: Are they all comments on your publications?
A: They're comments, good wishes, advice, criticism.

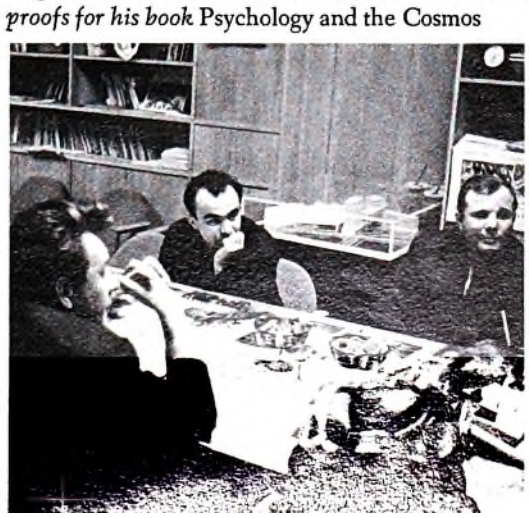
Q: What is there more of?
A: Comments. For instance, last year we put out *Mother of Mankind* by the Don writer Vitali Zakrutkin. It's a wartime story about a peasant woman, Maria, who remains behind in her village after it's razed, and gets down to the work of building a new home on the ashes of the old. Everything living clings to her—animals, birds, children—and she becomes a reassertion of life. We received thousands of letters about this book. People also send us comments on the works of Ivan Yefremov, the science fiction writer; poet Andrei Voznesensky and spaceman Georgi Beregovoi.

Q: What kind of criticisms do you get?
A: They can be divided into two groups. The first is criticism of quality—artistic level, makeup, and so forth. The second points out that we still have blank spots in our work, not enough special editions of interest to particular youth groups—sportsmen or music lovers, for instance.

Q: Do you find it difficult to publish literature for so varied a group, demographically and socially, as the youth?
A: It's certainly not easy, but we find it very interesting. Not only must we satisfy the most diverse needs as far as subject matter is concerned, but we must do so on a high artistic and scientific level. The young person will not read a book, even if it is on a topic of great interest to him, if it is oversimplified, boring or trite.

Despite the fact that our readers vary greatly, we think it's important never to adapt ourselves to undeveloped tastes, but rather to advance and enrich them, to stimulate people's thinking. Our job is to cultivate an interest in serious reading. What I have in mind are books that are not academic in style, but genuinely thoughtful. We're always on the lookout for new genres and authors.

World's first cosmonaut Yuri Gagarin (right) visited the publishing house two days before his tragic death on March 27, 1968, to initial the proofs for his book Psychology and the Cosmos



Q: Who finances Molodaya Gvardiya?
A: Our publishing house was founded in 1922 as a cooperative society. Its initial funds were supplied by the YCL and other public organizations, as well as by individual YCL members.

At present our main source of funds is the income from our book, magazine and newspaper sales.

Q: How do you set the price of your books?
A: We add up the production expenses: payment for the text, illustrations, cover, paper, and so forth, according to the state price list. This list allows some leeway, and we always use the lowest figures, because books for young people should be cheap. Their needs are always greater than their means of satisfying them.

Q: Do you ever have any difficulty selling books?
A: Our publishing house, like all the others in the country, does not sell the books itself. This is taken care of for us by Soyuzkniga, the USSR Book-Trading Society.

Each year we draw up a production plan and pass it on to Soyuzkniga to determine the number of copies we should print. Soyuzkniga in turn checks the plan with the bookshops in towns and villages, the library-book supply agencies and educational institutions. These study customers' demands not only at the bookshops, but also at factories, offices, collective farms, schools and colleges. Then we figure out the size of printings.

On the whole, we have no difficulty in distributing our output. *Molodaya Gvardiya* magazine is very popular with its readers, and the demands of booklovers often exceed our supply. Most popular with the readers is our modern prose—the Eureka popular science series, science fiction, foreign literature, books put out by our Young Pioneer editorial office, and the Lives of Remarkable Men and Women series. An order for a work of fiction may run as high as 800,000 copies. In 1971 the average size of our printings was 100,000.

Q: Is the number of copies of books and magazines rising or falling?
A: In the past 10 years the number of copies of our editions has increased by six times.

Because the age groups and professional interests of our readers have become more diversified, we are issuing a number of new magazines and almanacs: *Student Meridian; Friendship,* which is the joint Soviet-Bulgarian publication; *Prometheus,* a historical almanac; *Panorama,* a cultural review; *Eureka,* which consists of commentaries on scientific discoveries, and others.

Q: You mentioned public discussions of your plans. What does that mean in practical terms?
A: Such discussion has a direct influence on both the content and the circulation of our books. The greater the interest in a book, the larger the number of copies. Usually we hold these discussions at factories, libraries and educational institutions, among readers of all ages and occupations.

Often during discussions our readers suggest new subjects or express ideas that we later develop. For instance, we recently issued a new series, The Law As It Concerns Me and Legal Information for Me. The idea underlying it was suggested by readers from Krasnoyarsk. Similarly, after discussing our plans with some students in Tomsk, we began publishing the series Youth, the Revolution and Progress, about the status of young people throughout the world, the youth movement abroad, the views of philosophers and sociologists on the problems of the young.

Q: What is the situation regarding the publication of political literature generally?
A: Interest in this type of literature is rising among the youth. The order for the book *November 19, 1942,* which marks the thirtieth anniversary of the Battle of Stalingrad, for instance, ran to 220,000 copies, and the order for *Talks About the Party* to 250,000 copies.

About once a year we publish a new series dealing in popular form with the main issues of the day. Recently, together with Soyuzkniga, we polled the young people of 57 cities on our political publications. The results showed that both the choice of subject and the presentation are very important. For instance, the most popular books turned out to be those dealing with the role of the youth in today's world, with their ideals, interests and goals. The most popular form is the essay and article. Books of a didactic nature, those that exhort or preach, are shunned by young people.



Soviet novelist Mikhail Sholokhov (left), Nobel Prize winner, welcomes a group of young writers from various parts of the country brought to his home by Young Guard publisher Valeri Ganichev.

Q: What are the criteria underlying your choice of books for publication?
A: We're guided by our desire to educate the youth in a spirit of morality, ideological consciousness and internationalism. Our group of reviewers helps us evaluate the manuscripts from a literary viewpoint. We have a permanent editorial council consisting of well-known writers and critics, public figures, scientists and workers, with whom the editors maintain close contact. We discuss our plans with them and solve some of the most important problems pertaining to manuscripts.

The final choice of manuscripts for publication is made by the editorial council and the heads of the publishing house, who share full responsibility for the quality of the books.

Q: Does Molodaya Gvardiya hold competitions?
A: Of course. Several years ago we ran a countrywide literary competition to mark the fiftieth anniversary of the Socialist Revolution. The jury examined more than 500 novels, novelettes and books of poetry.

In 1971 we held another countrywide competition.

Prizes were awarded to Vitali Zakrutkin for *Mother of Mankind,* to Fyodor Sukhov for his long poem *Tale of the Unknown Soldier* and to Ivan Shamyakin for his novelette *The Comrade Lenin Armored Train.*

We shall go on sponsoring competitions in the future.

Q: How do you find your authors?
A: Our five editorial offices (modern Soviet prose, poetry, science fiction and adventure, literature for teenagers and foreign literature) depend in the main on professional writers who are familiar with the traditions of the publishing house and its list. These authors usually bring in their manuscripts themselves or let us know their plans in advance. We always know, for instance, what Georgi Markov, Mikhail Alexeyev, Vadim Kozhevnikov, Ivan Yefremov, Andrei Voznesensky, Rasul Gamzatov, Vasili Fyodorov, Chinghiz Aitmatov, Abdizhamin Nurplisov and Marietta Shaginyan are working on.

One of our jobs is to help young writers grow. Sergei Narovchatov, Vladimir Soloukhin, Vasili Fyodorov, Mikhail Dudin, Vladimir Kolikhalov and Vladimir Chivilikhin—all famous now—came to us early in their careers. Now other young people are joining our ranks. They include Herbert Kemoklidze, winner of the Golden Young Porcupine Prize at an international competition for satirical stories; Mersheg Manukyan of Armenia; E. Maazik of Estonia; Vladimir Yavorivsky of the Ukraine; Dzhuma Akhuba of Abkhazia; and the science fiction writers Kir Bulychev and Sergei Pavlov.

Our editors maintain close contact with young members of the Writers Union.

The Eureka group draws up its plan on the basis of suggestions by scientist-authors (some are primarily scientists, like Alexander Kitaigorodsky, Vladimir Levi and Igor Akimushkin; others, like Lev Uspensky, are chiefly writers).

We are proud of the fact that our list includes pioneer spaceman Yuri Gagarin; cosmonaut Vladislav Volkov; literary favorites like Mikhail Sholokhov, Alexander Fadeyev and Nikolai Ostrovsky; outstanding athletes like Larissa Latynina (gymnastics), Boris Mayorov (ice hockey), Valeri Brumel (high jump) and Anatoli Tarasov (ice hockey coach); world record holder and test pilot Marina Popovich; Lenin Prize winner Vasili Peskov, the naturalist-journalist; Marshals Ivan Konev and Vasili Chuikov; and scientists Axel Berg and Nikolai Amosov.

Q: Do you maintain business relations with foreign publishers?
A: We have contacts with publishing houses and printing firms in a number of countries. In 1971 we cooperated with more than 30 foreign publishers. Among these were the youth publishing houses of the socialist countries; MacGibbon and Kee and Mayflower Books in Great Britain; the Maxwell Reprint Co., the University of Oklahoma Press and International Book Publishers in the United States; the youth publishing houses of Japan; and the Kustannus Oy Yhteisiyö publishers of Finland.

Each year we exchange lists with these publishing houses and choose books for translation.

Q: Which foreign authors do you publish?
A: Because the Soviet Union has special publishing houses for foreign literature, Molodaya Gvardiya publishes only 15 to 20 translations a year. Many of these are by American authors.

We have put out Harper Lee's *To Kill a Mockingbird,* Salinger's *Selected Stories,* Carson McCullers *Clock Without Hands* and *The Heart Is a Lonely Hunter,* Bernard Malamud's book of short stories *The Maid's Shoes,* Robert Penn Warren's novel *All the King's Men,* Irwin Shaw's stories, Mary McCarthy's *Cast a Cold Eye,* Philip Roth's novel *When She Was Good* and John Cheever's *Bullet Park.*

Among the American science fiction books we have published are Isaac Azimov's *The End of Eternity,* Ray Bradbury's *Fahrenheit 451,* Clifford Simak's *They Walked Like Men,* Kurt Vonnegut Jr.'s *Utopia 14* and *Cat's Cradle,* Robert Sheckley's *Selected Stories,* William Saroyan's *Tracy Tiger,* Robert Young's *To Fell a Tree* and among the detective stories, Dashiell Hammets' *The Glass Key.*

I'm sorry to say that I saw only three or four translations of books by Soviet authors in the American bookshops. I feel we have books and authors that would interest the American reader, both for their presentation of ethical problems and for their purely artistic merits.

Q: Who do you have in mind?
A: Mikhail Sholokhov, Leonid Leonov, Mikhail Alexeyev, Vitali Zakrutkin and Anatoli Ivanov, to mention a few.

In the long run, it is through books, together with films and tourism, that nations get to know one another. We can say that we have a pretty good idea of life in the United States because we are constantly publishing representative works by modern American authors.

Q: Which biographies of noted Americans have you published in your series *Lives of Remarkable Men and Women?*
A: This series consists of more than 500 lives of men who represent an example to the younger generation.

It includes biographies of the Wright Brothers, Benjamin Franklin, Thomas Edison, John Brown, Frederick Douglass, John Reed, William Du Bois, Abraham Lincoln and Martin Luther King.

Awaiting publication are the biographies of George Washington, Jack London, Theodore Dreiser, and several American revolutionaries and scientists.

Q: Do you think that books are losing some of their importance because of the growth of other means of communication?
A: Books have been with us for more than 4,000 years, and I believe they will continue to be the chief means of communication.

In our age of rapid social change and abundant information, we need more than ever to understand the processes taking place in the world and in ourselves. Books, both fiction and nonfiction, have a unique role to play in developing this understanding.

The reader of the seventies is a special breed. He is very selective, and his main criterion is quality. Therefore dull books have little hope of surviving.

Scientific and technical progress will continue to influence the publishing field: Some books will be filmed, made into slides, and so forth. But the book as a form of human expression is not going to disappear.

Art director Vsevolod Brodsky (left) and Yevgeni Tyazhelnikov, First Secretary of the Central Committee of the Young Communist League, look over some drawings selected for exhibition abroad.



THE YOUNG HERO IN LIFE AND LITERATURE

Continued from page 50

the entire working class, the leading force of our society—a steadily rising level of education and culture, and a further narrowing of the division between physical and mental work.

Correspondent: What do you reject and what do you defend in your plays?
Rozov: I believe the job of literature is to single out the human in the human being. For me the ethical questions are the most important. Every person is capable of spiritual wholeness, confidence in other men and women and honesty toward them. Of course, the environment is usually a decisive factor in developing one or another social trait, but not always. People once thought that all anyone needed to be good was enough food and a roof overhead. But food and a roof are not the foundations of morality. They also thought that only the poor, the unfortunate, were likely to break the law, to rob, to cheat. But evidently this isn't true. Now that we have achieved material well-being, how can we make ourselves the kind of people who reject any ethical compromises? More important, how can we improve the quality of life for the people around us?

One of my favorite themes is the development of the personality. Each person is unique, each person sees the world in a somewhat different way and can therefore help me, as Chekhov, Tolstoy, Shakespeare and Balzac have done, to enlarge my viewpoint. Each person also has the opportunity to say about the world what others cannot say. It's important to remember that education, for instance, can be either a pile of stones under which the child's personality is buried, or a pile on which he climbs. The entire process of education, beginning with nursery school, must consist of never blocking the development of the personality, but rather building it up through knowledge, brick by brick.

Correspondent: What other problems of young people are you interested in?
Rozov: How they can best use their leisure time. The problem isn't a new one, but it's particularly acute for many countries. Types of recreation can make a big difference: Some develop the personality, others destroy it.

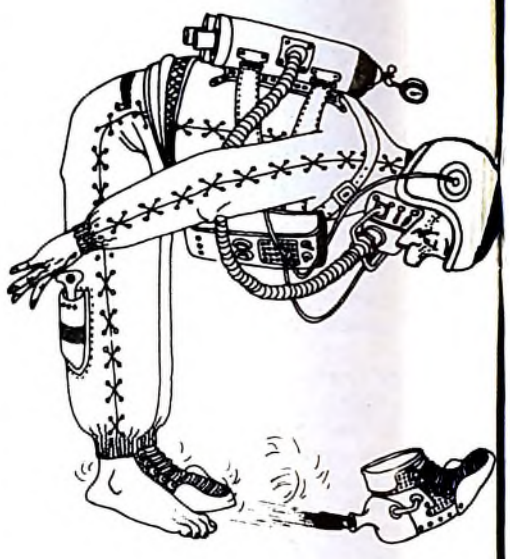
Of course, leisure activities depend largely on how favorable the social climate is, on what opportunities it has created for human development. An example is the accessibility of different forms of education. In our country there is a universal eagerness for higher education. Even the factory higher technical school is very popular. To explain this by material benefits alone is impossible, because often there is only a negligible difference between the wages of a highly qualified worker and those of an engineer. What makes the worker give up his precious free time to study at an evening specialized secondary school or institute? The immediate reason could be that his wife or girl friend has asked him to, but there's more to it than that. He is attracted not by the title of engineer, nor by the social prestige, but by the chance to express himself through creative work.

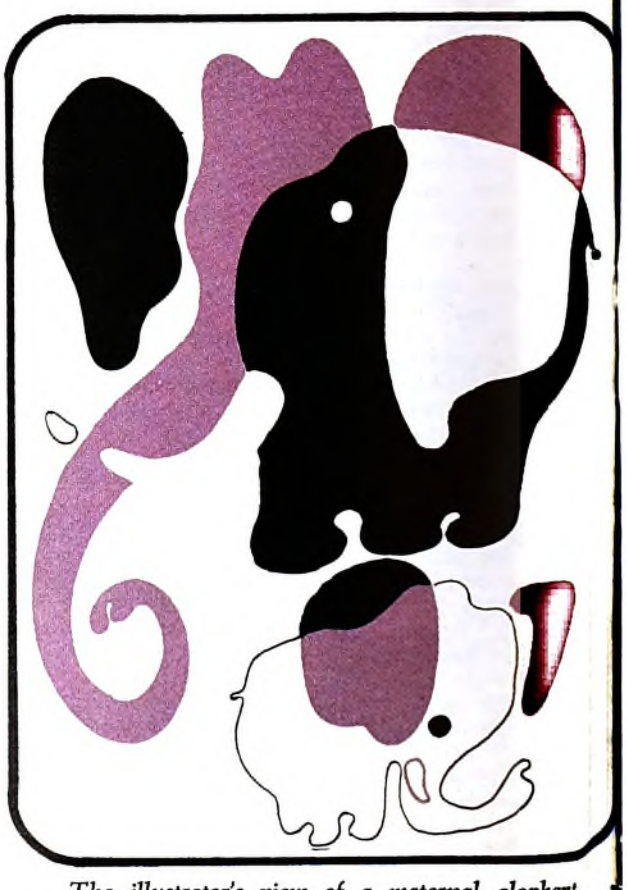
Correspondent: You teach at the Gorky Literary Institute in Moscow. What do you try to give your students?
Rozov: People sometimes wonder why we have an institute for training writers since they're supposed to be born, not made. But the purpose of the institute—I attended it myself and have been teaching dramaturgy there for more than 10 years—is actually quite different. If one of my students, for instance, has the sensitive perception—the exposed nerve, you might call it—that a playwright needs, it's my job to see that it's never covered over with fat and skin. What kind of writer he'll become, I can't tell. I try to stress the endless diversity of forms and techniques used by playwrights through the ages, and the even greater diversity that will be possible in the future. I do my best to bring out the student's individuality, to have him express his own thoughts instead of parroting other people's. The main thing, however, is to sensitize that dramatic nerve in every way possible—with stories of how so-and-so wrote, analyses of fragments or entire works by great playwrights, or discussions about the problems of our day. Whatever my students' response is to such stimuli, I'll know when I read their plays.

POPULAR SCIENCE LITERATURE
FOR LAYMAN AND SCIENTIST

One of the more unusual-looking denizens of the ocean, the sea cow. From The World of Animals.







The illustrator's view of a maternal elephant and her offspring. From The World of Animals.

A TEAM of painters, so the story goes, never stops working on Brooklyn Bridge. That structure is so big that by the time they reach one end, the paint on the other end is already flaking off, and they have to start all over again.

An analogy can be made with the situation in which science textbooks find themselves. By the time a science book comes off the press, it's already dated. Science is not marking time. Every year brings new discoveries, fresh knowledge about nature, new technological processes. Textbooks and manuals cannot keep up with developments.

So magazine articles and books fill in missing textbook chapters. They inform readers about lasers and the synthesis of the gene, about flights to the Moon and Mars, about new elementary particles.

Who are these readers? Schoolchildren and college students, engineers and doctors, collective farmers and factory workers who want to know what's doing in the front lines of science. They do not have to be told about the structure of a live cell or what an atom is. They learned that back in school. They are demanding more advanced information. Will the distant, trans-Uranium elements prove stable? What is Khorana planning to do with the gene he synthesized? When will Artsimovich succeed in harnessing thermonuclear reaction. This is more than simple intellectual curiosity. In our time every educated person realizes that today's scientific discoveries may very well be embodied tomorrow in new machinery and technological methods that will alter his way of life.

Such a reader, when opportunity offers, becomes a scientist himself, albeit an amateur, and sometimes makes his mark. Reports appear in the press from time to time of amateur astronomers who discover new comets and of workers and engineers who create new machines.

Popular science literature draws even schoolchildren into the world of science. The magazine *Yuny Tekhnik* (*Young Technician*) not long ago appealed to its readers for help. The Institute of Earth Magnetism and the Spread of Radio Waves was compiling a map of the electric conductivity of soils in our country. The magazine explained how to build a simple apparatus for measuring the conductivity and how the measurements should be made. Since the magazine has a circulation of 600,000, it is not surprising that the institute acquired several thousand youthful volunteer laboratory assistants, who sent in vast quantities of material that would have taken dozens of special expeditions to collect.

Our country has millions of such readers, and it is for them that scores of publishing houses—ranging from such central giants as Molodaya Gvardiya (Young Guard), Detskaya Literatura (Children's Literature), Mir (Peace) and Znaniye (Knowledge) to regional publishers scattered all over the country—are putting out popular science literature. Hundreds of such books are published every year in multithousand-copy editions.

As an illustration we may point to the popular science series called Eureka, which Molodaya Gvardiya publishers issue. Each book acquaints the reader with something new in science, gives him at least a look at its most interesting problems and amazing paradoxes, and offers him a chance, for a few moments, to immerse himself in the fascinating world of research.

The books are not exhaustive expositions of complex scientific problems. Their authors are not taking readers on a long trip through all the laboratories and isolated corners of research institutions. They stop on the threshold of big-time science, from which point the eye may discern only the vague contours of major problems and be attracted by only the most striking of details. That is the intent of these books, with their exotic mystery story titles: *Twentieth Century Sphinxes, Collapse of Paradoxes, Looking for My Forefather, Hunting Thought.*

They are written in a style all their own, vividly and interestingly, with literary imagery and touches of humor. The authors of most of the Eureka series books are either journalists and writers (there's even a well-known poet, Sergei Narovchatov, who wrote a book entitled *An Unusual Literary Study)* or scientists, but among the latter only those who have earned a reputation as men of letters. They are people with the ability to discern in their science what will interest the layman and with the skill to make it absorbing reading.

The information explosion gets prominent mention in today's press. The science front expands from year to year, and the number of scientific and technical publications keeps growing. D. Price, an American researcher, estimated that the number of scientific magazines in the world multiplies by 10 every 50 years; 10 in 1750 grew to 100 by 1800, to 100,000 by 1960 and will reach a million by the year 2,000. To do nothing but skim through these magazines is a job only an electronic machine could cope with.

The situation is made even more complicated by the fact that individual sectors of this expanding scientific front are growing apart, losing touch with one another, immersing themselves more and more in their own problems. While Goethe and Lomonosov could still be scholars with encyclopedic interests, and Mendeleyev, at the turn of our century, could embrace almost the entire field of that day's chemistry as well as no mean portion of engineering, today's polymer chemist finds himself divorced even from the considerations of the nitrogen-specializing chemist, and both are almost as little versed in organoelement chemistry as in the genetics of the microorganism.

Specialization is not a new problem: Michelson as far back as 1906 complained of the lack of contact and understanding between related sciences. But the problem becomes more acute with the years. Tremendous forces are being employed to span the yawning gaps that are developing between individual branches of science. Entire institutes, using large-capacity high-speed computers, are busy processing scientific information. Reviews, surveys and digests are published in different countries, along with title catalogues of scientific articles and lists of their authors, catalogues where one may find something of particular interest and may locate the article in the ocean of magazines.

In the search for a way out of the labyrinth built with their own hands, scientists have hit upon popular science literature. A report meant for the general reader is, in effect, an ideal synopsis, with all confusing details eliminated, like an indigestible nutshell stripped away from the kernel. So there came into being an absolutely new kind of popular science literature, a twentieth century creation: a popular science book, a popular science magazine meant for—scientists.

Such literature in the USSR is put out by the Nauka (Science) Academic Publishing House. Examples are its popular science series and the magazine *Priroda (Nature).* They are nothing like the mass-scale Eureka series. A mathematical formula or chart does not faze the reader of this much more sophisticated popular science literature. For him it is the customary and



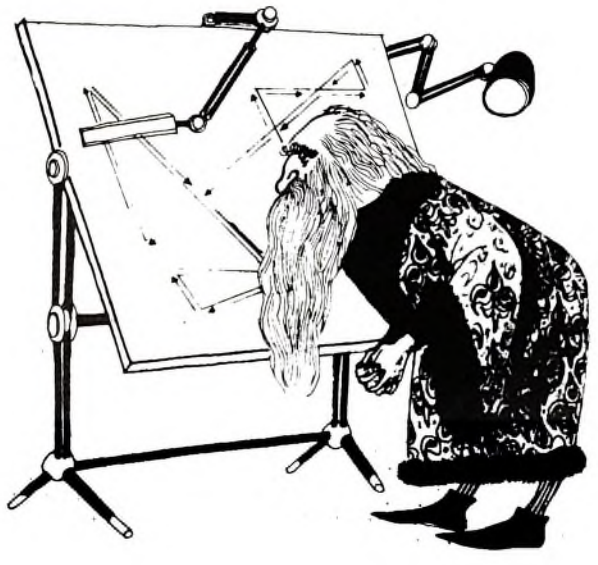
Popular science literature is in great demand by today's readers, particularly young people. If the Soviet Union issued best seller lists, the Eureka pocket books would be in the lead. They come out in editions of 100,000 and disappear from book counters in a few hours.



Showing two examples of the many and dissimilar species of primates. From The World of Animals.

By Alexei Iordansky

Drawings by Boris Zhutovsky and Alexander Blokh from **The World of Animals**

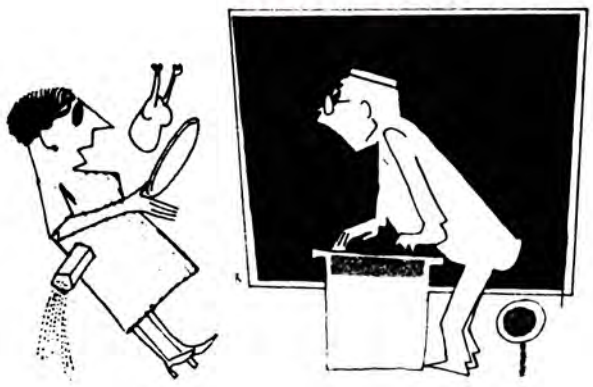


WHAT THEY READ

By Yelena Tarkhova
Sociologist

On the initiative of the Young Communist League, the trade unions, and the Ministry of Culture of the Russian Federation (RSFSR), a study was made, starting in 1970, by the sociology laboratory of the Central Library of Youth Literature of the RSFSR. The research focused on the part books play in the life of Soviet young people. Here are some of the results of that study, as described by a leading sociologist and librarian who headed the project.

TO ENTERTAIN AND TEACH BOTH YOUNG AND OLD





Not a pretty animal by Homo sapiens' standards is this flying bat. From The World of Animals.



most economical form of exposition.

The authors of these books do not have a problem of stimulating interest, for they proceed from the assumption that if the reader picked up that particular book, he needs it and is not seeking entertainment but useful information which is there to be found in a rather full, intelligible and popular form. This literature has become so popular because the authors try to detach themselves from their daily laboratory details, singling out what may be of interest to the neighboring laboratory, neighboring department, neighboring institute. In other words, the author in this case must become a translator from the very specific language of his branch to a general scientific language which would be understood, say, by any reader with a technical education.

What is primarily required of this kind of author is a thorough knowledge of the subject he is writing about. This new science book is written only by specialists in a particular field. It follows, then, that a large percentage of Nauka's popular-science literature is written by candidates and doctors of science, professors and academicians.

Where the Eureka series includes a three-volume entertaining edition about animals entitled *The World Animals* by well-known popularizer Igor Akimushkin, an edition similar to Brehm's famous popular zoological encyclopedia, Nauka Publishers puts out a book entitled *Evolution, Gravitation, Weightlessness* by the distinguished physiologist Professor P. A. Korzhuyev. This is a detailed examination of the adaptation of live organisms to the constant gravity they are subjected to and of how prolonged weightlessness may affect them.

These Nauka books are meant for a much narrower circle of readers than the Eureka series, of course, and the printing is correspondingly smaller—20,000, 30,000 and, rarely, 50,000 copies. But you find them on the desks of scientists, including the most venerable academicians. These volumes make it easier to become acquainted with the major features of an unfamiliar branch of science and diminish the need to hunt through voluminous journals and monographs. This kind of literature is being used increasingly for the exchange of information between intersecting sciences. Academician Igor Petryanov-Sokolov, an eminent scientist and popularizer, half in jest once voiced the heretical thought that popular science magazines might, in the not-too-distant future, become the principal channel for the dissemination of scientific information, displacing the scientific magazines that are fast becoming dated.

People in Moscow read not only at home and in libraries. They read in parks and on boulevard benches, in buses and on trains, even in elevators. And among this vast body of readers you come across any number with their noses in small-format, modestly designed books. Not gripping adventures or heart rending love stories, these are books on science, its investigators and their findings.

More than 10,000 such books, in a total printing of about 300 million copies, were published in the USSR over the past five-year period. To this add the monthlies among which popular science magazines enjoy a proud place: *Zdorovye (Health)* comes out in 5 million copies, *Nauka I Zhizn (Science and Life)* in 3.1 million, and *Tekhnika Molodyozhi (Engineering for the Youth)* in 1.5 million copies.

The gigantic work of public enlightenment that H. G. Wells commented on in 1920, after visiting Russia, the work that was begun on one-sixth of the globe in October 1917, is still going on.

WHEN WE BEGAN this study, we were sure of only one thing, that young people did more reading than any other group in our country. It was estimated that young men and women read, on an average, 26 to 28 books a year.

But we did not know what young people, especially young workers, read, what guides them in their choice of books, what connection there is, for example, between their reading and their jobs, between their reading and community participation. Our comprehensive project took as its title "The Role of Books in the Life of Working Youth."

To get our answers, we utilized opinion polls and questionnaires, but we also studied library statistics, subscribers' cards, the publishing industry, the book trade.

We selected as our research sites:

—The Likhachov Auto Plant in Moscow, one of the country's biggest industrial enterprises, whose level of mechanization and automation is high, a plant where almost half the personnel are young people.

ments of modern production stimulate youth to do more studying. Every other pollee, we found, is attending either a school for young industrial workers, a specialized secondary school or an institution of higher learning. An average of 10 per cent of the young people at these three enterprises are studying in different institutes after working hours.

Studies, job requirements, and simply the desire to broaden one's outlook inevitably turn a young worker to books. According to our research data, reading comes second (after movies) in the leisure and recreation list of our young people.

Young workers earn fairly good money on their jobs and can set aside a sufficient amount to buy books, magazines and papers.

Every other pollee has a home library, and every fourth one of these libraries contains from 60 to 150 books. Our questionnaires show that workers at the Likhachov Plant and the young builders at Ust-Ilim between the ages of 25 and 28 buy books especially for their personal libraries.

sion but lost both hands, topped the popularity list among the youth in 1970-1971.

An analysis covering two weeks of reader selections in the libraries of five Likhachov Auto Plant departments lists almost 300 Soviet and foreign authors.

One out of every two pollees reads foreign literature. The most popular U.S. writers are Theodore Dreiser, Mark Twain, Ernest Hemingway, Jack London, J.D. Salinger, John Updike, Irving Stone and Ray Bradbury.

In fiction magazines, the interest in youth publications as against other types is quite clear. The monthly *Yunost* is read by 51.9 per cent of the pollees, *Molodaya Gvardia* 16.8 per cent, and *Oktyabr* and *Novy Mir* 3.4 per cent.

The last few years have seen heightened interest of working youth in literature on the arts and on sports. Among the pollees, 14.4 per cent have literature on the arts in their home libraries; 16.5 per cent say they have a long-time interest in this literature; 33.4 per cent read material on sports regularly and

Table 1 (%)

Place	Educational Level					
	Incomplete Secondary	Complete Secondary	Specialized Secondary	Incomplete Higher	Higher	No reply
Likhachov Plant	37.4	45.1	5.8	6.8	1.5	3.4
Ust-Ilim	35.8	36.1	14.1	8.5	4.4	1.1
Serov	36.4	38.3	18.0	2.3	2.6	2.4

Table 2 (%)

Reading Motivation	
Desire to Know More	48.8
Recreation	35.2
Inner Urge	30.1
General Interest in Books	22.0

—The steel mill in Serov, one of the oldest industrial plants in the Urals, in an average industrial community;

—The construction site of the Ust-Ilim Hydroelectric Power Station on the Angara River, one of the biggest of the new Siberian projects, being built under difficult conditions, far removed from the main cultural centers, in an undeveloped area with a harsh climate. The average age of the construction workers here is 23.

These three places had different social-demographic features, cultural environment and geographic conditions.

For instance, the Moscow auto plant library has been a going concern for more than 50 years, with branches in the various departments and outlying sections of the plant, but the only communication link Ust-Ilim has with the rest of the world is by air, and delivering literature there isn't easy.

Our opinion polls and questionnaires reached 2,492 young people between the ages of 17 and 28. Eighty per cent of those polled were directly occupied in production —they were steelmakers, machine-tool operators, assembers, steel erectors, concrete workers, truckdrivers and finishers. Nine per cent of the pollees were members of the Communist Party and 60 per cent, members of the Young Communist League.

Obviously, reading interests are not a thing apart but derive from an individual's concerns as a whole, and these are a product of one's job and community activity, social and personal conditions, educational and cultural background. Therefore, we decided, as a starter, to determine the educational level of the young workers.

The table indicates that most of the young workers have a fairly good education. But we also wanted to seek out the trends in this area.

Our research revealed that the require-

Our study likewise reveals the increasing interest of working youth in literature on sociopolitical problems, in the works of Marx and Lenin. An analysis of subscribers' cards and our opinion poll confirm the fact that 75 per cent of the young workers are steady readers in sociopolitical literature.

Periodicals have a leading place in their reading schedules. The three enterprises that came under our scrutiny showed the great interest of their young workers in the daily newspapers *Komsomolskaya Pravda* (read regularly by 62.5 per cent) and *Pravda* (40.3 per cent), as well as the sociopolitical weekly *Za Rubezhom* (read by every third pollee).

Psychology is a factor in newspaper and magazine reading. One group is interested in information of a general nature—world developments, problems of morality and the like; another is more involved in material related to their jobs and community activities.

Age is a second factor influencing choice of reading topics. At 25, one begins to show a stable and deep interest in politics, economics and current problems. Young people between 17 and 18 are more interested in articles on problems of morality, about people of their own age, sports, funny stories.

But, as you might expect, fiction leads the list of reading choices of working youth.

What prompts the young reader to turn to poetry, prose, adventure stories and scientific novels? The table shows that the reader is guided by clearly understood motives. In turning to fiction and reliving the experiences of the characters, he or she seeks an ideal and works out a personal morality.

Checking our young workers' subscribers cards, we find, along with classics of Russian and foreign literature, the works of Soviet writers Mikhail Sholokhov, Konstantin Simonov, Yuri Gherman and Vladislav Titov. *Despite All Death,* written by young worker Vladislav Titov, who saved a mine from explo-

22.5 per cent buy sports books for their own shelves. Similar information could be cited for literature on natural sciences. A fairly high percentage of youth read science fiction and adventure stories, memoirs and history.

Almost all our reader-subjects were interested in libraries of their own. We wondered whether they made use of public libraries. It turned out that 95.7 per cent of the working youth had public library cards, and 80 per cent of them were constant visitors to libraries. In Moscow, the capital, and in such a giant enterprise as the Likhachov Auto Plant, the shop library proved to be the most popular: 55.7 per cent of the pollees take out books from there. But in such smaller places as Serov and Ust-Ilim, the libraries most frequented are those in the residential areas, technical libraries and the libraries at educational institutions.

We came across many instances of young workers using more than one library. According to our data, every third young worker takes out books from school libraries, technical libraries and others. This points up the increased requirements of young workers, their willingness to search for the particular book they need. On an average, a young worker goes to the library two or three times a month, 10 per cent of the pollees go five to six times.

When we started our study, we were not really aware of how prominent a place reading occupies in the list of cultural interests of the young worker. With television, movies and radio bringing such an abundance of information, it takes special effort and a real desire to turn to books.

We became convinced as we went along that this desire is widespread among our youth, that all this barrage of information by other media, sophisticated and useful as it is, does not reduce, but increases, interest in books. The Gutenberg galaxy moves along in a widening orbit.



Around the Country



NEPHELITE

The Kia-Shaltyr nephelite mine, which started production two years ago, is the first link of a gigantic aluminum complex in Eastern Siberia. Most of its output goes to the Achinsk plant, the only enterprise in the world that produces alumina (the raw material for aluminum) from nephelite instead of bauxite. New techniques worked out by Soviet scientists have made it possible to process the ore into cement and soda as well.

Achinsk alumina supplies the aluminum plants of Krasnoyarsk, 85 miles to the east.

SINCLAIR LEWIS

Nauka Publishers recently issued a book by literary critic Boris Gilenson titled *The America of Sinclair Lewis*. While the creator of Babbitt is very popular in the Soviet Union, this is the first study in Russian about him. In 1965 a nine-volume collection of Lewis's works was published in our country in a printing of 300,000 copies. In his new book, Gilenson not only analyzes Lewis's place in world literature but reconstructs his character, tracing the novelist's career against the background of twentieth-century America and comparing him with his contemporaries.



POLAR PERFORMERS

Yuri Ledin, cameraman at the Norilsk TV Studio beyond the Arctic Circle, and his wife Ludmila have made a color film about walruses. It was shot on uninhabited Peschany Island in the Laptev Sea, the site of one of the largest walrus colonies in the world. One



HARVESTING GRAPES BY ELECTRICITY

Soviet scientists have developed an unusual grape harvester. It is equipped with an electric generator, one of whose contacts is hooked up to the wire that supports the vine while the other moves toward the grapes. As soon as it touches a grape, a high-voltage electric current passes through the vine. This short circuit does not harm the fruit since ripe grapes have a low resistivity. The resistivity of the stem, on the other hand, is quite high, so that it heats up instantaneously and burns while the grapes fall into a special receptacle. This method of grape harvesting has been patented in Italy, France and the United States.

TANK CARS

The world's largest railroad tank cars have gone into production at a machine-building plant in Zhdanov, a port on the Sea of Azov. The cars have eight axles and can carry up to 130 tons of cargo at a speed of more than 60 miles per hour. Their frameless structure makes them faster and easier to operate.



DUMP TRUCK FOR MINERS

The auto plant in Mogilev, Byelorussia, produces dump trucks, scrapers and tractors. Vehicles with the MOAZ trademark are famous for their rugged construction, maneuverability, and ease of operation under various climatic conditions.

ROWING BASIN

An indoor rowing basin has been built at the Physical Culture Institute in Kiev, capital of the Ukraine. Its modern equipment includes two compartments with artificial water circulation which accommodate all types of boats—rowboats, kayaks and canoes.

The new basin is one of the many sports facilities provided for in the current five-year plan (1971-1975). These include 122 large stadiums, 11 sports palaces, 20 indoor track and field stadiums, 625 gymnasiums, 172 swimming pools and 79 water sports centers.

ECHO OF THE WAR

A half-ruined well with a 550-pound air bomb at the bottom was discovered during repairs on the Moscow-Minsk highway. The sappers summoned for the occasion found 76 similar wells nearby with deadly caches.

Apparently there were arms depots in the area during the war. All the bombs, damaged by time, were carefully removed and defused.



YOUNG READERS

Every spring a Children's and Young People's Book Week is held in the Soviet Union. The program includes book exhibitions, literary evenings and readers' conferences.

The USSR, with its more than 100 nationalities, has a rich variety of children's literature. Our more than 100 publishing houses print about 2800 titles each year in editions totaling nearly 270 million copies, and every sixth book published here is intended for the young reader.

MAN-MADE CRYSTALS

The USSR Mineral Synthesis Research Institute has been developing techniques for the production of artificial crystals. Some of the varieties they are working on occur only rarely in nature, and others not at all. The institute's discoveries have important economic applications: An example is its method of producing artificial quartz that is equal in quality to the natural variety. It has also developed synthetic diamond crystals and synthetic mica (fluorophlogopite), a new material that is superior to the natural product in a number of ways, particularly in its higher thermal strength. It does not decompose even at a temperature of 1,000 degrees C.

The institute also develops crystals for the jewelry industry.

of the characters in the film was a year-old wolf, that turned out to be such a capable performer that the Ledins made him the hero of their new movie *Polar Wolves*. Yuri Ledin has 40 films about Arctic animals to his credit.

BASALT PAPER

Ukrainian researchers have evolved a new type of paper for industrial use. It is made of basalt, large quantities of which have been discovered in the Ukraine. The rock is melted in electric furnaces, then passed through special strainers, producing a strong, elastic fiber. Basalt paper is rot- and water-resistant and can be heated to 800 degrees C. without melting. It is expected to find extensive application in the manufacture of industrial filters.



NEOLITHIC TREPANATION

Archeologists have found an unusual skull on the shore of Lake Burtnieki in Latvia: It shows clear signs of trepanation. The operation was evidently performed some 4,000 years ago on a gravely injured patient. Through anatomical analysis, X-ray examination and other means, Vilis Derums, a noted Latvian paleopathologist, has reconstructed some of the details. Apparently the operation was done in several stages, and flint instruments were used.

A trepanation of the skull dating back to the Neolithic age is extremely rare. According to Dr. Derums, this particular one took considerable skill and a detailed knowledge of anatomy.

BIRD ORIENTATION

For the past two years, researchers from Kiev University and the astronomical observatory of the Ukrainian Academy of Sciences have been using the Kiev Planetarium to study orientation habits in birds. A salient feature of their experiments is the combination of the artificial sky with an artificial magnetic field.

At migration time, in autumn or spring, the birds in their special cages begin to show anxiety by fluttering in the direction of their flight course. Electromagnetic counters are used to register the number of such movements. The studies have shown that besides their stellar orientation, birds have a backup orientation system that depends on the geomagnetic field. The results of the experiments are checked in the Black Sea Preserve.

JOHANNES KEPLER

An exhibition commemorating German astronomer and mathematician Johannes Kepler has opened in the library of Tartu University (Estonia) on the 400th anniversary of his birth. Among the rare items on display is the Latin text of Kepler's study "Concerning the Laws of Planetary Motion," published in Linz in 1619.



TRACTORS

About 2.6 million tractors will be produced in the Soviet Union during the Ninth Five-Year Plan period (1971-1975). A sixth of them, or 409,500, will be made by the Minsk Tractor Plant in Byelorussia.

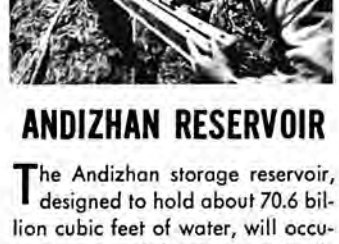
The plant manufactures two basic models in 10 variations, for use with 162 kinds of farm machines and other equipment.

The plant's newest product, a dump truck for underground operations, consists of a tractor and a semitrailer with a capacity of 20 tons. Its maximum speed is 25 miles per hour. The truck is equipped with an exhaust neutralization system.

OAK MUSEUM

Baublis is the name of a museum founded by Lithuanian writer Dionras Poska. One hundred fifty years ago Poska found an oak tree 30 feet in diameter split by lightning. He moved it to his estate and arranged in its hollow a display that included archeological finds, old coins, and Lithuanian household articles of the Middle Ages.

The exhibition has now been restored and the wood impregnated with a special compound to protect it from decay.



VOLGOGRAD STATION

The central embankment in Volgograd, on the Volga River, will soon have a new passenger station of an unconventional design.

The building will include a waiting room for 600, a cinema and concert hall for 1200 and a 700-seat restaurant.

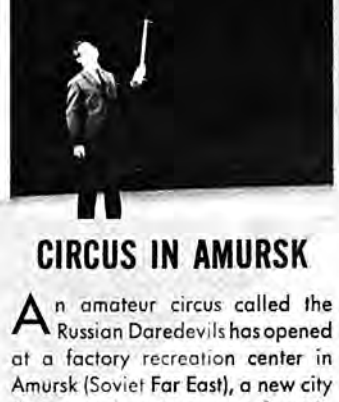
Volgograd was the site of one of the crucial encounters of World War II, the Battle of Stalingrad. It came out of the war almost razed to the ground—not a single whole building or structure remained.

The restoration of the city became a nationwide project. Now a modern metropolis with almost one million inhabitants has risen out of the ruins. The riverside station is one of its newest developments.

SALTY RAINS

Researchers at the Institute of Hydrogeology and Hydrophysics, Kazakh Academy of Sciences, have concluded that summer rains are salinizing the ground water in Western Kazakhstan. In the area between the northeastern coast of the Caspian and the Mugodzhar Hills, the mineralized precipitation shows a salt content of up to 80 milligrams per liter.

This salty rainfall is attributed to the winds blowing from the arid deserts of Kazakhstan and Central Asia. Dust storms and hurricanes over the desert raise large amounts of salts into the air, mineralizing the rains over neighboring areas.



DYED TIMBER

For the past few years, foresters in Transcarpathia have been experimenting with the dyeing of standing timber. Stains developed by Ukrainian chemists are injected directly into the trunks of trees used for furniture making, near the roots. The dye spreads uniformly upward, improving the appearance of the wood.

TEENAGE GYMNAST

Nina Dronova is only 14 years old, but she already ranks among the world's top gymnasts. Nina has earned numerous awards for her performances in the Soviet Union and Japan. In the junior competitions of the USSR People's Games last summer, she won first place in every event and became one of the few gymnasts to receive 10 points—the highest possible score—for her performance in the free exercises. She also won the over-all championship in the Friendship Cup competition, in which youthful gymnasts from eight socialist countries took part.

At the international contest in Nagoya, Japan, held at the end of last year, Nina took first place after scoring 38.15 points in the multiple event—0.05 of a point higher than world title holder Ludmila Turishcheva.



WHALE TALK

Studies made by scientists with the aid of highly sensitive devices have shown that the sperm whale can produce a fairly wide range of sounds. These include a rumbling noise at half-second intervals and a sharp squeak. But most often the whales "talk" by means of short clicks (up to 50 per second). The clicks produced by one whale differ from those of another. Researchers have theorized that the animals may use different types of sounds for orientation and for making various announcements, such as the location of food, the distance from shore, or the depth and relief of the ocean bed.



ANDIZHAN RESERVOIR

The Andizhan storage reservoir, designed to hold about 70.6 billion cubic feet of water, will occupy an area of 21 square miles in the lush Fergana Valley of Uzbekistan.

The dam will be built on the Kara Darya at Kampyrravat, where the spurs of the Pamir and Tien Shan ranges meet. A 100,000-kilowatt hydroelectric station will go up next to the reservoir.

The design of the Kampyrravat project is unique. The lightweight dam will consist of 35 hollow sections placed side by side across the gorge. It will be 378 feet high and about two-thirds of a mile long and will be able to withstand an earthquake of up to nine points intensity.

The new storage reservoir will irrigate hundreds of thousands of acres in the virgin lands of Uzbekistan and Kirghizia.

THEATER ON WHEELS

The Soviet Union's first mobile wide-screen motion picture theater, seating 200, has been built in Kiev for remote steppe districts.

All the equipment, including the inflatable auditorium, weighs 1,650 pounds and fits easily into a bus and trailer. The auditorium, which can be blown up and made ready in a matter of hours, has air conditioning, a brightly lit screen that guarantees high projection quality, and stereo sound.

CIRCUS IN AMURSK

An amateur circus called the Russian Daredevils has opened at a factory recreation center in Amursk (Soviet Far East), a new city that owes its existence to flourishing timber and chemical industries.

The circus company of 80 men and women has been rehearsing and performing together after work for the last two years. In real life they are bricklayers, carpenters, stevedores; and on stage, acrobats, gymnasts, clowns. The Russian Daredevils have prepared several numbers for the USSR Amateur Talent Review—they are among the more than 300,000 amateur groups that took part in the review this year.

MECHANICAL HAND

A group of Leningrad engineers has designed a manipulator that can be used for the automation of various manual operations in industry. The robot can operate under the most diverse conditions: in foundries, on geological field trips, under the sea. It lifts and moves loads weighing anywhere from a few ounces to 65 pounds at a speed of three feet per second.

The manipulator can be controlled by any medium-size digital computer.

TRADITION AND CONTEMPORANEITY

THE cultural traditions of Georgia are very ancient indeed, and it is hard to find a Georgian artist whose work does not reflect them. This is true of the Georgian painters' pictorial structure, their philosophical approach and their concept of the peoples of this multinational republic.

At the same time, Georgian artists of both the older and younger generations are constantly searching for new techniques to reflect the changing times.

Georgia's lovely landscapes seem to demand reproduction on canvas. One aspect of the countryside is depicted by Yelena Akhvlediani, known for her oils, graphics and stage designs. Her painting *View from the Signakh Road* is steeped in serenity. Its colors are subdued, harmonious, lyrical.

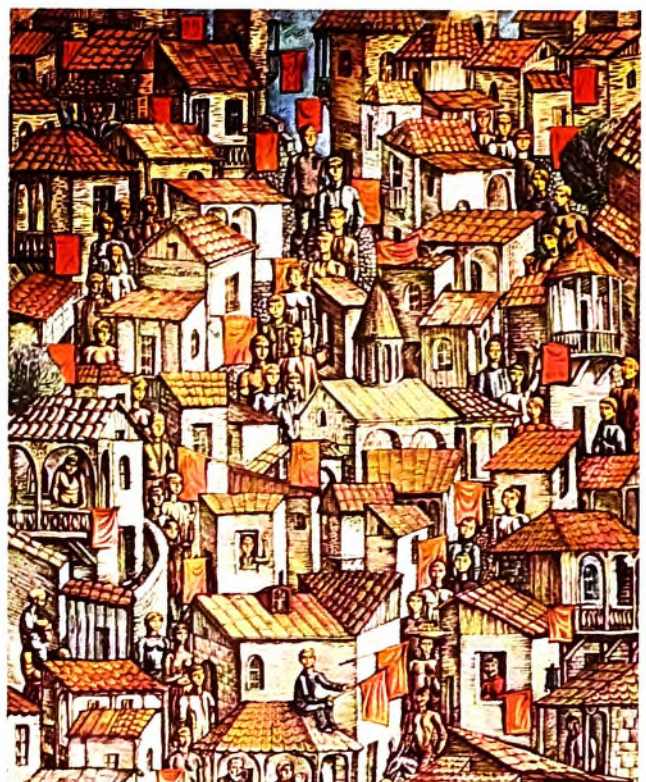
The men and women who people Dinara Nodiya's linocut *New Times* recall the ancient traditions, and the ornamental structure of her work adds to this effect. Because Nodiya has a fine sense of proportion, her emphasis on tradition is never boring. Together with the artist we admire the fruits of the earth, the fruits of human labor.

Nikolai Ignatov of Tbilisi offers an interesting variant of the conventional forms in his painting *Morning Melody.* The bizarre figures of the people, the lanes of the old city, the reds and browns—the bright colors and rhythmic composition—are as simple and attractive as an old refrain. Ignatov has also produced some highly original stage sets.

Georgia has quite a number of excellent stage designers, and the profession is noted for its rapid advancement of young people. In two or three years, yesterday's beginner becomes a self-confident expert. An example is the youthful, talented Otar Tavadze.

Georgian artists also illustrate books by contemporary Georgian, Russian and foreign authors, the classics, epics and fairy tales. Here, the republic's poetic folklore is developed by different artists in different ways. Examples are the illustrations for *The Book of Wisdom* by the eighteenth century Georgian writer Sulkhan-Saba Orbeliani. The influence of tradition is evident, but it is only a point of departure for the artist's own interpretation.

The styles of modern Georgian artists are highly varied. The best of their works are highly original interpretations of the republic's folk traditions and of contemporary life.



Morning Melody *by Nikolai Ignatov*



New Times *by Dinara Nodiya*





Illustration for Sulkhan-Saba Orbeliani's
The Book of Wisdom
by Liana Shengelia-Abashidze



Circus *by Otar Tavadze*

View from the Signakh Road *by Yelena Akhvlediani*



FAULKNER: PUBLISHED IN THE USSR

By Boris Gilenson

SOVIET READERS got to know William Faulkner fairly recently, although several of his short stories were translated as far back as the thirties. In 1958, after a long interval, his *Seven Stories* were edited by Ivan Kashkin, a well-known scholar of American literature. The book sold out immediately and a new edition was published. In 1961 Faulkner's novel *The Mansion* appeared in the magazine *Inostrannaya Literatura* (*Foreign Literature*).

Why was our discovery of Faulkner so belated?

To some degree our attitude toward American literature explains it. The Russian reader has always preferred American writers of the purely realistic school, who conform to the Russian classical tradition represented by Turgenev, Tolstoy and others. Before the Revolution such American writers as James Fenimore Cooper, Mark Twain, Bret Harte and Jack London were the ones most frequently published in Russian. Later Theodore Dreiser, Upton Sinclair, Sinclair Lewis and Erskine Caldwell also became popular. Another trend, that of romanticism, psychological exploration and symbolism—represented by Edgar Allan Poe—was little known in our country. While Poe's books were published in relatively large editions, those by Henry James, for example, were familiar to only a narrow circle of readers. Herman Melville was not generally read until the sixties, after his *Moby Dick* finally appeared. It is gratifying that the American writers of the twentieth century who represent the psychological trend, those whose works show a stylistically complex structure, are becoming more and more popular in our country. F. Scott Fitzgerald's novels *The Great Gatsby* and *Tender Is the Night* have been translated, and several research papers devoted to him have come out. Such books as *Look Homeward, Angel* by Thomas Wolfe, *All the King's Men* by Robert Penn Warren, and *The Centaur* by John Updike have also been published here.

Faulkner was not an easy discovery for the Russian reader. There is no need to belabor the point that this writer is complex, contradictory and hard to understand.

We must give credit to translator Rita Wright-Kovalyova for making his novel *The Mansion* accessible. She has done a great deal to acquaint our public with contemporary American prose writers, in particular, with Sinclair Lewis, J. D. Salinger and Bernard Malamud. Translating *The Mansion*, she not only showed her extraordinary command of both languages, but also succeeded in conveying the atmosphere of the novel, the subtle feelings portrayed by Faulkner, the inner rhythm of his book.

Since then the rest of the Snopes trilogy has appeared. The first part, *The Hamlet*, was translated by two talented young graduates of Moscow University, Simon Markish and Victor Khinkis. The second novel, *The Town*, a structurally most involved work, was translated by Wright-Kovalyova and Victor Khinkis. An article on Faulkner by American literary critic John Howard Lawson was printed as an afterword to the trilogy. In 1966, Wright-Kovalyova published her translation of Faulkner's early novel *Soldier's Pay* in the magazine *Don* in Rostov-on-Don.

These publications paved the way for Faulkner's other works, particularly for the appearance of his short stories—"The Bear," "The Liar," "Delta Autumn," "The Rosary" and others—in mass periodicals. Finally, in 1968, the translation of *Intruder in the Dust*, one of his most complex novels, was published in *Inostrannaya Literatura*. Soon after, the same magazine printed the play *Requiem for a Nun*, Camus' stage version of Faulkner's novel of the same name.

Obviously there has been progress in the publication of Faulkner's works. However, a series of hard-to-understand novels that he wrote in the late twenties and early thirties—*The Sound and the Fury, As I Lay Dying, Absalom, Absalom!, Sanctuary*—still remains unknown to our readers, as does his later novel *A Fable*. But their turn will come.

No other American author attracts as much attention from our literary critics. The first important study was the article "Antiwar Themes in William Faulkner's Works" by Yelena Romanova, our experience critic specializing in American literature. The article was published in *Inostrannaya Literatura* in 1955. Analyzing *A Fable*, Romanova showed how, beginning with Faulkner's early *Soldier's Pay*, his hatred for militarism had grown. She related this hatred to his basicly humanitarian outlook. Unlike the Western critics, who were inclined to believe that Faulkner's works of the forties and fifties reflected a prolonged crisis, Romanova found in *A Fable* the signs of his progress because "real life with all its complexity and contradictions was more and more persistently entering his writing."

In the sixties a new stage in the study of Faulkner began. Our critics unanimously hailed the Snopes trilogy as a worthy continuation of the saga of Yoknapatawpha and as the climax of Faulkner's creative career. In 1963 Professor Maurice Mendelson, one of our foremost experts on American literature, published his article "Hell on Earth and William Faulkner," in which he traced Faulkner's connection with the Southern school of writers.

Yevgeniya Knipovich, another well-known critic, disagreed with the evaluation of Western scholars who thought *The Mansion* was a failure. She pointed out the difference between his trilogy and the works of "orthodox avantgardism": "Faulkner's way from *The Hamlet* to *The Mansion* in his trilogy is the way from myth to epic, from obscurity to clarity, historicity and an understanding of the real nature of contemporary society."

Professor Tamara Motylyova believes that in these more realistic novels Faulkner remains an experimenter "who loves to create, invent and test, breaking the established traditions of the genre." His search for new means of expression in all his works, however varied and uneven, was dictated by the same motive—"not to turn away from the turmoil of social reality in the twentieth century, but to study it."

In the past few years our critics have been studying all of Faulkner, including his early period, trying to determine his place in world literature. Their efforts resulted in a more probing and more accurate analysis of the novels he wrote at the end of the twenties and the beginning of the thirties. Yasen Zasursky, a Moscow University professor, wrote a paper on Faulkner's *The Sound and the Fury*. Alexandra Savurenok, a Leningrad scholar, approached the same theme from a different angle, expressing her disagreement with the evaluation by some of her Soviet colleagues of the novel and its stream-of-consciousness method. She arrived at the conclusion that Faulkner used this method most successfully and fruitfully, outstripping even James Joyce, the author of *Ulysses*. In his article "Faulkner's Way to *The Hamlet*," published in our leading critical magazine *Voprosy Literatury* (*Problems of Literature*), Nikolai Anastasyev, a young scholar of American literature, presented a new estimate of such novels as *The Sound and the Fury, As I Lay Dying, Light in August* and *Absalom, Absalom!* which had previously been dismissed as decadent, maintaining that they constituted an approach to the Snopes trilogy. In 1971 the same magazine carried Mikhail Landor's article "The Development of Faulkner's Creative Method," which talked, among other things, about Faulkner's feeling for the Russian writers he knew and loved—Tolstoy, Gogol, Chekhov and, especially, Dostoyevsky.

I would like to remind my readers that in 1947, in answer to a Michigan University student who asked which nineteenth century novels he thought were the best, Faulkner said: "Probably the Russian novels, because I remember more Russian names than any others."

Pyotr Paliyevsky, a talented literary critic and a great admirer of Faulkner, has written several interesting articles on the American novelist. In "The Discoveries of William Faulkner," he compares Hemingway and Faulkner and concludes that while Hemingway's characters express "stoicism and passivity," Faulkner's are "fiercely aggressive, imbued with a basic confidence in their superiority." He also draws an interesting parallel between Sholokhov, the author of *And Quiet Flows the Don*, and Faulkner, who wrote the saga of Yoknapatawpha. Yoknapatawpha is an Indian word that means "quiet flows the water across the flat plain." Poliyevsky believes that this image expresses Faulkner's idea of the slowly flowing river of life, the idea of the native soil, of Mother Earth. He also sees a resemblance between Faulkner's heroes, passionate and unruly, and such people as Sholokhov's Grigori and Aksiniya.

The study of Faulkner in our country is at a peak. The first books about this writer have appeared. In 1969 Vladimir Kostyakov, a young specialist in American literature from Saratov on the Volga, published his analysis of Faulkner's trilogy. In 1970 a popular article about Faulkner, written by Yulia Paliyevskaya, was published for students. In various cities—Moscow, Leningrad, Tbilisi—new critical studies of Faulkner are being written and new translations are coming out.

Interest is also increasing in Faulkner's earlier works. With each new translation, it becomes easier for us to understand him as we penetrate deeper into his special world.

MUSIC LIKE NOBODY ELSE'S

BY NATALIA LAGINA

HE BURST out of the gates of the Gnesiny Music Teachers Institute and went dashing down Vorovsky Street. Where and why was he rushing? Nobody was chasing him! He wound in and out of streets which were still strange to him and found himself sitting at a table in Moscow's biggest ice-cream parlor ordering a huge sundae. He must have gulped a quart of ice cream before he staggered "home" to a friend's house. There he lay down to rest and fell asleep at once.

The next morning he woke up with a high fever and a sore throat. The noises of the August morning filtered into the room with the sunbeams. As he debated whether to call a doctor, the events of the day before flashed through his mind: There he was, an Armenian from Tbilisi, a graduate of his city's College of Music, taking the institute's entrance exams. And playing his own piano concerto and romances to verses by Stepan Shchipachov. And for this august board of examiners, among them the man he had come to Moscow to see—Aram Khachaturian. The wait that followed for the board's decision was excruciating. There were some 30 young people applying for each of the vacancies in the composer's courses. At long last the marks were read out. There were many low ones. The applicant who got a Fair was regarded with envy, and the one with a Good with awe. Then, suddenly, cutting through the numbness of their fatigue and depression, boomed an "Excellent plus!"

He jumped! Who got that? The next moment he was the focus of cheers and congratulations. Khachaturian himself came up and said that he wanted him in his class. He was in a daze, he couldn't believe it. Delirious with joy, he had rushed out into the street. . . .

That day he turned 20. And two weeks later, barely recovered from a bad case of tonsillitis, he stepped into Aram Khachaturian's class.

That was 21 years ago.

Now Mikael Tariverdiyev is famous, but for different things in different places. At home they know him best for his chamber pieces and songs; abroad his music for the film has brought him world recognition.

Double Debut

"How did you come to write music for films?" I asked him.

"By coincidence really," he replied. "Student film directors at the Institute of Cinematography were looking for a composer for their diploma picture. They came to our students at the music school for help. I've always liked films—later I gave a course on composing incidental music for films at that same institute—so I decided to try my hand. There were several songs in the comedy *Man Overboard* so I made my debut in both song- and incidental-music writing at the same time."

It was not a bad beginning, however. A year later Tariverdiyev was commissioned to write music for the film *The Youth of Our Fathers*. This picture proved to be very important for him. It introduced him to the romantic heroes of Alexander Fadeyev's *Nineteen*.

Tariverdiyev brought to *The Youth of Our Fathers* everything he had learned about symphonic music. But in *Man Follows the Sun* he worked out his own idiom.

"What I want to do," he says, "is to charge my work with the 'principle of naked timbres,' to concentrate attention not on the orchestra as a whole but on one of the groups of instruments (for example, brass or percussion), in order to highlight their individuality. I want them to carry the musical theme the way the voice does a song. At the moment I'm working on the vibraphone and xylophone, fascinating instruments. All my efforts from now on will be centered on vocal pieces."

There is no question about it. Songs are his forte. Tariverdiyev has written some very good ones. His range is wide, from medieval Japanese poetry to the twentieth century verse of Avetik Isaakyan, Semyon Kirsanov, Vladimir Mayakovsky, Bella Akhmadulina, Andrei Voznesensky and Yevgeni Vinokurov.

Tariverdiyev is discriminating in his choice of the films he writes music for. He has many offers but has written music for only 15 films in as many years. He did his best music for *Goodby, Boys*, he says. Because it had no songs, Tariverdiyev had to create with music alone the atmosphere of peace just before World War II began and also of the days immediately following the outbreak of the war. For all the other films he had songs to work with.

The Modern Song

" believe that the modern song should be written as a serious chamber opus combining elements of the classic, the popular stage, symphonic music and jazz," he says. "But there must be no studied stylization. Simplicity of expression and clarity of idea are basic. Not only the melody but the words are important. That is why I sometimes turn to melodeclamation and recitative, where the piano accompaniment becomes the second voice, as it were. When it works out, it makes for an interesting duet, but that doesn't happen very often."

When Tariverdiyev is successful in this genre, however, his music is like nobody else's. The songs are unique. They have depth, grace and freshness. They are song-moods, song-reflections. Immensely popular, they are sung everywhere even though the complex melody lines are difficult to follow. Recordings of Tariverdiyev's songs sell out almost as soon as they appear.

Musical Comedy

"Everything I write," says Tariverdiyev, "is symphonic. Or, rather, the structure is pure symphony, the fleshing out is experiment. I am searching for my own musical language. Time will tell if I find it."

He has made considerable headway in that search of his—you hear it not only in the songs and romances but in his trombone concerto and vocal concerto, in the score for the ballet *Shade*, from Yevgeni Schwartz's fairy tale of that name. Three years ago the first Soviet musical, based on Vasili Aksyonov's novel *It's Time, My Friend,* had its première in Moscow. Most of the vocal music was composed for verses by Voznesensky. It is comedy, playing up the joys and tribulations of youth. Its original cast included students of the Lunacharsky State Institute of Theatrical Art.

"I like musicals. They may very well be the best and most relevant form of musical narrative, especially for young people. Their potentialities are great and so are their demands. I think the musicals of Leonard Bernstein and Michel Legran are great. Some of the songs the Frenchman Jacques Brel has done are in the musical comedy genre. The work of these composers shows you how much the song—its composition and its language—has substantively changed. Now more than ever before the listener wants to know the author's attitude to what he writes. And that is why many composers perform their own songs, even when they have poor voices.

"I too may continue my vocal experiments," Tariverdiyev added, with a smile. "Not in person, however. Just now I am interested in something else."

"And what may that be?"

Polyphony

"I have a hundred projects. I want to write a musical based on Bulgakov's *The Master and Marguerite*, a ballet adapting Garcia Lorca's *Bloody Wedding.*"

For Tariverdiyev the symbolic expression of love has always been the music of Frederic Chopin. That is the reason for introducing a fragment from a Chopin nocturne to take the place of a refrain. His love for symphonic music comes through clearly. The orchestra has the role of second voice. That is how a unique polyphony was born.

"I have a special feeling about polyphony," the composer explained. "Do you know who my favorites are? Rameau and Scarlatti, who were polyphonists. Polyphony has been winning over many young musicians. It's also a major element in the work of Rodion Shchedrin, Andrei Volkonsky and Boris Tishchenko."

"Which composers, besides Rameau and Scarlatti, have influenced you most?"

"Khachaturian and Prokofiev above all. In opera, Alban Berg and Francis Poulenc. Aaron Copland is splendid. And one of my most exciting musical experiences in recent years was hearing Vitold Lutoslawski's *Oratorio*.

"What do you think of avant-garde music?"

"I'm all for it when composers turn to the avant-garde not for the sake of flirting with formal experimentation but to express large ideas. A composer should be able to express his view of the world in any form he wishes. The important thing is what that view gives to the listener. Refinements in the musical language do not necessarily make for originality of viewpoint."



NEXT ISSUE

The Russian Soviet Federative Socialist Republic covers 76 per cent of the Soviet Union's territory, stretching all the way to the Pacific Ocean. Its population is more than half the country's total and comprises 100-odd nationalities. President of the Presidium Mikhail Yasnov describes life in his enormous republic, which is featured in the October issue.



Vladivostok is the last stop on the Trans-Siberian Railroad. The Rossiya travels 4,000 miles and passes seven time zones to get from Moscow to the capital of the Maritime Territory. The ice glaciers that covered the planet millions of years ago never reached the Maritime Territory. This accounts for the uniqueness of its flora and fauna. The trees of different climatic zones are neighbors here, and botanists have discovered 580 industrial and 390 food plants. Our article tells about the way Siberia has changed these past 50 years.

Vladimir Rezchikov is the engineer of Rossiya, an express that goes from Moscow to Vladivostok. He is 42 years old, has a wife who is a stationmaster (that's how they met) and two sons. The family lives in a railwaymen's town 10 minutes' drive from Moscow. Rezchikov attends the Railway Transport Engineers Institute, his wife and elder son the Railway School, his younger son a secondary school. It figures that the way they like to spend their vacation is—traveling. The people who work on the railroads and their families don't have to pay for transportation, so they've been all over—the Caucasus, the Crimea, Leningrad—and this year they're planning to go to Kamchatka. An article about a typical Soviet railroader and his family in October.





Beryozka means birch tree in Russian, and since 1948 it also means a folk dance ensemble of astonishing grace. It all began with an amateur dance festival held in rural communities of the Russian Federation. The best of the groups were chosen to perform in Moscow. The girls with birch twigs in their hands gliding across the stage to the folk song "In the Field a Birch Tree Stands" brought the house down, and Nadezhda Nadezhdina was given the assignment of creating a professional ensemble of the group. A story Beryozka, which has performed in 56 countries, including the USA, and will be here in September.

By 1980 Moscow will have 1.6 million spacious apartments with every modern convenience. An article by the mayor of the capital of the Soviet Union outlines the plan for the city's development in the next 25 years.

An illustrated article about Akademgorodok, the suburb of Novosibirsk where the Siberian Branch of the USSR Academy of Sciences is situated.

An article describing Kyzyl's transformation from a primitive settlement of nomadic hunters into the capital of the Tuva Autonomous Republic.

Aaron Vergelis, the editor of the Jewish cultural magazine *Sovetish Heimland* published in Yiddish, answers questions asked by our readers.

COMING SOON

The Soviet Worker: A Social Profile



Apparatus for purifying sea water at the offshore oilfields of Azerbaijan.

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SOVIET LIFE

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October 1972

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The papers come first thing in the morning.

A [illegible] a certain country or part of the world and it evokes a particular image for all of us. We associate the Sahara, for example, with desert sands; a torrid climate and caravan routes; the Antarctic with icebergs, dazzling fields of snow and stark loneliness; Holland wth tulips, dikes and photogenic windmills.

But no single picture can adequately call forth our country, if only because the USSR occupies one-sixth of the Earth's dry land, has 11 time zones with climates which range from 76 degrees below zero in Verkhoyansk to 122 degrees above in Central Asia, and is geographically so vast an entity.

The same description applies to the Russian Soviet Federative Socialist Republic, the largest of the 15 Soviet Republics. It covers more than 6,500,000 square miles and has a population of 130 million, made up of more than 100 different nationalities.

An express train—the Rossiya—travels practically across the republic. It covers the distance from the West to the East in seven days, making the longest transcontinental run in the world.

The Rossiya Express runs from Moscow to Vladivostok on the Pacific coast, a distance of 5,777 miles, across seven time zones. When the sun rises in Vladivostok and a new day begins, it is bedtime in Moscow. Today distance is not the barrier it was a short while ago: Vladivostok can be reached by air from Moscow in no more than nine hours. With sputnik television relay, viewers in Vladivostok can watch the same programs Muscovites do. Newspapers are delivered to Vladivostok on the same day as in the central parts of the country—and to the Rossiya Express as well. Vera Maslova, one of the conductors, brings the day's newspapers into every compartment. With her cheery "Good morning!" the day begins for the passengers on their long journey from Moscow to Vladivostok across almost all of Soviet Russia.

See story on page 18



EDITOR'S NOTES

ABOUT THE WORD RUSSIA

THIS ISSUE of SOVIET LIFE accents the Russian Soviet Federative Socialist Republic (RSFSR). This is the only one of our union republics—there are fifteen of them—whose name includes the word Russian.

Russia has a history stretching back more than a thousand years. The first Russian state—Kiev Rus—was founded in the ninth century. The word Russia did not enter our spoken and written language until the sixteenth century. Rus was the word then. Once in general use, however, the name Russia stayed. It is no accident, then, that even now, more than half a century after the country's official name was changed to conform to the radical alteration in its political system, in foreign countries (in all the media and in textbooks and scientific publications) the word Russia is still used.

Inaccurate, of course, but permissible for convenience' sake.

Obviously, the old name is likely to be used by our contemporaries for some time to come. And for good historic reasons. The Russian nation has one of the largest populations in the world. Russia produced Leo Tolstoy and Fyodor Dostoyevsky, Dmitri Mendeleyev and Peter Tchaikovsky. From Russian stock came Vladimir Lenin, organizer of the first proletarian revolution and architect of history's first socialist state. The Russian people, together with the other peoples of the USSR, made an enormous contribution to the victory over nazism in the Second World War.

But on the political map of the modern world, our state appears as the Union of Soviet Socialist Republics. And on the map of the Union, among other constituent republics, is the Russian Soviet Federative Socialist Republic. These names have precious meaning to all Soviet people because they mirror the new social relations which were introduced into life by the Revolution and subsequent developments.

Well, what about convenience and brevity? For our state as a whole we have the abbreviations USSR and the Soviet Union. We also cut the full titles of the Russian Republic to RSFSR and the Russian Federation. The last version takes longer to say than Russia, but it does provide a more precise political definition since the word federation characterizes the Russian Republic as an entirely new state formation.

In our country, too, the RSFSR is often called simply Russia. Moscow publishes a newspaper titled *Sovetskaya Rossiya* (Soviet Russia). But the implication is always there that reference is to Russia as a socialist federation.

So far this year our magazine has carried a great deal of material dedicated to a very special date in our history—the fiftieth anniversary of the formation of the USSR. We hope that our readers have found the broad coverage on the Soviet period informative, enlightening. Here we shall dwell only on the significance of the change of name from Russia to the Russian Soviet Federative Socialist Republic.

The adjectives Soviet and socialist describe the major sociopolitical features of the new Russia. They tell us that state power in the country is in the hands of the Soviets, comprised of deputies elected by workers, farmers and other sections of the working people; and that the country's economy and politics are based on national socialist ownership of the principal means of production—the land, mills, railroads, etc. But how about the term federative? The other republics did not include that word in their names. The main reason was the great diversity of the population in properly Russian territories.

The multinational composition of Russia's population was shaped by time and history. As early as the fourteenth century the Russian state had established itself as multinational. In later centuries the number of nationalities increased even more. In resolving the national question on socialist principles of national equality, the Soviet government had no alternative but to form a federative republic. So Russia was proclaimed on the first day of Soviet power, November 8, 1917. All the other nationalities living within the territory of the Russian Federation proper in a more or less compact form secured their state autonomy, some immediately, others later. In the RSFSR there are now 16 autonomous republics, five autonomous regions and 10 national areas. The Federation is a big family of equal nationalities, each of which has its own form of statehood. That is today's Russia.

According to the 1970 census, of the 242 million population of the Soviet Union, 129 million are Russians. Of that number, 108 million live in the Russian Federation, the rest in the other union republics. The total population of the RSFSR is 130 million. The Federation covers six and a half million square miles (the USSR has an area of 8.65 million square miles).

Both in population and territory, therefore, the Russian Soviet Federative Socialist Republic leads the Union. But the moral authority it enjoys among other equal republics is explained, of course, not by this superiority. Its influence within the Union is a product of its very substantial contributions to the common cause. It was, after all, the Russian proletariat who became the leading force of the Revolution. And it is the Russian people who share in the construction of socialism and communism and in the just, truly humane solution of the national problem.

PEOPLE AND EVENTS

Scientists For Agriculture

Automatic plowing is being tested at the Research Institute of the Tractor Industry in Moscow. The tractor driver switches on a special device and his machine moves across the field, selecting the appropriate work pattern. It does a better job of plowing and, equally important, makes the driver's work easier.

The RITI's first creations arrived in the fields back in the 1930s. Today more than two million tractors designed by the institute are at work on collective and state farms. Several models are exported to 55 countries.

Institute researchers and designers are developing new, more powerful, more reliable, more comfortable models. In particular, they are improving the air-cooled tractor motors, trying to raise their capacity from 120 horsepower to 500 horsepower.





Chief Architect Of Leningrad

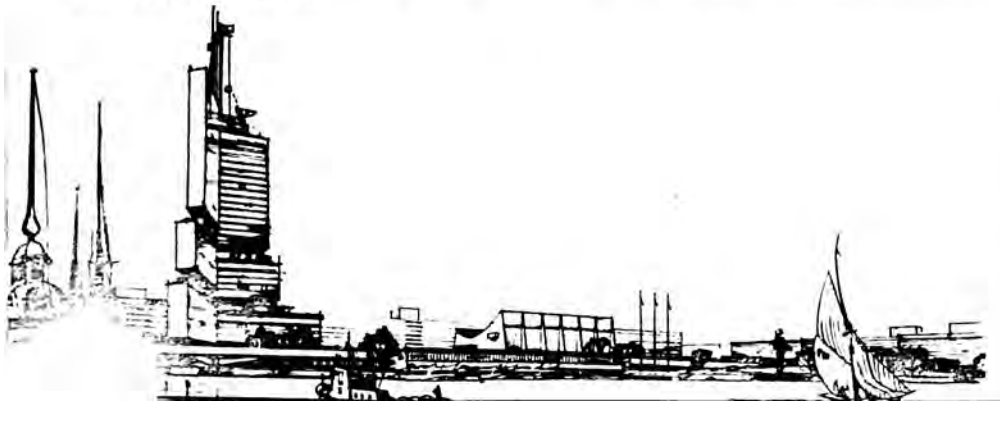
Last year Gennadi Buldakov, 47, was appointed chief architect of Leningrad.

Buldakov decided to become a builder during the Great Patriotic War. He served as gunner and radio operator with a tank crew, fought against the fascists at Kursk and then went on to Berlin.

After the war Buldakov, then 22, entered the Leningrad Institute of Civil Engineering. He graduated with flying colors and later went back for a course in architecture. He has been designing the new districts of Leningrad since.

In 1966 the master plan for the development of Leningrad was approved. Buldakov helped draft the plan. His idea was to preserve the quality of the city that took centuries to evolve. The principle behind the construction of new districts and the reconstruction of old ones is a combination of, rather than a contrast between, the traditional and the modern. Buldakov and his colleagues introduced a number of interesting elements into the general plan.

In the next decade Leningrad, which has been standing on the banks of the Neva for centuries, will expand toward the sea. The sandspits in the Gulf of Finland will be transformed into majestic embankments lined with multistory houses. The sea facade of the city will be 22 miles long. The marshy plots adjoining it will be drained and new districts built there.



American Computers In Moscow

The first exhibition of American computers and computer equipment was held in Sokolniki Park in Moscow, usually the site of international fairs. The exhibition was organized by International Media and Exhibits, Inc. Twenty-eight American firms displayed their computers and related electronic equipment—some 40 million dollars' worth.

Arne Krabbe, President of International Media and Exhibits, Inc., said that the participating firms had the permission of the American government to exhibit and sell these latest developments in computer technique.

Visitors included distinguished academicians, members of the State Committee for Science and Technology of the USSR Council of Ministers, and workers in the electronic industry.

The Soviet Union is expanding its computer production by 160 per cent in the current five-year plan period.



Engineer And Artist

Anatoli Degaltsev is a design engineer. He works in Academician Pyotr Kapitsa's laboratory at the Institute of Physical Problems. The laboratory does research on hot plasma, and Degaltsev's job is to design instruments with which to apply the ideas of the theorists.

A small instrument covered with a bell jar stands in Academician Kapitsa's office. It is called a nigotron, the heart of the plasma installation. Anatoli Degaltsev helped design it. Recently several researchers of the institute, including Degaltsev, were honored with awards.

But Degaltsev also has a talent of a different kind—he is an artist. Recently a colleague arranged an exhibition for him, and it created something of a sensation among professional art critics. One of them tried to persuade him to become a full-time painter.

Degaltsev developed his artistic talent as purposefully as his technical talent. He attended art school while he was a secondary school student. Then he went on to study architecture. In the army he developed an interest in technology and after he was demobilized worked as a laboratory assistant and technical draftsman. He studied evenings for six years at the Institute of Machine Building. Later, when he became a technical specialist, he finished an industrial arts course and got his designer's diploma.

Degaltsev does not propose to quit his engineering job although art is more than a hobby for him; it is one of the two parallel interests in his life.

New Pavlova?

The USSR Contest-Review of Choreography Schools was held recently in Kiev, the capital of the Ukraine. Fifteen-year-old Nadezhda Pavlova of Perm, in the Ural Mountains, was the winner.

Inborn talent, charm, an ear for music, and artistic feeling combined with perfect technique promise her a brilliant career.

Contest-reviews of professional choreography schools—there are 19 in the country—are held every four years. Some of the schools, like those in Leningrad and Moscow, are almost 200 years old. Others are very young, like the one in Kishinev, Moldavia, which held its first graduation this year.



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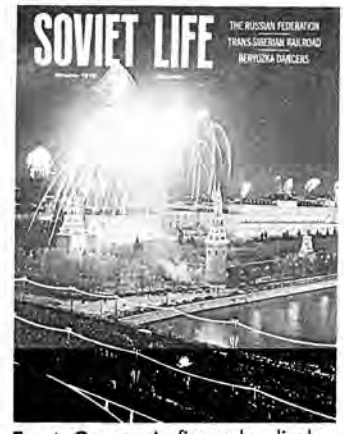

Front Cover: A fireworks display over Moscow during one of the national holidays. For photo story

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100 Different Nationalities

The lives of the peoples of the Far North are a particularly telling example of the application of our Leninist national policy. This area is inhabited by some 30 peoples —small in number—the Nenets, Evenks, Khanty, Mansi, Chukchi and others, and is administered as national areas within the framework of the Russian Federation. Before the Revolution, the indigenous population of the Far North was dying out. Hunger and disease, the effects of ruthless exploitation, killed off whole tribes. Extinction would have been the fate of all these people if there had been no October Revolution.

The plane, the helicopter, the doctor and the teacher are common now in Chukchi and Nenets life. Hundreds of the sons and daughters of the Northern peoples have become doctors, teachers, technicians, geologists. The children of former nomads are uncovering the riches of the tundra.

At the same time the wealth of their original culture is being revealed and is unfolding in the work of their own artists, actors and writers.

Peoples who had no alphabet of their own now have hundreds of schools where the teaching is done in their native tongue; every collective farm, every community has a hospital, a school, a club. In the North, as everywhere else in the Russian Federation, representatives of all the nationalities of the RSFSR and of the other union republics live and work in amity and cooperation with the Nenets, Koryaks and Chukchi. And they all enjoy the same rights, for national superiority is alien to Soviet society.

This is a governing law, not simply a moral declaration. It is laid down in the Constitutions of all the republics, including the Constitution of the Russian Federation:

"Equality of rights of citizens of the RSFSR, irrespective of their nationality or race, in all spheres of economic, government, cultural, political and other social activity, is an indefeasible law.

"Any direct or indirect restriction of the rights of, or, conversely, the establishment of any direct or indirect privileges for, citizens on account of their race or nationality, as well as any advocacy of racial or national exclusiveness or hatred and contempt, are punishable by law."

Big Steel Producer

The October Socialist Revolution changed the life of the backward outlying regions. It also made radical changes in the economic map of the republic as a whole: That map has been reconstructed and at a rate unheard of.

The Russian Federation leads the country in industrial production. By comparison with 1913, it had increased 8.7 times by 1940 and 92 times by 1970. The Russian Federation produces over 80 per cent of the country's oil, almost two-thirds of its electric power, over half the coal, steel, grain and milk and 92 per cent of the commercial timber.

Every minute the republic produces 134 tons of steel and 895,000 kilowatt-hours of electricity, extracts 589 tons of oil, makes 1.5 tractors and close to six automobiles.

The Russian Federation has rich deposits of iron ore, nonferrous and rare metals, coal, oil, peat, and 90 per cent of the timber resources in the country. It ranks with the most industrially advanced countries in the world. It was here that the foundations of Soviet industry—the Magnitogorsk Steel Mill, the Urals Heavy Engineering Works, the Stalingrad and Chelyabinsk Tractor Plants and other enterprises of the metallurgical, coal, oil, electric power and other industries—were built in the early five-year-plan periods and won nationwide fame in their time. Builders and other workers came from all the republics to put up the Magnitogorsk mill. After Magnitogorsk came other big plants in Kuznetsk, Chelyabinsk, Tula, Lipetsk, Cherepovets and Western Siberia. Our republic now supplies half the country's ferrous metals.

Lenin had a vision of an electrified Russia. Today the Russian Federation ranks first in Europe and second in the world for generation of electricity. Chains of power plants span the Volga and the Kama, giant electric stations have been built in Krasnoyarsk on the Yenisei (the Sayano-Shushenskaya station is going up now) and in Irkutsk and Bratsk on the Angara.

The Ninth Five-Year Plan (1971-1975) set the Russian Federation new tasks, among them accelerated development of the machine-building, gas, oil and chemical industries and the continued exploitation of the riches of Siberia and the Far East.

As before, the emphasis is on raising the industrial level of the autonomous republics and national areas of the federation. For example, the world's largest plant for the manufacture of heavy-duty trucks is under construction in the town of Naberezhuye Chelny in the Tatar ASSR, and a plant for the manufacture of powerful tractors is going up in Chuvashia.

In the current five-year period the republic's per capita income will rise by another 30 per cent.

The tremendous economic changes are reflected in rising cultural standards. Soviet Russia had to start its cultural development by setting up an extraordinary commission to end illiteracy. But this is past history. Over 43 million people, almost a third of the republic's population, are involved in some kind of formal studying. Over half the people in agriculture have a higher, secondary or incomplete secondary education. More than five million students are enrolled in specialized secondary schools, institutes and universities. There are higher schools in every region, territory and autonomous republic. There are 311 theaters, many museums, picture galleries and libraries in the RSFSR. The publishing houses of the republic issue over a billion books a year, including those written in the languages of 22 peoples who had no alphabet before the Revolution. The arts have been brought within everyone's immediate reach. There is no spot, however remote, without a club, library, radio or TV.

Equal Rights For All

The Russian Federation is a component part of the USSR, one of the 15 equal Union Socialist Republics.

The progress of the Russian Federation and the other republics would have been impossible without this close alliance, without these firm economic ties.

Our economic and cultural plans have developed from the principle that the interests of the USSR as a whole derive from the interests of each Soviet republic.

The national economy of our country is a single, interconnected complex. For instance, the Russian Federation gets pig iron, anthracite, coke, iron ore, various machines, mineral fertilizers, foodstuffs and many other items from the Ukrainian SSR, which ranks second in the country in over-all volume of industrial and agricultural production. A large quantity of the federation's machines, mineral fertilizers and raw stocks come from neighboring Byelorussia. Its nonferrous metals and ores, anthracite and oil come from the Kazakh republic; its raw cotton, cotton products and gas from the Uzbek SSR; its cotton, oil products, chemical and light-industry goods, and various agricultural commodities from the distant Turkmen Soviet Socialist Republic.

In turn, the Russian Federation provides these republics with items made by the engineering and instrument-making industries, oil products, various types of equipment, timber, raw materials and other kinds of industrial and agricultural goods.

This is a far from complete listing of the economic ties of the Russian Federation with the other republics. It does illustrate, however, the close interrelation which exists, the result of large-scale socialist production. That is the base for the stronger cohesion of socialist nations.



Kabardinians



Kalmyks



Komi



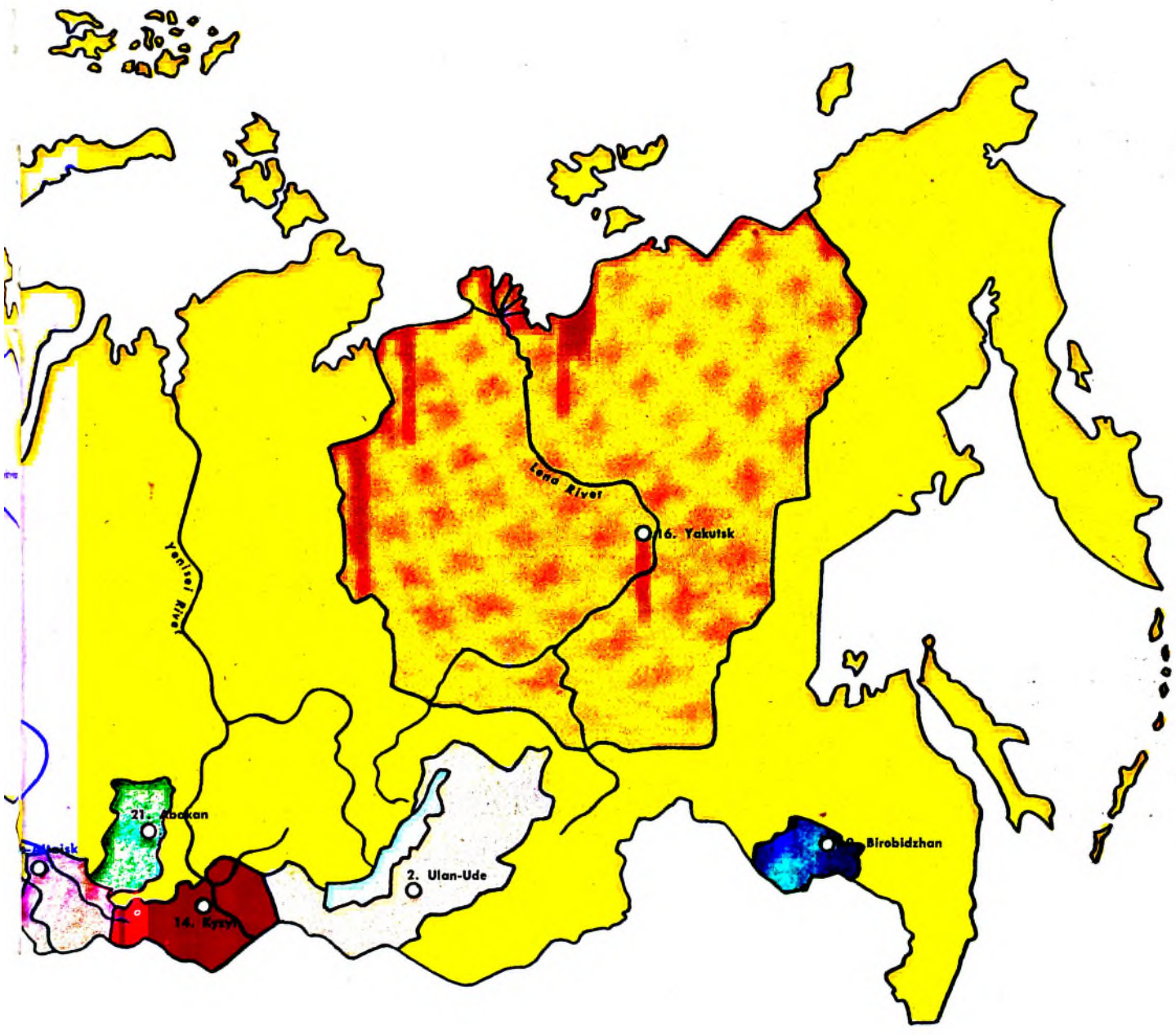
Karelians



Mari



Mordvinians



MAP OF THE RUSSIAN FEDERATION

Ossetians



Chechens



Udmurts



Tuvinians



Tatars

THE RUSSIAN FEDERATION

BY MIKHAIL YASNOV
President of the Presidium
of the Supreme Soviet of the Russian Federation

First Among Equals

The Russian Soviet Federative Socialist Republic (RSFSR) is the largest of the 15 Soviet republics. It covers an area of more than six and a half million square miles, 76 per cent of the entire territory of the USSR. Its 130 million people make up more than half the country's population.

After the October 1917 Revolution, the Russian Federation, the Ukraine and Byelorussia declared themselves independent Soviet Socialist Republics, as did Georgia, Armenia and Azerbaijan in the Transcaucasus.

Relations between the Russian and the Transcaucasian Federations were regulated by treaties, but the need for closer unity grew as the economy was rehabilitated and the construction of a new Soviet society proceeded. At the end of 1922, the Congresses of Soviets of all the republics agreed to set up a single union state.

On December 30, 1922, the First Congress of Soviets of the USSR approved a declaration forming the Union of Soviet Socialist Republics. The fiftieth anniversary of this declaration will be celebrated this year.

Sixteen Autonomous Republics

The RSFSR, the only federative republic in the Union, has over 100 nationalities and peoples. One of the most complicated of social questions, the national question, has been resolved here for the first time in history.

There are at present two forms of autonomy in the Russian Federation—national-state and national-administrative.

The autonomous republic is the expression of the first form and the autonomous region and the national area of the second. There are 16 autonomous republics, five autonomous regions and 10 national areas in the RSFSR.

All 16 autonomous republics have their own legislative bodies, administrative agencies, court systems and constitution. They are all equal. They send an equal number of representatives (11 deputies) to the Soviet of Nationalities of the Supreme Soviet of the USSR, regardless of the number of voters and size of population.

Area: 6 million square miles Population: 130 million

Any one of the autonomous republics, national areas or regions can serve to illustrate the great changes that Soviet power has brought. A good example is Tataria, which became part of the Russian Federation in May 1920. It was a backward agricultural region, 80 per cent of its population was illiterate. With a growth in industrial output of almost 371 per cent, Tataria is now a highly productive republic. The powerful union of nations helped it to make the leap from an illiterate hinterland to one of the most extensive cultural centers in the Russian Federation. It now has 11 institutes and universities, more than 50 scientific research institutes, hundreds of libraries and many theaters.

The autonomous republics of the Volga area—Mari, Mordovian, Chuvash and Udmurt—have made the same dramatic progress. Mordovia, which was another name for industrial backwardness in czarist times, exports electric appliances to many foreign countries.

The Komi Autonomous Republic in the Urals foothills recently marked its fiftieth year of membership in the federation. Its abundant natural resources—oil, coal, gas and timber—had never been tapped under the czars. A few timber-felling sites owned by foreign companies was the sole industry, if it could be called that. The Komi ASSR has developed coal-mining, oil, gas and power industries (it did not have a single power plant in the twenties). Agriculture has changed, too; the republic got its first tractor in 1928, it now has many thousands.

Disease and epidemic were decimating the Komi people; there was no medical assistance to speak of. The republic now has more than 10,000 doctors and paramedical personnel. Free medical care special hospitals, preventive measures have eradicated such diseases as tuberculosis and trachoma, which at one time scourged this region. The life span of the Komis has more than doubled!

Or take Daghestan, Kabardinian-Balkaria, North Ossetia and Checheno-Ingushetia—Caucasian republics a long way from the northern Komi ASSR. They are also remarkably changed. In one hour now Kabardinian-Balkaria manufactures as much as it did in all of 1913. This autonomous republic, which had no written language of its own, now has 38,000 specialists with a higher education working in its factories, offices and cultural institutions. Of special interest is the fact that over half of them are women; prior to the Revolution highland women had no rights whatsoever.

The Tuva Autonomous Republic is one of the youngest in the Russian Federation (it was an autonomous region until 1961). The formation of this republic is a demonstration of how one or another part of the Russian Federation is given greater independence as the economic and self-governing potentials of the regions and territories grow.

Several decades ago the people of Tuva were semi-nomadic; in the past five-year period this autonomous republic has founded new towns and communities and established modern industry, including a pioneer non-ferrous metallurgical plant, the Tuvakobalt Combine. Large-scale mercury production is under way in Telig-Khain, and coal is being mined at the Kaa-Khem quarry. Dozens of new schools, hospitals and clubs are under construction.

MOSCOW

The Soviet capital is one of the big cities of the world. It has an area of 320 square miles and a population of 7.5 million.

Moscow is a major communications hub, with rail links to 24 countries and air links to 64; with 170 long-distance and 1400 suburban trains arriving at nine terminals daily and carrying 1.5 million passengers; with ships sailing to all the five seas. More than two million foreign tourists visited Moscow in 1970.

Vladimir Promyslov, Chairman of the Moscow Soviet of Working People's Deputies, talks of the city's future.

The most dynamic city in the world—this was how the capital of the USSR has been described by Jussi Saukkonen, chairman of the City Council of Helsinki, the Finnish capital. And, indeed, our city is changing rapidly. We have just adopted a master plan for the development of Moscow in the next 20 to 25 years. The city will be making radical changes.

Moscow architects, in drafting the plan, tried to make maximum use of our natural features—the hilly relief, the picturesque outlines of the banks of the Moscow River and the large tracts of green. Plantings already cover more than 30 per cent of the area of the capital and will be expanded.

We want to preserve as much of Moscow's 800-year history as possible—the architectural ensembles and the monuments. Thousands of new dwellings are rising in the city, and our architects are making every effort to guarantee that these new, higher structures do not eclipse the old, lower ones that have historic or artistic value.

The new plan foresees a considerable improvement in working and living conditions and recreation facilities. The prime consideration is housing. Available housing in Moscow has increased sixfold in the Soviet period. Some 120,000 families, half a million people, move into new apartments annually. Housing construction proceeds apace. No fewer than 1.6 million comfortable and well-equipped apartments will have been built in Moscow by 1980.

Under the new master plan, the city will be divided into eight zones, each with a population of 600,000 to 1,000,000.



Kalinin Street in the Arbat area of the city is famous for its many shops, fine restaurants and theaters. Right: Central Moscow. In the foreground are the Kremlin's Spasskaya Tower and St. Basil's Cathedral.

THIRD USSR COMPETITION OF ORCHESTRA CONDUCTORS



By Kiril Kondrashin,
CHIEF CONDUCTOR, MOSCOW PHILHARMONIC SYMPHONY ORCHESTRA

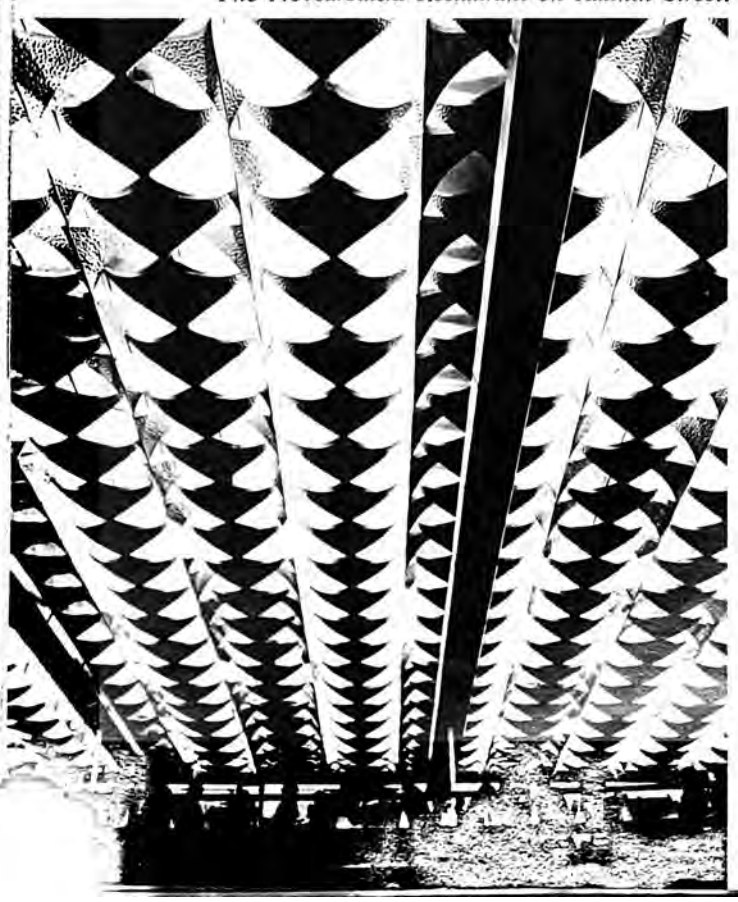


The TV tower in the Ostankino district with its skytop restaurant was built in the late sixties.



Lenin Hills subway bridge over the Moscow River.

The Novoarbatski Restaurant on Kalinin Street.



The central zone will include the Kremlin ensemble and adjoining squares. The rest will run radially from the central area.

Industrial plants and research institutions will be located so that the number of jobs available will equal the number of nearby residents, more or less. In other words, in the near future, practically every person, if he wants to, will be able to find permanent employment within walking distance of his home.

Health is our first and most important concern. That is what prompted us to move health-hazardous enterprises outside the city limits and not to build new ones that consume large amounts of water, fuel and electric power.

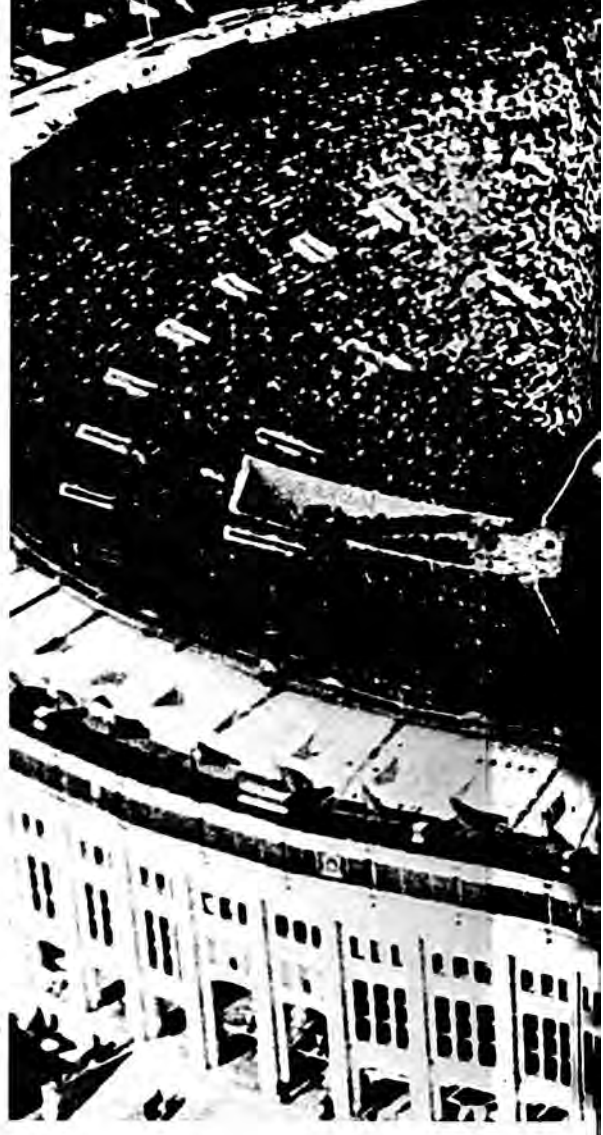
The zones are split up into several neighborhoods, each with its own cafés, food shops and other public service establishments. In such a giant-size city as Moscow—it has a 25-mile diameter—the problem of speedy transport is really serious. Fastest and most convenient travel is by Metro. Its lines will be extended in the coming five years to 200 miles and thereafter to 280 miles. Convenient transfer stations are planned at intersections of the Metro and surface railways.

The master plan also provides for more recreation facilities. Here are some relevant facts and figures: 2.5 million Muscovites now spend their weekends in the suburbs; the plan calls for accommodations for 5.7 million in out-of-town hotels, motels and tourist hostels. Four vacation resorts will be built in the areas between the Volga and Oka Rivers within a radius of 80 to 95 miles from Moscow. Each center will feature a popular recreational sport, depending on the time of year—motor-, sail- and ice-boating and alpine skiing.

We have tried to provide the best recreation facilities for Muscovites on weekdays as well. It so happens that the major entertainment spots have always been clustered downtown, quite a distance now from the new housing developments on the outskirts of the city.

Under the master plan, all eight zones will have their own theaters, concert and exhibition halls, Palaces of Culture, big recreation parks, stadiums and wide-screen movie houses. The zones will also have children's theaters and movies, Pioneer clubs and schools for art, music and the like for the younger generation.

All of this, of course, doesn't begin to cover the problems we're tackling. But it does show our direction—to make things easier for our city residents, to give them more free time, to keep them healthy and to provide them with all the cultural and recreational facilities they certainly ought to have.





Lenin Stadium in Luzhniki—the biggest in the country, seats 100,000 people. The sports complex has 24 gyms, 10 soccer fields and several swimming pools, and covers almost half a square mile.

The western districts of the capital were largely rebuilt in the fifties and sixties. The tall building in the foreground is the Ukraina Hotel. Far off, on the left, is Moscow University.

THIRD USSR COMPETITION OF ORCHESTRA CONDUCTORS



By Kiril Kondrashin,
CHIEF CONDUCTOR, MOSCOW PHILHARMONIC SYMPHONY ORCHESTRA

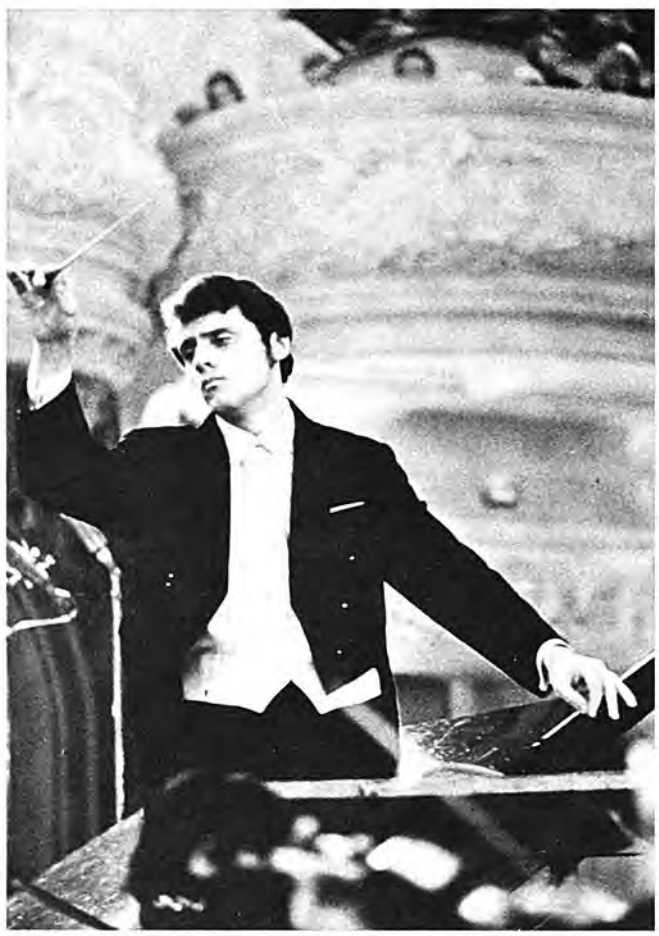
AT THE END of 1971, under the auspices of the Ministry of Culture of the USSR and the Moscow Philharmonic Society, the Third USSR Competition of Orchestra Conductors took place in Moscow. The 63 conductors who participated represented almost all the republics of the Soviet Union.

The competition was very stiff. Every entrant had to learn as many as 63 opuses. That is, if we regard a symphony movement as a separate opus—which it really is, for a symphony movement is as broad in scope as a symphonic poem or overture. Of the 63 works, only five could be named by the entrant. The rest had to be performed in accordance with lots drawn within 24 hours of the recital. For the sake of comparison, I might mention that at the most difficult international orchestra conductors' competitions in Rome, the number was limited to some 30 works.





First Prize winner Alexander Lazarev has a gift for improvisation and a phenomenal command of the classics.





Woldemar Nelson, the Second Prize winner, was cited by the jury for his unusually evocative interpretations.





The competition was divided into four stages. In the first and fourth rounds the entrants were given a choice. The first round was a preliminary competition. Its purpose was to give the jury an idea of the young conductors' talents. There was some apprehension that the 20-minute period would prove far too brief to test performance skill in a chosen opus or fragment. But that was not what was required. The contestant was there to demonstrate his ability to work with a body of musicians; it soon became clear that the short period was sufficient for the purpose.

The contestants used their 20 minutes in different ways. Some rehearsed in detail and then performed the small fragment they had managed to finish. Others only rehearsed—and nobody held that against them. Still others preferred to perform the entire piece and thereby present a total impression. In any event, every performance showed whether it was the conductor who was in control of the orchestra or the other way around.

The conditions of the second round were



Kiril Kondrashin chaired the jury for this third countrywide contest of orchestra conductors.

very strict. The conductor had to memorize eight Beethoven and four Tchaikovsky symphonies. Not until 24 hours before the recital did he learn which two movements he was to conduct. This was the key stage of the competition since Beethoven and Tchaikovsky are the foundations of the repertoire by which we can determine the conductor's intellect, erudition and emotional resources. Both pieces had to be rehearsed and performed. The program gave each entrant an opportunity, first, to demonstrate his interpretation of the larger form (sonata allegro) and, secondly, to conduct the slow movement of the symphony in order to show contrast with the first piece. An hour was allotted for this work.

We included music of different styles in the repertoire of the third round: the Viennese classics, early West European romanticists, Russian classics and twentieth century works.

The difficulties were aggravated by the fact that the contestants had to conduct different orchestras, whose repertoires did not always include the given opus. Both winners—Alexander Lazarev and Woldemar Nelson—had poor luck in this respect, for the Bartók concerto they had chosen had last been performed by the State Orchestra of the USSR seven years before, and it was therefore virtually a new piece of music for the orchestra.

Finally, in the last round, the prize winners conducted a whole concert program made up of their own selections.

Conducting, as we know, demands not only control of the orchestra but also—and this is even more important—a thorough understanding of the music, a strong feeling for its style, and the ability to fire the musicians through the depths of one's musical insights. It is this determining consideration—the faculty for getting one's message over to the players—which was demonstrated by many entrants and which was the primary criterion in appraising their gifts.

Only two of the 63 contestants were prize winners. They are altogether different, these two—Alexander Lazarev, a student at the Moscow Conservatory of Music, and Woldemar Nelson, a teacher at the Novosibirsk Conservatory of Music.

Twenty-six-year-old Lazarev wields a powerful baton. In performances and rehearsals he is poised and calm, precise and understated in his handling of the orchestra. He has an exceptional gift for improvisation and a thoroughgoing knowledge of the classics. For the final round, he chose a complex program: Shostakovich's Sixth Symphony, Schumann's Piano Concerto and Scriabin's *The Poem of Ecstasy*. Although this was the first time he had conducted these works, the performance denied the inexperience. It was impossible to tell, also, that he was conducting an orchestra which had last played the Shostakovich symphony ten years earlier!

Woldemar Nelson is older than Lazarev and has had many years of orchestra experience as a violinist. Although he finished the class for conductors of the Novosibirsk Conservatory last year and has conducted since, his final performance at the competition was only his second recital. Naturally, the lack of experience showed up. In the first part of the program he did not achieve control. It was not until after the intermission that his real gifts could be appreciated. Unlike Lazarev, Nelson still lacks artistic grasp, the ability to catch on to a new opus at once. But this weakness is compensated for by his extraordinary graphic vision of the music. Some of his remarks at the rehearsals were so perceptive and psychologically sound that they made up for his lack of control of the orchestra. This intelligence was particularly noticeable in the second round, where, in conducting the finale of Tchaikovsky's First Symphony, he was able to suggest a most serious and thoughtful reading.

Honorary certificates were awarded to Igor Simovich of Lvov, a subtle and discerning conductor; Samuel Friedman of Alma-Ata, an excellent interpreter of Haydn, Tchaikovsky and Shostakovich; K. Khandjyan, who demonstrated an original musical mind; and Leningraders Edward Chivzhel and Andrei Engelbrecht.

All conductors' competitions are not so much a way of singling out the best (in the final analysis the best make their way through the process of work itself) as of determining the level of conducting in general. One can fall into serious error by judging the quality of conductors only from the results of a competition, for the conditions of a competition are always very specific. If, let us say, a contestant is shy or somewhat slow to react, he will find it that much harder to show what he can do in the 20 or 30 minutes allotted for the first meeting of the orchestra with the jury. Still, competitions do bring striking gifts to light. Certainly the Third USSR Competition of Orchestra Conductors did much more than reveal the geographic spread of our conductors. It gave immeasurable stimulus and encouragement to the growth of new and future talents.

Courtesy of *Musykalnaya Zhizn*

Alexander Lazarev with his teacher, Professor Leo Ginsberg, and his mother, Zinaida Pureneva.



THE TRANS-SIBERIAN RAILROAD

By Yefim Khrakovsky, Engineer

WE HAVE a novel way to describe the Trans-Siberian Railroad. It is often called the main street of Russia. No other line in the world compares with it in length or in volume of traffic. This street of steel cuts through, from West to East, nearly half European Russia and all of the Asian part of the country. The main national transportation artery, it connects Central Russia with the Volga, the Urals, Siberia and the Far East.

In the seven days it takes your Moscow-outbound train to reach Vladivostok, the largest Soviet port on the Pacific, landscapes, cities and villages, mines and factories, fields and farms will pass kaleidoscopically in front of your coach window. Forests and fields of Central Russian will change into the boundless Trans-Volga steppe. Bashkirian oil derricks will fly past. Then the train will zigzag through the forests of the old Urals. An endless stream of fiery blast- and open-hearth furnaces will fade away in the distance. You will meet trains with Kuznetsk coal and Kazakhstan grain. The Baraba Steppe will change to the Siberian taiga, awakened by the roaring machines which help develop the inexhaustible natural wealth of Siberia, which lay new roads and build cities, factories and the world's biggest power stations. You will see more and more westward-bound trains with Siberian timber. Behind Lake Baikal the train will again snake through mountain ridges, dive into tunnels and cross rivers. After Khabarovsk you will turn sharply south and, leaving the Ussuri taiga, your train will come to a halt on the Pacific coast.

In the history of railroad construction, there have been few projects of the scale of the great Siberian line. The foundation stone of the Trans-Siberian Railroad was laid in Vladivostok on May 31, 1891. Czarist officialdom did not believe that a rail line would have any serious effect on the development of Siberia. That is the reason it was decided to lay the track almost any old way. This is how it was put in the technical program:

"The lightest-type rails and shorter-than-average sleepers are to be used. Bridges, except major ones, will be of the temporary type, made of wood. . . . Freight trains of 60 axles will move at 12 versts [One verst is two-thirds of a mile]. The initial through capacity will be three pairs of trains daily. . . ."

It took almost nine years to lay this 4600-mile railroad, with builders moving from two points—eastward, from the Urals town of Zlatoust, and westward, from Vladivostok.

The road stopped at Lake Baikal. Until 1905 trains were ferried across the lake in the summertime, and in winter 21 miles of track were laid right on the ice. A section of the line running around Baikal was built later on.

With picks and spades, wheel- and hand-barrows, thousands of workers built embankments on bogs, cut through rock, dug tunnels, constructed bridges, stations and roundhouses.

Now the name is perhaps the only thing left of the old railroad built in prerevolutionary times. The Trans-Siberian has been thoroughly reconstructed. It is now a first-class, completely modern railroad, incorporating the latest engineering achievements. Initially, it was built to carry six (three pairs) of trains a day, three in one direction and three in the other. Now you see a train passing every few minutes. And this time it is more than half a mile long, not a 60-axle affair.

Another word, electrified, is often added to the name of this railroad: Its most important section, extending from Moscow to Petrovski Zavod Station, behind Baikal, has been electrified for nearly 3700 miles. This is the longest electrified line in the world. They are working today on the section leading eastward. Electric locomotives handle heavyweight trains at the Pacific coast, the far end of the line.

In Vladivostok there is a milepost with the figure 9302. It marks the distance, in kilometers (5,776.54 miles), between the Soviet capital and the Pacific. More and more trains move on the road every day. The development of Siberia proceeds apace. The Soviet Union expands its economic ties with other countries, and East-West trade grows. This means that freight traffic increases, too. Japanese goods already follow the shortest Trans-Siberian route to Europe. The great Siberian road is becoming a major line for international traffic. Numerous sister lines branch off from the old railroad. The Trans-Siberian has a junior sister, the South-Siberian. Crossing the Trans-Siberian at Taishet, the South Siberian goes to the Bratsk Hydroelectric Power Station, the huge project under construction in Ust-Ilim, and all the way to Osetrovo port on the shore of the Lena. Its western branch, passing through Abakan, where a large industrial complex is being built, comes to the Kuznetsk Coal Basin with its ramified railroad network. A new 435-mile line is being laid from Tyumen to Surgut, where big oil and gas deposits are being developed. The rejuvenation and electrification of the great Siberian road goes on.



An Interview with Pyotr Muratov, USSR Deputy Minister of Railroads

American readers ask us for information on Soviet railroads, how they operate, what the plans are for development, about the railroad workers, the kinds of equipment used. We took the questions most frequently posed to Pyotr Muratov, USSR Deputy Minister of Railroads and a leading Soviet transport expert. He himself started as a fitter in the Irkutsk locomotive depot and subsequently became an engine driver. After qualifying as an engineer, he climbed the career ladder to locomotive shed master, chief engineer, superintendent of large railroad lines and head of the central locomotive department of the Ministry of Railroads. Muratov has been deputy minister for more than a decade now.

Q. How much of the country's cargo and passenger traffic is carried by rail?

A. The railroads are the backbone of our country's transport system. They carry over two-thirds of the freight and almost half the passengers.

In 1971, the trains carried more than three billion passengers and hauled over three billion tons of freight.

Q. How would you explain the fact that in the USSR rail leads all means of transport?

A. That's easily answered—because of the geography of our country, its climatic zones, the location of our raw material sources and the processing industries. What other type of transportation could operate under such tough climatic conditions, keep moving such enormous loads of freight for such great distances and carry the colossal numbers of passengers every day from the suburbs to the industrial and administrative centers?

Our various transport facilities don't compete with one another. They're assigned areas of operation which will make for the greatest over-all efficiency. Short-haul runs, especially when goods have to be reloaded from cars to road vehicles, are made by trucks. In summer, freight moves by water, carried by river vessels. Pipelines are fast taking over the movement of oil and oil derivatives. The bulk of passenger traffic over long distances—1,000 to 1,200 miles and over—is handled by planes. Our bus service is developing very rapidly. But when it takes several hours or as much as overnight to get somewhere, people seem to prefer trains.

Our system, in which all forms of transportation develop under one coordinated plan and are considered links in a single transportation system, has thoroughly justified its existence.

Q. The Soviet Union's rail network is about one-tenth the total length of the Earth's railways, but it carries about half the world's freight and one-fifth its passenger traffic. Quite a job for Soviet railroaders, isn't it?

A. It certainly is. Our rail network is almost 84,000 miles long. The United States has two and a half times as much track, but we carry twice as much cargo and 13 times as many passengers.

Nearly 22,000 miles of our lines are electrified, most of them equipped with automatic block signaling, centralized traffic control and train radio communication. We lead the world in electric line mileage and the volume of traffic carried. This large-scale electrification has been accomplished in a relatively short time—most of it in the past 15 years.

The electrified lines make up approximately one-fourth of the total length of Soviet railways, yet they carry almost half the freight. We have very long electric lines: the Moscow—Petrovsky Zavod east of Baikal

SOVIET RAILROADS



covers a little more than 3700 miles, the Leningrad—Leninakan from the Baltic to the southern frontier is 2,175 miles long. Electric wires cross the whole of the Ukraine and stretch across many sections of Transcaucasia, the Urals, Siberia, the Far East, the Arctic and Kazakhstan. Let me repeat that our electric and diesel traction do not compete, they complement each other. Diesel locomotives now haul trains over lines totaling some 48,000 miles. But the major lines are electrified, with electric traction increasingly using alternating current of industrial frequency.

In the current five-year plan we intend to switch over 3700 miles of track to electric traction. The length of AC lines is expected to be about 10,500 miles by the end of 1975.

The considerable sums invested in railroad electrification are recouped in three to five years, as a rule, and on most traffic-intensive lines even sooner.

Q. What locomotives and cars do you use? What condition are they in?

A. We have a modern locomotive fleet, including eight-axle AC electric locomotives of almost 9,000-hp and 6,000-hp diesel units.

In the past five years Soviet rail transport was bolstered by some 250,000 freight cars, including 8,000 machine-cooled refrigeration cars for perishables, and 10,000 all-metal passenger cars, many of them air-conditioned. For commuter services industry supplies us with more than 4800 comfortable electric and diesel trains. In the next five years deliveries of passenger cars will go up another 24 percent. We will also be getting 425,000 freight cars during the same period.

Our rolling stock needs are met mainly by Soviet industry. But some of our locomotives and cars are imported from other socialist countries of Europe. Czechoslovakia builds passenger electric locomotives for us, Poland, Rumania and the German Democratic Republic cars, Hungary diesel trains. In turn, we supply these countries with heavy-duty main-line diesel locomotives. This international cooperation is good for all concerned.

Q. What plans do Soviet railroads have for development in the near future?

A. Our specialists see the railroads continuing to carry the bulk of traffic for the next 15 to 20 years, remaining the country's chief transport arteries.

Now we are focusing on increasing the throughput capacity of railroads, on automatic control and on mechanization of labor-consuming handling and repair operations.

We expect to build 3,000 to 3700 miles of new rail lines, principally in the country's Eastern areas. These will help tap the natural resources of Siberia, Kazakhstan and Central Asia, and relieve some of the busiest lines. In addition, 4400 to 5,000 miles of second track will be laid on specially intensive sections. The average horsepower of electric locomotives will rise 18 per cent and that of diesel locomotives, 13 per cent.

There will be a considerable increase in the number of computer centers. They will provide the base for a single automatic control system of rail transport. Electronic machines are now taking over such jobs as planning and registering carriage operations, making up payrolls, keeping records and preparing accounts. Current computer techniques being introduced will help us to handle our long-distance, many-faceted railway operations much more efficiently.

A good deal of attention will also be given to developing passenger traffic. We have as many as 17,000 long-distance, local and suburban trains leaving terminals every day. We have regular direct rail links with 24 countries in Europe and Asia and are planning to increase the volume of passenger carriage and the speeds of long-distance and suburban trains. Express trains with speeds of 25 miles per hour are being built for the Moscow-Leningrad line.

So technical progress on the railways continues, and more rapidly than ever.

Photographs by Oleg Makarov



INTERVIEWS EN ROUTE





AT LAST the fuss and the bother that always precedes a train trip was over. The porters disappeared, the crowd on the platform was moving away. Our Rossiya whistled a brief farewell and slowly pulled out from under the station's vaulted roof. Winding like a ribbon of red, it began its measured clicking across the whole of Russia to the Pacific Ocean.

The passengers, in the spotless compartments and brightly carpeted passages,began to make one another's acquaintance. People traveling on business or other urgent affairs don't spend seven days on the road, of course, when they can be whisked by plane to the other end of the country in nine hours. So who were the passengers on the Rossiya, and where were they bound? These were the questions I put to people in one of the cars.

"Do you miss Moscow already?" I asked one of two well-dressed young women who were standing quietly at a window in the passage.

"We're not Muscovites." Larissa Pavlyuk spoke for both of them. "For us Moscow was a pleasant interlude en route. We're from the Ukraine. We were both bitten by the road bug. When we were at the Medical Institute in Donetsk, we travelled around the country every summer, as far as our stipends would let us. When we graduated, we asked to be assigned a practice in Turkmenia, in a small town called Krasnovodsk, on the shore of the Caspian Sea. It was the right thing to do, because there's nothing better for young doctors than to be on their own as soon as possible. So we were very pleased to be living and working there. We had a little house on the beach and we worked with people of different nationalities — Turkmenian, Kazakh, Russian and Ukrainian—all as young as Krasnovodsk itself. But after three years there, we wanted a change. This time we've decided to settle in the Far East.

"We saw an ad in the *Medical Gazette* inviting people to the East. We wrote to the address they gave and got a reply with a contract to sign. The contract gives us jobs in Komsomolsk-on-Amur, a comfortable apartment and all our travel and moving expenses paid. So here we are, on our way."



Newlyweds Tanya and Anatoli Chebotaryov

Teacher Vladimir Kovalenko

In the next compartment I found a young couple, Eltmar and Nazila Davletbayev, and their baby.

"We're Tatars, we live in Perm Region," said Eltmar. "I'm a turner at the Turbogenerator Works in Lysevo, that's the district center. Nazila is a puncher at the same place. Our son is still very young, but we decided to take him along on a visit to friends in the German Democratic Republic. We're on our way back home now, after a month there."

The next people I talked to

were two elderly women who were sitting at the little window table with its vase of flowers. They were conversing like old acquaintances.

"I'm a booking-office clerk at the Yaroslavsky Railway Station in Moscow," said Vera Novozhenina, in reply to my question. "I'm on my way to visit friends in Barabinsk, the Far East. Distance is nothing to friends, you know."

"Me? I'm a chemistry teacher at a school in Leningrad and I'm going to Tyumen to see my son. He's a radio technician. After graduating from his specialized school in Leningrad, he took a job in Tyumen. There he met a girl and got married. They've presented me with a grandson and I can't wait to see him. It's a long way to travel, but an interesting travel companion makes a trip a pleasure." Strictly speaking, passengers are supposed to sit where their tickets specify, but the conductors let them change places if they want to.

"Have you been a conductor long?" I asked Vera Maslova.

"This is my fourth year on the job. I come from the town of Khovrino in the Moscow suburbs. After I graduated from secondary school, I decided to take a five-month course for train conductors. At first I was mainly interested in seeing the country, but now I really like my job.

"To begin with, our working conditions are so good. We get from 150 to 170 rubles a month and have our meals in the dining car at reduced prices. Like all railroad workers, we conductors get free train trips. On this train we work 16 days—the time it takes the Rossiya to get to Vladivostok and back, then we get two weeks off. What I like about the job is that you make so many friends. How do you think I spent my last vacation? I took this train, as a passenger, to Ussuriisk to visit people who had traveled in my car.

"In these modern trains," she went on," conductors have to know how to use the signal and measuring systems and make repairs if necessary. We take exams every second year. We'll soon be required to know foreign languages, too — we have so many more foreigners traveling this route, and they keep increasing."

In the next compartment I found four young people. They were talking in a kind of Anglo-Russian jargon, but Clare Stableford and Judie Allen, English girls, seemed to be getting themselves across to Igor and Vera Turovsky.

"We came to the Soviet Union for a year to learn Russian. We've had only five months of study, and so we aren't too strong in the language yet," said Clare. "In our free time we travel around the country. We've been to Leningrad and are now going to Yaroslavl to see the old Russian monuments."

"And we're going all the way to Von-Yegan, far into the Far North," said Igor.

"Why such a distant town?"

"I'm a building engineer. And I like to work in remote, inaccessible spots. I spent several years in Yakutia, and I was a member of a geological expedition in the Nenets National Area. Siberia and the North attract people who like to rough it. When I graduated from the Builders Department of the Moscow Mining Institute, I applied for a job laying gas pipelines in the Far North. My rating is senior engineer. I want to try my wings before finally settling down in one place."

"Do you feel the same way as your husband, Vera?"

"Of course, we made the decision together. When the children come, we'll settle down to a more comfortable way of life. At Von-Yegan I'll just keep the home fires burning. But I plan to enter an institute, too."

Timofei Lomakin, a tanned elderly man in a railroader's uniform, introduced himself. "I'm returning from Sochi where my wife and I took some treatment in a sanatorium. I work for the Railway Board at Irkutsk. About 48 years ago I began as a railway repairman. After that I worked as a locomotive engineer for 20 years. Here's my Honored Railwayman badge, for long, meritorious service. It gives me many privileges, like free treatment at resorts, free accommodations in sleeping cars and free utilities.

"I'm Vladimir Kovalenko, from Omsk," another passenger said. "I majored in graphic arts at the Omsk Teachers Institute. Two new specialties were introduced in our department: school interior design and decorating. Since these are new subjects at our institute, I was sent to Moscow for practical experience. Now I'm returning home after a three-month probation period. I plan to teach at our institute, and I've proposed, as a beginning, that our graduates design the interiors for the new annexes of our department, which will go up next year."

"We're going to Sakhalin Island," said Anatoli Chebotaryov, speaking for himself and his wife Tanya. "I served my stint in the Navy there, and I got to like the place, the climate and the people. Last year, after my discharge, I returned home to Chernovtsy and got married. Now I'm taking my bride to Sakhalin. I want to get a job fishing on a small trawler."

"And what about you, Tanya?"

"I want to sail, too. Though I was a dressmaker in Chernovtsy, I've always dreamed of sailing the high seas."

"Have you any idea where you may be settling down now?"

"No. we dont. We didn't want to wait for a reply. The moment we got married, off we went. This is a kind of honeymoon, only not for a month but for life."



Clerk Vera Novozhenina



Pediatrician Larissa Pavlyuk



Nadezhda and Timofei Lomakin, railroader



Clara Stableford, Judie Allen



The Davletbayev_family



Vera and Igor Turovsky, civil engineer

IF YOU SHOULD TRAVEL from Moscow to Vladivostok by the Trans-Siberian line, Vladimir Rezchikov will probably be driving your Rossiya Express on the first section out of Moscow.

His Work

I talked to Rezchikov in the cab of an electric locomotive that was pulling the train along the world's longest railroad line. This strong, energetic-looking man, a hammer and wrench emblem on his uniform collar, was sitting at his control panel.

His assistant was an apprentice. The management of the Moscow locomotive depot where Vladimir works usually assigns the apprentices to him. Rezchikov is an excellent teacher, demanding but fair. Rezchikov's school is the cab of his locomotive; the course of study takes a year. In that period the apprentice learns everything there is to know about driving an engine. Each year a new locomotive engineer graduates from Vladimir's school. In his 20 years of service, he has trained 18 very good ones.

"You're not sitting right," he said quietly to the current assistant. "You have to have a sharper eye on the instruments. When we meet another train, get up and step aside. Keep reporting the signal lights clearly to the engineer. Say 'red, yellow, green' and so on. And most important, warn me when we're approaching a crossing. You understand? If you want to be a good engineer, you have to be on your toes all the time.

"I wish I had the words to tell you, my boy, what a terrible few seconds I had when I almost hit a bus at a crossing, with my train going at high speed. How the poor fellow got there I'll never know. I think there must have been a traffic jam and the bus driver tried to be smart and step on it. But it was too late to cross the track, and he couldn't back up, there was no room. I saw the bus when I was maybe 600 yards from the crossing. There was no question of smooth braking, of course. We were in a real jam. So I pulled the emergency brake lever, and the train stopped about 40 yards from the crossing. Well, that's what happens sometimes. You think it was luck? No, my boy. It was discipline, responsibility, technical knowledge—that's what does it."

The young assistant listened very attentively.

The town of Danilov, 185 miles from Moscow, is the terminal for the section of the railway served by the Moscow depot. Here another locomotive crew takes over. There are 40 such sections on the road from Moscow to Vladivostok. Of course Rezchikov drives his train strictly by the timetable, and his electric locomotive uses the minimum amount of electricity. The Technical Council of the railway studied his operations and recommended adopting them for comparable sections.

For his initiative and 20 years of exemplary service, Rezchikov was awarded the title Hero of Socialist Labor two years ago. This is the country's highest award for performance. It is not his first. Earlier he was awarded the Order of the Red Banner of Labor, the Medal for Distinguished Labor and the Honorary Railroader title for making numerous suggestions that improved efficiency and saved considerable time and money.

"It all began when I was six," Vladimir says. "We lived in Zagorsk, near Moscow, at the time. My father was an engineer, and my mother also worked on the road. Once my father took me along with him on a night run. Even now I only have to close my eyes to see the picture—the silver thread of the rails, the green signal lights and the endless ladder of sleepers. After this trip there was only one game I wanted to play—driving make-believe locomotives. My younger brothers were my devoted assistants. By the way, both of them became railroaders, too.

"In 1943 I went to work on the railroad as a roofer's apprentice. I was only 13. My father was killed in action so I had to help Mother. I managed to study in the evenings. When I was 15, I became a roofer's team leader. I remember that when I joined the YCL they asked me: 'What do you want to be?' There was no question in my mind: 'A locomotive engineer.' Only I was too young and didn't have enough education. In 1948, I finished an eight-year school, then I went to locomotive engineers' school for three years. There I got a hundred-ruble stipend, free meals and uniforms.

"After some practical experience and a year of work as an enginer's assistant, I became an engineer myself. I decided to drive freight trains though they are more difficult than passenger cars. They gave me a better feeling, more sastisfaction in the job. Driving my electric locomotive, I felt that this huge machine obeyed me and that I was part of it.

"When I was 23, I got married."

His Family

I met Vladimir's wife Sasha at their apartment in Losinoostrovskaya. This is entirely a railroaders' town with apartment houses, shops, a movie and a café, a microdistrict built near the depot where Vladimir works, 10 minutes' drive from Moscow. His wife is a stationmaster at one of the depots near Moscow.

"We became acquainted through the window of my diesel locomotive," Vladimir says. "She was working then at one of the small, out-of-the-way stations. My train didn't even stop there. But we engineers have sharp eyes, you know, and I noticed her all right."

"I used to recognize his train by the locomotive whistle," Sasha said. "He would let me know that he was coming from a long way off, blow his whistle. Of course I'd smile at him. That's how it was. Then he started coming to see me, and he always missed the last train."

"I'd take her home and spend the rest of the night roaming through the woods, waiting for the first morning train. I sang songs for her and recited poems to myself. I knew all Yesenin's poems by heart then. Now I'm beginning to forget them—haven't had a chance to recite them for a long time, you know," Vladimir said, winking.

"Well, I don't have to tell you how awfully inconvenient it was for the poor boy to date a girl who lived so far away," Sasha went on to say. She smiled. "So we had to get married. We settled in Losinoostrovskaya. First we had one room. Then, when our children were born (the Rezchikovs have two sons—Vladimir, 18, and Vasili, 14—we moved to a small apartment and later to a bigger one. The railroads built a lot of housing. The first piece of furniture we bought was a bookcase. We used half the shelves for books and half for dishes. Soon the books pushed out the dishes. The same thing happened with the second bookcase we bought.

"We have almost a thousand books in our home library, but he still wants more. He subscribes to all the encyclopedia and reference publications, to say nothing of technical literature and memoirs—that's his hobby. And we get a lot of magazines," Sasha said.

The day I visited, Volodya, the older son, came home. He's a third-year student at the railroad school and was doing his practice work at the town depot. That day he had gotten his first pay envelope. It's a big moment in any boy's life, and he was bursting with excitment. We talked about that for a while, and then the conversation turned to the family's absorbing interest—travel.

With their free rail pass, the Rezchikovs have visited the

By Irina Kalitenko



Vladimir Rezchikov starting the Rossiya on its run to the Pacific.



Rezchikov drives the transcontinental express out of Moscow for the first part of the run eastward. The younger man is his assistant. Any number of qualified locomotive engineers have graduated from Rezchikov's personal training school. They work as assistants for a year.



Caucasus, the Crimea and the Azov Sea. Vladimir and his wife also got from their trade union tourist tickets to the German Democratic Republic and Egypt. Recently the whole family visited Leningrad. They were planning a summer trip to Kamchatka—they had heard a lot about how beautiful this part of the country is.

When the younger son, Vasya, a 14-year-old redhead, came home, I didn't have to ask him the usual "What would you like to be?"

When Vasya was six, Vladimir took him along on a night run. Vladimir told himself: "If he stays awake, he'll be an engineer." Well, the little boy didn't close an eye that night.

His Education

The next time I met Vladimir Rezchikov was at the Railway Transport Engineers Institute in Moscow. The first session of the evening division had just ended and the students were going home.

"If somebody had told me five years ago that this old man would be studying again, I would have laughed at him," Vladimir said to me.

That was something of an overstatement—calling himself an old man—considering that he is only 42. But we are living at a time when railroad operation is getting more and more complicated. Engineers have to keep up with the new techniques. The depot engineers have weekly sessions with the locomotive engineers, and the experienced ones pass the information on to the younger men. The railroader's wages grow along with his qualifications. First-class engineers like Vladimir Rezchikov earn 350 to 400 rubles a month; bonuses add to one's regular income.

There are three qualification classes, the first is the highest.

"Of the 100 people working at our depot, 30 study at the Railroad School, 11 at the institute and many others take advanced training courses. One just has to keep studying."

Sasha is also a part-time student, she told me. When she worked at a small station, what she knew was good enough for the job. (She graduated from a 10-year secondary school.) But now Sasha is stationmaster of one of the biggest stations near Moscow. Since all her young colleagues study, she figured she had to keep up with them and also entered the Railroad School. She's the oldest of the students and although her fellow students tease her, she's keeping up with them.

"Isn't it hard—working and studying too?" I asked them.

"It's not easy," Vladimir admitted. "During the exam period I have to stay up pretty late. Besides, we are active in community affairs. I'm a volunteer public inspector, a member of the safety-on-the-job council at the depot and of the District Trade Union Committee. So, you see, there is plenty to do. Sometimes I drop in at the depot on my day off, just for an hour; I get involved and spend the whole day there."

All railroaders are required to have a regular medical examination at their clinic. Those under 42 must have a thorough checkup once every three years, from 42 to 46 once every two years, over 46 once a year. Railroaders are entitled to old age pension at 50 (for women) and 55 (for men). Engineers must have a medical examination and the doctor's OK before each run. If the doctor finds that a man has the slightest illness, he cannot take his train out. If he needs prolonged treatment and rest, he is sent to the hospital or his trade union gives him an accommodation ticket to a sanatorium or vacation resort. After eight years of work, railroaders on sick leave get 100 per cent of their regular wages.

"Will there be any radical change in your life after you graduate from the institute?" I asked Vladimir.

"No, I'll go on working as an engineer as long as I'm able to. I love my job, I wouldn't change it if I could. But you need an engineering education these days if you're going to do your job well.

"As you know, in the past decade the gap between speeds of overland transportation and planes has widened very sharply. There are projects for rail-planes that will develop speeds of 250 to 500 miles an hour; they will probably help to narrow the gap. We'll be introducing such fast rail transport gradually. But the technical knowhow is becoming more and more complex as the speed increases. It's going to be impossible soon to drive the new locomotives without a solid technical background."

The Rezchikovs are inveterate stamp collectors. They have thousands of stamps—a very respectable collection.



In Danilov Vladimir turns the train over to another engineer for the next stretch east.

"You don't let down your guard for a minute when you're pulling a trainful of passengers behind you," says Vladimir.





Between runs Vladimir and his assistant rest up in a hostel built specially for the purpose.



FOUNDATIONS OF UNITY

The Communist Party of the Soviet Union: A Multinational Organization

By Alexander Samosudov

SENIOR RESEARCHER
INSTITUTE OF MARXISM-LENINISM OF THE CENTRAL COMMITTEE OF THE CPSU

THE PATH of fraternal cooperation in that international community known as the Union of Soviet Socialist Republics has been constantly illuminated by the Communist Party founded by Vladimir Lenin.[1] Among other factors, the party's profound influence on the solution of the national problem stems from its consistent internationalism at every stage of its development.

A Party of All the People

Implicit in the party program from the beginning was the fact that the Russian state was multinational. That was taken into account in determining the forms of party organization. But there was a different approach to the solution of problems that arose from that fact. Lenin asked as early as the First Congress of the Russian Social-Democratic Labor Party in 1898 that

> to dispel any idea of its being national in character, the party call itself *"Rossiiskaya"* [of Russia—Ed.] and not "Russkaya" [Russian —Ed.].[2]

Thus, it was clearly stated that this would be a party of working people belonging to all the nationalities of Russia. At the same time the congress was inconsistent in recognizing the Bund—a political organization of the Jewish working people of Russia and Poland—as an autonomous component of the party, since the Bund reflected a national, not an international, principle.

Here then were two points of view on how a labor party in a multinational country was to be structured—the viewpoint of proletarian socialist internationalism and the viewpoint of bourgeois nationalism. The first was built on class unity, the unity of workers of all nationalities, and the second on the national community, thereby paving the way for the separation of working people of different nationalities, and for disunity.

Because of Lenin's efforts, the principle of proletarian internationalism prevailed. Experience has demonstrated that it is the only correct principle for the organization of a revolutionary working-class party in a multinational country. A structure was needed that would break down segregation and antagonism, nationalist and chauvinist prejudices, that would rally the working people, not split them up.

What will bring workers of different nationalities into one party is community of class interests. This community of interests is a real and objective factor.

Only a united international party could meet the needs of the struggle for emancipation in multinational Russia. In this connection Lenin wrote:

> The accursed history of autocracy has left us a legacy of tremendous estrangement between the working classes of the various nationalities oppressed by that autocracy. This estrangement is a very great evil, a very great obstacle in the struggle against the autocracy, and we must not legitimize this evil or sanctify this outrageous state of affairs by establishing any such "principles" as separate parties or a "federation" of parties.[3]

The experience of several party branches in Russia has proved that the internationalist principle is viable for a working-class party. This was particularly evident in the Caucasus, where the national composition of the workers was highly varied.

Lenin wrote:

> This slogan of the *unity* of all and every organization of workers of *all* nationalities, tested in practice in our own social democratic organization, is particularly dear to us.[4]

Proceeding from the experience of the social democratic movement in Russia and other countries, Lenin drew the following conclusion:

> The party should not be federative in structure and should not form national social democratic groups, but should unite the proletarians of all nations in the given locality, conduct propaganda and agitation in *all* the languages of the local proletariat, promote the common struggle of the workers of all nations against every kind of national privilege and should recognize the autonomy of local and regional party organizations.[5]

This conclusion became an essential element in Lenin's theory about a working-class party of a new, revolutionary type.

Thus, even before 1917 Lenin's efforts helped give the revolutionary movement of Russia an awareness that all working people had common interests though they belonged to different nationalities. The movement accumulated experience in joint activity by workers of various nationalities in unified party branches. Internationalism was the principle that brought the national party organizations into a united working-class party.

New Stage

After the October 1917 Revolution the conditions of work of the Communist Party and its aims changed radically. It was now the ruling party of Russia, with complete responsibility for the country's future. Under these new conditions, party development, particularly as it touched on the national question, became critically important.

A state of a new type was being established for the first time. It was a federative state of socialist republics. This being so, Lenin was especially concerned that the needs of the centralized administration and of the various national groups be integrated. He repeatedly pointed out that the party, as a united international organization headed by a central body, must be sensitive to the needs of the nationalities. The party, he said, must represent the interests of the working class of each national group. It must be conscious of cultural peculiarities and local customs.

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[1] The name of the party has been changed several times. From its founding in 1898 until March 1918, when the Seventh Party Congress met, it was called the Russian Social-Democratic Labor Party—the RSDLP; from March 1918 to December 1925 (the Fourteenth Party Congress), it was called the Russian Communist Party (Bolsheviks)—the RCP(B); and from December 1925 to October 1952 (the Nineteenth Party Congress), the Communist Party of the Soviet Union (Bolsheviks)— CPSU (B). Since October 1952 it has been the Communist Party of the Soviet Union—the CPSU.

[2] Vladimir Lenin, *Collected Works*, English edition (Moscow: Progress Publishers, 1966), vol. 8, p. 496.

[3] *Op. cit.*, vol. 19, p. 462.

[4] *Ibid.*, p. 117.

[5] *Ibid.*, p. 249.

The organizational structure of the Communist Party was adapted to work with the different nationalities. For instance, depending on the project under way, the party committees set up special sections, commissions and groups. They invariably included communists from the national districts. People who knew the traditions and way of life of a particular nation or nationality were enlisted for advice and recommendations before decisions were made.

After the Revolution the party organization had to adapt itself to the federal structure of the state.

Together with competent representatives of the national party organizations, the Central Committee of the Russian Communist Party worked out forms of organization suited to the new conditions. The national question was discussed at congresses and special meetings with executives from the national republics and regions. The Central Committee made important decisions on matters of party development in the Ukraine, the Caucasus, Central Asia and other areas.

The Resolutions of the Eighth Party Congress, held in March 1919, declared:

> A single centralized Communist Party with a single Central Committee will guide the work of the party in all parts of the Russian Soviet Federative Socialist Republic. All decisions of the Russian Communist Party and its guiding bodies will be unconditionally binding on all units of the party irrespective of their national composition.

The principle of internationalism in organizational structure was thus declared basic. This fact was of decisive importance for the future of socialism in our country.

As the national republics and regions were formed, their communist parties began to take shape. They were organized along these lines: Each party united all the party organizations in the particular territory; the party was an organic component of the united party of the entire country, but its stress was on local needs; each party was international in the composition of its membership and represented the entire population of the particular republic regardless of the nationality of the individual members; the name of the party reflected the region of its activity (as, for instance, the Communist Party of the Ukraine and the Communist Party of Byelorussia).

This organizational structure of the party helped unite the constituent Soviet republics into the Union of Soviet Socialist Republics. The communist parties of the republics headed the movement for unification. As in the Socialist Revolution, the guiding force was the working class. Under the leadership of the party branches, the workers instilled in the masses of people a spirit of international solidarity—they unified the working people around the common political platform of Soviet power.

The first party to take shape in the republics was the Communist Party of the Ukraine (July 1918). It formed its own Central Committee and declared itself part of the united Communist Party of the whole country.

The Communist Party of Byelorussia was founded in December 1918. Its first congress declared that the communists of Byelorussia would accept the leadership of the Russian Communist Party Central Committee.

In June 1920 the Central Committee of the Russian Communist Party approved a decision to form the communist parties of Georgia, Armenia and Azerbaijan. In the initial period direct guidance of these parties was the responsibility of the Caucasus Bureau of the Central Committee. In 1936, when the Transcaucasian Federation was abolished and these three republics entered the Union as independent constituent republics, the Central Committee of the Communist Party of the Soviet Union (Bolsheviks) established direct contact with the communist parties of Georgia, Armenia and Azerbaijan.

In subsequent years the communist parties of Kazakhstan, Kirghizia, Moldavia, Tajikistan, Turkmenia, Uzbekistan and other union republics were formed.

Earlier, the party organizations in areas with non-Russian populations helped develop the national republics of these peoples and build the Union. Now the Union of Soviet Socialist Republics helped improve the structure of the party. The communist parties of the union republics, as components of the unified centralized international party of the whole country, were able to combine the interests of the national groups with those of the party as a whole. Like the other state bodies of the Union, they developed organizational forms that best suited the multinational character of the country.

One Hundred and Thirty Nations

Today the Communist Party of the Soviet Union has 14 republic party central committees, six territorial committees, 142 regional committees, 10 area committees, 76 city committees, 448 urban district committees and 2,110 rural district committees.

Both the history of the CPSU and its current activity demonstrate the internationalism of the party's ideology, structure and approach. It takes into account the interests of all the peoples.

The membership of the CPSU is becoming increasingly international in composition. Today more than 130 of the country's nations and nationalities are represented. This internationalism is a product of socialist construction, of the modern industry, the large-scale socialist agriculture and the cultural and social development of all the union republics, including those that were once economically backward. As a result of this policy, a working class consisting of the local nationalities was formed in each republic. Engineers, economic executives, scientists and workers in numerous other areas emerged. It was natural for many people from these new occupational groups to join the party.

Another distinguishing feature of the current development of the CPSU, besides the steady increase in the number of national groups represented, is the increasingly multinational composition of each party branch in the union republics, territories and regions. In addition to representatives of the largest nationality, the party membership in each republic includes communists of other nationalities who live there. Thus, party members in the Ukraine come from 100 different nationalities, those in Azerbaijan from 72 nationalities, and those in Kirghizia from 75. In 1924 the Communist Party of Georgia had members of 15 nationalities; in 1927, 46; in 1940, 62; and today, 72. Increasingly multinational memberships are typical of the party branches in the other union republics as well. With opportunities for education and training open to everyone, there is more and more exchange of specialists and workers between the republics.

To cite some recent examples: Such projects as the reclamation of virgin or long unused land in several republics and the construction of large industrial plants and power stations were tackled by representatives of many Soviet peoples. These projects are a real school of internationalism. For instance, all 15 republics—52 nationalities—contributed to the construction of the Bratsk Hydroelectric Power Station in Siberia. The big Kara-Kum Canal, an irrigation system in Central Asia, was built by Russians, Turkmenians, Ukrainians, Uzbeks, Byelorussians, Tatars, Azerbaijanians, Georgians, Letts and Kirghizians, a total of 32 nationalities. Other mammoth projects are now going up through the joint efforts of several republics.

Lenin urged the party to display constant solicitude for the education of the working people in the spirit of internationalism, to combat all manifestations of chauvinism. The Communist Party of the Soviet Union has consistently fulfilled this important directive. Leonid Brezhnev, General Secretary of the CPSU Central Committee, said:

> The party will continue to educate all working people in the spirit of socialist internationalism, intolerance of nationalism, chauvinism, national narrowness and conceit in any form, in a spirit of profound respect for all nations and nationalities.

The years of socialist and communist construction in the USSR have developed a new historical community—the Soviet people. Several generations of true internationalists have grown up and matured.

The further strengthening of the Union of Soviet Socialist Republics is a major concern of the Communist Party of the Soviet Union. Under the guidance of the party the nations and nationalities of the Soviet Union are being drawn closer and closer together. This is the direct result of the policy of respect for the uniqueness of each national group. At the same time, the common interests of the entire Union are taken into account along with those of each constituent republic. The CPSU expresses this spirit of internationalism in its ideology, its organization and its day-to-day activity.

Courtesy of the magazine *Voprosy Istorii KPSS (Problems of History of the CPSU)*. Abridged.



BERYOZKA FOREST

Photograph by Lev Ustinov

As the train crosses Russia, the landscape changes kaleidoscopically. It passes a city and plunges into a grove of birch trees. The cities change but the birches do not. Centuries ago they symbolized the beauty of the Russian countryside, and they still

BERYOZKA

By Lyubov Iovleva

Photographs by Miroslav Murazov

WORLD-FAMOUS DANCE COMPANY TOURING THE UNITED STATES

THE BIRCH is Russia's tree, symbol of the Russian countryside. It is the recurring theme of poets, painters and composers and since 1948 the name of a dance company that has become world-famous. Audiences in 56 countries have applauded this folk dance group that usually performs in big sports stadiums. In Spain it performed in bull-fight rings. For a third of each year the company is on tour; invitations come pouring in from all parts of the world.

The secret of Beryozka's success is more than flawless technique. The dancers leave a deep emotional impact. They have an extraordinary capacity for conveying the gaiety and effervescence, the tenderness and lyricism of the Russian









Girls' Round Dance

Troika



folk dance. Their repertoire, always in process of change, includes the famous lyrical round dances "Beryozka," "Lebedushka" ("The Swan"), "Pryalitsa" ("Spinning"), the genre dance "Bachelors," the gay "Troika" and "Big Cossack Dance." The company does not confine itself to the traditional movements, it introduces contemporary choreographic patterns.

Nadezhda Nadezhdina, People's Artist of the USSR and a State Prize winner, is both the head and the soul of Beryozka. She has given it many years of her life. The permanent company of 120—dancers and accompanying folk instrumentalists—is replenished annually from among graduates of ballet and music schools.

Northern Lights

Jokers







Birch Tree

Siberian Suite

Spinning Dance

Cossack Dance

QUERIES FROM READERS

QUESTION: I would like to see information about your communications satellites of the Molniya type. (Florence B. Pattock, Minneapolis, Minnesota)

ANSWER: Soviet satellites of the Molniya 1 series relay television programs and telephone, phototelegraph and telegraph communications over long distances.

The first Molniya 1 satellite, shot into orbit in 1965, opened the exchange of television programs between Moscow and Vladivostok as well as telephone communication between the two cities. A satellite orbited in 1966 was used, in addition to domestic service, for the exchange of television programs between the Soviet Union and France, including color programs. Since then Soviet communications satellites have been orbited regularly.

Information in the form of television programs, telephone conversations and telegraph messages is received by ground space communications stations along cable or radio-relay lines, and then sent to a communications satellite by powerful radio transmitters. The satellite amplifies the signals and relays them to ground stations of the Orbita system. In turn, these stations transmit the information received from the satellite to trunk-line stations, telegraph offices or television centers along cable or radio-relay lines. Special equipment has been designed for the simultaneous transmission of picture and sound. The satellite's orbit permits communications sessions of eight to ten hours, and a special device can correct the orbit to change the time of these sessions. Several satellites are in orbit simultaneously to ensure round-the-clock communication.

Communication through Molniya 1 satellites is very promising and economically practicable. Tens of millions of people living in faraway areas can watch May Day and November 7 celebrations in Red Square, performances of Moscow theaters, international sports contests and innumerable other national television programs through communications satellites.

QUESTION: Does "free enterprise" exist in Moscow and the rest of the USSR? (Edward C. Lucas, California)

ANSWER: We have no so-called free or private enterprise in the Soviet Union. All the means of production and natural resources are the property of the people (state or cooperative property).

However, the law does permit small private household and domestic craft based on personal labor so long as it does not exploit other people.

Villagers have household plots on which they grow vegetables or fruit trees and breed livestock and poultry. The produce is used mainly to meet family needs. However, the surplus can be sold at market. But household plot owners are not entrepreneurs or employers; they work on collective or state farms or in factories.

QUESTION: Do you have places where you can rent things?

ANSWER: Every town has agencies where you can rent almost anything—from a car to dishes—at low rates. For instance, you can rent a movie camera for a day at 0.3 per cent of its retail price, and a vacuum cleaner at 0.6 per cent of its price. If the rental is for more than six days, the price is reduced. Thus, it costs four to six rubles a month to rent a home refrigerator and seven to nine rubles a month to rent a television set.

QUESTION: I would like to see an article on the city of Ternopol and its environs. (Nicholas Greshko, West Orange, New Jersey)

ANSWER: Ternopol is the administrative center of a region of the same name in the western part of the Ukraine. Its population of 80,000, mainly Ukrainian, also includes Byelorussians, Russians, Poles and Jews.

The earliest mention of this city dates back to the sixteenth century, though the exact time it was founded is unknown. A fortress was erected in the area in 1540, and a town began to grow around it. In the seventeenth century Ternopol was laid waste by the Turks. It was devastated in subsequent centuries as well. Ternopol was the scene of hard fighting during during the First World War and in the Civil War after the 1917 Revolution, when the Galician Soviet Socialist Republic was proclaimed there.

From 1919 to 1939 it was held by Poland, and in 1939, after the West Ukraine's reunification with the Ukrainian Soviet Socialist Republic, it became the administrative center of Ternopol Region.

During the Second World War (1941-45) the city was occupied by German troops and practically leveled. The Nazis destroyed 85 per cent of the houses and almost all the factories.

After liberation Ternopol was quickly rebuilt and its industry reconstructed and expanded. Among its major enterprises are an electrical fittings plant, a machine-building plant, an auto repair workshop, a sugar refinery and a porcelain factory. A cotton mill, one of the largest in the Ukraine, is to be ready for operation in the current (1971-1975) five-year plan period.

There are plenty of attractive jobs for the local youth and colleges where they can get the necessary training, among them a medical institute, a branch of the Lvov Polytechnic Institute, and several technical schools.

Today's Ternopol has broad streets and avenues planted with trees and shrubs. It has a musical drama theater downtown and a man-made lake with beaches and an aquatic sports station on the outskirts. The city is known for its many architectural monuments, especially for the Christmas Church (sixteenth century) and the Dominican Church (eighteenth century).

Not far from Ternopol are the ancient picturesque towns Zbarazh and Zborov. Berezhany, another neighboring town, has a sixteenth century castle and a seventeenth century wooden church.

QUESTION: Does the Moscow Art Theater still exist? (a family of readers from Long Beach, California)

ANSWER: The Moscow Art Theater, considered one of the leading drama companies in the Soviet Union, celebrated its seventieth anniversary four years ago. Founded by Konstantin Stanislavsky and Vladimir Nemirovich-Danchenko in 1898, it had a repertoire of the plays of the leading writers of the period, including Anton Chekhov and Maxim Gorky. That is why the emblem of the theater is a sea gull, a poetic symbol from Chekhov's play of the same title.

From its inception the Moscow Art Theater has tried to play to a broad audience. It frequently staged plays for Moscow factory workers with tickets at considerably lower prices. In 1905 the entire box office receipts for a performance were turned over to the families of strikers.

The theater has staged 200 plays in its 74 years, among them Russian and foreign classics, including Chekhov's *Three Sisters*, Gogol's *Dead Souls* and Tolstoy's *Anna Karenina*. For over 60 years it played Maeterlinck's *The Bluebird*, a favorite of children.

In its repretoire we also find plays by Mikhail Bulgakov, Nikolai Pogodin, Leonid Leonov, Konstantin Trenev and other Soviet writers. Last season, for instance, *Valentin and Valentina* by Mikhail Roshchin, *Countdown* by Yevgeni Ramzin, and *Dulsineya Tobosskaya* by Alexander Volodin (all contemporary Soviet playwrights) were very popular with audiences.

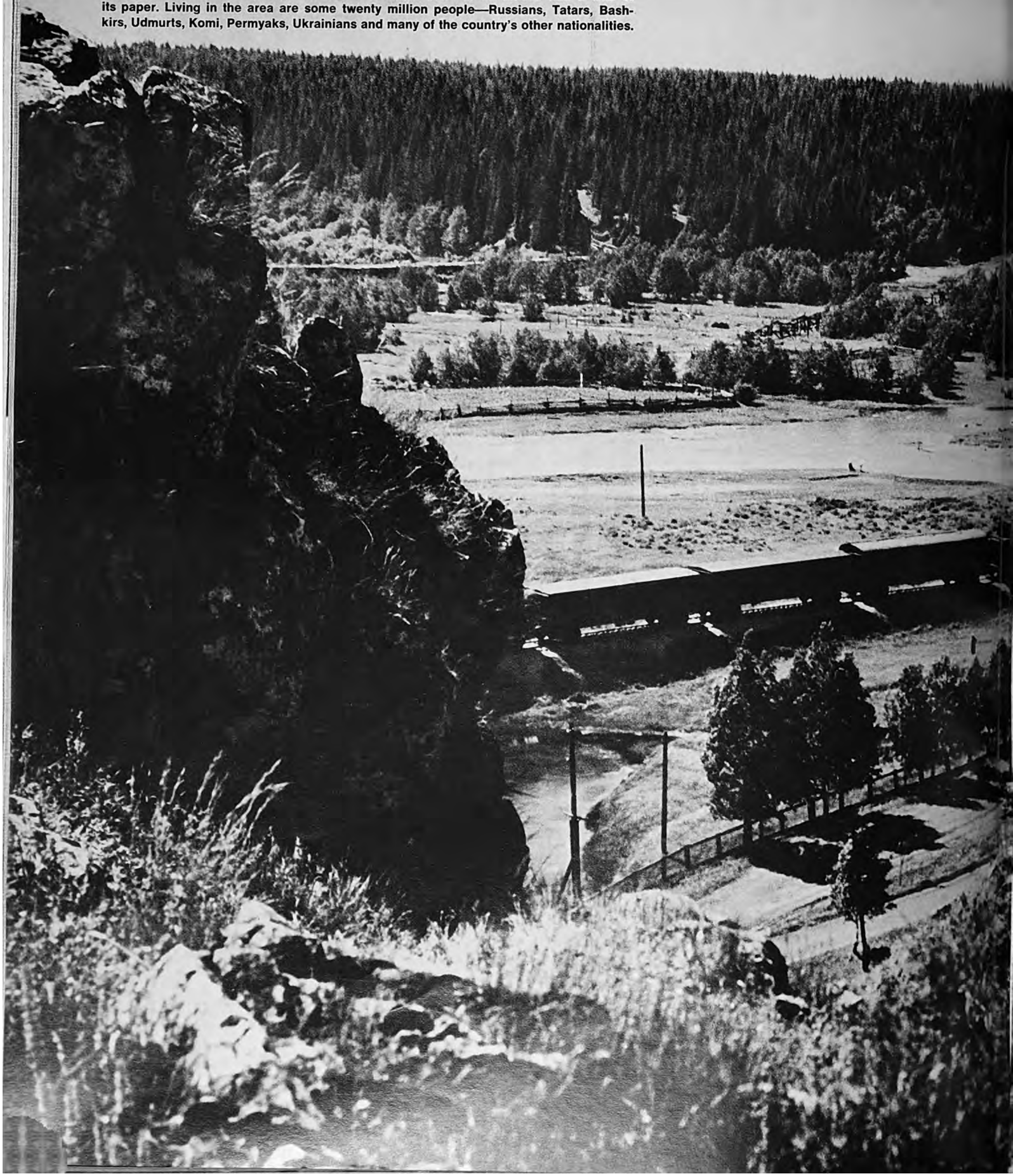
The Moscow Art Theater is responsible for several generations of distinguished actors and stage directors, among them Vasili Kachalov, Olga Knipper-Chekhova, Nikolai Khmelev, Alla Tarasova Boris Livanov and Mark Prudkin.

The Artistic Council of the theater is now led by veterans who have spent 40 to 50 years on stage. However, the chief stage director is a young man, Oleg Yefremov. He came from the Moscow Sovremennik Theater where he was chief stage director.

Young actors for the theater are trained at its school-studio.

THE URALS—BORDER OF TWO CONTINENTS

The Urals, a natural boundary between Europe and Asia, stretch for more than 1,250 miles of low, tree-clad ridges from beyond the Polar Circle to the torrid steppes of Kazakhstan. The mountains are a veritable treasure house of minerals: ferrous and nonferrous metals, coal, potash and common salt, marble, gold, oil, gas. The first deposits were discovered in the seventeenth century. By the middle of the eighteenth, the Urals were Russia's major industrial region. During the Soviet period giant metallurgical plants have been built there, each of them larger producers than all the factories of prerevolutionary Russia combined. Now the Urals account for a third of the Soviet Union's cast iron, steel and rolled metal, a sixth of its timber and a fifth of its paper. Living in the area are some twenty million people—Russians, Tatars, Bashkirs, Udmurts, Komi, Permyaks, Ukrainians and many of the country's other nationalities.





The research institute district of Science Town.



SIBERIA'S SCIENCE CENTER



The Scientific Council at the famous round table. Below: The VEPP-3 accelerator at the Institute of Nuclear Physics.



For many people outside the Soviet Union the word Siberia is still associated with vast forests, permafrost and few people. Siberia does have wide expanses, permafrost and thinly populated areas, but that picture is changing fast. Gigantic industrial complexes, power stations, towns and roads are being built there. Siberia has grown into one of the most important industrial regions in the country.

This article is on scientific development in Siberia.

A DEPARTMENT was set up in 1957 within the USSR Academy of Sciences to head the academy's scientific institutions in Siberia and the Far East. (Now there is an independent branch of the academy in the Far East.)

The Siberian department presently has a staff of 24,000, including 24 academicians, 51 corresponding members and over 2,000 doctors and candidates of science.

It is situated at Akademgorodok, 15



miles from Novosibirsk. The population of Akademgorodok is 56,000. This city of scientists with its research institutes, schools, residential areas and sports facilities is set in a pine grove beside a big reservoir.

In addition to Akademgorodok, scientific centers in Irkutsk, Krasnoyarsk, Yakutsk and Tomsk are to be built in the next five to ten years, all part of the Siberian department.

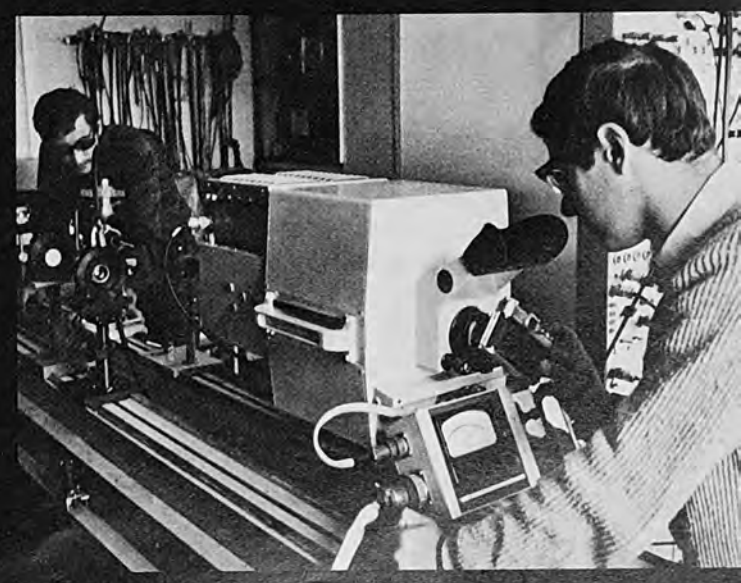
A few miles from Novosibirsk another academic town is under construction—the Siberian branch of the USSR Academy of Agricultural Science and Forests. It will have a population of 10,000 to 15,000 and include five research units, blocks of apartment houses, a scientists club, recreation facilities and an arboretum.

One of the big tasks Siberian scientists face is the comprehensive development of this enormously productive part of the country. They follow the principles of: basic research; close ties with production to originate new processes, machines and instruments that incorpo-



Residential district. You see trees and flowerbeds everywhere.





Tuning instruments at the Institute of Automation and Electrometry.

rate the latest scientific findings and to apply them in industry and agriculture; effective training of scientific personnel.

Science in Novosibirsk Center

The Novosibirsk science center—the largest in the Siberian branch of the USSR Academy of Sciences—is its unofficial capital. All the center's institutes have now been set up: Akademgorodok has 22 for mathematics, nuclear physics, chemistry, hydrodynamics, genetics, geology, economics and other fields.

Mathematics is one of the most important subjects in Akademgorodok. In several areas the research done by Siberian mathematicians is ahead of many mathematical schools both at home and abroad.

The Institute of Mathematics, headed by the noted 64-year-old Academician Sergei Sobolev, is concerned with both theoretical and practical problems. The institute deciphered the ancient Mayan characters. Presently some of its staff are working on ways of giving voice commands to computers.

A particularly interesting research problem is the cybernetic simulation of processes in the human organism, from transmission of hereditary traits to the functioning of the nervous and glandular systems.

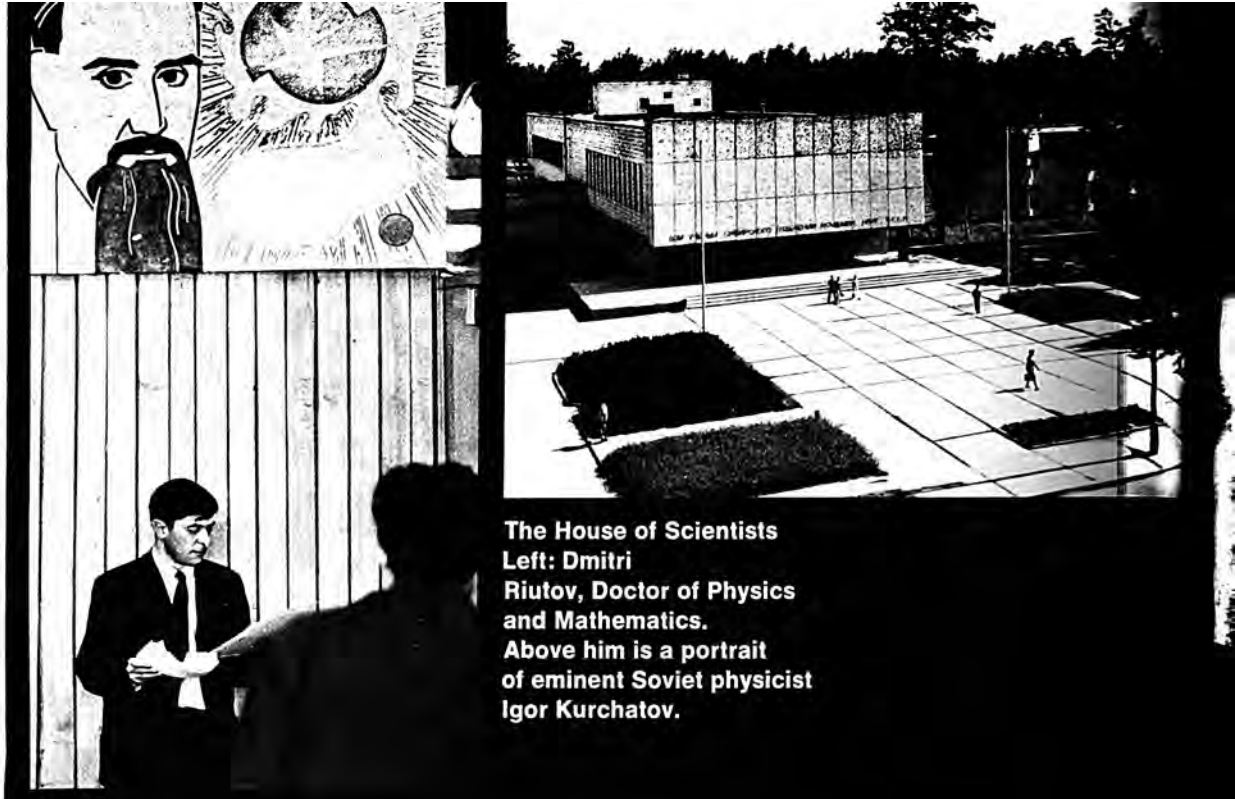
Recently, the use of mathematical models by the Institute of Economics and Organization of Industrial Production (headed by 40-year-old corresponding member of the academy Abel Aganbegyan) has helped to prepare optimal long-term plans for economic development.

The computing center of the Siberian branch, led by 47-year-old Academician Hurii Marchuk, is much more than an adjunct to the Akademgorodok institutes. It is, in fact, a major institute of applied mathematics in its own right, engaged in fundamental research, including prediction of the presence of minerals in the Earth, man-computer relationships, and the use of computers for weather forecasts. All these problems are of vital importance to the country. In a number of instances the studies have yielded significant results.

The Institute of Automation and Electrometry is headed by 42-year-old corresponding member of the academy Yuri Nesterikhin.

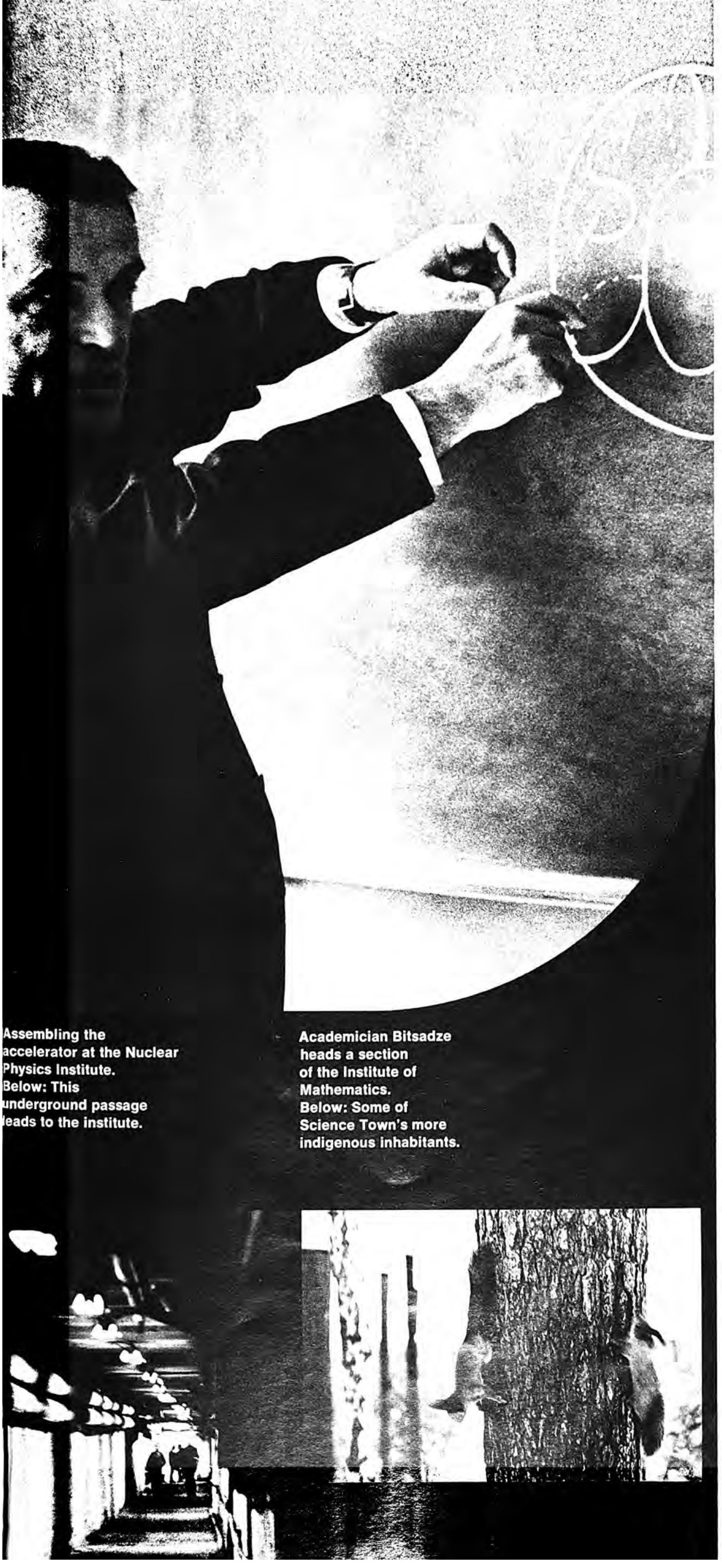
Mathematical methods are used extensively at the Institute of Catalysis. Properties of a chemical that is to become a catalyst, that is, to accelerate reaction rates without reacting with other chemicals, are tested with computers.

Among the other research centers per-



The House of Scientists
Left: Dmitri Riutov, Doctor of Physics and Mathematics. Above him is a portrait of eminent Soviet physicist Igor Kurchatov.





haps the best known is the Institute of Nuclear Physics led by Academician Gersh Budker. It has developed, among other things, a colliding beam accelerator of elementary particles.

Siberian scientists pay a great deal of attention to the study and use of the region's natural resources. Almost all types of the Earth's crust are to be found here. Siberia is rich in minerals; it has oil, diamonds, coal, ores, natural gas, gold.

The hot water sources of Kamchatka are also being put to use. The Institute of Thermal Physics of the Siberian department built a power station there which uses underground hot springs, and the generating plants send their waste water to vegetable and fruit hotbeds to keep the soil warm.

Academician Alexei Okladnikov, a leading Siberian historian and archeologist, made sensational discoveries about the history of local peoples.

With a scholar's admirable enthusiasm he covered, on foot and otherwise, often without roads, a great part of Siberia in order to study its history from "creation" to our day. He found, for one thing, that highly developed civilizations existed in Siberia 15,000 to 20,000 years ago.

A History of Siberia in five volumes, published by the Institute of History, Philology and Philosophy of the Siberian branch of the Academy, summed up the first efforts of the staff of the institute headed by Okladnikov.

Assembling the accelerator at the Nuclear Physics Institute. Below: This underground passage leads to the institute.

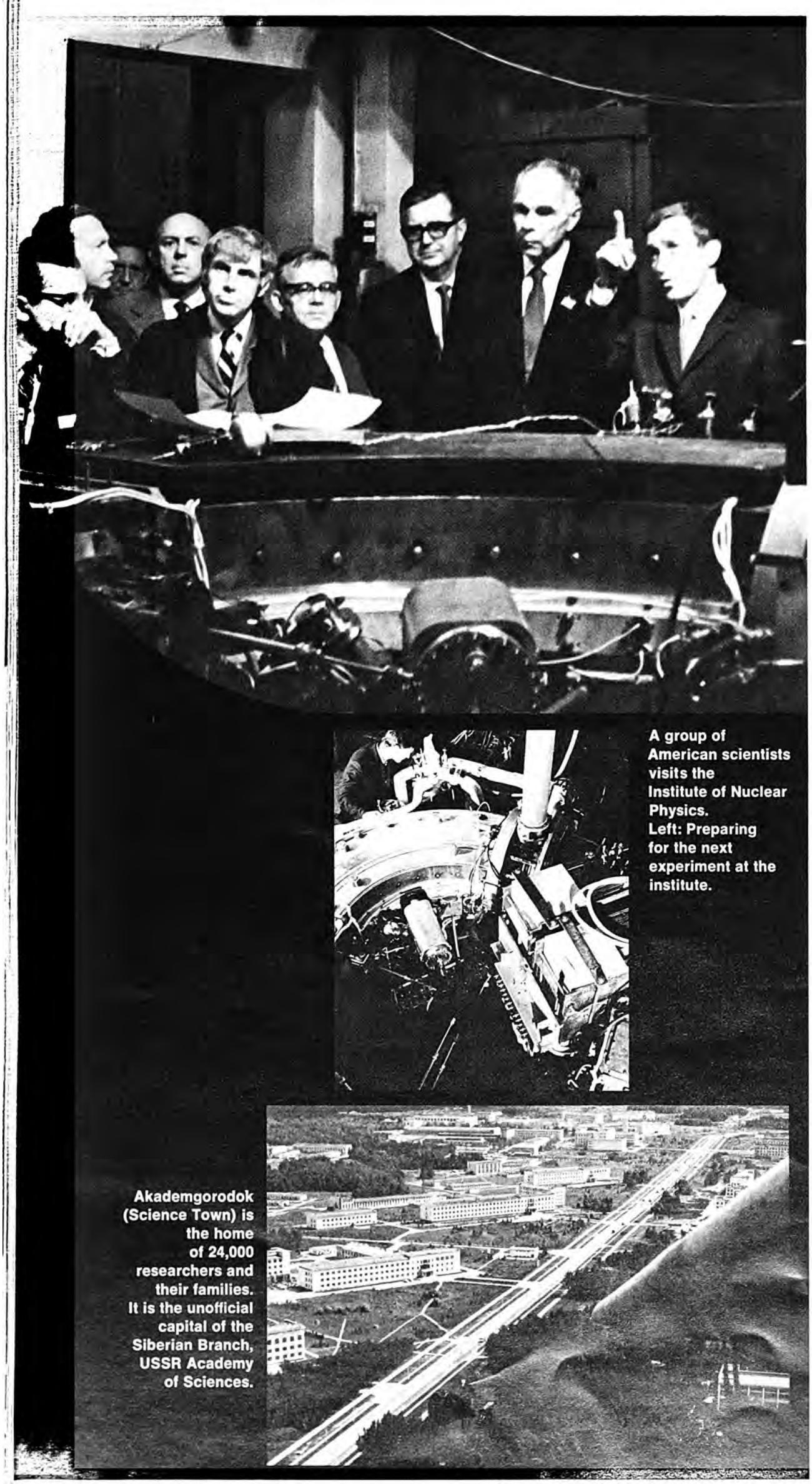
Academician Bitsadze heads a section of the Institute of Mathematics. Below: Some of Science Town's more indigenous inhabitants.

Training of Scientists

Apart from research, scientists of the Siberian branch devote considerable attention to the training of scientific personnel. In the early years of the scientific center the staff was recruited mainly from Moscow, Leningrad and Lvov; now it comes largely from the graduates of Novosibirsk University.

This educational institution, which opened at the same time as the Siberian department was set up, now forms part of the whole scientific complex. The university draws up its own curricula, incorporating the latest scientific and technical findings. Students do independent research in the center's institutes and laboratories.

Academician Mikhail Lavrentyev, president of the Siberian branch of the Soviet Academy, said this about the training of the youth recently: "We must accustom children to active perception and application of knowledge as soon as possible. With this end in view Akademgorodok has a physics and mathematics school and a chemistry boarding school



A group of American scientists visits the Institute of Nuclear Physics. Left: Preparing for the next experiment at the institute.

Akademgorodok (Science Town) is the home of 24,000 researchers and their families. It is the unofficial capital of the Siberian Branch, USSR Academy of Sciences.

with special courses of study. Many lectures to these 15- and 16-year-olds are given by academicians and professors.

"Able students are distributed evenly among the children of intellectuals, workers and collective farmers, so that every year hundreds of instructors go talent hunting in various regions. Children who pass the correspondence stage of a competition are invited to attend boarding schools in district or regional centers. Selection is according to potential even if present knowledge is inadequate. Upon finishing a physics-mathematics or a chemistry school most of them enter Novosibirsk University."

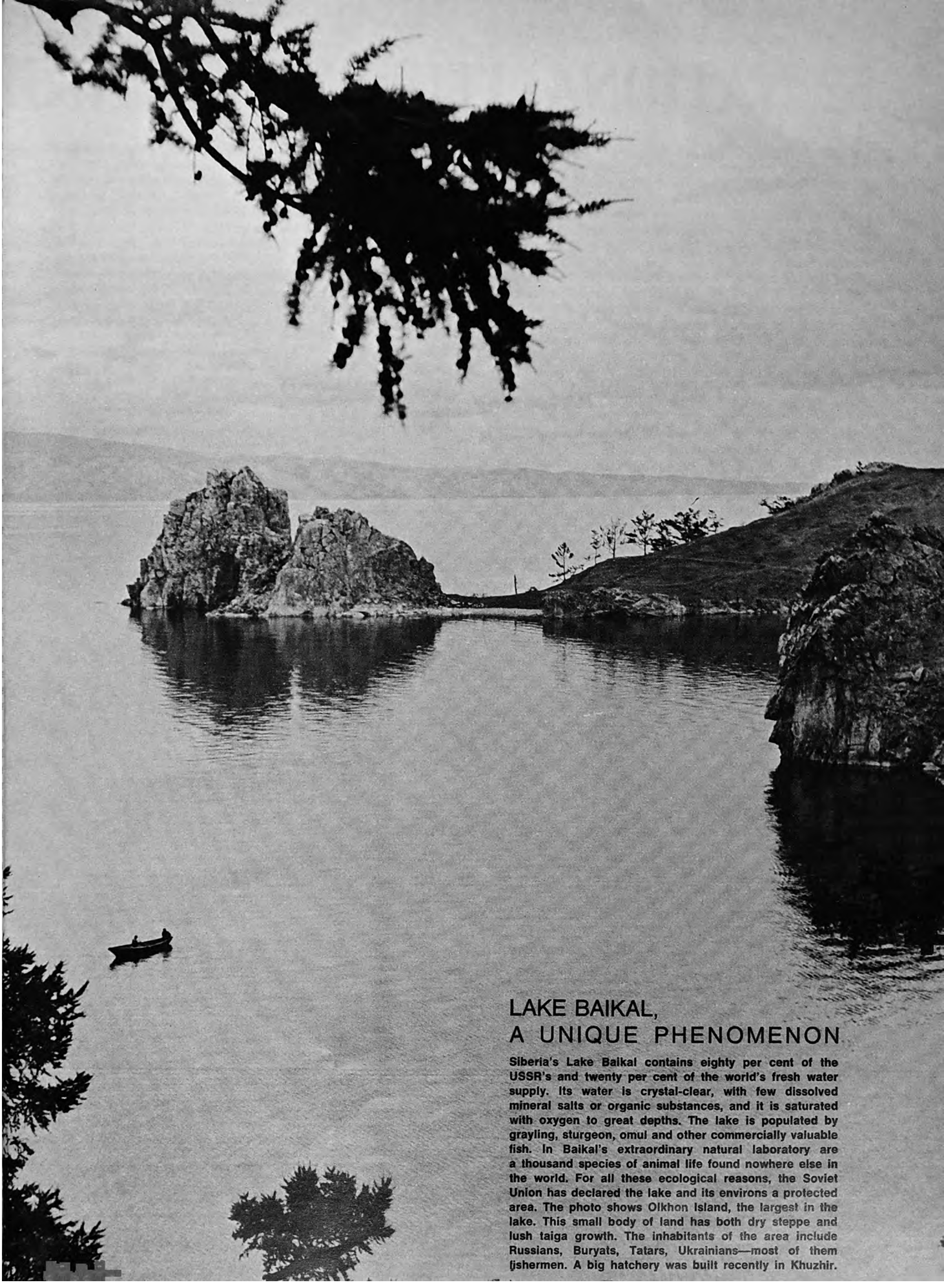
This kind of talent hunting has given a new incentive to once remote parts of Siberia, to rural schools and to individual families.

Science-Industry Links

Siberia leads the world in natural resources. Exploitation of these resources and the continued industrialization of Siberia, now proceeding at a rapid rate, is possible only with the participation of science. Siberian scientists, when they began their work here, came up with 15 to 20 new ideas a year. The pace quickened in time. Now scientists turn over a development process to industry on an average of every two to three days. The Siberian department has submitted about a thousand suggestions since it was founded. Over 650 of them have been translated from paper into fact and are being used at some 300 big plants.

Here are a few examples. A spurt of water ejected under a pressure of 2,000 atmospheres has been made into an effective tool for machining metal and moving rock by specialists at the Institute of Hydrodynamics. They also developed a hydraulic gun used in mining (the license to manufacture it has been bought by many countries, including the USA), and tests were recently completed on a tunneling machine using the same principle. The new technique cuts tunneling time down to a fraction even in the hardest rocks.

Siberian scientists have recently begun a very significant experiment. A scientific and technical complex, which will be a clearing house for science and industry, is rising not far from Akademgorodok. Unlike existing associations made up of research institutes and production facilities in the same line of work, it will bring together diverse branches of industry and science. The idea behind the complex is to reduce the time between the conception and the realization of a scientific idea.



LAKE BAIKAL, A UNIQUE PHENOMENON

Siberia's Lake Baikal contains eighty per cent of the USSR's and twenty per cent of the world's fresh water supply. Its water is crystal-clear, with few dissolved mineral salts or organic substances, and it is saturated with oxygen to great depths. The lake is populated by grayling, sturgeon, omul and other commercially valuable fish. In Baikal's extraordinary natural laboratory are a thousand species of animal life found nowhere else in the world. For all these ecological reasons, the Soviet Union has declared the lake and its environs a protected area. The photo shows Olkhon Island, the largest in the lake. This small body of land has both dry steppe and lush taiga growth. The inhabitants of the area include Russians, Buryats, Tatars, Ukrainians—most of them fishermen. A big hatchery was built recently in Khuzhir.

52 NATIONALITIES IN KAZAKH

I HAVE at my disposal statistical data from Rudny, a little town in Northern Kazakhstan which I recently visited. It has a population of slightly more than 100,000 mainly young people, the reason the marriage rate is so high.

In 1969 Rudny's Registry Office recorded 1,233 marriages, 519 of them nationally mixed: Russian-Ukrainian, Russian-Byelorussian, Russian-Tatar, Russian-Kazakh, Russian-Korean, Russian-Bashkir, Russian-Mordvinian, Russian-Udmurt, Russian-Tajik, Russian-Jewish, Russian-Lithuanian and Russian-Polish.

The fact that the largest number of mixed marriages was Russian-Ukrainian (267) does not testify to any special national "orientation" of young people; the local population is predominantly Russian and Ukrainian. Kazakhs, for instance, account for only two per cent of the population and the other Oriental nations and nationalities for even less.

This may seem strange at first glance, since Rudny is in the Kazakh Republic. How is it that only some 2,000 Kazakhs live in this town?

It is not surprising at all, however. Rudny is right near the border of the Russian Federation, near the Urals, where there is a good deal of migration. You rarely see purely Kazakh features there. Since ancient times the Kazakhs settled in the central and southern parts of the republic, more suitable areas for their then traditional occupation of cattle breeding. The national composition of Rudny's population is also explained by the history of the town's origin.

There was nothing but feather grass steppeland where Rudny now stands until this peculiar accident.

Flying over the steppeland near the Tobol River in 1949, a pilot attached to a geological and prospecting team noticed that his compass was very erratic: Its pointer shifted 60 degrees at an altitude of about 50 to 65 feet. That prefaced the discovery of a rich ore deposit. A miners' and builders' community soon grew up, which evolved into the town of Rudny.

People from all over the Soviet Union work at the local ore mines, and the national composition of the town, therefore, reflects that of the country as a whole. Russians account for the bulk of the population, followed by Ukrainians and Byelorussians. People from 52 nationalities now live in Rudny and there is no evidence of national discrimination. That is borne out, among other things, by the many mixed marriages.

Changing Views

At the Delfin swimming pool, built by the Miners Union, I interviewed manager Marat Usmanov, 30, a Kazakh by nationality. He is married to a Russian woman. Both have a higher education. Marat is a graduate of a physical culture institute, and his wife of a medical college. She is a doctor at a local polyclinic. They have two sons. The family lives in a two-bedroom apartment with all modern conveniences. I visited their home and found it no different from a typical Moscow or Leningrad apartment, with its low, comfortable furniture, abundance of books, tape recorder and TV set.

Both Tanya and Marat wear their hair short, both keep abreast of fashion but do not make a fetish of it. They incline to comfortable sports clothes. The couple share the responsibility of bringing up their boys. Their guiding rule is to give them plenty



MINING TOWN

By Yevgeni Dvornikov

NOVOSTI PRESS AGENCY COMMENTATOR

of love but not to spoil or coddle them. The children spend summer vacation with their grandmother, who, according to Tanya, is very fond of her son-in-law. In short, this is close-knit, friendly family.

I had a talk with Galina Zhurba, a Russian woman who married a Mordvinian. There, too, I found no national prejudice. What's more, Galina, who is director of a factory club, told me that her first marriage had ended in a divorce. Her first husband was a Russian like herself.

I attended weddings at the local Palace of Culture. It was a veritable parade of brides and bridegrooms. The happy young men and women holding huge bouquets of flowers came into the festive hall to the strains of Mendelssohn's "Wedding March" looking a little shy and embarrassed. They were greeted by the Mayor of Rudny and presented with gifts from their relatives and friends. The newlyweds were congratulated and then the flower-decked wedding motorcade rolled slowly through the streets of the town. Nobody was in the least surprised that among the newlywed couples were a Moldavian girl and Chuvash lad, a Lettish young woman and a Udegeh man.

In Rudny I met Yerbakh Tulebayev, a 32-year-old Kazakh driver. His wife, Lida, is Russian. They have a 10-year-old daughter, Inga, who is the spitting image of her father. She has typical Kazakh features and oriental eyes.

Lida and Yerbakh came to Rudny in 1959, when the town was just being built. They became friends and soon got married.

I called on the Tulebayevs. They have a one-bedroom apartment in a four-story house in the center of town. The floor in one of the rooms is covered by a large Kazakh carpet. There are books in the Kazakh language on the shelves. Yerbakh is the only one who reads them. Lida doesn't know Kazakh, but Inga is studying it at school. It is a required subject in all Rudny schools. The postman brings two daily local newspapers for the Tulebayev family—one in Russian, the other in Kazakh.

Lida and Yerbakh belong to an amateur dance group and perform together at concerts. Inga's dream is to become a professional ballerina.

And so, you see, here are several families. Each of them has its own problems, like families everywhere, but national prejudice is not one of them.

Education: Who has Access to It?

A Soviet child experiences no national inequality from the day he is born. Children of different nationalities sit in the same classroom. The same curriculum is followed to teach them all, and each of them can join any extracurricular activities club. A teacher would never make a distinction between two pupils because they come from different nationalities. It is only knowledge and ability that determine the progress of a student. This is the only yardstick used at entrance exams in colleges and universities.

While in Rudny, I called at a local boarding school where children, if their parents wish it, spend five days a week (except holidays, of course) fully or partially at the expense of the state. They live and study there, are fed, clothed, provided with textbooks and school supplies. The boarding school has 824 children on its rolls—451 Russians, 200 Kazakhs, 46 Ukrainians,



17 Byelorussians, 5 Chechens, a few Tatars, Mordvinians, Lithuanians, Koreans and Mari. It is very much an international community. The teachers and staff (150 in all) also come from different nationalities.

The students pay from three to 56 rubles a month, depending on the family income. There are no other considerations.

At the local music school for children you will meet Russian, Ukrainian, Kazakh, Chuvash and Kalmyk children. The fees here also vary but are much lower than at the boarding school —from one to 18 rubles a month, also depending on the family income.

Rudny has five vocational schools. Every student is on a scholarship for the three years it takes to learn to be a drilling rig operator, an ore miner or repairman. Graduates are guaranteed employment in their skills in their native town. The young workers often continue their studies, become foremen, then enter institutes and become engineers. There is no national discrimination here either.

I visited one of the schools. Prokopi Ibryayev, the school director, is a Chuvash by nationality. He is 38 years old. Ibrayev is a member of the Town Soviet, a highly respected citizen. Hanging on the wall of his apartment is a photograph of the Soviet cosmonaut Andrian Nikolayev. "The Chuvash nation is only one and a half million strong," Ibryayev told me. "I am proud that this little nation gave the world a cosmonaut who made two space flights."

Rudny also has a higher educational institution, the Polytechnic Institute. Its student body comes from 26 nationalities. Some of them are very "rare" nationalities, for instance, Karakalpakians (a nation of only about 170,000), Karelians (about 180,00), Uigurs (not more than 100,000 in all of the Soviet Union). One out of every nine students is a Kazakh. This percentage is rather high, considering that this nationality accounts for no more than two per cent of the town's population.

Iosif Sverdel, the institute's director, is a Jew. He has over 50 scientific works to his credit and is the author of five books on mining power-engineering. He heads a chair and lectures at the institute. In the institute's faculty of 85 there are Russians, Ukrainians, Jews, Kazakhs, Tatars, Byelorussians, Uzbeks and Estonians.

Jobs for All

Rudny is a miners' town, and its major industry is the ore concentration complex, with a staff of over 24,000. Most of the workers are Russian (over 17,000), but, as you might expect, there are some 47 nationalities represented, among them quite a few Gypsies, Buryats, Komi, Chechens, and Lezghians. There is enough work for everybody. The enterprise increases its output annually and is, therefore, always in need of labor.

Of the 480 Kazakhs employed at the complex, only 10 are unskilled; the others are machine operators, drivers, excavators, automobile repairmen, *i.e.*, people who have learned skills at state expense.

In numbers of engineering and technical personnel, the Kazakhs are second only to the Russians and Ukrainians. Three Kazakhs are the main specialists of the complex. This highly

DRAWING

By Victor Perevedentsev
Candidate of Science (Economics)

THE SOVIET UNION, like the United States, is a multinational country. Slightly more than half its population of 241.7 million is made up of Russians—129 million. Next come Ukrainians (according to the 1970 census, they numbered nearly 41 million, or almost 17 per cent); Uzbeks, over 9 million; Byelorussians, roughly the same; Tatars, close to 6 million, and Kazakhs, more than 5 million. There are 16 other nationalities with more than one million people each.

The 1970 census returns, made public by the Central Statistical Board of the USSR, list 91 nationalities. The remaining nationalities aggregate only 126,000 people.

People in our country tell the census taker their nationality and the nationality of their children. If the parents disagree, the mother's nationality is given to the child. In families of mixed nationalities, the children usually regard themselves as belonging to the nation where they live. For instance, if a family of mixed nationality, say an Uzbek father and a Russian mother, lives among Uzbeks, then the children will usually consider themselves Uzbeks.

The increase in the number of people of different nationalities in the period since the previous census in 1959 varied. These differences are determined by the birth rate of various peoples. Of the 22 nationalities whose population added up to more than one million people each in 1970, there was an increase of more than 50 per cent for three nationalities—the Uzbeks, Tajiks and Turkmens (they are all Central Asians), nearly 50 per cent for the Kirghiz and Azerbaijanians, and 46 per cent for the Kazakhs. The population increase of the country as a whole was 16 per cent.

Diverse ethnic processes are also reflected in the increase in the indigenous population of the union republics of Central Asia and Kazakhstan. There are frequent cases of Uzbeks, Tajiks and Kazakhs marrying Russians, Ukrainians, Tatars, Byelorussians and Mordvinian as well as people of other nationalities.

In general, mixed marriages are perhaps the best indication that the peoples of the Soviet Union are drawing together.

This process is also evident in statistics on native language and nationality. The 1970 census showed that 6.1 per cent of all the inhabitants of the Soviet Union did not accept the language of their nationality as their own. The percentage in the 1959 census was 5.7. This seems to be a slight increase, but the point is that in the 1970 census, for the first time, people were asked whether they were fluent in another language of the peoples inhabiting the country. This could have led many to think their native language was that of their nationality, and that could have greatly reduced the number of those for whom, in 1959, their first language was not their national language. Besides, part of these people were registered in the 1970 census as belonging to a different nationality than the one given in 1959. This applies especially to those who in 1959 were still children; 11 years later they were adults.

Naturally, ethnic processes proceed more vigorously in urban communities than in the countryside. A rural community is more national, while a big city is more international. The percentage of mixed marriages is higher in the big cities.

A fluent knowledge of another language of the peoples of the Soviet Union is significant. The 1970 census revealed that 21.5 per cent of the whole population was fluent in another language. Since the percentage for the Russians is only 3.1, although they constitute more than half the population, the figure for other peoples is two out of every five. In four out of five cases Russian is most frequently cited as the second language. Similarly, Russian is most frequently the

skilled category of worker also includes Uzbeks, Tatars and Kalmyks.

The Town Authorities

Edward Adibekov, mayor of Rudny, is an Armenian. He is 39 years old. The mayor has two deputies: Mikhail Shevchenko, a Ukrainian, and Pyotr Tyurin, a Russian. All three have Russian wives.

Edward Adibekov's career is typical. A mining engineer by profession, he started as a mine dispatcher, was then made foreman, and subsequently chief of a miners team. A few years later he was elected to the trade union committee of the complex. Soon afterward he became a member of the Town Soviet, which he now heads.

The Town Soviet has 250 members, more than half elected for the first time. Represented in the town's administrative bodies, apart from Russians, are Ukrainians, Byelorussians, Kazakhs, Tatars, Jews, Poles, Koreans, Ossetians, Moldavians, Armenians, and Chuvashes.

Two Russians, a Ukrainian and a Tatar have been elected people's judges. They all have a higher legal education and court experience. The people's assessors, on the other hand, come from trades and professions that very often have nothing to do with law. Among them—incidentally, they have the same responsibilities in court as the judges—are factory workers as well as engineers, teachers and doctors. As many as 303 people's assessors have been elected to the courts of Rudny. They come from 11 nationalities.

The town's prosecutor, Akash Zhalmanov, is a Kazakh. The prosecutor's office has four investigators: Gennadi Bashirov, a Tatar; Victor Maksimenko, a Ukrainian; Anatoli Borisov, a Russian, and Roza Ospanova, a Kazakh. Ospanova is investigator for particularly important cases. She has devoted 10 of her 32 years to criminal investigation. She is a graduate of the Law Department of Alma-Ata University and came to Rudny when the town was just being settled.

The picture was the same wherever I went and whoever I met.

I stayed at a hotel near Marite Street and was surprised that the street had a Lithuanian woman's name. I soon learned its history. A Vilnius student was killed there in 1959. She was run over by a truck trying to save two children who were playing out in the street. Her name was Marite Bejite. An obelisk was unveiled in her honor in the town's park. The whole community came to her funeral.

The equality—real, not merely on paper—of the more than 100 nations and nationalities in the Soviet Union has altered the very spirit of mutual relationships among people of different nationalities. And the law stands guard over that equality.

According to the Soviet Constitution, the law punishes any direct or indirect restriction of the rights of, or, conversely, the establishment of any direct or indirect privileges for, citizens on account of their race or nationality. Furthermore, any advocacy of national exclusiveness, hatred or contempt is also punishable by law.

TOGETHER

native language in cases where nationality and native language are not identical. Russian is the native language for 13 million people of other nationalities. Another 42 million claimed that they had a fluent knowledge of Russian as the second language. Mastering another language and switching over to another language proceed more actively in the cities. Russian has become the language for communication between the peoples within our country.

This fact should be borne in mind: In the Soviet Union all national languages are equal. The official language, as a rule, is the one spoken by the indigenous nationality of the particular union or autonomous republic.

Newspapers are published in all languages spoken by at least several tens of thousand people. Large-edition literary and political magazines are printed in the languages of all the large national groups. Scientific material, belles-lettres and textbooks are translated into the languages of those peoples. Schoolchildren are taught in the language of their parents' choice: in the language of their national origin, in Russian or in any other language used for teaching in the given locality.

Russian is taught in national schools as a second language, and, vice versa, if the teaching is done in Russian in a school located in a national republic, then the language of the indigenous nationality of that republic is taught as a second language.

Ethnic processes are accelerated by migration. Because of the vast scale of industrial construction, each year about 15 million people move from one area to another.

None of the union and autonomous republics has an absolutely homogenous national composition, though these republics were found around the nationality principle. The republic with the most homogeneous population is Armenia (Armenians make up 88.6 per cent of all its inhabitants). The other republics have a more mixed population. For instance, the Kazakhs make up 32.4 per cent of the population in Kazakhstan, the Kirghiz 43.8 per cent in Kirghizia, and the Tajiks 56.2 per cent in Tajikistan.

On the whole, ethnic processes and the drawing together of the peoples of the Soviet Union increased in the past 11 years. We have every reason to believe that the process of integration will accelerate, and the historical community of Soviet people that has evolved will become more and more homogenous.

The ethnic development of the Soviet Union confirms Lenin's prediction that once the social, religious and other barriers dividing the peoples of czarist Russia were removed, the drawing together of peoples would proceed very quickly and, in the long run, lead to a nonnational society. The Soviet people are moving toward such a society through the all-round development of national cultures. The achievements of individual peoples are becoming the achievements of all the peoples in the Soviet Union.

The economic aspect of the Soviet national question is, of course, of cardinal importance. Since 1922, when the Union of Soviet Socialist Republics was formed, the policy has been to give priority in economic development to backward areas. They were practically all in outlying regions, chiefly in Central Asia and Kazakhstan. Funds were specially appropriated to set up industry, and measures were adopted to train national cadres of factory and office workers, engineers and technicians. All the union republics opened universities and technical colleges of their own. This kind of special effort did much to pull the backward regions to the level of the older industrial areas.

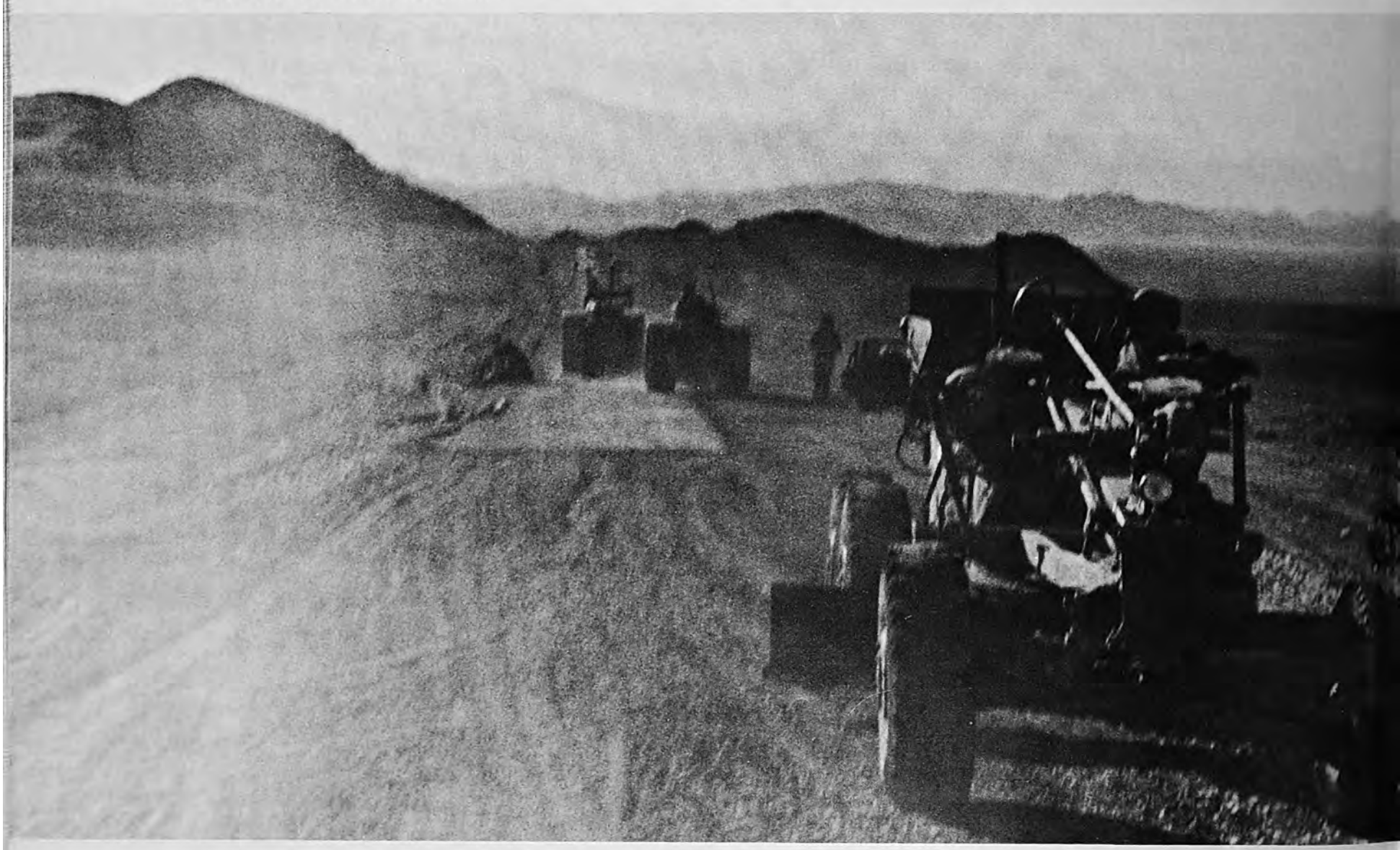
The trend toward integration of the Soviet peoples becomes stronger as the level of education rises. Secondary education (10 years of study in general schools or in specialized schools) is now compulsory. There is no doubt that the figures in the next census will continue to show this drawing together of the many peoples in our country.

TUVA

THE YOUNGEST REPUBLIC



Photographs by Lev Sherstennikov





For centuries the people of Tuva led a backward, seminomadic existence. Even grain, much less industrial necessities, had to be brought in from other places. Now Tuva not only supplies its own grain but grows enough for export. Modern industry flourishes, and new towns and townships have mushroomed.

In 1961, the Tuva Autonomous Region became the youngest autonomous republic in the country.

Kyzyl, the main city of Tuva, is located in the dead center of Asia. An obelisk stands there, inscribed on it the words "Center of Asia" in Tuvinian, Russian and English. Geographers, at any rate, believe this spot is the center of the continent. They may have miscalculated a mile or two. At one time this was debated by scientists. But one geographic fact is certain: No matter in which direction you move from Kyzyl, you have to run into mountains. The republic is hemmed in on all sides by the Eastern and Western Sayans and the Shapshalsky, Chikhacheva, Tannu-Ola and Tsegan-Shibetu ridges.

The summits are sharp, the hills rounded. These mountains, with their alternating bald and taiga forest-covered strips, their motley alpine meadows and snow-blanketed peaks, at one time cut Tuva off from the rest of the world. It was so inaccessible, even to explorers, that legends arose of an exotic country in the mountains, with inexhaustible wealth and mysterious *Khure* (monasteries), with big herds of cattle and fabulous treasures.

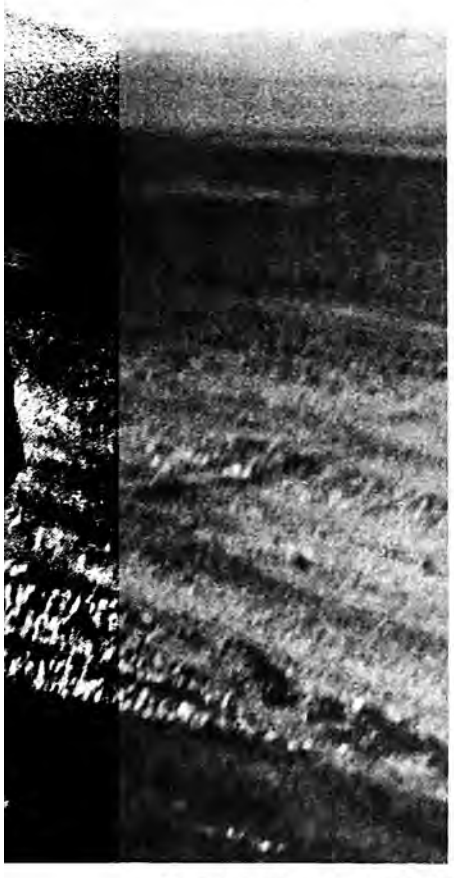
But this was legend only. In reality, more than three-fourths of the population—livestock farmers—lived in terrible poverty. In 1911, Carruthers, a British traveler, wrote that the Tuvinian nation would soon die out altogether. He was almost right. They had no written language and, as late as the turn of this century, their weapon was the bow and arrow. The Tuvinians could have been exterminated by poverty and disease—tuberculosis, trachoma and syphilis were common.

Social and Economic Change

In 1921, inspired by the example of the Great October Socialist Revolution in Russia, the Tuvinians began to carry out social reforms. The land, its mineral wealth, forests, and waters, were proclaimed the property of the entire people. All citizens were declared equal, irrespective of sex, education, nationality or religion. The church was separated from the state.

Socialism saved the people of Tuva from extinction. It enabled them in a few decades, to effect social transformations which had taken other peoples centuries to accomplish.

Tuvinians, who half a century ago had no written language of their own, are now making the shift to universal, compulsory 10-year schooling. A people who, for millenia, knew only two ways of making a living—hunting and herding animals—are now becoming engineers, doctors, agronomists, artists, writers and teachers.





Tuva's national sport is wrestling. The matches traditionally start with these formal dance steps. Top left: Building worker, the most popular vocation in this growing republic. Center left: Building the Ak-Dovurak-Abaza road. Bottom left: The Tuva-kobalt plant has worked out an improved method for cobalt extraction.

TUVA

Teacher's Day

We found ourselves in Toora-Khem, a fur-trading center, on Teacher's Day. In the evening, on the stage of the spacious local club, many children in colorful national dress sang, danced, recited poetry and presented one-act plays. The keen interest of the spectators and the festive air made us forget that this tiny community was located in a clearing of the taiga and that the nearest city was a hundred or more miles away.

The community had assembled in the club to pay tribute to the teaching profession. There was no Toora-Khem 50 years ago. People lived in birch bark tents, they ate whatever the hunters brought in from the taiga. They suffered from frost in winter, heat in summer, the smoke of a cooking fire inside the tent and from disease and malnutrition winter and summer alike.

This wretched life was changed largely through the help of the teacher, who became an envoy of the new system. In the early years, the teacher was doctor, agronomist and veterinary rolled into one. But in order to teach the children (and adults, too), a written language was needed. Russian scientists helped to create it.



Tamara Maadi is a teacher.







Mirlaa Ak, 69, who hunts for the Tura-Hem state fur farm, was recently given the Order of Lenin.

The Yenisei crosses Tuva.

All that is an old story today. Tuva now has 30 elementary and 59 secondary schools as well as teacher training, medical and agricultural schools and many other specialized educational institutions. Since 1945 Kyzyl has had a language, literature and history research institute, a teacher training college and a drama theater. The republic has 11 newspapers. Tuvinian writers and poets Toka, Syrygool, Khovenmei and Chadamba are known throughout the Soviet Union.

Industrial Farming

In the late thirties, there were two combine harvesters, 11 trucks and 42 tractors in all of Tuva; today thousands of farm machines work the fields. These changes have made it possible to increase the sowing area sixfold and the harvest 19 times.

The revolution in agriculture also completely restructured livestock farming, the traditional base of the Tuvinian economy. The cattle population has doubled in the past few years. Intensive fodder-growing and wide-scale construction of livestock farms have made a settled mode of living possible. Gone are the makeshift tents; Tuvinians now live in modern homes with every convenience. Their children are cared for at kindergartens and attend school.

We inspected a combined kindergarten and boarding school at the Elegest State Farm, 42 miles southwest of Kyzyl. The expense of maintaining the school is completely paid for by the state and covers food, clothes and tuition. The course of study goes beyond the basic subjects, and includes music, dancing and drawing.

Elegest is typical of the republic's farms. The farm center was once a couple of temporary barracks. It is a modern community today, with well-built houses, shops, a school, club, hospital, library and a hotel. The yearly net profit of the state farm rarely falls below half a million rubles. In the early days a purely sheep-breeding farm, now it grows vegetables, fruit and grain and produces milk and butter. The average monthly earnings of a state farm worker are 300 to 400 rubles.

In the years of Soviet power, nomadic Tuva has been transformed into a republic with a high level of mechanized farming.

Industrial Tuva

Tuva has set itself the goal of becoming a highly developed industrial republic in the next 10 to 15 years. New food and woodworking factories and power transmission lines are scheduled during the current five-year plan.

The Tuvakobalt Combine, at the foot of Tannu-Ola, has worked out a new, simplified technology for extracting cobalt concentrate.

Out in the western part of the republic, once godforsaken Karata-tashch (Black Stone) has been renamed Ak-Devurak (Silver Clay). In the last few years a modern city has grown up around the Tuva Asbestos Combine.

A man-made sea will soon appear near this spot, on a plain between the mountains. The concrete dam of the Sayan-Shushenskoye Hydroelectric Power Station, one of the biggest of its kind in the world (it will be three times bigger than the Aswan station), will in 1978, at the village of Maina, Krasnoyarsk Territory (north of Tuva), span the Yenisei, raising the level of that big river, which has its source in the mountains of Tuva. The Yenisei will become navigable all the way to Kyzyl.

The new waterway will solve many of the republic's transport problems. The sea will also make it possible to irrigate about two and a half million acres of arid land, A major industrial complex of 30 large-scale enterprises will begin to rise here once the cheap electric power generated by the Sayan-Shushenskoye station is available. These enterprises are destined to change the appearance of Tuva, to seriously develop the republic's deposits of anthracite, iron ore, gold, copper, cobalt, mercury, asbestos and complex ores. Of the 1200 discovered deposits, only about a dozen are now being used by industry.

Salchak Toka, a writer and public leader, said this about his home country: "What we would never have achieved alone, we achieved in the fraternal family of Soviet peoples. Russians, Ukrainians, Byelorussians, Khakasses and Tatars work with us side by side."

Photographs by Lev Ustinov



SOVETISH HEIMLAND— A MAGAZINE FOR SOVIET JEWS

Photographs by Mikhail Filiminov

SOVIET LIFE receives letters from readers who ask about the cultural life of Soviet Jews. Aaron Vergelis, editor in chief of the magazine *Sovetish Heimland,* answers some of them in this interview.

Q. We know that *Sovetish Heimland* is popular with different age groups and different points of view and that it is read in many countries. What is the magazine and who publishes it?

A. *Sovetish Heimland* is an organ of the USSR Writers Union and financed by the union. It is published monthly in the Yiddish language in 25,000 copies, printed on good paper, each issue having 192 attractively designed pages. Its price, like all books and magazines in our country, is low—50 kopecks. It has the same rights and privileges as all other Soviet magazines.

I recall that about a year and a half ago our offices were visited by an elderly couple from Chicago. They told us that our magazine was read by the entire family, old and young. Although on tour in the Soivet Union, they decided to make their first call on *Sovetish Heimland* to meet the editors and staff and to offer the journal a donation. We thanked our American guests but explained that we did not solicit funds to keep the magazine going, that, indeed, we not only had plenty of money to publish the journal but also for payment to our contributors.

For instance, we pay one ruble 40 kopecks for a line of poetry, regardless of length, whether one word or, as in Mayakovsky's writing, the line is broken up into three parts, and 300 rubles for 24 pages of printed prose. Every drawing, illustration or photograph we print is paid for.

Q. Who are your readers and how do you reach them?

A. Our journal is intended for Soviet readers. Its circulation in the USSR is 17 to 18 thousand copies, of which about a third are sold at newspaper and magazine stands and the rest by subscription. At the close of every year we run a subscription campaign, advertise in newspapers and Soviet periodicals and over the radio. We also arrange get-togethers of Jewish writers and journal staffers with our readers, from whom we get thousands of letters. They are a great help to us, and we listen to them. For example, we received many letters asking for discussions of topical subjects. Ours is a literary magazine, but we decided to go along with our readers' wishes. We began to run material on important current issues, debates and social problems and we soon found that the section was becoming increasingly popular.

Our journal is read in 30 other countries, including the USA. I met with some of our American readers during a trip to the United States. I recall a meeting, for instance, at Brandeis University. I was there with writer Boris Polevoi and poet Robert Rozhdestvensky. A part of this get-together turned into a *Sovetish Heimland* readers conference. The same thing happened in Jewish neighborhoods and educational institutions in Los Angeles, Chicago, Cleveland and other cities.

There are clubs in some countries where readers get together and discuss the contents of our magazine. In Uruguay this club is called the *Sovetish Heimland* Circle.

Q. What about your contributors?

A. A considerable group of writers has taken a special interest in the journal—over 100 Jewish men of letters. If we were to collect all their contributions to the magazine, we would have a good many volumes.

Our writers live in the different republics and cities of the Soviet Union. Some of them—prose writers, publicists, poets, artists and composers—live in Moscow.

Kiev is another city where there is a large group of Jewish cultural workers. One of our major novelists, Iekhil Falikman, lives there. A series of his novels on the Great Patriotic War was recently published in the Yiddish, Russian and Ukrainian languages. Eli Shekhtman, another well-known prose writer, also lives in Kiev. The first section of his novel *On the Eve* was run in our journal several years ago before publication date. It was later translated and published as a separate book in New York in English and in Paris in French. Another Kiev writer, Itsik Kipnis, was recently awarded the Dr. Zhitlovsky Literary Prize, an award of the U.S. organization the Jewish Cultural Alliance "IKUF." The same prize was awarded earlier to one of the oldest Soviet Jewish writers, the late Z. Vendrof, a founder of our magazine.

Another group of Jewish writers live and work in Kishinev. The very first issue of the journal carried several novelettes by I. Schreibman, from that city. He is a skilled short-story writer, you can trace the influence of our I. L. Peretz in his work.

There is also Solomon Roitman, an outstanding Jewish poet from the Mari Autonomous Republic. A new collection of his poetry was published recently.

A group of Jewish cultural workers live in Minsk and another in Vilnius—that's where Meyer Elin lives. His last book in Yiddish, as well as a book by prose writer and dramatist V. Kulbak, have just come off the press, and we're planning to run them.

That's why I can't understand our foreign critics who call for the creation of a Jewish literature and culture in the USSR. We met these self-appointed defenders, if we can call them that, on our travels abroad. And I always advised them that before coming out in defense of something, they ought to find out whether there's any need for that defense.

Take the Jewish visual arts. The work of more than 30 Jewish artists is now on display in our offices. Tamkhum Kaplan, a famous illustrator of Shalom Aleichem's works, sent us several of his latest creations from Leningrad. So did Mark Klionsky, a young and very talented artist, also from Leningrad. A series of his etchings on Jewish themes was on joint display in London with works by Marc Chagall. Samuelis Rosinas, from Vilnius, submitted a number of etchings on the theme Jewish Folk Songs.

On display also are the work of such famous Soviet painters as N. Altman, R. Falk, M. Ichin, V. Zisman and A. Nurenberg.

The same holds for the theater. There are several Jewish theater companies in the Soviet Union. Take the Drama Theater, directed by Honored Artist of the Republic Benjamin Schwartzer. The performances of his traveling company are seen by thousands of Jews all over the country—in Siberia, the Urals, the Far East, the Ukraine, in Moldavia, Lithuania, Latvia and Byelorussia. There are people's theaters in Birobidzhan, Kishinev, Vilnius and Daugavpils. There are incomparable theater companies with their own choreographic groups, choruses and orchestras. When I was in New York, I made the acquaintance of the only fairly well-known Jewish company in the city. It is called Folksbiene and is headed by a very fine director. But it is not a permanent organization and has only one professional actor. They get together to stage a play, present it five or six times and then disband. There is no other substantial Jewish theatrical company in New York although it boasts 2.5 million Jews, as many as in all of the Soviet Union.

What about variety stage? No country in the world has such a large number of Jewish professional singers as the Soviet Union. Several records of Jewish songs have been released lately, many with songs by the well-known Soviet composer, Zinoviy Kompaneyets, who devotes a lot of his work to Jewish songs. We have quite a few such composers.

Q. Could you, from any one issue of *Sovetish Heimland,* give us a picture of the journal and its contents?

A. With pleasure. Let's take this year's January issue. It opens with a New Year greeting to the readers. Then comes a series of poems on contemporary themes by Dora Khaikina of Kiev.

An installment of Joseph Rabin's *My Dear Eccentric* follows. One of the themes of the novel is the life of Jews in Birobidzhan. Joseph Rabin is 75, and *My Dear Eccentric* is one of his latest works.

The "Literary Heritage" section carries an excerpt from Zalman Shneyer's book *Pandra's Flight.* Shneyer is the third of the three pillars of Ivrit literature —after Byalik and Chernyakhovsky. His prose is rich, earthy and realistic. In this issue we reprint a piece of his because he is so popular with our readers.

The next section is "Work by Georgian Jewish Writers." They live in Georgia and write in Georgian—some of our Jewish writers write in the language of the republic they live in. This is as natural as for Jewish writers like Arthur Miller and others to write in English.

The Georgian box carries poetry by poets Piruz Djanashvili, Mikhail Kakitalashvili, Abram Mamistvalov and David Khakhiashvili; the translations are by poet Abram Gontar, who is chief of our poetry and prose section.

Following the poetry is an inset devoted to the work of Georgia's Jewish artists. Included are a painting by Sholom Kobashvili, *A Jewish Wedding,* the landscape *Old Tbilisi* by Mordakhai Djanashvili (he also did the painting *Anne Frank,* a very perceptive study of this young girl who was tortured to death by the fascists), still lifes, linocuts and so on. The Georgian artists go in for metal chasing, and that is also reflected in our inset.

Then comes a story by Kiev writer Hershele Polyanker and poetry by Alexander Belousov. Belousov is a Russian, and no one in his family knew Yiddish. But he took an interest in the language while still a student and learned both Yiddish and old Hebrew. He eventually became a poet and now writes in Yiddish. His work is permeated with Jewish national motifs, and he can rightfully be considered a Jewish poet. Such instances of rapprochement of national cultures are characteristic of Soviet life.

The pages following are dedicated to the memory of Z. Vendrof, one of our oldest Jewish writers. It had been a custom of ours to carry some new work of his in every year's first issue. However, he didn't quite make it this year. He died at the age of 95. In his memory we printed some of his recent correspondence and photographs from his family album.

Then comes the section "Work by Our Readers." In this issue we played host to a subscriber from Chernovtsy, the Ukraine, who sent in his story "The Moon Smiles," and to a reader from Leningrad who contributed two poems.

Our next section is "Reminiscences," the recollections of Professor Max Shan-Anin, who lived the interesting life of a revolutionary and today is a highly respected teacher.

In our section "Literary Diary," critic Vladimir Ognev advises our readers of developments in other Soviet literatures. From issue to issue he has this witty and informative conversation with readers.

Our section "Readers' Questions Answered" evokes considerable interest. We select the most characteristic and typical from the stream of letters we get and enlist specialists and experts to answer them. In this issue we replied to a question about the recently held twenty-eighth Zionist Congress.

Then come the sections "Bibliography" and "Miscellany," covering interesting events in world literature and art, "News Items," on the cultural life of Soviet Jews, and "News from Birobidzhan," the Jewish Autonomous Region.

The issue closes with the writer's calendar—important dates and anniversaries.

At the very end, as always, we publish a new Jewish song. This time it's "The Jewish Girl Marusya," with music by Zinoviy Kompaneyets and words by myself. The song has a history of its own. In my travels around the country I once met a girl with black Biblical eyes and long braids. She told me she was of Jewish origin. Her parents had been murdered in Babi Yar, but she had somehow escaped death. A Russian woman gave her shelter and brought her up. That's how she became the Russian girl Marusya.

This was a typical occurrence in those war years. People of different nationalities hid Jews from fascist reprisals, took Jewish children into their homes. It was a manifestation, as we believe our magazine is, of the friendship of the peoples and nationalities in the land of the Soviets.



Daily conference of the editors. Vergelis is also a writer—his first poems were published in Birobidzhan, the Jewish Autonomous Region, before the war.



AROUND THE RUSSIAN FEDERATION



ORAL FOLK ART FESTIVAL

The second regional festival of oral folk arts was held recently in Khabarovsk (Soviet Far East). It was built around the folklore of the indigenous peoples of the region—the Nanaians, Olcha, Udeghes and others. Participants were members of village drama, dance and music groups. They collect and adapt old and modern songs, legends, tales and folk dances reflecting the customs, traitions and ways of life of their people.

PAINTING THE NATIONAL CHARACTER

To commemorate the fiftieth anniversary of the formation of the USSR, the Sovetsky Khudozhnik (Soviet Artist) Publishing House has issued a special set of prints. These are reproductions of paintings, by the republic's artists, that depict the inimitable features of the national character.

SUPERPOWER TRANSMISSION

Designers at the Power Engineering Institute in Moscow have developed and are now testing the Soviet Union's first model of three-phase superconductive cable.

The cable ensures more efficient transmission of electricity from power stations to major industrial centers and will permit super-long-distance electric transmission.

MACHINE-BUILT SIDEWALK

A Moscow student has designed a machine to build sidewalks from precast slabs. The machine sets over 5300 square

APOSTLE BARTHOLOMEW OR DA VINCI SELF-PORTRAIT?

Art specialists and restorers, historians, anthropologists and even criminologists are very much interested in the study Soviet scientist and author Valentin Golovin has recently completed. With photogrammetric and anthropological techniques, he obtained convincing evidence of the similarity between the universally known and the only indisputable *Self-Portrait* by Leonardo da Vinci and his drawing of the Apostle Bartholomew for the *Last Supper*. The possibility that there exists a second self-portrait by the great Renaissance artist and scientist has produced a host of varying reactions from specialists. Verification is still going on in a variety of ways. But there is general agreement that the research technique itself is scientifically valid and very promising.



GIANT MOONFISH

A moonfish weighing 1500 pounds has been caught near the southern Kurils coast and placed on exhibit at the Southern-Sakhalin Local-Lore Museum.

Although the moonfish is very fertile, it is rarely seen and even less frequently caught.



RESETTLING ANTS

For a few years now the Nature Conservation Society in Kazan has been making a census of ant distribution. In 1971 naturalists checked the number of anthills in a million acres of forest territory. In areas where there were too few, 763 ant families were brought in. Over 700 have been settled in new places and have formed new anthills. This kind of ant settling will be continued in the future. The idea is to provide the forests of the Tatar Autonomous Republic (Volga area) with effective biological protection so that



ROMEO AND JULIET IN SIBERIA

The Novosibirsk Academic Opera and Ballet Theater (Siberia) has a new production of Sergei Prokofiev's ballet *Romeo and Juliet*. It was staged by young Moscow choreographers Natalia Kasatkina and Vladimir Vasilyev, who won recognition as producers of the ballets *Vanina Vanini* and *Geologists* by Nikolai Karetnikov, *The Rite of Spring* by Igor Stravinsky, choreographic miniatures for Bach's *Preludes* and others.

Juliet is danced by Lyubov Gershunova, a graduate of the Novosibirsk Choreographic School, and Romeo by Anatoli Berdyshev. The conductor is Isidor Zak.



CHEAPER X-RAY PHOTO

Five times more quickly and 10 times more cheaply than with expensive film is an x-ray photo made on . . . paper.

This new method of electro-x-ray photography has been developed by Soviet engineers and physicians. In addition to having the virtues of speed and economy, it produces an image so clear-cut, it appears to have been drawn by pencil.

It is now possible, as a result, to determine with great clarity the presence and position of tumors and nonmalignant formations in the lungs, liver and kidney, heart aneurisms and other pathology.

The medical equipment industry has turned out the first serial batch of these photographic apparatuses.

SEEING THE SOUND

Installed at the Experimental Accordion Factory in Moscow is an electronic setup by means of which musical instruments can be tuned visually rather than by the auditory method. The instrument's quartz generators produce standard frequencies correspond-

feet of sidewalk in one shift. The sidewalk slab-placer was designed by Yuri Chernyatovich, a student at the Bauman Higher Technical School. His project was awarded first prize at a recent competition.

EXPORTS OF EQUIPMENT

The USSR exports power engineering and electrical engineering equipment, electric power and railway equipment to 60 countries. The total volume of these deliveries for 1971 rose by 20 per cent. Some 6.5 billion kilowatt-hours of electric power were generated for the socialist countries, Norway and Finland. The export of large power transformers has increased sharply. The United States became a purchaser for the first time. India has bought the complete-set equipment for five hydro- and thermal-power stations. Contracts were signed for delivery of high-capacity turbo- and hydro-sets to the German Democratic Republic, Poland, Norway and Brazil.

A "MEMORABLE" NEW BOOK

Konstantin Korovin Recalls . . . is the title of a book of reminiscences by painter Konstantin Korovin (1861-1939) published recently in Moscow. One section of the volume is his autobiography "My Life," another is made up of meetings with writer Anton Chekhov, painters Ilya Repin, Mikhail Vrubel, Valentin Serov and others. Particularly fascinating are the artist's reminiscences of the great Russian singer Feodor Chaliapin, who was the author's close friend for 40 years. Korovin's travel notes of Russia, Italy and Spain and his stories of old-time Moscow and Moscovites are also included.



ELECTRONIC SHIP DISPATCHER

An automated merchant-ship location system is now in operation in the Soviet Union. It covers all seas and oceans. The country's 17 shipping companies, its 1500 vessels, the world's 3000 ports—all these are now tied into a single network. The purpose of the system is to get quick information on the ships' whereabouts and operational acivities to merchant-shipping specialists. In a matter of seconds the operation can feed out 13 different information forms which previously took 24 hours to prepare. Before very long it will be possible to relay information directly onto the telescreens and teletype apparatus in the offices of the Ministry of the Merchant Marine.

FINE PORCELAIN

Tea and dinner sets, vases and statuettes stamped Maritime Porcelain have begun to appear in the shops of the Soviet Union. The manufacturers — Vladivostok and Artem porcelain factories in the Far East—are new enterprises. A few years ago Far Eastern geologists discovered a large deposit of dacite-porphyry. Investigators found that this soft gray stone has valuable properties. For example, the electric insulators it makes wear better than the standard variety. The liquefied stone is transformed into a heat-resistant, tranparent glass similar to rock crystal. The charge mixture, half of which is Far Eastern porphyry, produces china articles of exceptional whiteness.

A large china factory has been built in a Vladivostok suburb. The equipment was supplied largely by the engineering industries of Czechoslovakia and the German Democratic Republic.

chemical agents can eventually be dispensed with.



ELK FARM

The Kostroma Agricultural Testing Station runs an elk farm 22 miles northwest of Moscow, where scientists are studying the life, behavior and future domestication of the animal. The female elk have already been domesticated to milking. Their milk, which churns into good butter, has three times the fat content of cow's milk and an unusually pleasant aroma.

The elk live free on the forest farm. They require no expensive shelter areas, just sheds and pounds. They grow and multiply fast, their weight runs from 880 to 1100 pounds. The needs of the animals are simple, they feed on the tree and grass vegetation in the forest. Vegetables and hay are used as supplements. Elk yield meat, fat, milk and high-quality leather. Research in elk domestication is expected to contribute to a new branch of animal husbandry—elk breeding.

SCULPTURE EXHIBITION

More than 350 pieces of sculpture are being shown at the first USSR art exhibition "Sculpture of Little Forms," sponsored by the USSR Artists Union.

Alongside the work of the well-known Soviet sculptors Sergei Konenkov, Isidor Frikh-Khar and Iosif Chaikov are pieces by Faina Usmanova, a student at the Moscow Higher Artistic-Industrial School, and Mikhail Pereyaslavtsev, who goes to the Surikov Art School. Sculptors from Byelorussia, the Ukraine and Lithuania are represented in the show.

ONE MORE ARTIFICIAL KIDNEY

A new equipment complex, Dialysis Center-1, for extra-kidney blood purification, has been developed at the USSR Research Institute of Surgical Equipment and Instruments in Moscow. The Soviet Union now has over 50 kidney centers—specialized facilities for emergency aid. They are all equipped with the artificial kidney apparatus, which cleans toxic products of metabolism from the patient's blood. But the conventional machine now in use serves only one patient at a time. Dialysis Center-1 takes care of eight.

CLOCK COLLECTOR

Connoisseurs and specialists have high praise for the old clocks and watches pensioner Ivan Baranov of Kazan (Tatar ASSR) has collected—over a hundred clock mechanisms by French, German, British, Italian, Polish and Russian manufacturers. There are unsophisticated clocks with primitive cases; fascinating pocket



watches which strike the hour melodiously; carriage clocks; clocks decorated with a multitude of miniature bronze figures; refined salon types with enamel decorations; mantlepiece and business office specimens; palace clocks with slender figures, carved pendulums and shaped hands.

Baranov's house is a combination museum and clock-restoration workshop. He is not just a collector, he rejuvenates old-time clockwork mechanisms that have been inactive for years using a special set of tools and attachments which he himself designed.



ing to the notes within the minor octave interval.

The signals of depicted sound are relayed from the central apparatus in the laboratory to cathode tube screens mounted in special tuning cabins. When the examined and control frequencies coincide, the instrument is in tune. This method is far more efficient than tuning by ear.

A TREASURY OF RELICS

The USSR State History Museum in Moscow's Red Square is now 100 years old.

The museum houses a collection of nearly 4,000,000 items. In addition there is a rich coin collection and a library of manuscripts with any number of unique documents.

Well over 2,000,000 people visit the museum annually. The display of ancient household articles, weapons and clothing draws the most interested crowds. On exhibit are artifacts found in Paleolithic camp sites on the territory of the Soviet Union. Numerous exhibits date back to the first Russian state—Kiev Rus—and cover other periods in Russia's history: the liberation from Tatar-Mongol serfdom, the Russian Empire after Peter the Great, the origin and growth of the revolutionary movement, the victory of the October Socialist Revolution, the formation of the USSR and the Great Patriotic War of 1941-1945.

PLASTIC SEEDBED

An unusual plastic soil, saturated with mineral salts, is a new invention of Soviet scientists. The soil, which looks like celluloid grains, speeds up the



growth of fruit, tree cuttings and vegetable sprouts. When it is exhausted in five or six years, the synthetic soil can be recharged with a mineral solution of nutrients. The polymeric material is likely to find large-scale application in hotbed and greenhouse farms, particularly in the Far North.

HOUSING AT THE COLD POLE

A housing complex for 15,000 people has been designed for regions of the Far North. It will be built at the Udachny residential center in Yakutia, an important diamond-mining area.

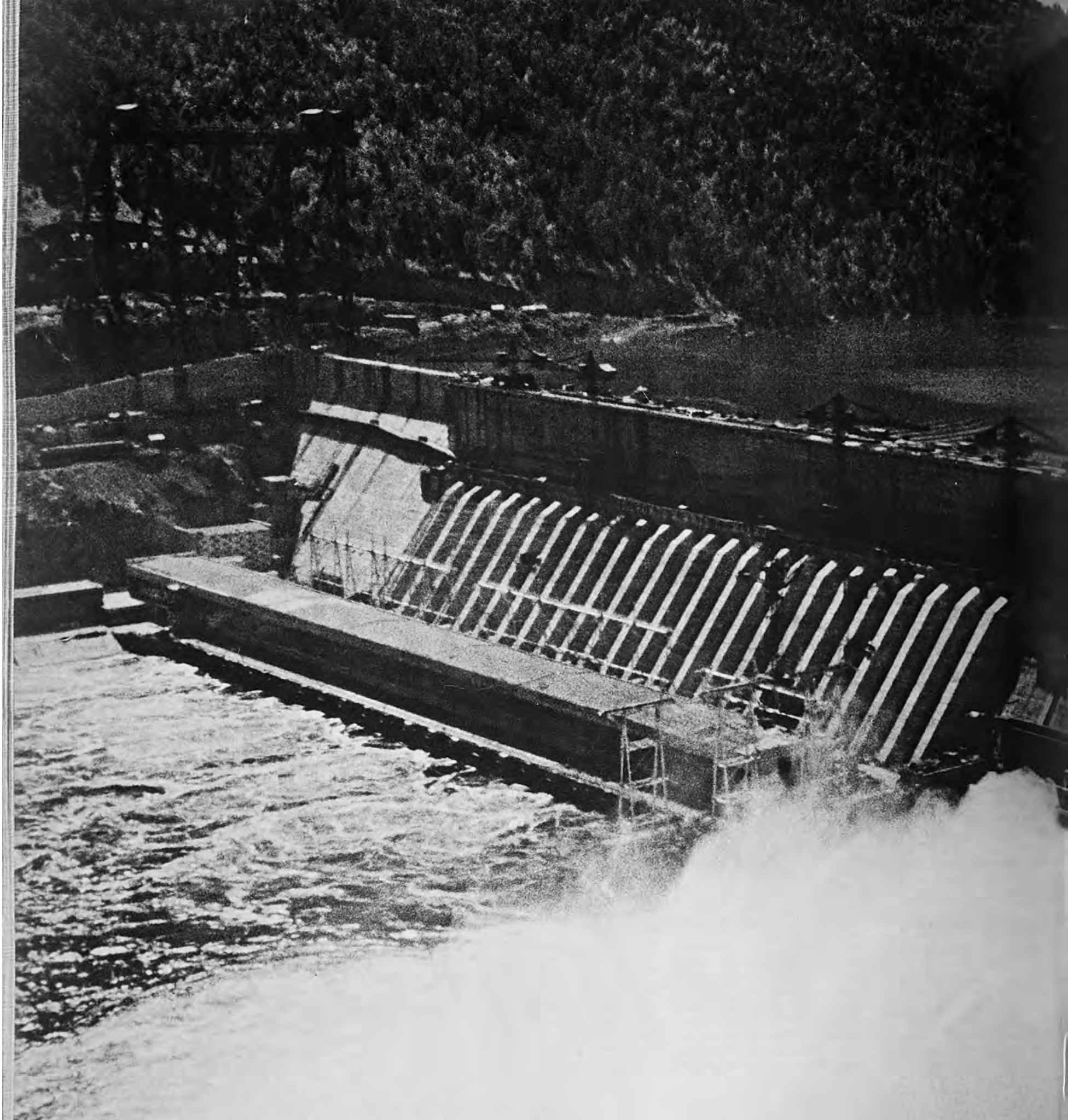
In temperatures as low as —76° people will be able to leave their houses and walk along closed street-galleries to the stores, to cultural and recreation facilities and public buildings at the complex center. The three primary radials meet in the town square, which is protected by a transparent cupola. School and kindergarten buildings, designed to take the rigors of the severe climate, will be uniformly distributed throughout the township.

Building the housing complex will involve the use of advanced construction methods. A metallic frame of corrosionproof steel will be used to support lightweight, heat-insulated foam-plastic and aluminum panels. All the equipment for the apartments will be delivered by air in individual containers from the factory directly to the building site. Even whole housing sections will be flown in.

The building of specialized housing complexes is part of the large-scale program for continued development of the Soviet Far North—a region of harsh climate and great natural wealth.

STONE ALPHABET

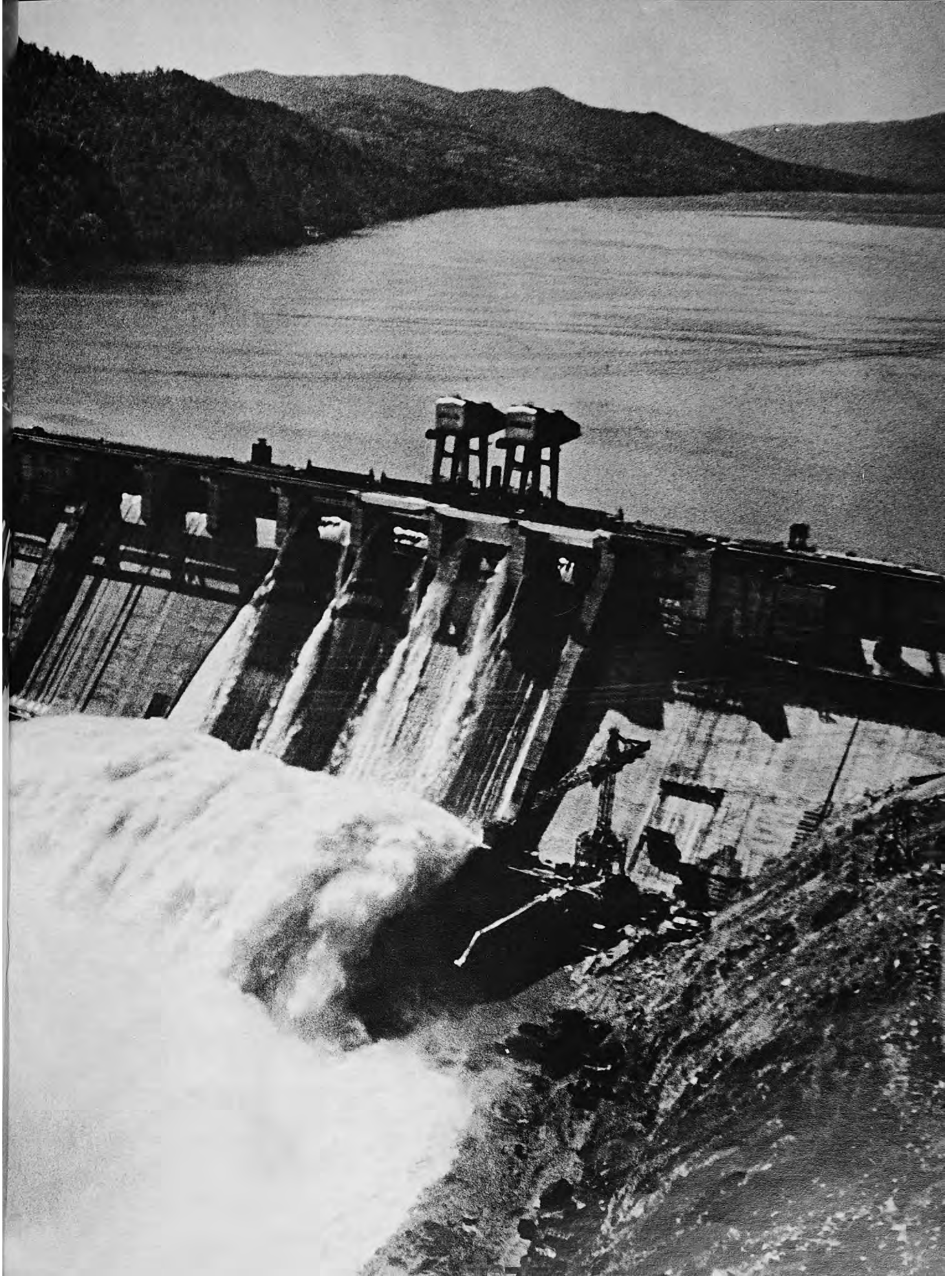
A sensational find—this is how scientists describe the stone plate with mysterious signs found in Daghestan, a southern autonomous republic in the Russian Federation. It has proved to be the alphabet of the multitribe Agvan people, who lived in ancient times on the southwestern coast of the Caspian Sea. The 44 letters are drawn in strict succession on both sides of the plate. Only two specimens of this alphabet have previously been found. One is in the USSR, in Matenadaran—the world-famous collection of manuscripts in Armenia; the other one is in the United States. Both, however, are of later origin and contain inaccuracies made in copying. The specimen found in Daghestan, which appears to be much closer to the original, is attributed to the fifth to seventh centuries, when Agvan writing flourished.



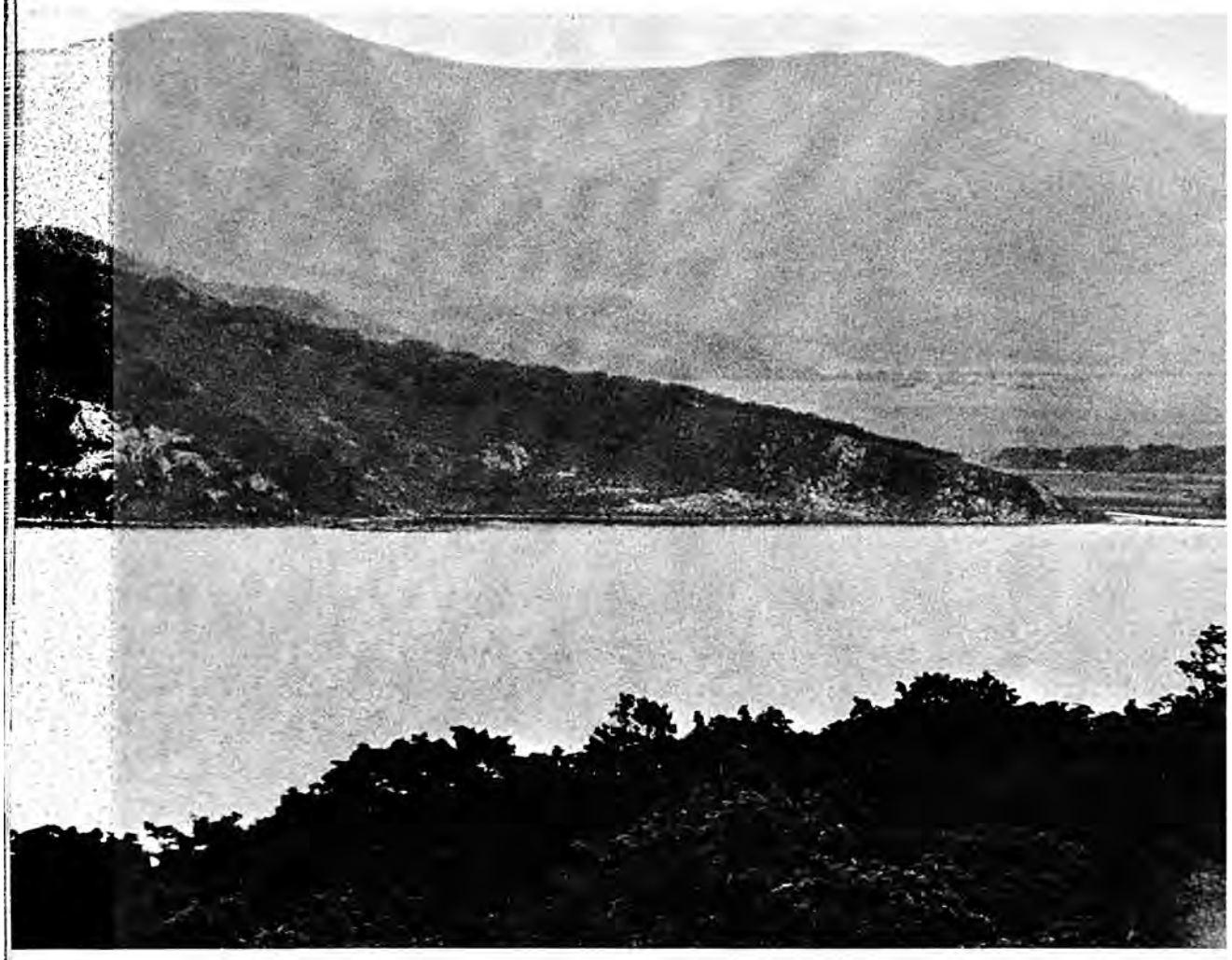
KRASNOYARSK HYDROELECTRIC POWER STATION

The Krasnoyarsk hydroelectric plant, the world's largest, has a dam 407 feet high spanning the Yenisei River. It forms an artificial lake at the foot of the Divny (Marvelous) Mountains. The station's capacity is six million kilowatts, and the 50 billion kilowatt-hours of electricity already generated have covered construction costs. Krasnoyarsk is now part of the unified Siberian power grid. The power potential of the rivers in this area is enormous: the projects to be constructed on the Yenisei and its tributaries will have a capacity of 60 million kilowatts. The Bratsk station on the Angara, a tributary of the Yenisei, has been completed, and the Ust-Ilim and Sayano-Shushenskaya are under construction. All told, 16 power plants will be built on the Angara and Yenisei in the next 30 years. Their low-cost electricity will accelerate Siberia's development. Eventually, Siberian electric power will be transmitted further westward, to the industrial regions of the Ural mountains.

Photograph by Maya Skurikhina



THE MARITIME TERRITORY— THE PEARL OF RUSSIA



PROBABLY no other place on Earth is as well endowed by nature as the Maritime Territory with its deep, pleasant bays, wide rivers, enormous expanses of woodland, mild coastal climate and fertile soil.

This area in the southeastern part of the Soviet Far East is called the "pearl of Russia" because of its abundant mineral deposits. No less rich and diverse are its fauna and flora. Millions of years ago, during the Tertiary period, the glaciers that covered most of the Earth never reached the Maritime Territory. That is the reason for the uniqueness of its flora and fauna.

Lotus blossoms on its lakes. Oak and wild grape, bamboo and fir—trees of different climatic zones—mingle here, creating an inimitable landscape. Botanists have found in the Ussuri taiga 580 industrial and 390 edible plants, as well as 750 kinds of herbs and hundreds of species of other plants. In the forest the brown bear meets the Ussuri tiger—that mightiest beast of prey on our planet. The taiga is also the home of wolves, leopards, elk, ounces, squirrels and sables—the list is endless.

Tiger hunting is an ancient occupation in the Maritime Territory. The gigantic cats are caught not in traps and pits, but by the bare hands. If you see an Ussuri tiger in the zoo, you know that it has been snared by the famous Far Eastern hunters, men of great daring, rare courage, strength and agility.

Half a century ago the Territory boasted no more than two cities—Vladivostok and Nikolsk-Ussuriski. Now it has nine cities and 45 workers' settlements.

Before the Revolution one doctor and one teacher served a population spread across 65 miles. More than half the people were illiterate. Now the Martime Territory is the scientific center of the Far East. Of the 4500 scientists working here, eight are full or corresponding members of the USSR Academy of Sciences, 60 are doctors of science and more than 1,000 are candidates of science. More than 40,000 students attend the 12 higher educational institutions of the Territory.

The Far Eastern merchant marine fleet is one of the largest in the Pacific. There are two major international ports here—Vladivostok and Nakhodka.

The Territory's location along the coast of the Pacific Ocean, which is so rich in natural resources, determined its role as the country's chief fishery. This important food industry has grown in Soviet years: One big refrigerator and freezer trawler now hauls as much fish as was caught in 1913 throughout the area. The fishermen—there are 70,000 here—have the use of many such boats and work the year round.

However, the increase in the catch of fish and other sea food does not mean that the Maritime people draw on the riches of the ocean without return. They see their job as creating whole underwater economies. Off the shores of Popov Island and in Posyet Bay unique sea "vegetable gardens" have been created to grow valuable species of seaweed, mollusk, crab and oyster.

The Maritime Territory has almost every mineral conceivable, including tin, gold, coal and zinc. Industrial production here has increased 90 times since the October 1917 Revolution. Timber felling and the output of the woodworking industry have also risen sharply. The new industries—power generating, machine building and chemicals—are developing fast.

Soon another branch of industry—oil and chemistry—will be tapped. In 1973 construction will begin of a 2500-mile oil pipeline from Nakhodka to Irkutsk. A big oil refinery is also planned.

Five all-Union shock construction sites are situated in the Territory—they include the Maritime Hydroelectric Station and a deep-sea port in Wrangel Bay that will be the largest in the country. There are dozens of other important construction projects—the Bikinsky and Pavlovsky Coal Mine, a porcelain factory in Artem, a hydrolysis-yeast plant in Lesozavodsk, the Primorsky Mining Complex, the Mikhailovsky Timber Industrial Complex, a ship repair yard in Slavyanka Bay, a new fishing port in Troitsa Bay.

The Maritime Territory is famous for its flora and fauna with unique medicinal properties. It is becoming the world's supplier of biologically active substances. The Maritime people have tamed one of the most graceful, noble and handsome animals—the spotted reindeer, and from its antlers comes the priceless endocrine preparation called pantocrine. It is bought by many countries. Ginseng, that "root of life,' is now being cultivated on large plantations.

Agricultural development is also intensive. Three times as much land is cultivated as before the Revolution. The Maritime Territory is one of the big producers of rice and soybeans. Beekeeping also is well developed and yields the largest volume of honey in the country. Another important area of activity is breeding silver fox and mink to get the white, yellow, light blue and silver shades.

The first Russian explorers dug their way into the Maritime Territory with axe and plow. Their descendants are building whole cities, big ports, modern factories and mines.

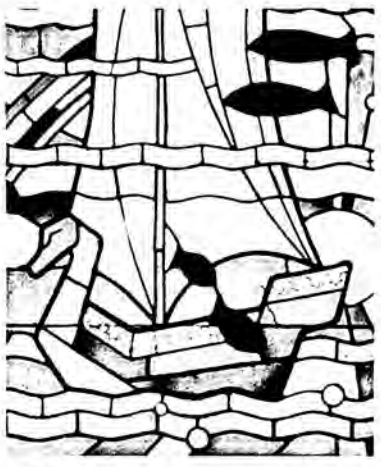
NEXT ISSUE



Mikhail Klement is a member of the Estonian Supreme Soviet at the age of 21, the youngest of its 183 deputies. After being nominated by fellow students at the Tallinn Polytechnic Institute, he was elected in a district where the population is more than one-third students. It isn't surprising that his main field of concentration as a legislator is the standing committee that deals with youth affairs. Our article tells how this talented young man fulfills the many and varied obligations of his office and still manages to have time to attend school, pass examinations, participate in sports and socialize with his friends.



The Eighth Five-Year Plan was fulfilled successfully, bringing further economic growth and a higher standard of living. How do the abstract figures of plans completed and those begun translate into the everyday life of the Soviet people? That is the subject of an interview with Gennadi Vinogradov, a Leningrad worker. His answers to the questions: "What have you received from the Eighth Five-Year Plan? How has it changed the life of your family?" are published in November.





Stained glass samples have been found in excavations going all the way back to Pompeii and the ancient capital of the Gauls. In the Middle Ages stained glass was a mandatory decoration in church architecture. Its uses were limited because it was difficult to make. Today new tools, chemicals and modern techniques have extended the horizons of this ancient art form. Stained glass panels now adorn subway stations, health resorts, museums, theaters, workers clubs. Those shown here are for a sanatorium in Lithuania and depict the fairy tale "Eagle, Queen of the Grass Snakes." A picture story on new uses for an old art.

Air routes served by Aeroflot total 373,000 miles, including 93,000 miles of international routes, among them the Moscow—New York—Moscow run, in operation for five years now. Vladimir Samorukov, head of the international traffic department, discusses international flights in general, and two pilots, one Soviet and one American, give their impression of the USSR-USA run and tell about themselves and future plans.

An interview with the First Secretary of the Leningrad Committee of the Communist Party about comprenhensive planning for social welfare.

How can the Northern rivers be made to irrigate Southern fields? The project being worked on by Soviet scientists is the subject of an article.

An article about Latvian riflemen, Red Army volunteers who became famous in the struggle to establish a state ruled by workers and peasants.

COMING SOON

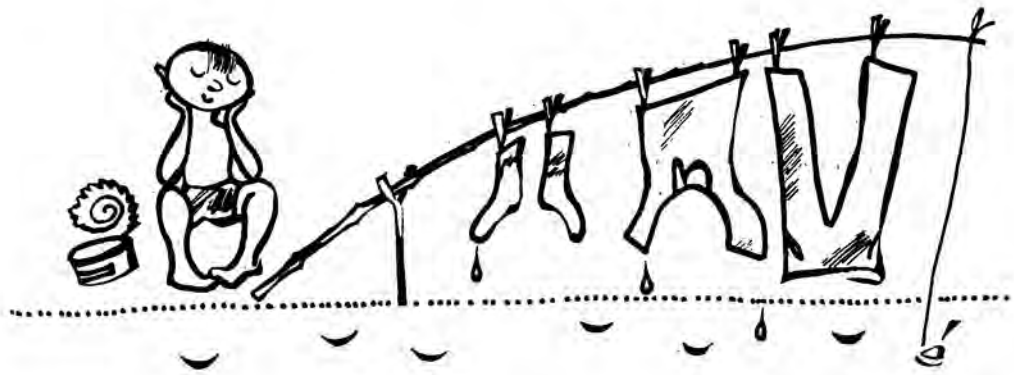
The USSR: Half a century of a close-knit family

CHILDREN'S CORNER

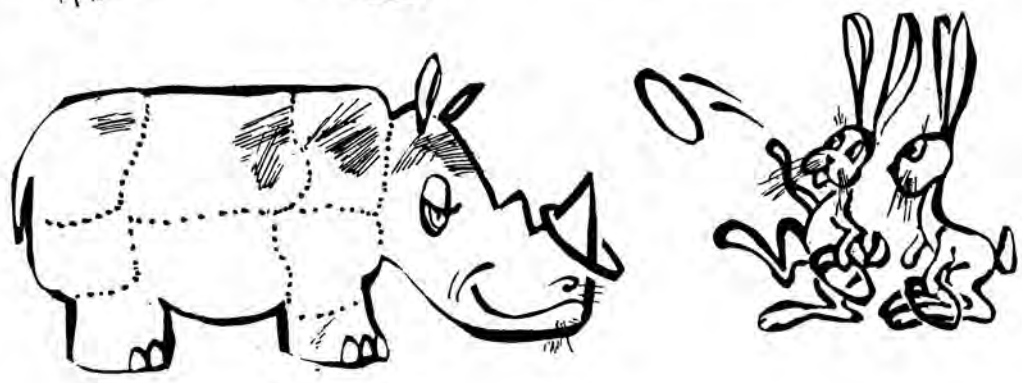
Foxes, Hares And Other Beasts

Drawings by Leonid Sergeyev









SOCCER FOR F

By Lyudmila Yenyutina
Photographs by Alexei Semyonov

THEIR GOAL was not to win Olympic laurels. They had the unusual idea of making friends in all countries through playing unofficial soccer games with rival teams. The point also was to hold most of the games off home grounds, especially since there were none at first for Match International, the name given to the eleven formed by the sponsors. "Soccer should promote friendship," team coach Nick Matavuli told the boys from four cities in Indiana—Portage, Elbert, Gary and La Porte—when they got together for the first time. And that became the team motto.

The Match International squad—16 lean, tanned fellows—arrived in Moscow with Matavuli and Constance Daley, mother of seven children, a keen soccer fan, and the team treasurer.

The first of the two scheduled games in the USSR took place in Zagorsk, a small town 40 miles northeast of Moscow and the site of a famous monastery, the Troitse-Sergieva Lavra. The boys from Indiana were invited there by young steelworkers, who filled all 6,000 seats of the mill's new stadium for an historic first in that locality—a USA-USSR soccer game.

The hosts did the scoring, but most of the spectators' cheers were for Match International.

"Are you disappointed?" I asked the touring players after the game.

"We didn't expect to win on the pitch, but it looks like we did in the stands," Matavuli replied. His Zagorsk opposite number, Pyotr Stupakov, agreed that it was not so much the game and the skills that mattered but this fine way of making friends.

The American visitors were invited to a banquet at the mill's restaurant. The Zagorsk young people were better at soccer than English, but in half an hour all language differences were swept away. "Hip, hip, hooray!" has the same ring to it in every language.

"The boys are really having a great time," said Connie.

"We're certainly overwhelmed by the wel-



Tickets for the USA-USSR matches were at a premium.



From the sidelines it's always easier to play a winning game.



The souvenir shop did a brisk business.



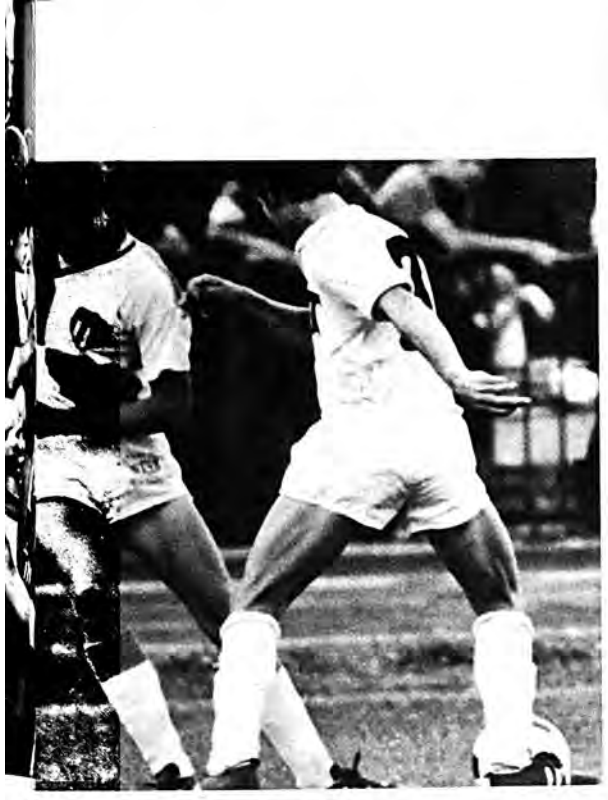
Joint display of colors.

American coach Nick Matavuli.





"We didn't expect to win on the pitch, but it looks like we did in the stands."
Nick Matavuli





Sightseeing at the Troitse-Sergieva Monastery in Zagorsk.

come here," Nick added.

A lively exchange of impressions continued in the bus all the way back to Moscow; no one would have guessed that the players had lost the game.

"Do any of you plan to turn professional?" I asked.

"No, no!"

The boys told me that they wanted to become doctors, sociologists, lawyers.

"Our guys need soccer only for physical fitness," Matavuli remarked. "Don't forget what our motto is."

The second game, with the junior reserves of Moscow Torpedo, a First Division club in the USSR League, also ended in defeat for the group from overseas. This was not surprising: the Torpedoes have been coached since they were kids of eight or nine.

"Don't let losing bother you; it happens to all beginners," Victor Balashov, the Torpedo team captain, comforted Match International. "You've started something wonderful by coming over to our country on a mission of friendship. As for soccer, just keep training hard, and you'll all hold your own no matter how strong the odds."

Matavuli wound up the dialogue: "Your boys were great sports. We know very well that they can tackle hard if they need to. The referees, too, couldn't have been fairer."

The week in Moscow passed quickly. The guests hiked around the big Lenin Stadium in the Luzhniki district, watched senior league matches there, went up the TV tower in Ostankino, saw the USSR Exhibition of Economic Achievements and enjoyed a circus performance.

Before they left, I asked the boys from Indiana whether they were convinced that soccer for friendship was a worthwhile endeavor.

The whole team yelled out "Yes! You bet!"

"Would you like to come to Moscow another time?"

"Of course," the captain answered for the whole squad.

I'm sure their new Moscow and Zagorsk friends will be happy to welcome them back.





The goalie obviously isn't happy about this chore.

RIENDSHIP

"Don't let losing bother you; it happens to all beginners."
Victor Balashov

The Torpedo Club players were weaned on soccer.





RUSSIA SO DIVERSE

By Olga Voronova
Art Critic

There are 16 autonomous republics in the Russian Federation. The Bashkirian, Buryat, Daghestan, Kabardinian-Balkar, Kalmyk, Karelian, Komi, Mari, Mordovian, North-Ossetian, Tatar, Tuva Udmurt, Chechen-Ingush, Chuvash and Yakut. In the area of the visual arts they are all very young, no older than the early years of our century. Their first artists were mostly Russians who, after their studies at the St. Petersburg Academy of Fine Arts, took their talents to the national areas, where they worked and also taught. It was they who opened to the indigenous peoples a whole world of pictorial art.

The fruits of their labors were displayed at the art exhibitions of the peoples of the USSR held in 1927 and 1928. Critics at that time noted the uniqueness of their media, motifs and styles. But most of the works displayed were by the Russian masters living in the republics. There were still very few national artists.

The picture is very different today, as testified by the Art Exhibition of the Autonomous Republics of the Russian Federation, held in 1971. The republics all have their national art unions, and their artists are known throughout the Soviet Union and beyond. Valerian Vasilyev and Afanasi Munkhalov, both of Yakutia, showed their work at the International Exhibition in Montreal, and the works of Solbon Rinchinov of Buryatia were on view in Britain.

Each of the republics has its own artistic profile. The creative stimulus for their swift and fruitful progress clearly was the native crafts. Pictorial traditions did not exist, but crafts were highly developed. The goldsmiths of Kubachi Village in Daghestan have been known for centuries for their fine ornaments notched on firearms. Gotsatl Village is famous for its slim-necked silver jugs, Untsukul Village for its wood inlaid with silver, Balkhar Village for its painted earthenware.

There is remarkable diversity in the work of craftsmen of the various nationalities. The Tuvinians carve figurines of oxen and fantastic dragons out of stone. The Komi appliqué white fur over black or golden-brown fur. The Yakuts decorate fur with beads. The Mordvinians and Mari embroider yellow, green, crimson and white linen with bright silk and woolen threads.

The development of each republic's pictorial art utilized as a jumpoff point its own original color combinations and linear patterns. For instance, the characteristic Yakut folk ornaments, which bring to mind the curly moss of the North, are to be found in the engravings made by the artists of that republic. The color combinations used in home weaving are now the color schemes of Mordvinian paintings. The artists prize the poetic folk roots and use them in different ways. Sometimes they reinterpret elements of the national pattern when they depict the characters of the legends. These tales gave Anatoli Pushkov of Mari the theme for his triptych *The Song,* in which the figures, garments and the emotional atmosphere spring from Mari folklore. The sense of his roots tempers the intellectual background, becomes as necessary to him as the sense of his own creative personality. He proceeds from an understanding of traditional naditional national esthetic principles to a cognition and expression of present reality.

The national artistic styles had complex evolutions. A case in point is Buryatia. The Buryat artists were influenced by the Russian painters, who taught them brushwork and composition, and by the native craftsmen who appliquéd on leather, cloth and velvet, ornamented articles of felt and did massive silverchasing somewhat reminiscent of the Scythian ornaments.

The first Buryat artists—Alexander Khangalov, Tsaredjan Sampilov and Roman Merdigeyev—were individuals of diverse tastes and talents. Khangalov painted landscapes, authentic, highly realistic, with the accent on the ethnographic aspect of the Buryat way of life. At the same time he had an almost folkloric naiveté and artlessness. His paintings, despite their precision of proportion and their careful brushwork—as well as the studied composition of the figures and objects—have a striking resemblance to primitive drawings.

Sampilov makes bolder and freer use of his observations of life. In his *Love in the Steppe,* the horseman and horsewoman are not only valiant and agile; they are also carefree and in love with each other. He brings out the gaiety in their outlook with the traditional five colors—deep blue, green, red, yellow and black-brown. The blue sky overhead is cloudless, the reaches of the steppe glow emerald-green, the garments of the boy and girl are bright-colored and the horses gleam like gold.

Merdigeyev's canvases are reminiscent of icons in their stylistically decorative form and color, in the fine gradation of the color scheme, in the filigree handling of the delicate detail.

Solbon Rinchinov paints contemporary pictures, choosing subjects bearing on *eternal themes.* His realistic style does show traces of the typical conventions of folk art: It is understated, highly decorative and generalized. At one and the same time it is of today but it is supported by the folk esthetics of the Buryat people.

Some of the autonomous republics have their own schools of art. There are the unique Komi sculptures and the Yakut school of graphic art. In painting, Bashkiria leads. The Bashkir artists incline toward a fusion of poetry and truth, a demonstration not of nature alone but of reality seen through the magic crystal of art. They try to synthesize the phenomena of life, to show the general through the particular.

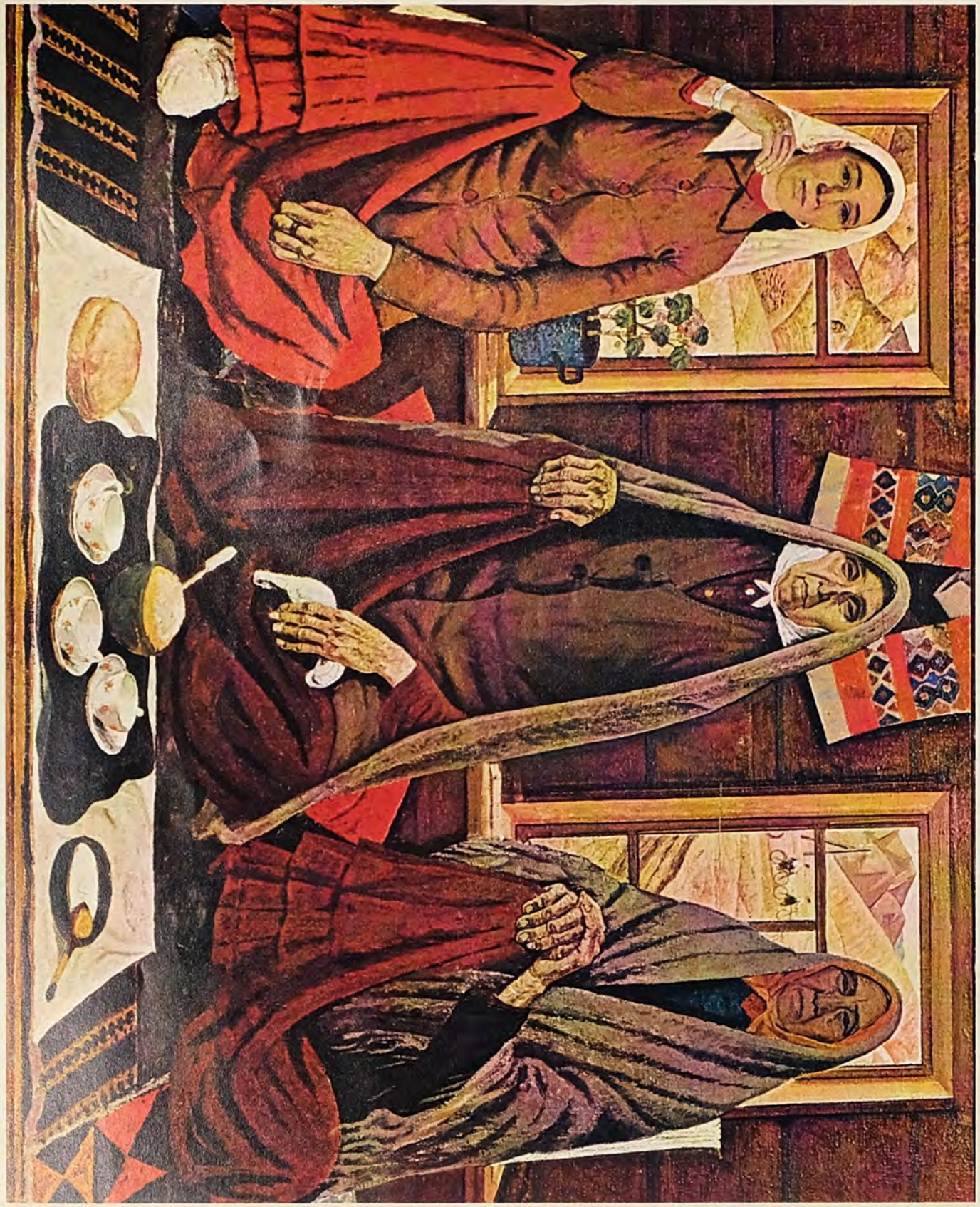
A typical example is Akhmat Lutfullin's *Three Women.* It has its source in breadth of thought and capacity for generalization. The peculiarities of the face, arms and posture of each woman help to build a unified image of the Bashkir village woman. Lutfullin does not idealize. He paints with almost documentary accuracy, yet his work seems to be lit from within: The beauty of the people's spirit, their ethical purity finds warm expression.

Special note should be made of the Bashkir landscape. Reality and fantasy intertwine; the present and the future intermingle in running rhythms and harmonious colors. Characteristic of Alexander Burzyantsev is his acute sense of the dynamic, his ability to heighten emotion; his interesting use of foreshortening. Pavel Salmasov's paintings draw the spectator's attention away from petty details and show how beautiful life is on Earth.

Alexander Panteleyev seems to place the cold logic of his observation up against the emotionalism of Salmasov and Burzyantsev. But beneath the terseness and austerity of his forms lies an inner force, a surging power. Panteleyev tries to avoid the already discovered and studied world of the plastic. At the same time, he has no use for formalism as an end in itself. His industrial landscapes are perceived almost as an incarnation of the labor of the future. The absence

Continued on page 62

Three Women
by Akhmat Lutfullin,
Bashkirian Autonomous Republic.



Love in the Steppe
by Tsaredjan Sampilov,
Buryat Autonomous Republic.

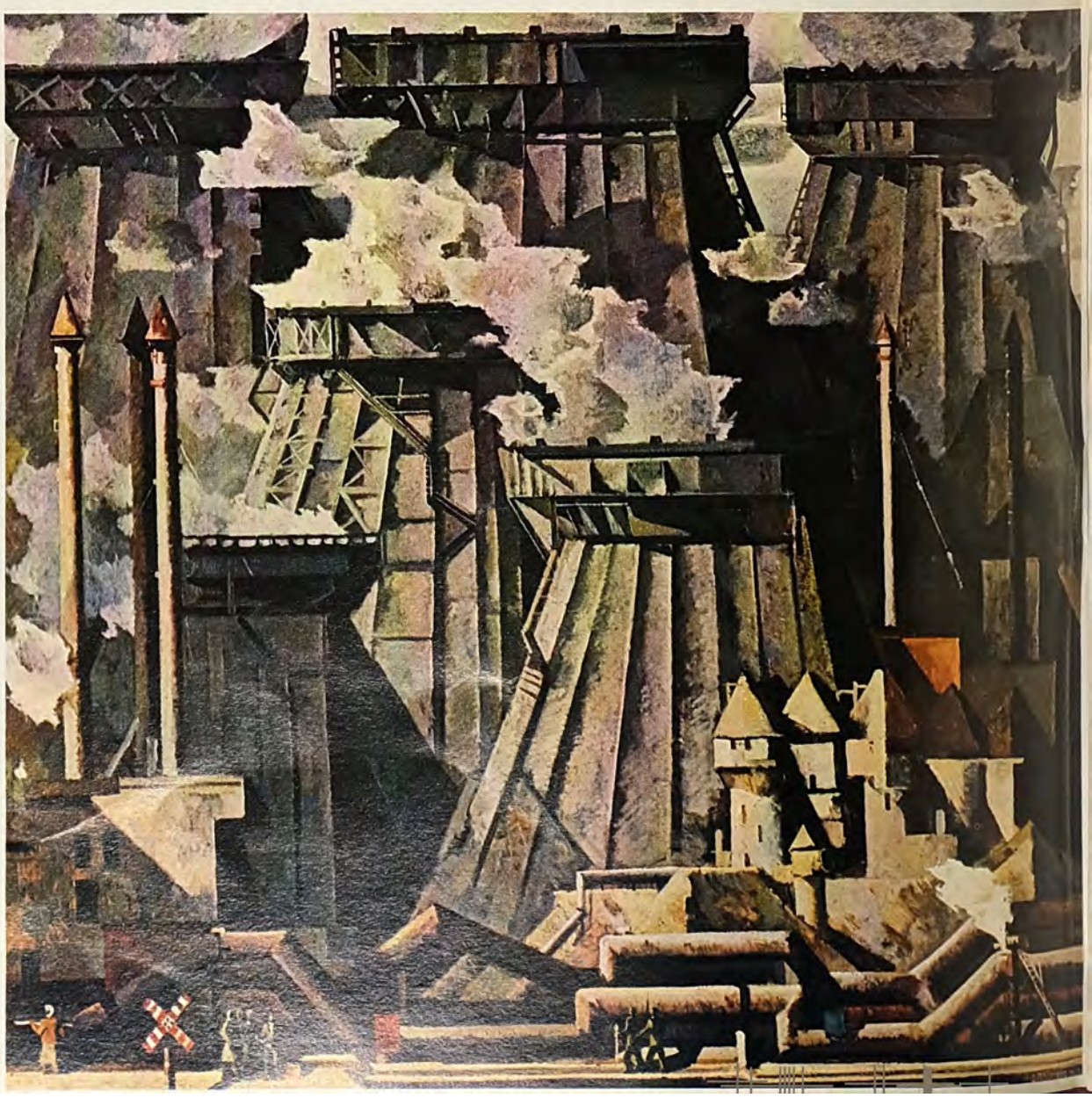




Family Portrait
by Elbrus Sakkeyev,
North Ossetian Autonomous Republic.

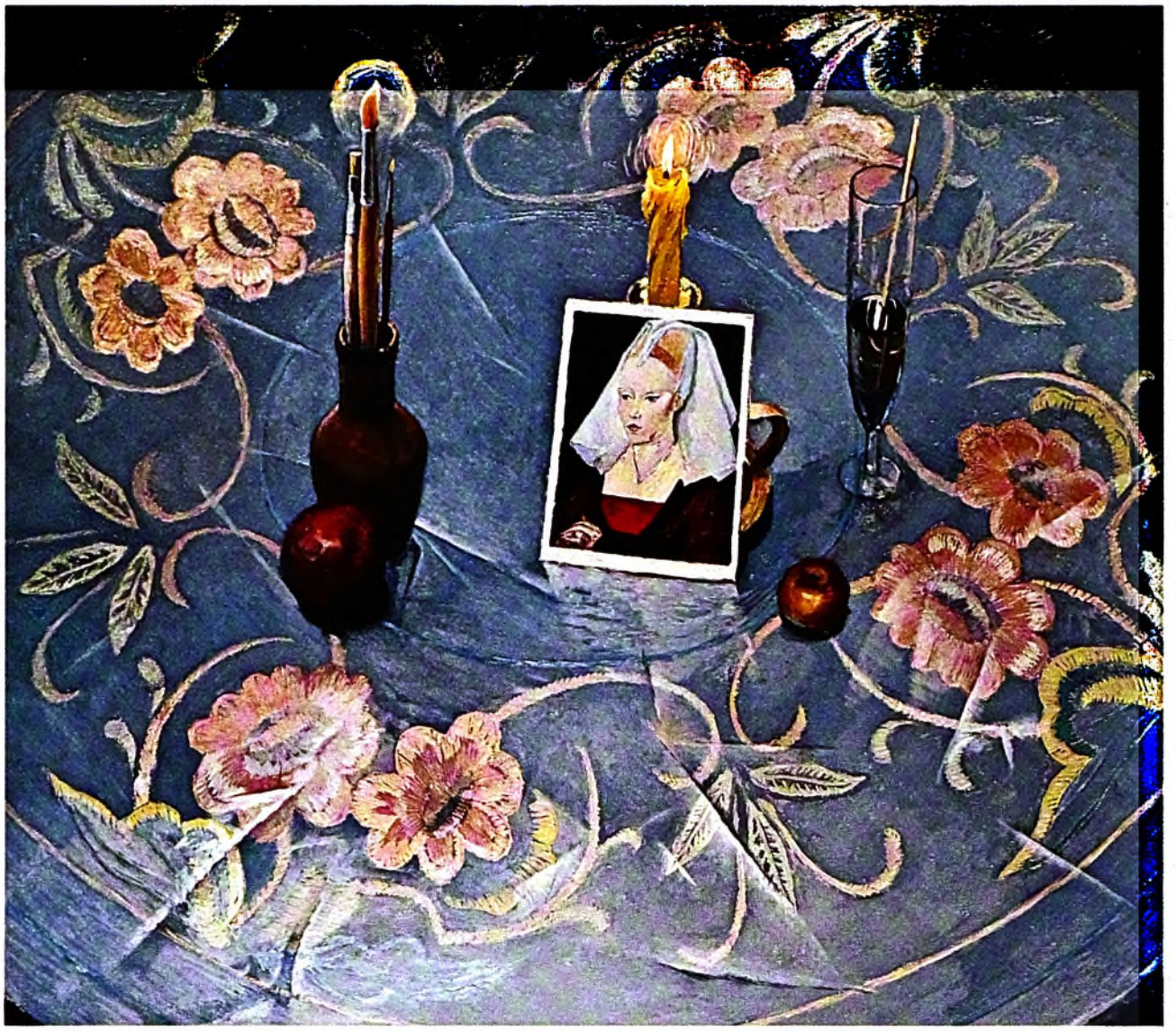
Landscape
by Sulo Yuntunen,
Karelian Autonomous Republic.



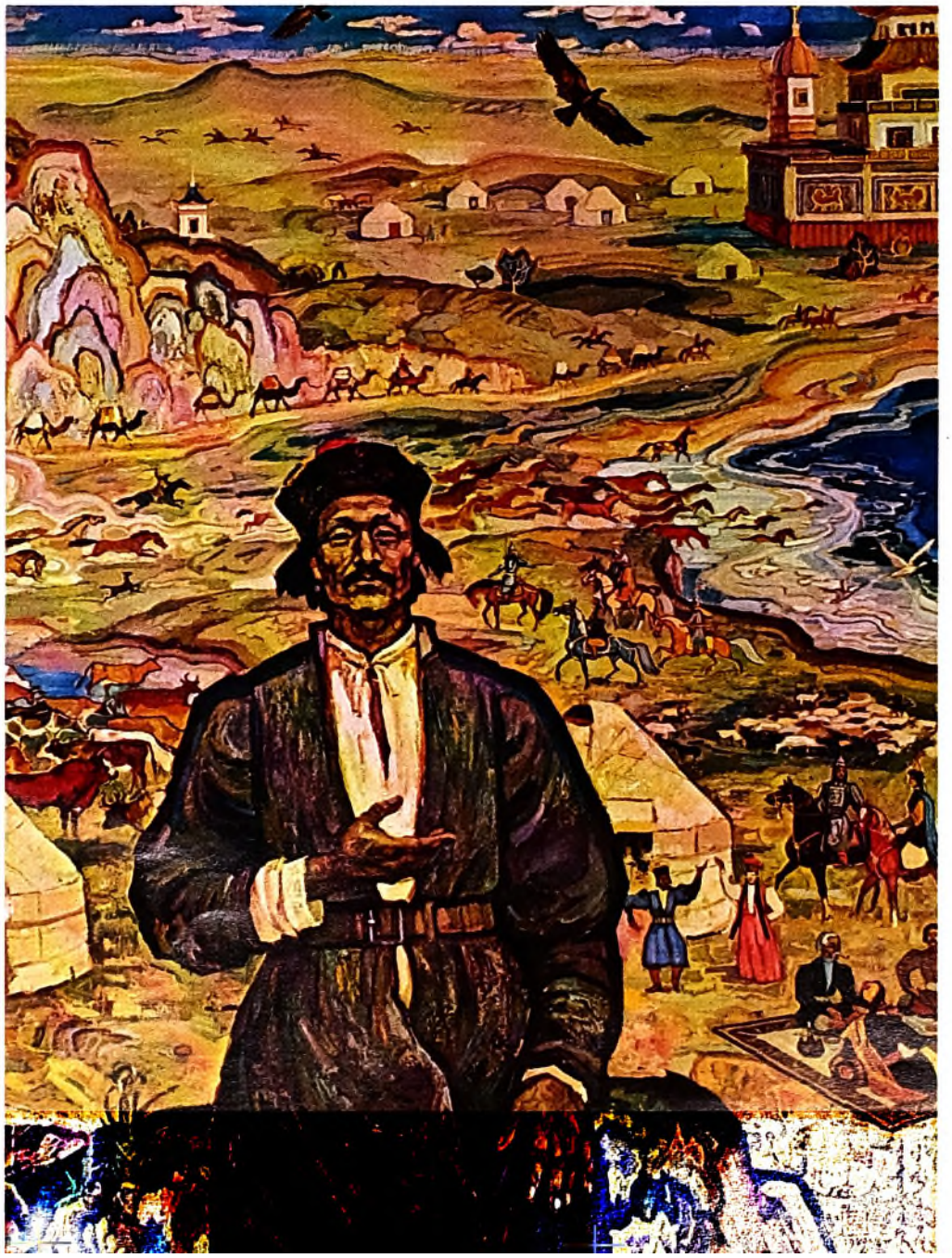


Thermoelectric Station in Ufa
by Alexander Panteleyev,
Bashkirian Autonomous Republic.

Happy New Year, Van der Weyden
by Folke Nieminen,
Karelian Autonomous Republic.



RUSSIA SO DIVERSE



Jangarchi Ovla Elyayev
by Harry Rokchinsky,



***Builders,** part of the triptych **Gray Vilyui** by Afanasi Osipov, Yakut Autonomous Republic.*



***The Song,** part of a triptych by Anatoli Pushkov, Mari Autonomous Republic.*

RUSSIA SO DIVERSE

Continued from page 58

of detail and the subtlety of line create the impression of sterile purity, whereas the clear-cut patterns of the constructions and splashes of bright color tend to show the finished precision of work completed, the harmony between intellectual and physical effort.

Lyrics and epics, poetry and history, a romantic and strictly realistic depiction of the world are present in the Bashkir paintings. They give us the artist at his highest emotional pitch.

"The spiritual makeup of every people, is unique and this makes for the uniqueness of national art," wrote Martiros Saryan. What he said is true, and yet it should not be forgotten that after the October Revolution, the autonomous republics traveled a more or less similar historical path for the past 50 years, that they have ties in the unity of their way of life and their world outlook. We are not surprised, therefore, to find that these artists living in different parts of the country sometimes turn to similar themes.

Their pictures tell us of the Soviet Union of today, the new cities and villages (*First Snow* by Oleg Tsirkin of Udmurtia), the people growing grain, working in factories and mines (*The Miner* by Nikolai Yefimenko of Kabardino-Balkaria). They are moving toward artistic generalizations—reflections upon man, time and the world. The artists of the autonomous republic touch the past, present and future all at the same time. Their purposeful direction is seen in Afanasi Osipov's triptych *Gray Vilyui* (Yakutia). His scale is sweeping, ranging from the rock drawings of primitive artists to the construction of a present-day hydroelectric power station. The central part of his triptych, *Builders*, is the key to the general idea: man's energy, linking the past with the present.

Reflections upon the human condition constitute the leitmotif of many artists. Their genre paintings, portraits, allegorical compositions and even poetic still lifes *(Happy New Year, Van der Weyden!* by Folke Nieminen of Karelia) all show this. Characteristic, too, is the painting by another Karelian, Sulo Yuntunen, who has had a one-man show in Finland and Norway. His landscapes, even when they are without human beings, evoke man as eloquently as they do nature. In the paintings bright-roofed houses have sprung up on the rocky banks of a river. On the icy waters the loaded barges move: One more district of the grim North is settled. The artist's message here is clearly man's harmonious fusion with his natural surroundings.

Yuntunen paints in a laconic, sharply graphic manner. His landscapes are not mere reflections of Karelia but speak of a desire to fathom the essence of his land. The painter is not seeking themes. "Painting should be simplified," he says. "One should paint what really exists, reject the clutter of petty details, which divert attention from the main thing."

I quote Yuntunen because his statement applies to the work of many painters of the autonomous republics, who are reproducing the reality of life in its most important and essential manifestations.



PACIFIC GATEWAY TO THE SOVIET UNION

The Terminus of the Northern Sea Route

Photographs by Lev Nosov and Boris Ushmaikin





Samples for the Institute of Marine Biology. Left: The Pacific Fleet Historical Museum. Right: One of Vladivostok's main streets.



A LIVING FROM THE OCEAN

By Yuri Zhukov

On June 20, 1860, a Russian supply ship exploring the coast of the Pacific Ocean cast anchor in a deep, quiet harbor. The captain looked around and said:

"Hats off to this splendor!"

That was the beginning of Vladivostok.

Located at the crossroads of the world's big sea lanes, the city grew fast. It became Russia's largest Pacific port when the Trans-Siberian Railroad was built, linking the Primorye Territory with the central districts of the country. Vladivostok boomed after the October 1917 Revolution. It is now a large and modern city with a population of more than 400,000.

This fall Vladivostok celebrates the fiftieth anniversary of the end of the Civil War. On October 25, 1922, revolutionary soldiers and partisans entered a city swept clean of foreign interventionists and White Guards. Two weeks later, the last foreign warship left the roadstead.

Main Square

Vladivostok lies on the 43rd parallel, as do Bucharest, Belgrade, Florence, Marseilles and Bilbao in Europe, Boston in the USA, and the Black Sea spa of Sukhumi in the Soviet Union.

In Vladivostok August, September and October are the golden season months when grapes ripen and people, bronzed by the sun, bathe in the surf that ripples over the sandy shores.

December, January and February are typhoon and snowstorm months. But the people of Vladivostok take the weather in their stride; they are used to it. It can change several times a day. A mist will blow in from the ocean or creep down from the hills nearby. There could be an endless and tiresome drizzle that turns to snow. But in between the sky will be as dazzlingly blue and the sun will shine as brightly as in the south.

Golden Horn Bay curves sharply and is protected from the storms of the Sea of Japan by two capes—Egersheld and Churkin, and two islands—Russki and Skreplev. The bay has a double ring of wharves and railroad tracks. On one side ships ride at anchor, and on the other 10- and 12-story houses run up the steep hillside.

Dry-cargo ships, floating docks, crabbers, refrigerators, rescue ships, banana carriers, tugboats. A forest of metal masts framed by double-lift derricks. A lace pattern of ropes, wires, portal cranes, flags and pendants. This is the scene from all sides, for the port is the main square of Vladivostok, and radiating from it are the streets connecting the residential blocks with the ocean.

From aboard ship and from the quay, the houses of Vladivostok loom like skyscrapers.

One has to mount to Tiger or Eagle Hill to see its buildings are not so tall. Certainly there are no apartment houses more than 16 stories high. But each street is 35 or 50 feet higher than the one below it, for the city spreads over the hillsides. This natural geography once slowed down the growth of the place because the city lay along the narrow strip of shore. But now the hills are an embellishment. Young men in hardhats cut more and more terraces with their air hammers and excavators and raise Vladivostok higher and higher.

In the not too distant past Vladivostok was said to be at the ends of the earth. Before the Revolution, newspapers took two weeks to arrive from Moscow and St. Petersburg. Now the nationally circulated dailies are read there and in Moscow on the same day. Thanks to the Molniya 1 communications sputnik, the people of Vladivostok see the same broadcasts of the Central TV Studio as the residents of the European part of the country.

Men and the Ocean

Vladivostok is the capital of the richest fishing district in the Soviet Union. Forty per cent of the country's catch of fish and sea food comes from this area. It is also the base for the whaling, crabbing and seal-trapping flotillas. Half the men in town wear navy uniforms or, at least, seamen's officer caps.

Vladivostok lives off the port and the port off the oceans—the Pacific, the Indian and the Arctic. Ships of the Far Eastern Steamship Company can be found in the Persian Gulf and near Kerguelen Islands not far from the Antarctic mainland, in the port of Pevek on the coast of the Arctic Ocean and in Bombay, Vancouver and Valparaiso.

In April 1880 three steamships entered the Golden Horn—the *Moscow*, the *Novgorod* and the *Petersburg*. They launched the first regular line from Vladivostok along the Far Eastern coast of Russia. At present the Far Eastern Steamship Line is the largest in the Soviet Union, numbering 239 dry-cargo ships, 17 passenger boats and six icebreakers; it has countless tugboats, docks and barges. In tonnage—1,473,000—it holds third place and yields the palm only to the Black Sea oil-tanker line.

It should be added here that, in addition to the Far Eastern Steamship Line, Vladivostok is also the home of three Dalryba fishing fleets, an oil-tanker fleet and three Academy of Sciences flotillas.

"Our steamship line," says Valentin Bayanki, chief of the Far Eastern Steamship Line, "is big business. It has nine ports, hundreds of ships, 50,000 men working on shore and 16,000 on board ship. We build our own houses and maintain nurseries, kindergartens, Young Pioneer camps, stadiums, swimming pools and vacation hotels. We also train our own personnel at vocational training, nautical and higher nautical schools. We service a line 5,000 miles long, from Posyet, on the boundary of the Korean People's Democratic Republic, to Pevek in the Arctic. In 1970, we carried three-fourths of all the freight turnover in the Far East. Only 26.6 per cent of our ships sail coastal waters, the rest make export and import deliveries."

The Vladivostok port is the sixth largest in the USSR. In the last five-year-plan period its freight turnover increased by 45 per cent. In the first year of the new, Ninth Five-Year-Plan period, the dockers handled 130,000 tons of cargo over and above the plan.

"And that isn't our limit," says Vladimir Safronov, chief of the port. "In the eighth period we got 107 new ships, and in the ninth we will be getting 80 more. But the freight turnover will rise by 33 per cent. To begin with, tonnage will go up and our ships will have greater capacities. Then, turnaround will decrease. The Ninth Five-Year Plan schedules 20 per cent growth in deliveries along the coast and a 60 per cent rise in income. Reasonable goals. As a matter of fact, we are meeting them already."

A walk around the docks and you begin to understand what Vladimir Safronov means when he says, "Seventy-five per cent of our loading operations are mechanized." There are very few people around—one man high up in a crane cabin and a second on a power truck. Two others are scaffold workers. You can walk about for hours, passing pier after pier, and see the same scene. No noise, no fuss. Precision and efficiency. In short, a modern port.

I asked the men how they were able to handle so much cargo.

"No problem. We have the latest machinery and a high level of training," says team leader Sergei Poddubny. "All our dockers are secondary school graduates."

The dockers' team consists of 10 to 14 men. Each of them can work as crane operator, power-truck driver or scaffold worker. It all depends on where the team leader stations them, and he is interested in one thing only—that the job be done fast and that each man does about the same amount of work.

"It's hard work, of course," says Vladimir Zvyagintsev, another docker. "But it's got to be done. We're paid well. Four years ago the port put the new economic reforms into effect, and our pay went up by 15 to 20 per cent. Now we get 300 rubles a month. But the pay isn't the only thing that keeps us here. If a man doesn't like his job, no amount of money will hold him. Almost all of us are studying."

The people of Vladivostok have many schools: eight institutes, a university and 12 specialized secondary schools. Some 6,000 students graduate annually, and they immediately get jobs on ships, in the repair yards, on construction sites and in new mines in the taiga.

The People of Vladivostok

My cab driver turned out to be a very sociable man. Doing 75 miles an hour, he talked about Vladivostok as only a man very much in love with his city can.

Identification next to the meter said that he was Stanislav Borovkov. He could not have been more than 25.

"Are you from around here?" I asked.

"No, I'm from Leningrad. After graduation I got a job hacking. Then, when I was doing my army service out here on the Pacific, I got to like the place, got married and settled down."

"Don't you feel like going home?"

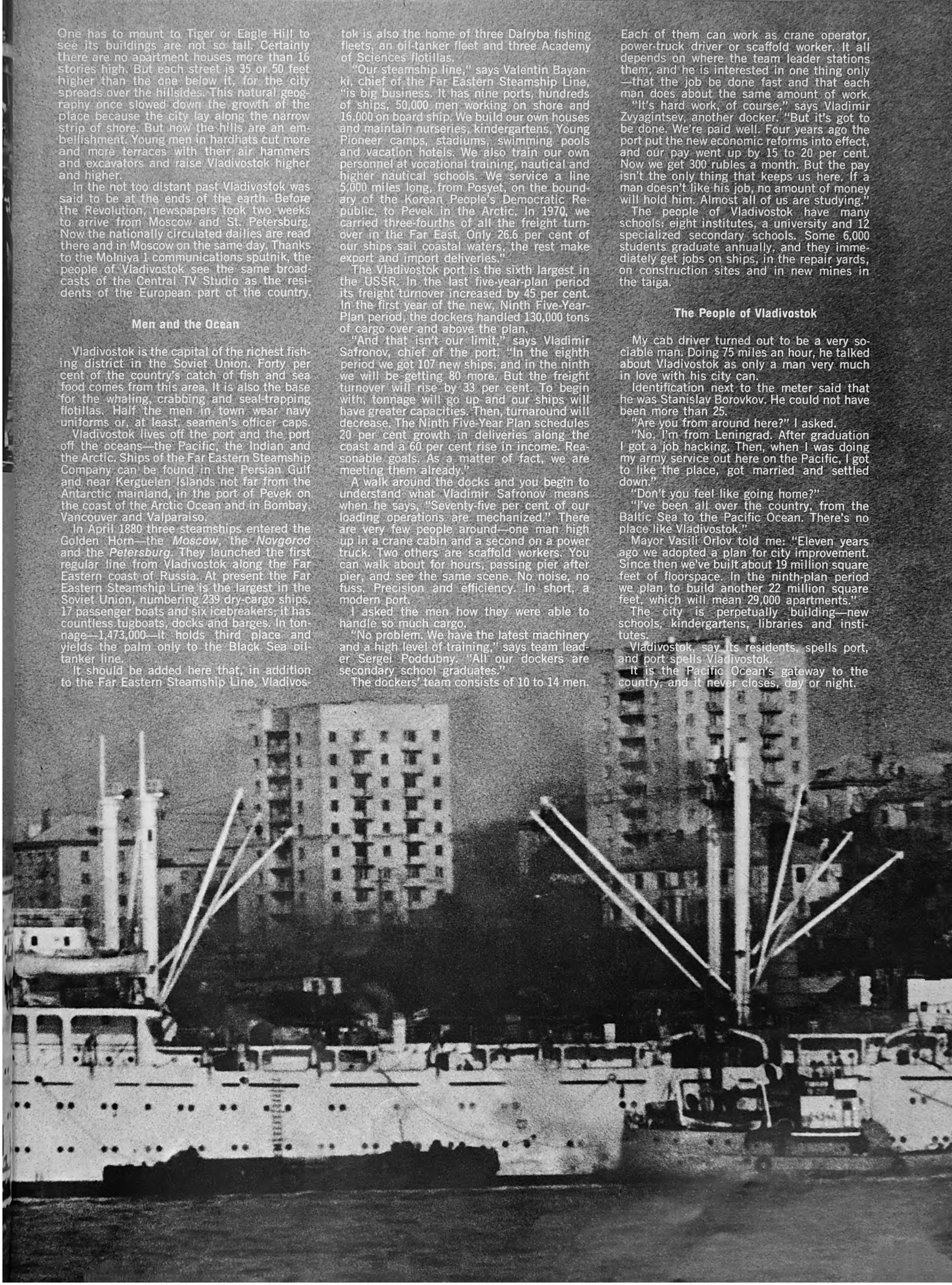
"I've been all over the country, from the Baltic Sea to the Pacific Ocean. There's no place like Vladivostok."

Mayor Vasili Orlov told me: "Eleven years ago we adopted a plan for city improvement. Since then we've built about 19 million square feet of floorspace. In the ninth-plan period we plan to build another 22 million square feet, which will mean 29,000 apartments."

The city is perpetually building—new schools, kindergartens, libraries and institutes.

Vladivostok, say its residents, spells port, and port spells Vladivostok.

It is the Pacific Ocean's gateway to the country, and it never closes, day or night.



Vladivostok's Monument
to the Heroes of the Civil War.

OCT 19 1972

SOVIET LIFE

THE SOVIET WORKING CLASS

BALTIC REPUBLICS

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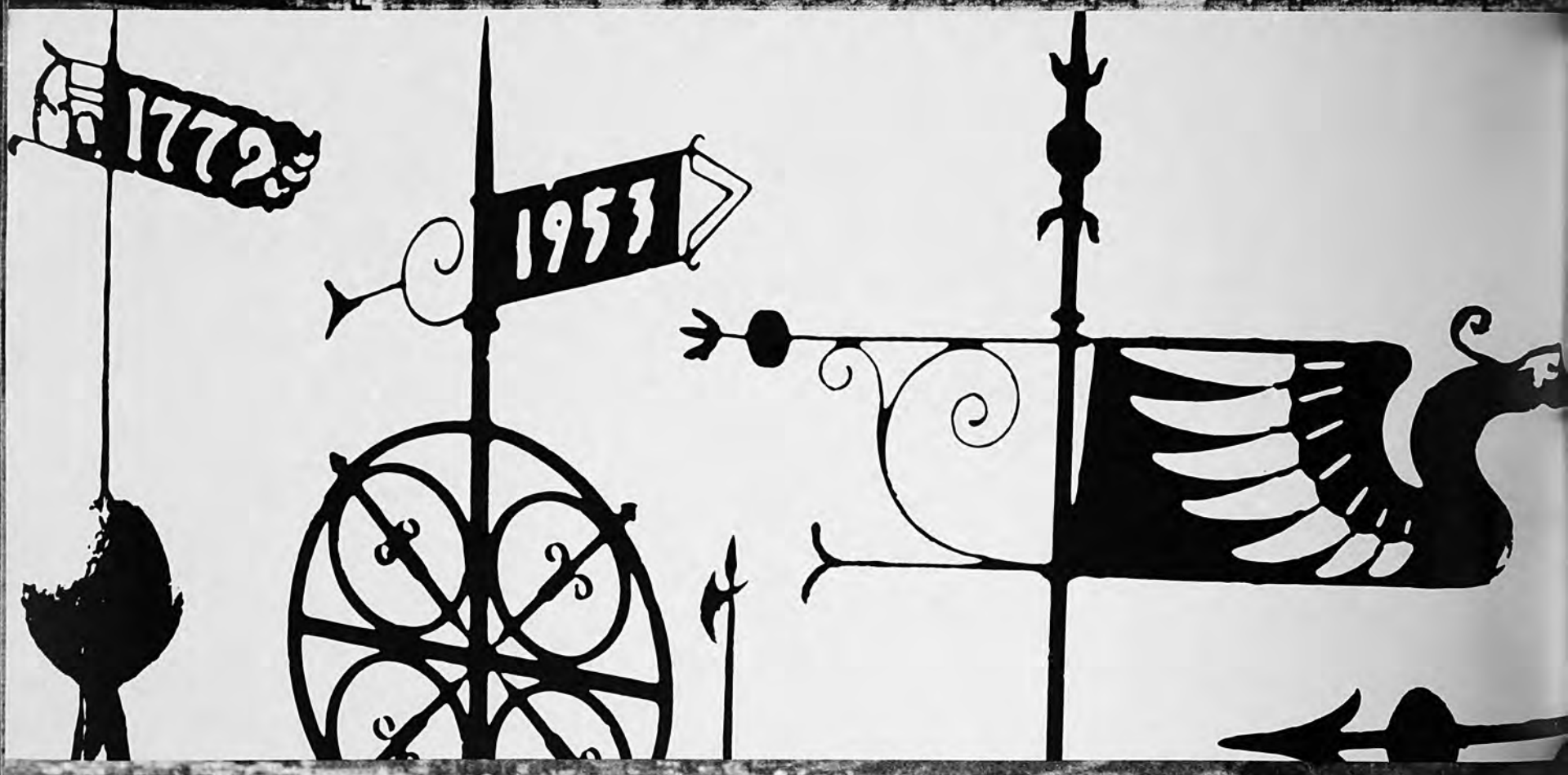
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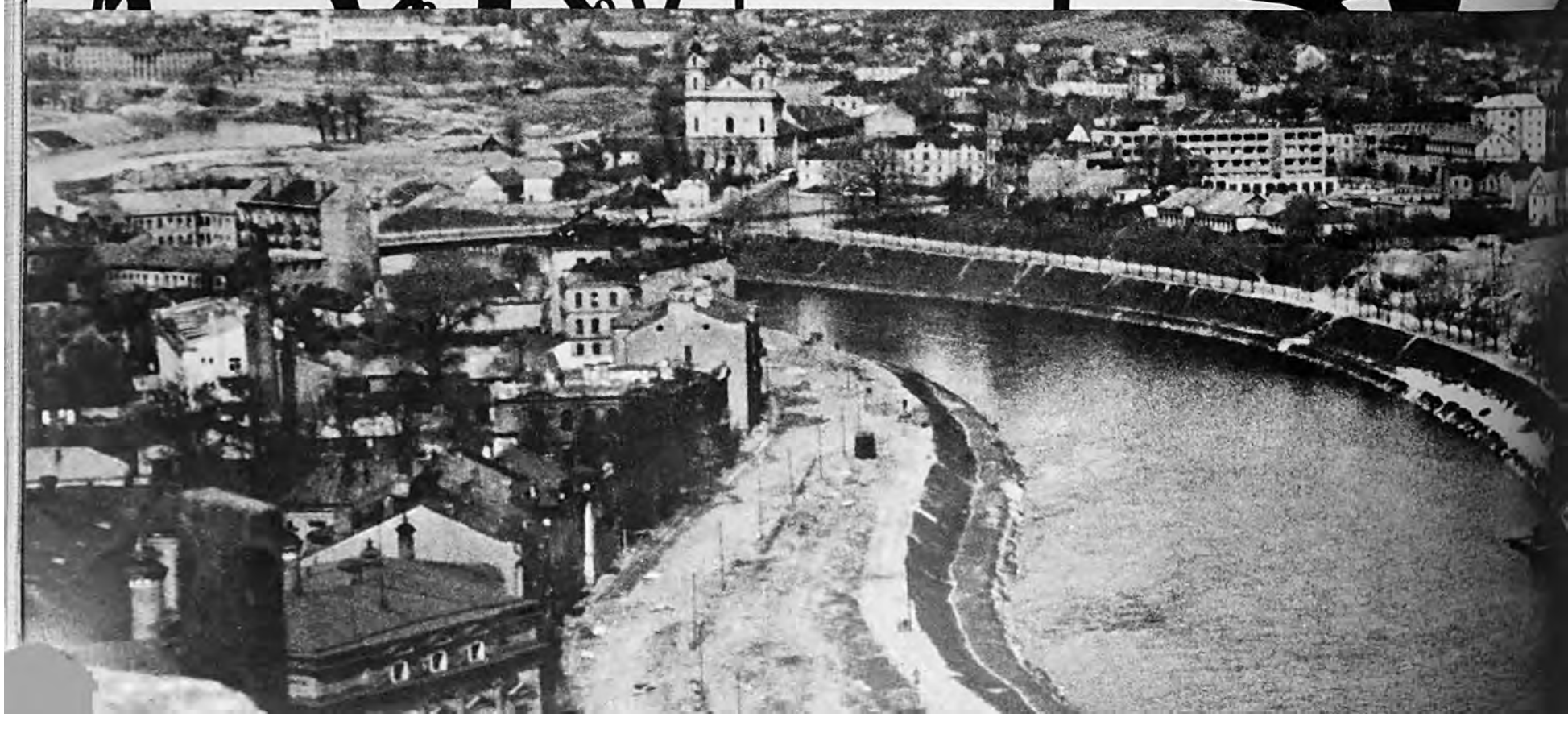


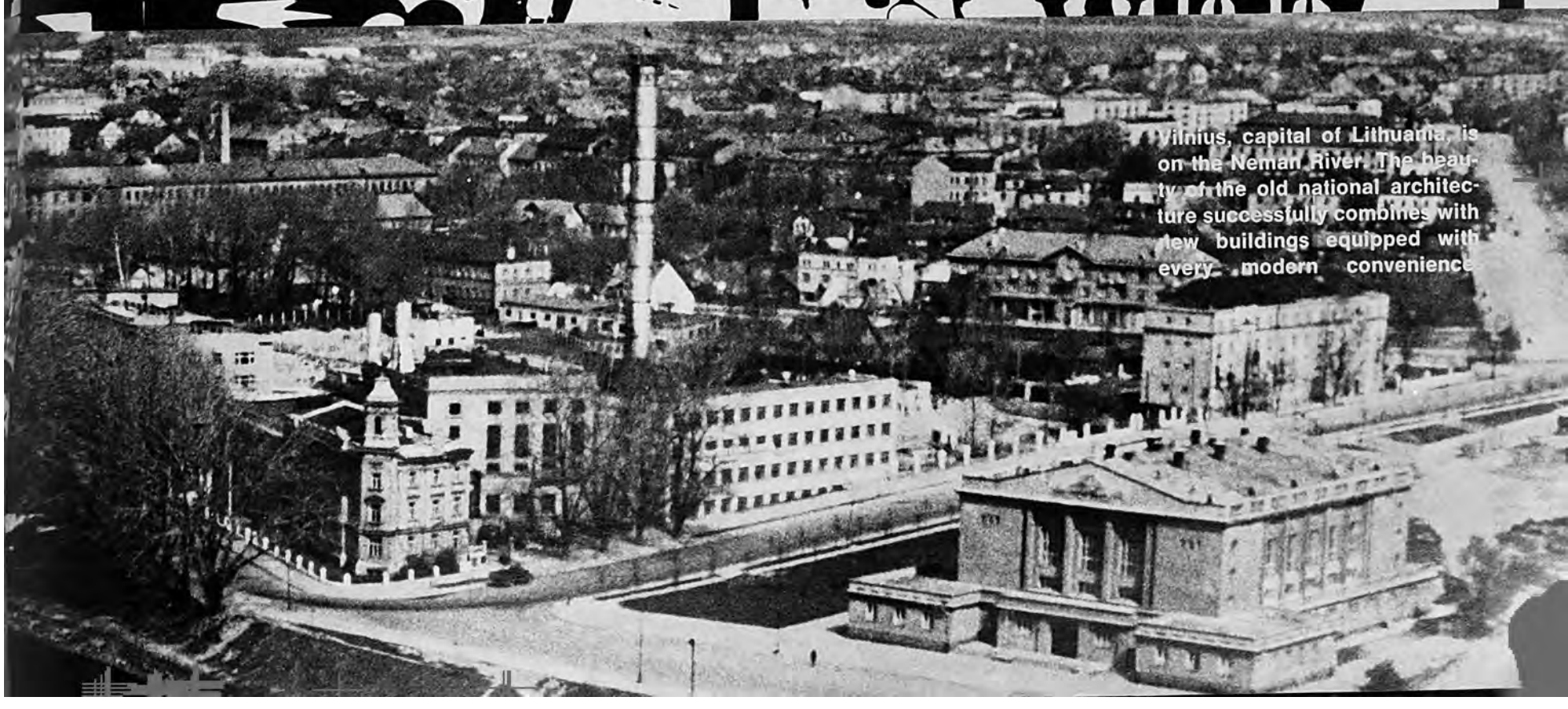
The Baltic Republics



Riga, on the Daugava River. The capital of Latvia is one of the most picturesque cities in the Soviet Union.



Tallinn, the capital of Estonia. The central city, with its medieval Gothic architecture and ancient weather vanes, has been preserved with loving care by the Estonian people.



Vilnius, capital of Lithuania, is on the Neman River. The beauty of the old national architecture successfully combines with new buildings equipped with every modern convenience.

NOVEMBER 1972, No. 11(194)

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Front Cover: Young Pioneers gather in Moscow's Red Square to celebrate the fiftieth anniversary of their organization. See story on p. 4
Photograph by *Boris Kavashkin*

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LETTERS TO THE EDITOR

The following letter was addressed to one of our earlier correspondents, with a copy to SOVIET LIFE.

Mr. Paul M. Mancini
Director
Cranston High School East
A Cappella Choir
Cranston, Rhode Island

Dear Mr. Mancini:

In the July issue of SOVIET LIFE I read with interest your letter telling of the tour the Cranston Choir will be taking to the USSR next February. In September, 1971, I spent my two weeks' vacation (from my duties as a faculty secretary at Sangamon State University) touring Moscow, Leningrad, Warsaw and Prague, and thus I know what a wonderful experience you can anticipate.

Leningrad and Moscow are so beautiful — and CLEAN — the descriptions I read in SOVIET LIFE prior to my trip about the cleanliness of the cities—and the beauty and efficiency of their subway system, proved to be correct.

The people are quietly friendly in assisting a confused tourist—and I found the language no barrier even though I knew only the Russian word for "thank you"—I found an open spirit and a smile are excellent avenues of communication. In Leningrad I was fortunate to have a conversation with a retired gentleman who spoke excellent self-taught English and who escorted me through the Russian Art Museum which I would not otherwise have seen.

A new awareness and appreciation for the suffering and loss sustained by the people of the USSR at the hands of Hitler is also developed as one sees everywhere the monuments commemorating the many historic battles which turned the tide against fascism.

I hope your students follow your advice and subscribe to SOVIET LIFE because it will give them some insight as to what to expect. Due to reading SOVIET LIFE and other material in advance of my trip, I was the best informed person in my tour group.

As you state in your letter, there is so much we don't know about each other and we have so many misconceptions, that people-to-people contact between the two countries is vitally important. Since returning and telling friends about my experiences, more than one has said "That's not what we have been led to believe"—so hearing a personal account from someone who has been there can do much to dispel erroneous conceptions.

Mrs. Adalin B. Malinoff
Springfield, Illinois

EDITOR'S NOTES

PROGRESS: MATERIAL AND SPIRITUAL

MANY Western sociologists take a dim view of mankind's future. They see the possibility for social progress wiped out by the growing preoccupation with the acquisition of possessions they see all around them. Their pessimism is reinforced by "facts taken from today's reality."

But the reality of public circumstances often appears immutable simply because these circumstances are assumed to be the only existing ones. Yet we know that most phenomena exist and can be understood only in a specific social context.

Let's take human desires. The old woman in Pushkin's famous tale about the goldfish proved that her desires would never end, not even when she possessed the palace of a king. As punishment for her greed, the old woman was left no better off after her lucky encounter than before.

Science fiction writer Robert Sheckley has a rather realistic story about a family that buys on credit. One firm after another offers novelties "that the neighbors already have." So the debts grow, and they will have to be paid by the children and grandchildren. Robert Sheckley presents the problem as though it were inevitable for all time and every place, denying the consumer the will and ability to determine his or her own future.

Today we are able to round out the concept of Western "consumer society" with specific details. What the monopolies say in trying to drum up a market for their products, to make people think that the ultimate in living is to be able to consume more and more goods, is one thing. The views of the people who constitute this potential market are quite another.

The preoccupation with consumption is often an attempt to compensate for the dreariness of an unsatisfactory job. The desire to be is replaced by the desire to own. It is a desperate attempt to seem the master of one's own destiny, if only in the consumer field, precisely because the reality is denied in the main spheres of bourgeois society.

The facts point not only to a "captivation of minds" but also to a rebellion against consumer psychology. Young intellectuals and students in the West are protesting against becoming cogs in the state-monopoly mechanism. There is a growing struggle taking place over the amount and method of distribution of the means of social and spiritual development.

It goes without saying that the need for things (and money) still retain their elementary significance. It is the unrestrained growth of these requirements that spawns the cynical "cash-down" psychology. But John Kenneth Galbraith makes a good point with the paradox of the money motive. In the present situation, with the rise in the level of wages, their importance drops compared to other incentives. This means we have to speak of the role of the "money motive," discarding its pathological, self-contained form.

As for the conventional content of this interest, what we observe is a new "iceberg," since its most important part is below the surface. Its hidden mass is increasingly being formed by culture, and concealed beneath its top are multifaceted desires, the innate drive toward self-expression, the accumulation of spiritual values, if, of course, this is encouraged by the socioeconomic conditions of society.

Socialist society creates these conditions. It is the perfect medium for developing the human personality. The entire experience of socialist construction irrefutably proves that human desires do not simply grow quantitatively but improve qualitatively, shifting to predominantly cultural values. When Soviet sociologists say that there is no limit to human desires, they mean there is no limit to the perfection of man and the ennoblement of the pattern of his requirements.

A simplistic extrapolation of the existing phenomena of bourgeois society features all the negative aspects of the present industrial system of capitalism as though they were absolutes.

The narrowness of social programs in the West is determined by the narrowness and limited nature of the levers at the state's disposal. Public ownership of the means of production is a prerequisite for systematically planning production and social processes, as well.

A program that ensures the comprehensive development of the economy and provides for social progress, too, maintaining strict proportions between the branches producing goods for the two spheres, is possible only in a socialist state, where the means of production are publicly owned.

An advantage of this system is readily recognized in the way the development of sociospiritual and cultural values has been promoted in the Soviet Union. One of the basic conditions was the introduction of universal secondary education and the encouragement to combine work with study. Bonuses are being offered at Soviet enterprises for successfully finishing a night high school, for defending a graduation thesis, for completing training courses to upgrade skills.

Another problem that disturbs Western scientists is the disastrous effect of industrialization on the ecology.

There was a time when the Luddites in Britain smashed machines. In their fury against their tormentors, they attacked the dumb instruments of torment, thinking that they were settling accounts with the source of the evil. The proletarian, then in the embryonic stage, was, of course, wrong. At the same time, this historical mistake had its own inner logic. The machine in the period of industrialization, on becoming an instrument of economic exploitation, enslaved the people who worked them. While the machine freed man from arduous physical and partially from manual labor, it simultaneously deprived labor of its human content. While the machine owed its very existence to human talents, it began to reject and suppress these talents as superfluous. The result was the spiritual exhaustion of the worker caused by extreme simplification of technological functions that are of a monotonous, uniform nature and are strictly regulated.

Modern technology can transform the nature of production activities, leaving the monotonous, repetitious tasks to the machine and assigning the decision making to the worker. It is capable of freeing humans from ossified technological functions and already mastered methods of labor and thinking. People will cease to be a part of the technical pattern, an end will be put to their cruel symbiosis with machinery. The possibilities for mass intellectual activities are expanding. The technological changes that are taking place in our day could give man back his creative potential and forge a unity of the practical and cognitive aspects of labor.

This trend is already clearly defined in Soviet society, where the advantages of the socialist system combine with the scientific and technological revolution, where the distinctions between manual and intellectual work are being eliminated. Sociologists have established the origin of a new sociovocational pattern in which the skilled worker, engineer and scientist become the central figure in production. Instead of the traditional division of labor, there is a distribution of activity connected with the level of education, the nature of the work and the forms of participation in the management of socialist production.

Creative aspirations will not remain in the "cradle" of professional interest. Through the scientific knowledge and information that flows to each separate workbench, by acquiring diverse data necessary for the job, the worker becomes closely associated with different spheres of production and public life and directly participates in it.

A special section in this issue is dedicated to Soviet workers, people who create material values but do not have the narrow materialist approach to life.

YOUNG PIONEER DAY

RED SQUARE, crowded with children in the national costumes of our republics (see cover), is a panorama of kaleidoscopic colors and patterns. And of varied types: flaxen-haired Latvians, Lithuanians and Estonians; swarthy dark-haired Yakuts; blue-eyed freckled Northerners; slim black-eyed youngsters from the Caucasus. And all of them wear a red triangular tie.

The occasion is the fiftieth anniversary of the Young Pioneer organization. There are 25 million Young Pioneers. Since Red Square won't hold them all, the children sent their worthiest representatives to the capital.

They were honored not only for their fine work in school, but for their work outside as well. They created new gardens and parks, collected medicinal herbs, improved towns and villages, protected animals and birds, and they also earned money to build a pioneer palace in Anadyr (a present from the children of all the republics to those in Chukotka). Young Pioneers also tracked down the names of unknown soldiers who had fallen in the battles of World War II.

They talked about all these things at their rally, which was not merely a parade, but a review of Young Pioneer accomplishments, a living exchange of experience. Does the word "experience" sound a little overblown? Not for these 7- to 14-year-olds. That is why they were given the Kremlin Palace of Congresses—where the Twenty-fourth Congress of the Communist Party had been held a year earlier—for their rally.

The older generation sees the future in these youngsters, it also sees the past. Almost every grownup was a Young Pioneer in his time. When the bugles solemnly heralded the opening of the rally, the hearts of the grownups beat faster as well. They recalled their own rallies, the drums and banners of their teams, the trips they took, the songs around the campfires. They also remembered childhood friends—those who are now fathers of families and those who fell in the battles of World War II.

Reminiscences of the past bring thoughts of the future. Addressing the children gathered in the Palace of Congresses, Nikolai Podgorny, President of the Presidium of the USSR Supreme Soviet, said that the Young Pioneers must prepare themselves now to solve the problems they would be facing in 10 to 15 years. He told the gathering what the state had recently been doing for children, how some of the money earned by participants in the countrywide Communist subbotnik *(volunteer day) had been allocated to build Young Pioneer camps, children's stadiums, clubs and other facilities.*

Then he pinned the Order of Lenin to the banner of the Young Pioneer organization.

Each generation of Young Pioneers has its own work. In the twenties the youngsters helped in the struggle against poverty and illiteracy. In the forties, the war years, they worked in the rear, often replacing their fathers at the lathe or in the field. Today the Young Pioneers live under different conditions. They can study in peace, relax, go in for sports, develop their talents. But the present also makes its demands. School programs are more complex and take more independent thinking. And children now mature earlier. The motto of the Young Pioneers, "Always Ready!" never loses its force.



This is an excerpt from the speech made by Leonid Brezhnev, General Secretary of the Central Committee of the Communist Party of the Soviet Union, at the Fifteenth Congress of the Trade Unions of the USSR.

ON THE ROLE OF THE WORKING CLASS

I SHOULD LIKE to dwell now on the part the working class plays in the development of Soviet society.

The Soviet working class of today differs not only from the prerevolutionary proletariat but also from the working class of the 1930s, when socialism triumphed in the USSR.

Its role as the leading sociopolitical and economic force of society has grown. It is now the largest class in our country. In the years of Soviet rule the working class has grown by six times to a total of 65 million people; more than two-thirds of this number are industrial workers. The level of their education and industrial skill has risen immeasurably. Suffice it to say that since 1939 the number of workers with a full secondary education—both specialized and general—has grown by more than 30 times. The working class now plays a tremendous role not only in industry but also in farm production. The number of workers employed in the agrarian sector of our economy totals nine million. This number will grow in the future as the nature of agricultural work comes increasingly to approximate industrial work.

The advanced worker of today is a man equipped with knowledge, a man of culture, who has a conscientious and creative attitude toward his work, who feels himself the master of production; a man who is responsible for everything that takes place in our society. Such a worker is a politically active person, he is intolerant of acts of irresponsibility, of a sloppy attitude toward work, of any shortcomings in the organization of the production process. He is the irreconcilable enemy of all manifestations of philistinism, of all survivals of the past in the consciousness and behavior of people.

The ideals of the party, the ideals of communism have become for such a worker the essence of his entire outlook. They are at the root of all his actions, his attitude toward people and his whole life.

It is very important to instill these qualities in the younger generation of our working class. The school, the Young Communist League and the trade unions must organize their work in such a way that every young man and woman will be aware of the role and the grandeur of the man of labor, the historical mission of the working class, and will want to join its glorious ranks.

At the present stage of communist construction the alliance of the working class, collective farmers and the working intellectuals of our country is assuming ever greater importance. The working class, which plays, and will continue to play, the leading role in building a communist society, remains the cementing force of this great alliance. It is on this basis that the ideological, political and social consolidation of Soviet society, and the drawing closer together of all the nations and nationalities of our country are taking place.

One of the guiding principles of our life is proletarian internationalism, which is inseparable from the position of the working class in our society.

The working class of our country has always regarded the cause for which it is fighting as part of the international struggle of the proletariat of all countries. From the very beginning the working class has acted as an international force. To honor the principles of internationalism, to do its lofty duty by its own people and the working people of the world, as history has elected it to do, the working class of our country has made many sacrifices, performed great feats of heroism and displayed firmness of spirit and will.

The Soviet working class has rendered universally recognized services to the world revolutionary movement. It is true that in the class struggle in the world arena—the fight against imperialism and the struggle for the freedom of nations and for socialism—its role is different from that of the working class of capitalist countries. Nevertheless, its role in this struggle is great, for it is with the hands, brains and energy of the working class, of all working men and women of the Soviet Union and other socialist countries, that the economic might and defense potential of socialism, which play the primary role in the consolidation of peace and in the struggle for the social progress of mankind, have been created.

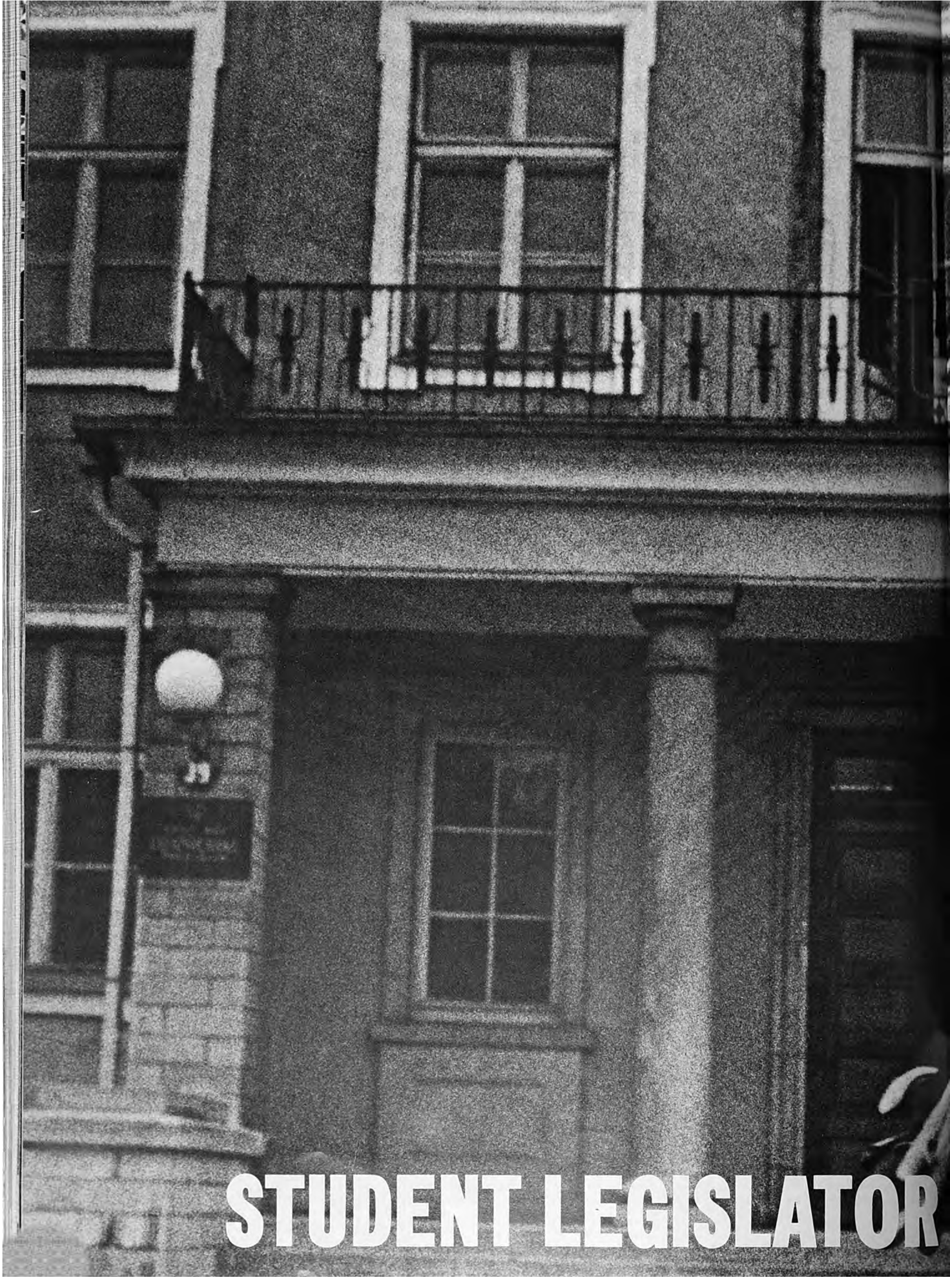
The force of example, which socialism provides, has always played an important role in the development of the international working-class movement. There is no denying the fact that the achievements of the Soviet Union in social welfare and protection of the rights of the working people have become an inspiring example for workers in other countries, and in their class struggle against exploitation and capitalist oppression.

At the present stage, the force of our example in the sphere of production and scientific and technical progress has assumed special importance, and in this the Soviet working class, together with our scientists and engineers, is called upon to play the foremost role, for it works in conditions of an advanced and mature socialist society and is engaged in creating the material and technical base of communism. It is understandable why the Soviet working class is held up as an example to the world of what the workingman can achieve under socialism, and of what possibilities the socialist system has. This is a mark of honor; it is also a great historical responsibility.

Thus, on the productive, political and social activity of the Soviet workers and of the working class of other socialist countries largely depend the might of the "worldwide great army of labor" and the speed at which it forges ahead toward socialism.

The ranks of the international working class—the most advanced revolutionary class of our time—and its role as the main productive and sociopolitical force in the world will continue to grow. Despite fashionable anti-Marxist theories which hold that the scientific and technological revolution limits the scope of activities of the working class and will eventually lead to its liquidation, facts speak to the contrary: Scientific and technical progress everywhere leads to the growth of the working class for, among other things, it creates new occupations.

Our party attaches great significance to the international ties between trade unions, especially since this involves direct participation of the Soviet people in the world working-class movement, in the strengthening of cohesion and businesslike cooperation among the working people of the socialist countries and in their struggle for peace and social progress.


STUDENT LEGISLATOR



By Georgi Dashkevich
Correspondent,
Novosti Press Agency

Photographs by
Alfred Gilenberg, Boris Kaufman,
and Samuel Migdal

NOT EVERYONE is elected a member of parliament at the age of 21. Nevertheless, one could hardly call the choice of Estonian student Mikhail Klement as deputy for his election district unusual in the Soviet Union.

Mikhail, the youngest of the 183 deputies in the Estonian Supreme Soviet (they were elected in June 1971), represents one of the districts in Tallinn, the republic's capital. He was nominated by his fellow students at the Tallinn Polytechnic Institute.

For such a short life Mikhail's has had its complications and turning points. At 17 he graduated from a Tallinn high school with a talent for mathematics that won him a silver medal. Off he went to Leningrad, where he entered the Shipbuilding Institute, but he was there for only one term—the profession of shipbuilder lost its appeal. Neither Mikhail's fellow students nor the dean—not even the rector—could persuade the gifted young man to stay on.

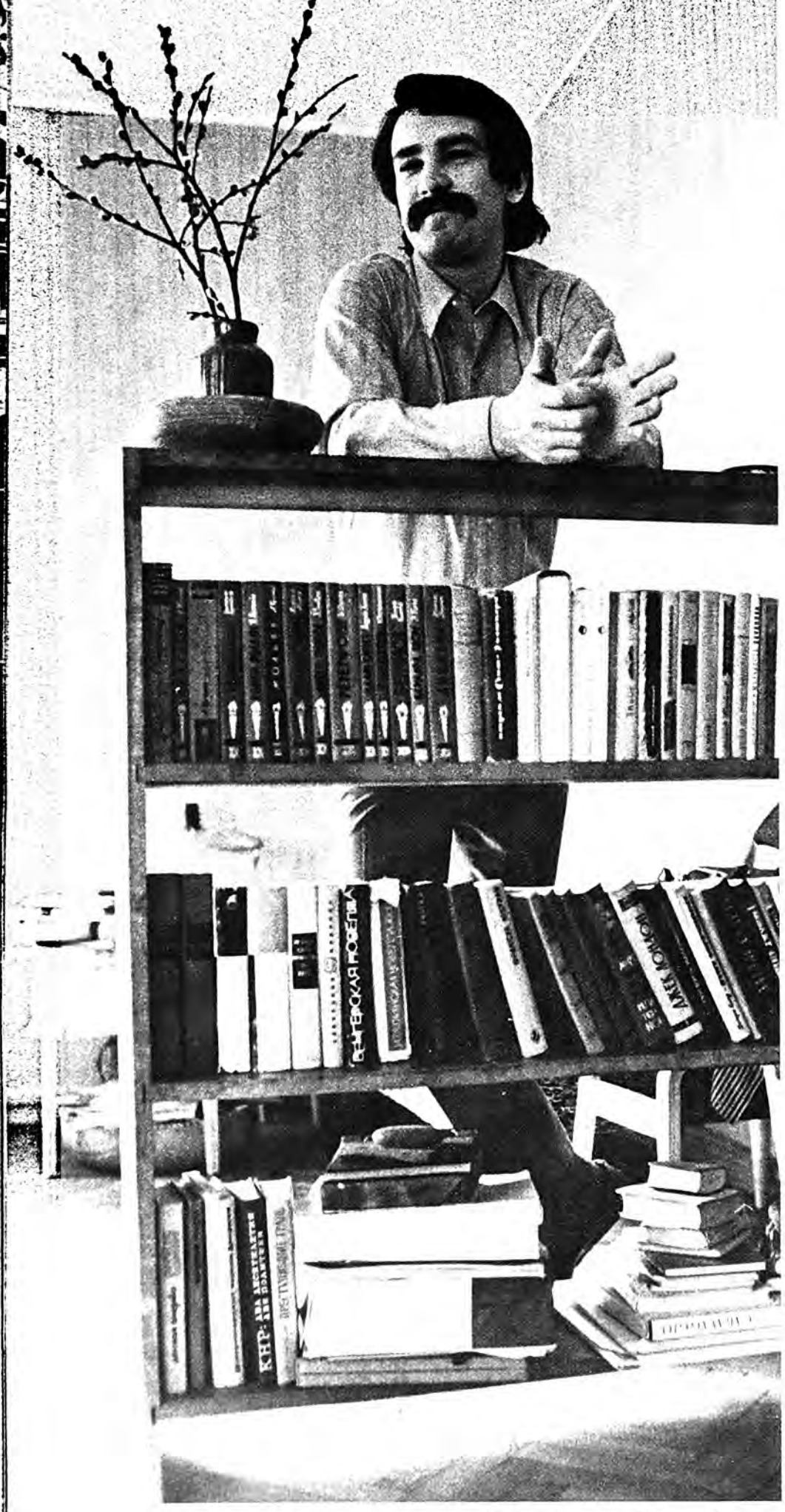
He went back to Tallinn and for a year and a half worked as a mechanic in the repair shops of the Tallinn airport. Then he passed the entrance examinations and was admitted to the Tallinn Polytechnic Institute, the largest higher educational institution of Estonia, with 6,000 full-time students. Mikhail was headed for civil engineering.

"I don't regret my choice," he says, "though I felt a certain ambivalence when I left my Leningrad friends and instructors. But this is really where I belong."

He was active in the Student Scientific Society from his freshman year at the Tallinn Polytechnic Institute. In his second year he wrote a very interesting theoretical paper on mathematics titled "On the Calculation of Certain Sums." Now he is in his fourth year and has won a Lenin scholarship, the country's highest award to a student for academic achievement and contribution to community life. He has earned the respect and admiration of both students and faculty.

Mikhail showed his organizing talent in the summer of his freshman year, when he was elected foreman of a student building team. He visited the site of some upcoming construction (it was in the small Estonian township of Rakvere) and worked up a contract there with the local authorities.

When the team got to work, there were all sorts of bottlenecks, for which the local authorities were to blame. The students lost a lot of time and worried about getting the job done by the promised date. But Mikhail managed somehow or other to get the local managers moving, and the construction—a pumphouse and hot-water pipeline—were completed in two months, as scheduled.



Mikhail Klement, 22-year-old student from Tallinn, is the youngest of 183 deputies in the Estonian Supreme Soviet, the republic's parliament. He is held in high esteem by his fellow students for his intelligence, seriousness, enthusiasm and concern for people. That's why they voted for him.

When the students returned to Tallinn, a thank-you letter arrived from the Rakvere people with a warm invitation to come again the next summer.

Later Mikhail applied the Rakvere experience to student-team organization throughout Estonia. His suggestions helped this voluntary movement take on broader scope in the republic. The same thing is happening in the country generally. He is still much involved in the movement as a member of the Standing Committee for Youth Affairs of the Estonian Supreme Soviet.

These standing committees were set up only a few years ago and are still in the experimental stage. They provide deputies like Mikhail with plenty of room for initiative and resourcefulness.

"The state is interested in this student-team movement for both practical and educational reasons," says Mikhail. "The future specialist gets very good practical training. That is why the Committee for Youth Affairs of our Supreme Soviet is so interested. We work through various state agencies to get the young people the tools and building materials they need. We also see to it that they enjoy the relaxation and entertainment that should be part of camp life. And, no small consideration, the movement gives the student an opportunity to earn some money. Each member of a building team earns in the neighborhood of 400 rubles during the summer vacation. Those who work on Siberian projects have earned as much as 700.

"Our committee is now considering ways of getting students to improve their native cities. It seems to us it doesn't always make sense to travel elsewhere when there is more than enough to do at home. The idea was first tried out at our institute. When our students offered to help the City Soviet make improvements in Tallinn, the authorities were glad to accept the offer. Now the Committee for Youth Affairs has decided to implement the idea on an all-republic scale."

Like any other deputy, Mikhail Klement receives his voters on certain days of the month. His constituency is in Mustamyae, a new district in Tallinn. Some 2500 of the 8,000 voters are students. It is understandable that many of Mikhail's activities, both on the standing committee and in his election district, are tied in with students' needs, their work and recreation. Sometimes he even has to help them solve their personal problems.

There was the case of a girl and boy, first-year students, who came to see their deputy. They wanted to get married, but the girl's parents were against it—they thought their daughter was too young. They felt she should finish her studies at the

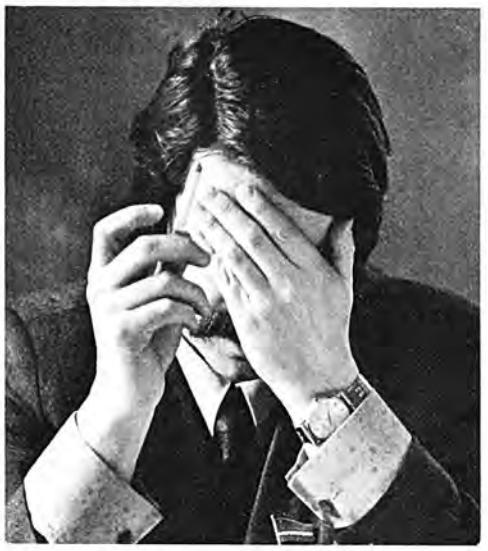


Elected by students, the young deputy represents their interests.



Naturally, Mikhail is responsive to students' needs. He knows that the best way to get ideas about how to serve them is to spend time rapping with them whenever he can. He is a sincere friend and always accessible, indispensable characteristics for carrying out the duties of his office.

It's not easy to combine public office, community activity, studies, recreation. Sometimes he gets tired. Center: He greets a YCL leader just arrived at the institute and offers his help. Bottom: Back in Mustamyae election district, an older constituent has come for some advice.









Mikhail and his fiancée think there's no place in the world more romantic for a walk than the streets of old Tallinn. Mikhail recently helped two young people in love convince their parents that marriage would act as a stabilizing influence rather than an interference with their studies.

Spare time is a luxury so he has learned to make every minute count.



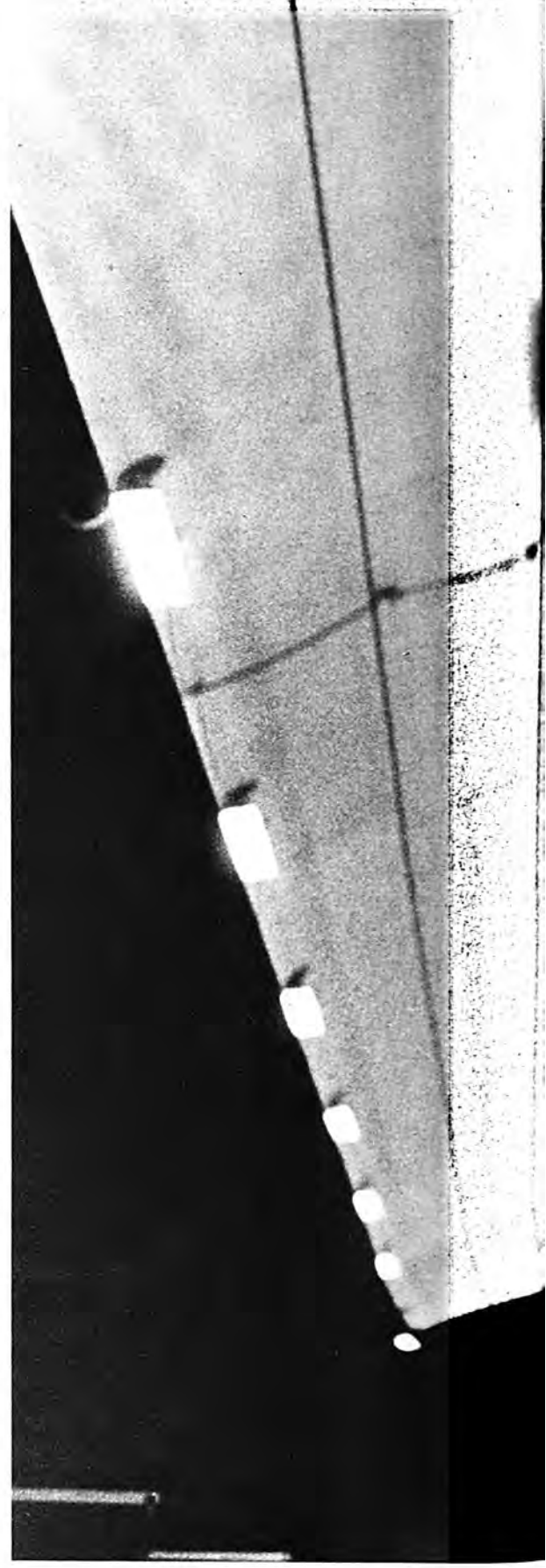












After lunching in the institute dining room, he usually has a meeting. Right, top to bottom: A conference leaders of the Student Council invited him to attend; at home, gathering his thoughts before beginning the day's work; at a café in Tallinn where young people like to gather; the Standing Commitee for Youth Affairs of the Supreme Soviet; in the classroom, just like other students.

Basketball is Mikhail's favorite sport. He finds he functions better in his many roles after he has had a good workout. Right: The Young Communist League Committee at the institute often asks their Supreme Soviet Deputy to give its members the benefit of his experience in solving particularly complicated problems that come up occasionally. No matter how busy he is, he never refuses to help.







institute first. In her anxiety the mother even appealed to the dean's office.

It may seem strange that the young lovers turned to their deputy for help in such a personal matter; they knew, however, that he wasn't just a deputy but a student like themselves who would understand their problem. Mikhail persuaded the girl's mother that the marriage would not interfere with her daughter's studies.

In this case his status as deputy to the Supreme Soviet was incidental, he simply proved himself a persuasive diplomat. But in the majority of cases he can use his legislator's power.

Not so long ago, for instance, students at the institute held an international student friendship week. They were expecting guests from other republics and from abroad, but the organizational committee of the festival had money problems. They went to Mikhail, he went to the institute administration and to the Ministry of Higher Education of Estonia, and he got the money.

Another example. Not far from the institute is an old castle. It is being rebuilt into a student club. The rooms will be turned into studios, a concert hall, a café and a dance hall.

A good deal of the work is being done by the students themselves, but they never could have managed without the help of the state building and architectural agencies. Mikhail got the artists, architects and engineers in these various agencies to take an interest in the project, and the new club will be opening its doors soon.

Obviously deputy Mikhail Klement doesn't speak only for the voters of his particular election district. At the sessions of the Standing Committee for Youth Affairs he frequently speaks on behalf of all the students at the six higher educational institutions of the republic, 20,000 of them. "It's quite a responsibility," says Mikhail, "and I don't have enough experience yet. But I hope to remedy that in my remaining two and a half years." (Elections to the Supreme Soviets of the union republics are held every four years). "This winter I'm going to visit the other institutes in Estonia so I can get to know their problems better."

The everyday duties of a deputy keep him busy. The faculty of the institute goes along, allowing Mikhail his own school schedule. He isn't required to attend all his lectures, and he has his own examination plan, which the dean has approved.

Mikhail manages to find time for hobbies—studying English, listening to music and playing basketball. He even spends an evening now and then with friends at a Tallinn café.

Wings Across The Atlantic

By Vladimir Samorukov
DEPUTY CHIEF, CENTRAL DEPARTMENT OF INTERNATIONAL AIR COMMUNICATIONS

SPEED is the symbol of our age. It is speed that gives aviation the lead over all other types of transport, and that advantage is most evident on long-distance routes.

The total length of air routes served by Aeroflot, the largest airline in the world, is 373,000 miles, international routes accounting for 93,000.

Convenient air roads connect Europe with Southeast Asia and the Far East. Transatlantic routes run from Moscow to Havana, Santiago, Montreal and New York. On July 25, 1972, the fifth year of operation of the Moscow—New York run began.

A Bit of History

In 1927 American flier Charles Lindbergh made the first flight across the Atlantic. It took 30 hours.

Ten years later Soviet pilot Valeri Chkalov flew across the North Pole to America.

Three decades passed. On July 15, 1968, the Soviet jetliner Il-62 opened regular air communication between the USSR and the USA when it landed at Kennedy International Airport.

This event was preceded by the signing of intergovernmental agreements under which Aeroflot and Pan American World Airways began bilateral operation of the





Jeanne Feldmeier (left) and Lydia Shapovalov are stewardesses on the Pan American New York—Moscow—New York route. Top: Fred Borns and Vasili Tonushkin, captains of the Pan American Boeing 707 and the Aeroflot Ilyushin-62, respectively.

Aeroflot, the world's largest airline, links more than 3500 cities and towns in the So

Soviet-American transatlantic air route.

Today, intercontinental air travel in the comfortable salon of a modern airliner is quite commonplace, evidenced, for example, in the rapid and steady growth of Moscow—New York transatlantic flight. Some 16,000 passengers enjoyed the comforts of this route in 1969, 20,000 in 1970 and 23,000 in 1971, with Aeroflot carrying 10,000, 12,000 and 15,800 respectively. American citizens —tourists, diplomats, industrialists, businessmen, scientists and artists—made up 40 to 45 per cent of the passengers.

Transatlantic Flying Today

In the four years of the Moscow—New York air run, the commercial cooperation of Aeroflot and Pan American has been greatly extended. Pan American sells tickets not only for the transatlantic run but for all other international and domestic Aeroflot flights. Aeroflot operates the same service for Pan American on Soviet territory. That means that passengers, before they begin their trip and in their own country, can buy tickets for any tours and reserve a flight on the air routes operated by each partner.

Aeroflot has established close commercial cooperation with many other airlines in the United States (TWA, Alaska Airlines, United Airlines, Delta Airlines, Trans-Caribbean Airlines) and with tourist agencies (Russian Adventure Tours, Travel and Study, American Travel Abroad).

Jointly with the Soviet travel agency Intourist, Aeroflot schedules a large number of interesting tours in the Soviet Union and provides full ground service for its clients.

Our transatlantic passengers can fly to Moscow, stop over for sightseeing and connect with flights to the Near, Middle and Far East, Eastern and Southeast Asia and Africa. Stopovers in London and Paris are also arranged.

Problems and Prospects

The demand for transatlantic flights is fairly high, nine million passengers annually, according to statistics. In 1971 some 74,000 American citizens visited the Soviet Union. Aeroflot and Pan American carried only 23,000 of these along the Moscow—New York air route, less than one-third of the total. That means that the partners are not taking full advantage of this market's possibilities. Their share in transatlantic passenger service can be increased provided the commercial rights of the two airlines are further extended on all sections of the route, additional possibilities are tapped for new intermediate stopovers in Europe and the flight frequency along this route is substantially increased.

The Soviet and American governments have reached an understanding in principle concerning further extension of air communications between the two countries. They propose to increase the number of flights to six a week from each side, later to ten. In addition to Moscow and New York, direct air links may be opened between other cities in the Soviet Union and the United States, Leningrad and Washington first. This extension of air communications is a result of growing business, cultural and tourist contacts between the two countries. It is expected that the flow of tourists from the United States to the Soviet Union will increase to 130,000 to 150,000 a year by 1975.

In the near future the Tu-144 supersonic airliner will go into service on Aeroflot's long-distance international routes. If this plane is used on the Moscow—New York route, the air time between the two countries will shrink to three hours. The Soviet Union and the United States will become near neighbors, and aviation, the most modern type of transport, will help strengthen their good-neighbor relations, bringing the two nations closer in the economic, cultural and scientific areas.



nion and abroad. It will soon introduce the Tu-144 supersonic jet on its international routes.

MOSCOW—NEW YORK

BY LUDMILA YENYUTINA

TWICE A WEEK an Il-62 takes off from Sheremetyevo Airport and heads for New York. And twice a week a Boeing-707 leaves Kennedy Airport in New York for Moscow. The Moscow—New York route is covered in about 11 hours, with a stop in London or Paris. Throughout the flight the sun shines into the passenger salon—leaving Moscow at noon, Moscow time, the plane chases time and arrives at its destination the same day at 5:30 P.M., New York time. In the opposite direction, the plane meets time halfway—day dawns for the passengers twice as quickly as usual, and in clear weather they have an unforgettable view of sunrise over the boundless spaces of the Atlantic.

The gigantic planes flying from the Soviet Union to the United States and from New York to Moscow are piloted by experienced and dedicated men.

I spoke to Fred Borns, captain of the Pan American Boeing-707 which flies the New York—Moscow—New York route, and Vasili Tonushkin, captain of the Aeroflot Il-62 which flies the Moscow—New York—Moscow route.

Q: How long have you been flying this route?
Tonushkin: Since the day it started, in July 1968.
Borns: I've been based in New York for only two years, so I've been flying to Moscow off and on intermittently for the last two years.

Q: How about your earlier experience?
Tonushkin: I've been flying almost 25 years. I went up for the first time during the Great Patriotic War of 1941-1945. After the war I flew piston-engined passenger planes and had the good fortune to be one of the first to fly the giant Tu-114 and open new airways to Singapore, Delhi and Havana. When I was transferred to the Il-62, I began flying the Moscow—New York and Moscow—Tokyo routes.
Borns: I've been flying since 1937, all of 34 years. During World War II, I was a pilot in the United States Air Force. I was then flying aircraft based mostly in England. I did once land in Russia. We were flying the shuttle bombing missions and came from England, flew our mission, dropped our bombs and landed in Poltava. We stayed overnight there, left the next day and made another round back to England. Shortly after World War II, in 1951 to be exact, I came to work for Pan American, and I've been there ever since.

Q: Do you believe there are difficult air routes today?
Tonushkin: No, none particularly difficult. Even the Moscow—New York line, most of which passes over the Atlantic, is pretty easy.
Borns: There are really no difficult routes nowadays. With all the navigational aids, there are really no navigation problems. And with the altitudes you have, you can get away from any terrain problems. You're high enough so you don't have to go around the mountains, as we used to years ago. You had to fly low, and then you had to worry about the land elevations—the peaks, the mountains. Really, there's no problem any more at all, no matter where you go.

Q: Does the Moscow—New York route differ much from other flights?
Tonushkin: It's one of the longest routes flown by Aeroflot planes. As I said, most of it is over the ocean. But, as a rule, at an altitude of 39,000 feet the sky is quite clear. All the cyclones are left behind. It's true, in the middle of the Atlantic there are strong winds, but we aren't afraid of them.
Borns: For me the only difference is that in most areas where we fly, they do not use meters for altitudes. They use thousands of feet. But other than that, it's no different.

Q: Do you feel there's an element of risk in your profession?
Tonushkin: With today's level of engineering, it's far riskier to cross a street in heavy traffic.
Borns: Oh, no. Not today.

Q: Do you have enough time for sightseeing?
Tonushkin: We don't have too much free time in New York, but we're trying to see it gradually. It's a very interesting city. We visited the UN building—the meeting halls and other rooms for delegates, the press and visitors. Opposite the hotel where we stay between flights is the Museum of Natural History, and we've been there several times.
Borns: No, we don't have very much time, you know. We get to Moscow after dark and leave the next morning. Just a chance to walk down Gorky Avenue and look at some of the buildings, go to Red Square, pass St. Basil's Cathedral and the Kremlin.

Q: What are your plans for the future?
Tonushkin: To fly.
Borns: I intend to keep flying as long as I can.

Two captains so different and so alike! You want to say to both of them those words traditional with Soviet flyers: " Fair winds and an easy landing!"

Tu-144 captain
Elian
Pilot of the
and pilot
Pa



THE FRUITS OF FRIENDSHIP

50 YEARS OF THE USSR 1922-1972

By Iosif Manyushis
Chairman of the Council of Ministers of the Lithuanian SSR

BEFORE WORLD WAR II Lithuania was, in many ways, behind its nearest neighbors, Latvia and Estonia. Most of its enterprises were primitive and small, except for light industry and the food industry, which had had some measure of development. And although factories and workshops employed nine per cent of the people directly involved in the production of commodities, there were about 75,000 unemployed or working part time in the cities.

The Smetona government praised the achievements of agriculture in every way possible and even created a theory that Lithuania was forever destined to remain an agrarian country. But even in farm work there were no noticeable successes. Peasants lived very hard lives, and farm implements were primitive at best.

In those prewar years Lithuania had to import the simplest items and sold abroad only raw materials and foodstuffs. Its economy depended almost entirely on the capitalist countries.

This economic backwardness inevitably held back education and the development of science. What is more, the rulers of Lithuania had no wish to do anything to end that backwardness.

Thirty-two years have passed since those historic days when Lithuania joined the Union of Soviet Socialist Republics. Thanks to the friendly and selfless assistance of the other peoples of the country, our republic has, in a relatively short period of time, made radical, socialist changes. From a backward agrarian region Lithuania has been transformed into a republic with well-developed industry, a diversified agriculture and high cultural standards.

The volume of the republic's industrial output is now 34 times higher than before the war. Electric power production in Soviet times has multiplied by more than 90. New branches of industry have been set up: engineering, instrument making, chemicals, electronics, among others.

Goods with the trademark of Lithuanian factories are widely known not only in the country but far beyond its borders—they are exported to more than 70 countries. Lithuania's enterprises make complicated machine tools and instruments, automation equipment, electronic computers, radio and TV sets, home refrigerators, large fishing trawlers.

In the Eighth Five-Year Plan period (1966-1970) alone the income of the Lithuanian Republic grew by 57 per cent and industrial output by 74 per cent. Even faster rates of expansion were registered in the key industries of power generation, chemicals, machine building and metal working. In output of metal-cutting machines and in fish catch the republic holds fourth place in the Union.

There have been marked achievements in agriculture, which has always occupied an important place in Lithuania's economy. A series of measures taken by the party and the central government did much to develop farm production and to improve the economic position of collective and state farms. In the years of the Eighth Five-Year Plan, average annual output of farm produce grew by 36 per cent.

At present the republic produces 293 pounds of meat and 698 pounds of milk per capita—higher than corresponding figures for many developed foreign countries.

There was a time when Lithuania was made up largely of separate farms scattered in the woods and bogs. Now large settlements, with all the conveniences, are spreading out through the countryside. During the Eighth Five-Year Plan period alone some 40,000 houses were built in the villages. Last year the authors of the project and the builders of one such settlement—Dainava (Ukmerge district)—were awarded a USSR State Prize.

The Ninth Five-Year Plan (1971-1975) has opened up new economic and cultural vistas for all the union republics. Under the new plan industrial production in Lithuania is to rise by almost 50 per cent. Even more rapid increases are scheduled for the industries that are decisive for over-all technical progress. Generation of electric power is to go up by 50 per cent. The Lenin Thermal Power Station, with a capacity of 1.8 million kilowatts, will be completed in this period. The republic is setting up another new industry—oil refining; toward the end of 1975 the first section of a plant at Mazeikiai will begin producing with raw materials from other republics.

There will also be a rise in consumer goods production as indicated in the Directives of the Twenty-fourth Party Congress.

An extensive program is also envisaged for agriculture. Average annual output will grow by 33 per cent compared with the previous five-year period. Dairy- and beef-livestock breeding, as well as bacon-swine breeding as before remain the concentration branches.

The total volume of capital investment in Lithuania's economy will come to 6.6 billion rubles, or 38 per cent more than during the Eighth Five-Year Plan period.

The primary aim of our republic's plan is a considerable rise in the general economic and cultural level. In the five-year period we will be building close to 96 million square feet of housing, or 19 per cent more than in 1966-70.

In science and education our achievements speak for themselves. Compared with 1940, the number of secondary school pupils has increased by eight times and that of college-level students by more than nine times.

Lithuania today has more doctors per 10,000 population than the German Federal Republic, France and Italy.

The republic has its own academy of sciences. Its affiliates include 77 scientific institutions and 37 research institutes and their branches. The work of Lithuanian scientists in chemistry, mathematics and medicine is well known both in our country and abroad.

We have a large number of talented writers, composers, artists, actors and architects, among them one of the country's foremost poets, Eduardas Miezelaitis, the popular graphic artist Stasis Krasauskas and the chief producer of the Panevezis theater, Yuozas Miltinis.

The Lithuanians are an industrious and talented people, but without underestimating our own efforts, we can say unequivocally that we would not have reached our present level of development without the broad, multifaceted cooperation of the other Soviet republics, particularly the Russian Federation, the Ukraine, Byelorussia and our neighboring Baltic republics, Latvia and Estonia.

This economic cooperation is not confined to the exchange of goods, although without the industrial raw materials we get from other republics, Lithuania's industry could not develop.

Equally important is the exchange of highly trained and creative specialists. There is the same kind of cooperation in cultural concerns, enriching the literature and art of all the constituent republics.

The unity and brotherhood of all nationalities have long been an inherent law of our life. This is the source—and the guarantee—of Lithunania's continued progress.

LATVIA'S FIVE-YEAR PLAN

By August Voss

First Secretary, Central Committee, Communist Party of Latvia

THE ECONOMIC and sociopolitical direction of our republic is outlined in the Ninth Five-Year Plan for 1971-1975. By the end of this period industrial production in Latvia will have increased by 35 to 38 per cent. Even greater headway will be made by the electrical, radio-engineering and electronics industries, as well as by light industry and the medical, fishing, meat and dairy industries.

The emphasis of the current five-year plan is on intensified and more efficient production, the speedier application of scientific and technical findings and greater labor productivity. As early as 1971, the first year of the plan, 99 per cent of our growth in industrial output was due to the increase in labor output. Compared with 1970, industrial production grew by 8.1 per cent and labor productivity by 7.9 per cent. In other words, it was a good start.

Science has developed into a direct productive force. We must, said the Directives of the Twenty-fourth CPSU Congress, combine the achievements of the scientific and technical revolution with the advantages of the socialist economic system.

In the Latvian Republic all branches of the economy are being re-equipped with the newest and most efficient machinery. Our scientists and engineers have pooled their efforts to make the period of modernization as short as possible.

Another goal is better economic management. Latvian scientists, in collaboration with colleagues from other republics, are developing automatic control systems. Increasing use is being made of computer techniques in planning and management.

More concentrated production is still another target of the current five-year plan. We are in the process of setting up large production associations.

Progress along all these lines is easy to see in agriculture. The collective and state farms of Latvia specialize in raising dairy and beef cattle and pigs. The republic now produces more milk and meat per capita than such an advanced country as Sweden. Labor productivity, too, continues to increase, a result, largely, of mechanization and electrification.

The further growth of agricultural production in the current five-year plan period is ensured by many factors. Standards of operation are rising, and farmlands are being improved. Collective and state farms are getting the latest technical equipment.

Considerable work is being done in land reclamation. This undertaking is particularly necessary in Latvia because much of our arable land has a high moisture content. Swamps were always the bane of the Latvian peasant's existence, but until recently the attempts to eliminate them could hardly be called successful. In all the history of bourgeois Latvia only 175,000 acres were drained, compared with 3.75 million in Soviet times. On land wrested from the swamps we have been raising, in the past few years, more than two-thirds of our sugar beets, approximately half of our grain and more than half of our vegetables.

Rising farm production must be accompanied by lower costs. And here we are working for more specialization and concentration. The republic has been increasing the industrialization of its cattle and poultry farms. Not far from Riga large mechanized poultry farms have been built. By the beginning of the Ninth Five-Year Plan period more than 80 per cent of our total egg and broiler output was coming from these units. They are in a better position to introduce new techniques, which result in a faster increase in labor productivity and lower production costs per unit.

The current five-year plan is not confined to economic matters. It foresees an extensive system of social and cultural measures covering every aspect of our life.

Here, for instance, is one problem. Country people in Latvia have traditionally lived on isolated farms, but these days more and more people prefer the large modern towns and villages. To meet their wishes, the state budgets large sums for rural housing construction. Tens of thousands of families are moving to new homes with modern conveniences. Clubs, gymnasiums, movie houses, libraries and hospitals are being built, gradually eliminating the age-old differences between town and country. In the current five-year plan period 25,000 families still living on farms are scheduled to move to new housing developments.

The republic's progress in every area is due to the fact that it is developing its economy as part of the country's economic plan. The decisive factor is the friendship among the peoples of the USSR, their economic and cultural ties, their mutual assistance.

Latvia does not have its own large deposits of iron ore, coal or oil. But it can call upon the industrial might, the raw material resources and vast home markets of the whole country.

A few examples. More than 40 per cent of the total electricity consumed in Latvia comes from other union republics; approximately 35 billion cubic feet of gas is brought from the Ukraine by pipeline; each of our large enterprises in the electrical or instrument-making industry is linked cooperatively to dozens of enterprises in the Russian Federation and other republics.

This interrepublic friendship deserves special mention today because of the celebration of the fiftieth anniversary of the Union of Soviet Socialist Republics.

The entire course of Latvia's development confirms the belief that our joining the other peoples of the USSR on the basis of full equality and fraternal cooperation was of truly historic significance. Latvia has increased its national income by seven times as compared with the prewar period. Its industrial output has gone up by 29 times. It has pushed to new heights in agriculture, raised its standard of living, solved many of its social problems.

The union of socialist nations has created the best possible conditions not only for economic progress but for advancement in science, education and culture. Our literature, music, fine arts and theater arts are now considered among the most interesting in the country. The same can be said for our films and television.

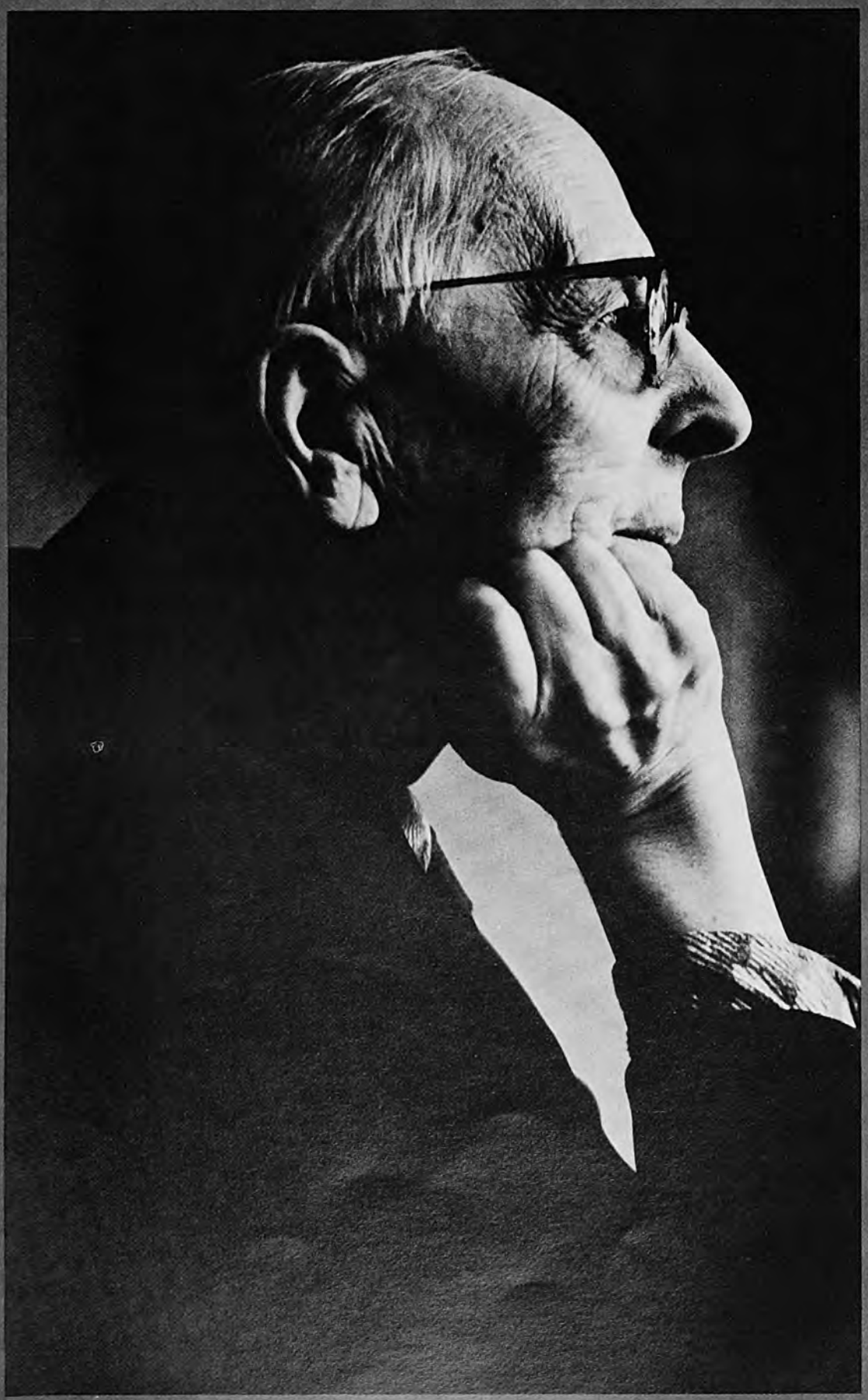
The second year of the Ninth Five-Year Plan is drawing to a close. We have covered part of the road mapped out in the five-year program. This period has seen a rise in the national income, in the average monthly pay of industrial and other workers, and in the income of collective farmers. More foodstuffs and more domestic appliances were bought. Last year alone more than 23,000 families moved to new or improved quarters. The transition to universal compulsory 10-year schooling is being completed.

These achievements give us reason to believe that by 1975 all the targets of the current five-year plan will have been met.

An Early Fighter For the Revolution

EIZEN VEVERIS OF THE LATVIAN RIFLES

By Gunar Kurpnieks



Half a century ago, the workers, peasants and progressive intelligentsia of all nationalities were struggling for the ideas of the Socialist Revolution. Among the most active fighters were the Latvian Rifles. This division, formed in April 1918, helped establish a Soviet government in Latvia and crush the counter-revolutionary armies of Deniken and Wrangel.

Today scores of people in this Baltic republic proudly wear the badge of the Latvian Rifles. One of them, Eizen Veveris of Riga, is the subject of a recent biography by Gunar Kurpnieks: **The Two Lives of Eizen Veveris.**

IN OCTOBER 1917 Eizen Veveris, like the other members of the Latvian Rifles, unhesitatingly sided with the Revolution. "I was not a member of the Bolshevik party," he says. "But the slogans inscribed on its banners—peace, land, and power to the people—meant a great deal to me, as they did to most of my fellow citizens."

In November 1917, in the section of Latvia not occupied by the Kaiser's forces, the first Soviet government—the Executive Committee of the Soviets—emerged. One of its first acts was a Declaration of Self-Determination, which proclaimed a close relationship between free Latvia and Soviet Russia.

By February 1918 the young state could no longer withstand the fierce onslaught of the Germans. It was overrun by the Kaiser's troops, which carried out bloody reprisals.

"But not long afterward," says Veveris, "under,the impact of the October Revolution the German people overthrew Kaiser Wilhelm. The army of occupation in the Baltic countries was demoralized, and with renewed enthusiasm the people of Latvia launched a struggle to restore the Soviet government. We Latvian riflemen joined the Red Army and marched to Riga, the capital, to help our brothers. We advanced rapidly and everywhere we were welcomed by cheering crowds." On January 3, 1919, Soviet power was restored in Riga.

"You may ask," continues Veveris, "how we won people over to our cause. The answer is simple: The workers, soldiers and peasants, led by the Soviets,



The division at the first May Day parade, 1918.

introduced reforms immediately in every sector. We rebuilt more than a hundred war-ravaged enterprises, restored railroad and water transport, and ended unemployment. The eight-hour working day, state insurance, free medical care, compulsory two-week paid vacations, and old-age and military pensions were established by government decree. Latvia began work on an electrification program, including a large hydroelectric station on the Daugava River, and founded a state university."

Veveris turned in his rifle and became a university student.

Red Teacher

Meanwhile the foreign interventionists launched another offensive against the Baltic Soviet governments, and in May 1919 Riga fell. Battles raged throughout Latvia. Soviet Russia was unable to help since it was encircled by the interventionists.

Again Veveris had to take up a rifle. Soon afterward he was hit by shrapnel in a Riga street and knocked unconscious. Some of his father's fellow workers picked him up and hid him till his wounds healed.

After several months Veveris obtained a passport with the help of his father's friends. This gave him legal status, but it was still hard to find work. Unemployment was widespread. He got a temporary job in a suburban peat plant, was laid off, and finally became a stevedore.

"I was young, strong and eager to get an education," says Veveris. "It would take too long to tell you what I went through to enroll in evening classes at a teachers college. Eventually I succeeded. During the day I worked on the docks, and in the evenings I studied. In 1923 I got my diploma as a primary school teacher. At the same time, I was reminded' of my past involvement with the Red rifles' and warned that I would not be allowed to teach. The official at the Ministry of Education said sneeringly: 'Look for a job if you like, but I advise you to stay away from Riga!' "

So Veveris went job-hunting in the countryside of bourgeois Latvia. He came across a dilapidated rural school some 80 miles from a provincial town. "We need a teacher," the peasants told him. "Our children should learn to read and write. But you can see how poor we are. Where can we get the money to pay you?"

Veveris decided to stay anyhow. With the help of the peasants he repaired the broken-down schoolhouse and began teaching. He received no salary but lived on donations of food from the peasants.

One day an old comrade, a professional revolutionary named Emil Sudmalis, dropped in to see him. "The best people in Latvia are active in the underground struggle," said Sudmalis. "Children are the future of what will become a socialist Latvia, so there's nothing more important than the role of the teacher."

After school Veveris told his pupils about the unforgettable days of Soviet power in Latvia.

The secret police had been keeping an eye on the "red teacher" for a long time, and one day he was seized and jailed.

Only One Year

On June 20, 1940, the Latvian people, led by the Communist Party, overthrew Karlis Ulmanis's fascist dictatorship. On July 21 the newly elected People's Saeima proclaimed a Soviet government once again and asked the USSR Supreme Soviet to make Latvia a union republic. This request was granted on August 5.

"From the very beginning the republic recognized the importance of public education," says Veveris. "New schools were opened. We were given the best buildings, and the government appropriated large sums for equipment and teaching aids."

Veveris plunged with enthusiasm into his favorite occupation. He became head of the public education department in the city of Valka and its suburbs. In addition to his administrative responsibilities (he was in charge of more than 30 schools) Veveris continued to teach, gave lectures to workers and farmers and served on the local Soviet.

The new life came to an end abruptly on June 21, 1941. Latvia was one of the first Soviet republics to be attacked by the Nazis.

Through the Inferno

When enemy troops entered the town, Veveris was betrayed to the Gestapo by some fascists who had emerged from hiding. The principal charge against him was:

"You are a Communist!"

"I am a Soviet teacher. But I was not a Communist."

"Why not?"

"I never thought I was worthy of the title."

He was sentenced to be shot. Four times he was led to a ravine with other condemned prisoners, but each time the Gestapo officer came up to him and said:

"You're not going to die that easily."

The Nazis had decided to put him through all the circles of their inferno first.

To start with he was taken to a concentration camp at Salaspils, near Riga, where the Nazis murdered more than 100,000 men, women and children from all over Latvia, as well as from Belgium, Czechoslovakia, France, Germany, Poland and Yugoslavia.

Next, with a group of other inmates, Veveris went through several transient camps in Germany until he landed in Mauthausen, and after that in its still more dreadful branches, Melk and Ebensee.

"In Melk I was assigned work that I was too weak to do, the kind that caused the deaths of hundreds of my fellow inmates. It was there that I first understood the meaning of international solidarity."

Veveris shared a bunk with Jozef Cyrankiewicz, a future leader of the People's Republic of Poland. Another fellow inmate was Lev Manevich, a Soviet intelligence officer who headed the camp's resistance movement. He assigned Veveris to liaison work among the local underground groups. At the camp Veveris made his first acquaintance with Marxism.

Years of Peace

In 1945, after the liberation of Mauthausen, Veveris returned to Soviet Latvia. At the end of the year he told the secretary of a party organization that he would like to join the Soviet Communist Party. "Now I consider myself worthy of the title," he said.

It was a very difficult time for the republic. Towns and industries, even the harbor installations in the main seaports of Riga, Liepaja and Ventspils, had been destroyed. The railroads were not operating and there was no electricity. Weeds covered the farmlands. It would take decades, it seemed, to rebuild that war-ravaged land.

But the Soviet republics came to Latvia's aid. Machines and industrial equipment poured in from Moscow, Leningrad and the Urals; metal from Siberia and Kazakhstan; oil from Tataria; cotton from Central Asia; cement, fertilizers and grain from different parts of the Russian Federation.

Today Latvia is among the country's leading producers of radios, transistors,

The Latvian workers, soldiers and peasants, led by the Soviets, introduced extensive economic and political reforms.



The Latvian Rifles in the Kremlin, 1918.

Eizen Veveris with his granddaughters.



telephones, automatic telephone exchanges, streetcars, suburban electric trains, washing machines, minibuses, electric bulbs and many other items.

In Veveris's own field of education, the republic's progress is just as striking. Soviet Latvia now has compulsory secondary education. More than 40,000 students are enrolled in 10 universities and institutes. In other words, Latvia has 173 students for every 10,000 inhabitants.

"All five of my children—three sons and two daughters," says Veveris, "were born before 1940. If not for our Soviet government, I don't like to think what their future would have been.

"Gunar and Olgert both have a college education. Olgert graduated from Riga University and is now head of a laboratory at the Latvian Academy of Sciences. He's studying for a candidate's degree in chemistry. His wife is a chemist, too, and she already has her candidate's degree.

"My daughter Lauma is a graduate of Riga University and teaches English. My other daughter, Daila, studied bookkeeping. She's now a senior bookkeeper.

"Vilnis, my youngest son, went to work as a bricklayer after finishing school. His wife Ausma is an economist."

Veveris is on pension now, but his interests are as broad as ever. When he was 70 years old he brought his first collection of poetry, *Plant Roses in This Accursed Earth*, to a publishing house. The earth he writes about is that of Salaspils, Maidanek and Mauthausen, where men and women suffered and died to end fascism.

Veveris was awarded the State Prize of the Latvian Republic for the collection. Soon another volume of his poetry will appear.

He knows that his republic's years of peace were not easily won.

THE USSR: 50

Creating a Union

THE PRINCIPLES underlying the solution of the national question in our multinational country (more than a hundred nations and nationalities) were worked out long before the question was tackled in practice. This important work was done by the Russian Social-Democratic Labor Party, the name of the Russian Marxist party from its founding in 1898 until March 1918, when it was renamed the Russian Communist Party (Bolsheviks) at the Seventh RSDLP Congress. After the Fourteenth Congress in December 1925 it came to be known as the Communist Party of the Soviet Union (Bolsheviks) and after the Nineteenth Congress, in October 1952, the Community Party of the Soviet Union (CPSU). It began to be called the Bolshevik Party after the Second Congress in 1903, at which Lenin's revolutionary program was supported by the majority of delegates. Bolshevik is derived from *bolshinstvo,* which means majority.

Working out these principles was not a simple, smooth process. There were sharp arguments and clashes of opinions. After sorting through a variety of recommendations, certain clear-cut political formulations were recognized. For instance, as early as in its first Program, adopted in 1903, the party put forward this principle: "Recognition of the right of all nations of the state to self-determination." The program also demanded the complete equality of all citizens, regardless of sex, religion, race or nationality; the right of everyone to receive an education in his or her own language; the use of the native language as well as the state language in all local institutions.

Later on the principle of self-determination was further developed. A conference of the Central Committee and functionaries of the RSDLP in 1913 adopted a special resolution on the national question stating that "the right of oppressed nations to self-determination means the right to secession and the formation of independent states." This dispelled any doubt about the position of the party Lenin headed on the question of self-determination for the nations and nationalities of Russia.

In February 1917 a popular revolution toppled czarism, but the bourgeoisie, represented by the Provisional Government, seized power. At the same time the Soviets, the organs of people's power, gained tremendous influence throughout the country. In the developments of that stormy period Lenin perceived the prospect of the victory of a socialist, proletarian revolution. Foreseeing this turn of events, he advanced, in addition to the already defined principles on the national question, the idea of a union of the states that would emerge as a result of the peoples of Russia exercising the right of self-determination. "Let Russia be a union of free republics," he declared at the First All-Russia Congress of Soviets (June-July 1917).

Thus, the principles for the solution of a major problem were formulated by the Leninist party beforehand. This provided time for popularizing them among the masses. The working people of all nationalities understood and were encouraged by these principles in their fight for emancipation.

"Order Your National Life Freely"

The bourgeois Provisional Government, which was in power in Russia from the beginning of March until the beginning of November 1917, *i.e.,* for more than eight months, did not bother to discuss the national question even in a perfunctory way. In this area, as in others, it simply continued the reactionary policy of czarism. Incidentally, none of the many political parties existing at that time, with the exception of the Bolsheviks, had a program on the national question. That, in part, explained their failure to secure any appreciable support among the masses.

The approach of the Soviet Government, which came to power on November 7, 1917,[2] was fundamentally different. Its very first pronouncement at the Second All-Russia Congress of Soviets to the working people of the country, on November 7, 1917, stated: "The Soviet Government . . . will guarantee all the nations inhabiting Russia the genuine right to self-determination."[3] On November 15 the Council of People's Commissars (government) headed by Lenin issued the declaration of Rights of the Peoples of Russia. It stated that the liberation of the peoples of Russia "must be begun immediately and accomplished decisively and for all time." It stressed that the entire policy of the Soviet Government on the national question would be a policy of "voluntary and honest alliance of the peoples of Russia."

Two weeks later the Council of People's Commissars issued an appeal to the working people of the Moslem regions (Central Asia, the Caucasus and other outlying areas):

> Power in the country is in the hands of the people. . . . Order your national life freely, without hindrance. Know that all your rights, just as the rights of all the peoples of Russia, are protected by the entire power of the Revolution and its organs.

In December 1917, the Soviet Government issued a manifesto to the Ukrainian people:

> We, the Council of People's Commissars, recognize at once, unconditionally and without reservation, everything that pertains to the Ukrainian peoples' national rights and national independence.[4]

Immediately after the Finnish Diet passed the Declaration of Finland's Independence in December 1917 (for more than a hundred years, from 1809, Finland had been part of Russia), the Council of People's Commissars, acting in keeping with the Leninist policy on nationalities, granted state independence to Finland (decree of December 31, 1917).

Shortly afterward, in January 1918, the Third All-Russia Congress of Soviets endorsed the Declaration of Rights of the Working and Exploited People, written by Lenin. The Russian Soviet Republic was instituted as a voluntary union of free nations, as a federation of Soviet national republics. This document was subsequently incorporated into the first Soviet constitution, the Constitution of the RSFSR, and was reflected in the fundamental laws of all the other sovereign national republics.

We have cited only a few examples of the legislative acts and practical actions on the national question of the newly formed Soviet Government. Similar devisions were adopted almost every day at that time. The documents were immediately translated into the national languages and delivered as rapidly as the difficult conditions permitted, usually by special emissaries who were active functionaries in the Leninist party and belonged to the pertaining nationality.

Thus, all questions concerning the national arrangement of the peoples were decided promptly, in great detail, and without the slightest reservation.

All power was turned over to the Soviets, which proceeded to solve problems in a socialist way: The landowners' holdings were turned over to the peasants free of charge; the banks, heavy industry, communications, transport were nationalized, and an eight-hour working day was introduced. Thus, the national question was solved within the framework of a proletarian, socialist revolution, and it was this that, in the long run, ensured the success of reforms in the sphere of national relations.

Republics, Republics, Republics . . .

The national groups had suffered a long time from ruthless oppression, and they enthusiastically tackled the matter of their self-determination.

Following the proclamation of the Russian Soviet Republic, one state formation after another began to arise, simetimes simultaneously in different parts of the vast country covering 8.5 million square miles. The Ukraine, Byelorussia, Azerbaijan, Armenia and Georgia declared themselves sovereign republics. About 20 autonomous republics and autonomous regions quickly took shape within the Russian Federation. In 1918-1920 the fronts of the Civil War, in which the internal counterrevolutionaries were joined by foreign invaders, divided the country into zones, and separate republics emerged both within the Russian Federation and on its outskirts. The Far Eastern Republic was one such.

Some people, even revolutionaries, were afraid that this "explosion of national self-awareness" might lead to the fragmentation

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[1] V. I. Lenin, "Speech on the War," *Collected Works* (Moscow, Progress Publishers, 1964), vol. 25, p. 37.

[2] All dates are New Style, according to the Gregorian calendar. The Julian, in use in Russia at that time, was 13 days behind. The Socialist Revolution took place on October 25, 1917, according to the Julian calendar and came to be called the Great October Socialist Revolution. The Gregorian calendar was introduced in Soviet Russia in February 1918.

[3] Lenin, op. cit., vol. 26, p. 247.

[4] Lenin, "Manifesto to the Ukrainian People with an Ultimatum to the Ukrainian Rada," *Collected Works* vol. 26, p. 361.

RYEARS OLD

bf Free Republics

of the state and hurt the socialist cause. But Lenin was optimistic about the situation. Replying to those who had reservations about the progressive character of the self-determination of nations, he said:

> We are told that Russia will disintegrate and split up into separate republics, but we have no reason to fear this. We have nothing to fear, whatever the number of independent republics. The important thing for us is not where the state border runs, but whether or not the working people of all nations remain allied. . . .[5]

That Soviet power really did not fear an increase in the number of sovereign national republics is confirmed by the following fact, one of many. At first the Russian Federation included the Turkestan Autonomous Republic, which spread over large territories of the East having multinational populations. But as soon as the situation permitted, sovereign Tajik, Uzbek, Turkmen, Kirghiz and Kazahk Soviet republics were formed. All of them joined the USSR as equal members.

The Soviet Government's active policy of encouraging national statehood is evidenced by the elevation of a number of autonomous regions to the rank of autonomous republics.

Time has proven the correctness of this policy of state self-determination of nationalities. Today the USSR, a union of nations and nationalities, is made up of fifteen union republics, twenty autonomous republics, eight autonomous regions and ten national areas.

Consistency in implementing the principles of national freedom, the complete harmony between words and deeds, characterizes all the activity of the Soviet state in its national relations.

"Lenin's Gold"

It happened in the early twenties. Starving, war-ravaged Armenia, where a socialist republic had just been established, was in dire need of bread. Transport links with Russia and the Ukraine had not been established yet. Foodstuffs could be purchased in neighboring Eastern countries, but only gold would be accepted in payment. The young republic had no precious gold of its own. What was to be done?

The news that Armenia needed gold reached Lenin. Yes, it was true that socialist Russia was itself grappling with tremendous difficulties and its resources were less than modest. And yet Armenia had to be helped, and promptly. By order of Lenin an airplane, one of the few the country had then, was loaded with gold and dispatched straight to Transcaucasia, to the Armenian capital. Grain was purchased and the danger of famine warded off. This aid from Russia is still remembered in Armenia as "Lenin's gold."

Lenin never deviated from the policy set down in April 1917 in his Draft Platform for the Proletarian Party:

> The thing is not to "proclaim" internationalism, but to be able to be an internationalist in deed, even when the times are most trying.[6]

And the Russian Republic, its workers and peasants, acted precisely in this spirit. In addition to Armenia, considerable sums in gold were allocated by the government of the Russian Federation in 1918-1922 to Soviet Central Asia for the development of irrigation systems, to Azerbaijan for the restoration of cotton growing, to Georgia for the construction of its first hydroelectric power station. Whole plants were moved from Russia's industrial centers to Central Asia and Kazakhstan. Outstanding scientists left Petrograd (Leningrad) and Moscow to take up permanent residence in Tashkent, the only large city in Central Asia at that time, in order to establish the first institutions of higher learning and research centers there.

Mutual aid existed between other republics as well. Azerbaijan sent Georgia and Armenia oil. The Ukraine shared its top-grade anthracite with other republics. Its miners built the first coal mines in Kazakhstan.

This was an entirely new phenomenon from the viewpoint of politics. economics and ethics. It was socialist, proletarian internationalism in action. And these acts of reciprocal magnanimity of people and nations—truly "Lenin's gold"—were the most effective preparation for the formation of the Union of Soviet Socialist Republics.

Prelude to Union

Five years elapsed between the Socialist Revolution in November 1917 and the formation of the USSR in December 1922. A voluntary union of free republics was regarded by all the advanced, politically conscious forces of society as the ultimate goal at the very beginning of the formation of the republics, but it was important not to rush unification.

> We want a *voluntary* union of nations—a union which precludes any coercion of one nation by another—a union founded on complete confidence, on a clear recognition of brotherly unity, on absolutely voluntary consent. Such a nation cannot be effected at one stroke, we have to work toward it with the greatest patience and circumspection, so as not to spoil matters and not to arouse distrust, and so that the distrust inherited from centuries of landowner and capitalist oppression, centuries of private property and the enmity caused by its divisions and redivisions may have a chance to wear off.[7]

Lenin's party firmly adhered to this approach, and the young national republics steadily advanced toward unity as life-giving links between them strengthened in the course of those five years. Relations based on treaties were actively cultivated—both between the RSFSR and the other republics and among the republics. In Transcaucasia Azerbaijan, Armenia and Georgia united in a federal republic. Unions of republics were formed to solve the most challenging problems: a military-political union in the period of the Civil War and foreign military intervention, an economic union and, finally, a diplomatic union, which was formed for the coordination of actions of the Soviet republics in the international arena.

A few words about the latter union. In the spring of 1922 an international conference on economic and financial questions was convened in Genoa. Soviet Russia was invited to take part in it. It was represented by a delegation consisting of plenipotentiaries not only of the RSFSR but also of the other Soviet republics. The documents it submitted to the conference included a declaration setting out the principles of the Leninist foreign policy. The declaration read in part:

"While continuing to adhere to the communist viewpoint, the Russian delegation finds that in the present historical epoch, which makes possible the parallel existence of the old and the new social systems, economic cooperation between the states representing these two systems of property is imperatively necessary for universal economic rehabilitation."

It was one of the first documents of Soviet diplomacy in which the principles of peaceful coexistence of states with differing social systems was enunciated with utmost clarity. Today this principle has become a real factor in international relations. In that five-year period the diplomatic sphere provided fertile soil for strengthening confidence and fraternal ties among our republics.

In 1921-1922 the movement for unification in the republics unfolded on a vast scale. Meetings of workers and peasants, trade union conferences, congresses of local Soviets and public organizations were held everywhere, all of them discussing one question, the establishment of a union of republics, a single socialist multinational state in which the unity of all would guarantee the sovereignty of each. It was, in effect, a countrywide referendum but of a socialist type, in which the question was decided by the opinion of the masses, by the will of the working people. As a result of unprecedentedly broad discussions at all levels in each independent republic the final decision on acceding to the union was unanimously passed by the legislative bodies—the congresses of Soviets held in the national republics. Only after that was a common congress of Soviets convened in Moscow, attended by the plenipotentiary delegations of all the sovereign Soviet republics existing at that time. It proclaimed itself to be the First Congress of Soviets of the USSR. On December 30, 1922, the congress approved the Declaration on the Formation of the Union of Soviet Socialist Republics.

The past half-century in the development of the USSR has fully justified the hopes which the large and small nations of the country placed in their socialist union.

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[5] Lenin, "Speech at the First All-Russian Congress of the Navy," vol.26 p. 344.

[6] Lenin, "The Tasks of the Proletariat in our Revolution," vol. 24, p. 82.

[7] Lenin, "Letter to the Workers and Peasants of the Ukraine Apropos of the Victories over Denikin," vol. 30, p. 293.

By Ievina Rozite

Photographs by Miroslav Murazov

LATVIAN DANCE ENSEMBLE







LATVIANS have always been known for their love of choral singing. Now folk ballet is making a strong bid for popular participation. In the past few years, one after another amateur dance ensemble has sprung up all over the republic.

There was clearly a need for a professional company that would choose the best performers and the most representative repertoire. This was met by the organization of the Daile Song and Dance Ensemble in April 1968. Uldis Zagata, Honored Artist of the Latvian Republic, became its director. The selection contest for membership in the ensemble was republicwide. Most of the winners were amateur dancers from Riga, the capital, and from other towns.

Uldis Zagata is one of those young ballet masters who have been finding in the old folk dances elements that enrich

contemporary choreography. He has brought new and original motifs to the traditional Latvian dances.

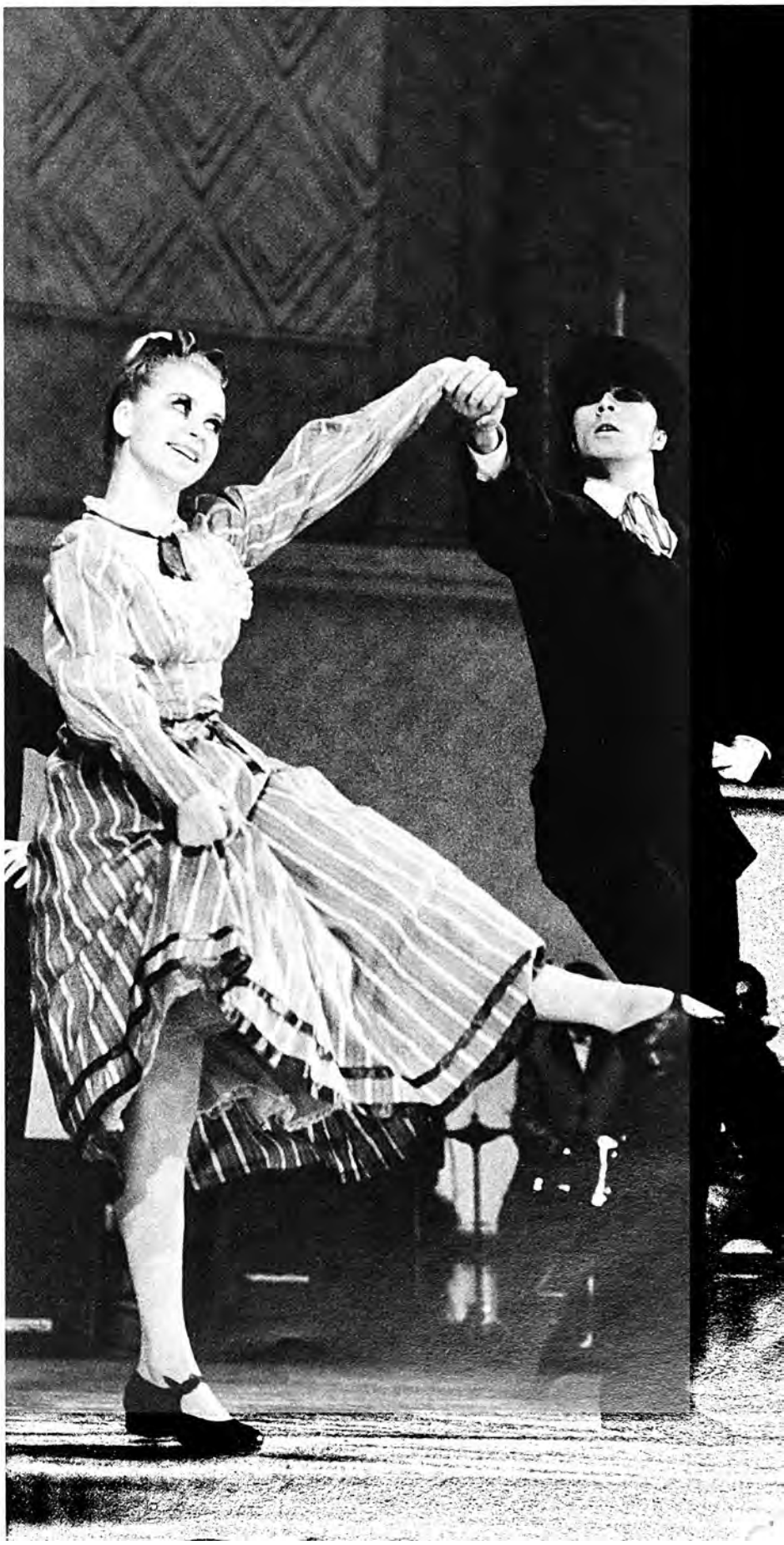
The ensemble's repertoire also includes original creations of the choreographer. His style is characterized by bold lines and fast rhythms. But his lyrical, floating dances are also popular with dancers and audience.



Left: Via Aboltina accompanies herself on the kokle. Far left: The Lettish Suite. *Center: Curtain call. Bottom left: Soloist Regina Vesser dances* Rutsavetis. *Below: Circle round your partner. Bottom right:* The Old Town Polka.

THE DAILE COMPANY OF RIGA





Celebration



Alley

CHOREOGRAPHING FOLK DANCES

CULTURAL SPOKESMEN FOR THE TIMES

By Jean Griva

Jean Griva ranks first among modern Latvian writers. He began his career as a journalist. During the civil war in Spain he fought in the ranks of the Spanish republicans. He also fought against fascist Germany during the Great Patriotic War.

The most popular of his books are *Under the Wings of the Albatross,* a report on the lives of fishermen; *On the Other Side of the Pyrenees,* about the struggle against Franco's fascists in Spain; and *Love and Hatred,* a novel.

RECENTLY I attended an interesting conference at which cyberneticists reported on their efforts to create a statistical model of the Lettish language. Their work, they said, would make possible a new approach to a number of complex theoretical problems of linguistics and facilitate such practical projects as, for instance, the compilation of Lettish dictionaries, the automatic abstraction of books, articles and patents, the preparation of bibliographic lists by computers, and the translation of books and articles from and into Lettish.

I sat listening to the reports and was reminded of people in the West who tried to create the impression that the Lettish language was being neglected in the Soviet Union. Quite the contrary, it was in Soviet Latvia that a two-volume edition of a scientitic Lettish grammar was published, the first anywhere. The author, Janis Endzelin, a distinguished linguist, was awarded the Lenin Prize.

The Institute of Lettish Language and Literature is now preparing a definitive, eight-volume Lettish dictionary, and a six-volume edition of **The History of Lettish Literature** (published not so long ago) is already very difficult to find. A history of the national theater is being completed. Very interesting work is being done in national folklore. More than one and a half million Lettish folk songs have been collected and will be published in an edition of 15 or 16 volumes.

These are only a few of many examples illustrating the general concern with the cultural past.

Some time ago I read an article on the work of the Riga restorers of old monuments. The author called them "the conquerors of time." A very dramatic description, but it falls short. I would call them "spokesmen for the times." What they are doing is an expression of our day. We are giving respect and care to our heritage from the gifted sons of the Latvian people.

Leon Platsinsh, an old friend of mine, is Chief Architect of the Latvian Republic for the Protection of Ancient Monuments and has been engaged in that work since 1927. He told me that in bourgeois Latvia too there were any number of people working to preserve the monuments of ancient art. They drafted designs, planned projects, made estimates. But all their activity was wasted because the necessary funds were not made available.

Now concern for national monuments is state policy. That the policy is not empty words is proved by the large allocations from the state budget for architectural restoration work.

Thus 449,000 rubles were allocated for the purpose in 1968, and 775,000 rubles in 1969. Last year alone 2.1 million rubles were budgeted for restoration. Work is being done in Riga, Yelgava, Valmiera and Sigulda simultaneously. Riga Castle has been completely restored and is the setting for three museums—of Latvian history, Lettish literature, and Western art. Whole districts of old Riga that have been declared architectural landmarks have been restored as well.

A couple of days ago I spoke to Alexander Malmeistar, president of the Latvian Academy of Sciences, which incidentally was founded in Soviet times. The 60-year-old academician, a leading chemist, told me that many of the papers published by Latvia's 16 research institutes affiliated with the academy of sciences are highly regarded both in the Soviet Union and abroad. A great many countries, for instance, are interested in the work of the Institute of Physics on magnetohydrodynamics and molten metals. The journal published by the Latvian Institute of Organic Synthesis, to cite another example, is translated and published in the United States.

A nuclear reactor has been built in Latvia. Symbolically, it is located not far from a former concentration camp where tens of thousands of Soviet people were killed by the fascist invaders. The beautiful Salaspils Memorial was erected on the site. Its designers were awarded a Lenin Prize. One of the sculptors, Janis Zarin, told me that the idea of the memorial was born out of a feeling of deep gratitude to the Russians and other peoples that had saved the Letts as a nation and helped them get rid of the Hitlerites who were trying to Germanize them. Zarin said that his monument, called *Solidarity,* borrowed from the artistic traditions not only of the Letts, but of other Soviet peoples as well. This did not in any way obscure its national quality but, on the contrary, enriched it.

In this connection, a word or two on literature, my own field.

Yegishe Charents, an outstanding Armenian poet, once wrote:

"Being an Armenian author, I, too, belong to a small people. I know that if I were to limit my creative activity to purely national borders, both its range and sphere of influence would be pitiful. I consider myself part of the most advanced force of humanity because the October Revolution has removed the myth of national seclusion from my outlook."

I think that any Latvian writer or artist would subscribe to that statement. Not national seclusion but strong international community is the inexhaustible and invigorating source for the literature and culture of every Soviet people, including the Letts. We Latvian writers now have an enormous reading public, all the Soviet people.

Our books are translated widely. The works of Willis Latsis, for instance, in the Russian language alone, have been published 99 times for a total of 10 million copies. On the other hand, everything that is best in literature, both in our country and abroad, is translated into Lettish. The home library of the Riga docker contains not only books written by his former fellow worker Willis Latsis but also those of Yuhan Smuul, the son of an Estonian fisherman, and the Russian writer Maxim Gorky. I am reminded of these wise and prophetic words of Gorky:

"The better people of various nations come to know each other's psychology and spiritual life, the quicker and the more successful and unanimous will their advance toward their goal be." And communism is the common goal of all the peoples in our Soviet Union.

A GENERATION'S LIFE SPAN

Q: To what do you attribute Estonia's striking progress?
A: It is, first of all, a product of the progress of the Soviet economy generally, of the country as a whole, a result of fruitful cooperation and mutual assistance of the Soviet republics.

Another reason—and this also is true for the whole country—is the economic progress brought by the scientific and technological revolution. Thus, labor productivity in Estonian industry grew by 9.1 times and in agriculture by four times during the past 30 years. This is a direct consequence of the scientific and technological revolution. Another factor responsible is the social transformation of the worker and his job.

According to statistics, in July of 1938 industry employed 89,100 and in January 72,600 workers. The difference is 16,500. In the summer of that same year 70,000 to 75,000 were employed in agriculture, in the winter 15,000 to 16,000. The difference is 55,000 to 59,000. If we subtract from this figure some 10,000 to 12,000 young shepherds who went back to school, we see that even without them more than 45,000 farm workers had no jobs in winter. The simplest calculations show that behind the 114,000 workers employed in industry, agriculture, commerce, transport and forestry there were at least 50,000 jobless in that "golden year."

Today jobs look for people. In industry, construction, transport and trade the republic has job openings for thousands of women and men. The problem of a livelihood no longer exists. Everyone who wants to work can have a job. That is one of the great virtues of socialism.

More than that, the workingman has a voice in management through his trade union organization and all kinds of councils and commissions on the job.

Q: No question but that the elimination of unemployment is a most important element of a social revolution. There have been other radical social and cultural changes besides, particularly in education, social welfare, health, training of technical specialists and scientists. Do you have any figures on these changes?
A: Yes. In Estonia practically everybody could read and write at the end of the past century. But for a majority education meant no more than the ability to read.

In 1930 compulsory elementary six-year education was introduced. However, statistics tell us that only 59 per cent of those who entered the first grade went through the entire six years.

The dropout rate was even higher at the college level. For example, at Tartu University only 42 to 43 per cent of the freshman class completed the course of study and received their diplomas. The others had to give up their dream of a higher education for various reasons, usually financial. These were mostly children of workers and peasants.

In the 21-year period from 1919-1939, 5,771 people received a higher education and 36,442 a secondary education. By comparison, in the two years 1970-1971 nearly the same number of people —5,726—received a higher education, but the number of high school or specialized secondary school graduates during the past three years (1969-1971) was 40,808. Despite the growth of qualified manpower, the republic still has a shortage of specialists with a higher or a secondary education.

The 1970 census data on education are sufficient to convince even the most skeptical that socialism gave the Estonian people unlimited access to knowledge, that it provided in deeds rather than in words for the growth of a national intelligentsia.

Secondary education is now compulsory. Young people must graduate from a general educational secondary school, a specialized secondary school or a vocational secondary school. The number of students is growing—the present figure is 158 per 10,000 of the population.

All over the Soviet Union not only a secondary education but any kind of education, including training for a trade or a skill, is free of charge. Moreover, college students and students in specialized secondary schools are entitled to state stipends. Students in vocational schools are fully maintained by the state. More than 100,000 working people in Estonia annually learn new occupations and raise their qualifications at the expense of the state.

Q: What do the statistics say about the development of public health services?
A: We have a good indicator—the number of doctors per 10,000 of the population. It was 10 in 1940 and 33.1 in 1970.

The average life expectancy in the republic is now 70. This figure speaks for itself.

We need add only that even the most complex operations and long hospital stays are free. Since the patient is entitled to from 50 to 100 per cent of his or her average monthly wage (depending on work record) during temporary disability, the family budget does not suffer. The cost of treatment is covered by social welfare funds.

Q: What about pensions?
A: The Constitution of the Estonian Republic guarantees financial security to all working people in old age and in case of illness or disability. In 1970 as many as 280,000 Estonians received pensions or grants totaling 161.6 million rubles.
Q: What about the relations between the Estonians and the other peoples of the Soviet Union?
A: In the first place, without the aid of the other Soviet peoples, and the Russian people in particular, Estonia would not have been able to rebuild its war-ruined national economy so rapidly, build up power and chemical industries, do intensive construction, enlarge its seagoing fishing fleet and, as a result, enable its people to enjoy a high standard of living.

We have tens of thousands of residents of other republics visiting Estonia every year. If some of them want to live and work in our republic, we say welcome. In the Soviet Union, any man can live where he wants to.

In the postwar years a large number of Estonians returned home from other union republics. Their parents had either emigrated as early as the last century or lived outside bourgeois Estonia for political reasons.

As far as the culture of the Estonian people is concerned, the possibilities for self-realization and fruitful work are unlimited. Eight of our nine professional theater companies are Estonian. Of the 10.8 million copies of books printed in 1970, some of 9.3 million were published in the Estonian language.

Out of a million copies of papers in daily circulation 0.9 million are printed in Estonian. Estonian radio, which has three bands, broadcasts in Estonian 24 hours a day. Estonian television transmits programs in Estonian for more than seven hours a day.

More than 217,000 children and adults —every sixth citizen—is active in drama, music, art and other special-interest clubs. The choral singing tradition has been vastly developed. The 44 museums in the republic were visited by 995,000 people last year.

Industrial and farm production of Soviet Estonia is at the level of the most developed countries of the world, said Lembit Tepp, deputy head of the republic's Central Statistical Board, in a talk with our correspondent. "We have no hesitation at drawing parallels with the countries of Scandinavia and Western Europe and their high living standards. For example, our per capita electricity production of 9,400 kilowatt-hours (and power production is unquestionably the main indicator of progress today) ranks us third in the world, after Canada and Norway.

"But we have an even more comprehensive basis for comparison—and this in the life span of just one generation. In the 32 years Estonia has been a Soviet republic (this includes the years of war and reconstruction) the republic's level of industrial production has grown 30 times over."

THE BATTLE FOR STALINGRAD

By Colonel General Alexander Rodimtsev

Twice Hero of the Soviet Union

In the early hours of November 19, 1942, a roar of terrific force spread across the steppe between the Volga and the Don. An avalanche of fire from thousands of guns, mortars and Katyusha rockets descended on the German fascist troops. Supported by tanks, the Soviet infantry attacked. Hundreds of bombers and fighters soared into the sky.

The Soviet counteroffensive at Stalingrad had begun—an offensive that was to be crowned with complete success. A picked enemy grouping totaling 330,000 men was encircled and destroyed, and thousands were taken prisoner. On February 2, 1943, the Nazis raised the white flag of surrender. This battle, which lasted almost two and a half months, severely undermined the Hitlerite army's fighting spirit. It marked the turning point, not only in our struggle to repel the nazi invaders, but in the Second World War as a whole.

Actually the battle for Stalingrad had begun much earlier. Before they could deliver that crushing blow at the enemy, the Soviet troops had to withstand the fierce onslaught of Hitler's mechanized and armored divisions. Again and again the city was shelled, but it continued to fight, standing like an impregnable fortress. The legendary courage of Stalingrad's defenders enabled the Soviet command to muster its forces in the worst days of the war and then rout the enemy.

Alexander Rodimtsev was in command of a division that defended the city's center during those days.

ANYBODY visiting Volgograd can see silvery tanks mounted on pedestals along the Volga. They mark the line held by Soviet troops during their defense of the city. At some points this line almost reached the river. The Hitlerites were within a thousand feet of their goal, but they were unable to break through.

In September 1942 the men of our division arrived on that strip of blazing ground. German radio was announcing to the world that Stalingrad would soon fall. We came to the assistance of the 62nd Army, which was fighting fiercely to hold up the enemy's superior forces. Our troops were outnumbered one to three. The Hitler command had flung 170,000 soldiers and officers, 500 tanks, about 1,000 aircraft and 3,000 artillery pieces against the 50,000-strong 62nd Army, and reinforcements were badly needed.

A grim picture unfolded before us. The whole city was enveloped in flames—even the Volga was afire. Our division went right into battle as soon as armored boats had brought it from the left to the right bank. Neither time nor conditions permitted us to get our bearings or assess the situation. Even so, the pressure of our men was so powerful that the enemy had to give. First we drove the fascists out of the center of Stalingrad and then swept them from Mamayev Hill.

That was the first of 140 days and nights of fighting in the besieged, but unsubdued, hero-city. It was an incredibly difficult day, and we lost many of our comrades in arms. But the weeks that followed, when the tension of combat seemed almost beyond human endurance, were even more difficult. Still our men stood their ground, repulsing 12 to 15 attacks a day. Not only every street, but every apartment, every room was fought for bitterly. I saw many proofs during the battle for Stalingrad that a man fighting for a just cause, fighting to defend his country, is stronger than any fire, any metal, and that no force can bring him to his knees.

Yelin's regiment, defending the railroad station, was cut off from the rest of the division. Having assembled a powerful striking force, the Hitlerites were storming the station. Our men fought for several days against heavy odds—when the Germans captured the station, there wasn't a single living defender left. "The guardsmen of Rodimtsev's division stood here until death" was the inscription they left on the station wall. Later, after the Hitlerites suffered a crushing defeat at Stalingrad, the comrades of the fallen added: "They still triumphed over death."

It is no exaggeration to say that all of Stalingrad's defenders were heroes. I'll tell you about one of them—Sergeant Yakov Pavlov. I knew this gallant, fearless commander well, and had been in the house he defended and which was eventually called "Pavlov's House." On Field Marshal Paulus's private map the house was designated as a stronghold. Captured German officers claimed it was defended by a Soviet battalion. There were only 50 men in that garrison, but they kept all the adjoining streets under deadly fire. Every man there fought for three. Once during the battle I asked machine gunner Yegorov what his job was in the crew. "I'm three in one, Comrade General," he replied. "I'm the commander, the machine gunner and the ammunition carrier."

The little garrison fought for 50 days, repulsing hundreds of attacks. Historians have calculated that the fascists lost many more men at the walls of Sergeant Pavlov's house than they did at the approaches to Paris.

The question arises: Where did the soldiers get their strength, what was the source of the heroism that amazed even veteran fighters like me? There's only one answer: Our men knew what they were fighting for. The Russians Pavlov, Alexandrov, Afanasyev and Voronov, the Ukrainians Glushchenko, Demchenko, Dovzhenko and Ivashchenko, the Georgians Mosiyashvili and Stepanoshvili, the Tatar Ramazanov, the Kazakh Murzayev, the Tajik Turgunov, and representatives of many other Soviet nationalities faced a common enemy. Their brotherhood, steeled in the fire of battle, helped them hold out and overcome.

During the most trying days of Stalingrad's defense, when superior forces of the enemy pressed stubbornly toward the Volga, Pavlov and his men—and every Stalingrader—knew that sooner or later the hour of retribution would come, that the Soviet army would muster its forces for a powerful, victorious blow. And that hour struck on the morning of November 19, 1942. An artillery barrage of unprecedented force heralded the beginning of the general counteroffensive at Stalingrad.

Encouraged by the counteroffensive, the city's defenders struck out at the Nazis with even greater force. On February 2, 1943, firing ceased, the red flag of the Soviet Union was unfurled over the city, and people poured out into the streets to celebrate.

Thirty years separate us from those grim events, but we still remember. I visit Volgograd frequently, and I know with what love everything associated with the heroic defense of the city is preserved and cherished. An endless stream of people moves toward the majestic monument on Mamayev Hill, where death raged 30 years ago and where the ground was covered with a thick layer of shell splinters. They come to honor the radiant memory of Stalingrad's defenders. The city is a symbol of our people's courage, of their loyalty to their socialist homeland, and new generations seek to emulate the exploits of Stalingrad's heroes in their lives and deeds.

Thirty years ago Stalingrad lay in ruins, it was actually nonexistent. But today, as if by some miracle, a beautiful city stretches for 45 miles along the bank of the Volga—a modern city with wide, straight avenues, sun-drenched apartment buildings, schools and palaces of culture, a major industrial and cultural center. Volgograd looks lovelier each year, and every time I visit it I find new improvements. The fighting, the terrible autumn and winter of 1942-43 were not in vain.

Many people who served in the front lines in the battle for Stalingrad are now helping to build the new Volgograd.

I keep track of my former front-line comrades and correspond with them. For instance, I know that Ivan Afanasyev, one of the outstanding members of our guard division, did not leave the city he had defended. Afanasyev was blinded in the fighting, but the doctors of Volgograd restored his sight and he is now doing important educational work among the youth.

I also correspond with Yakov Pavlov, the former commander of that heroic garrison. Pavlov moved to Novgorod, where he has a job at a factory. A third friend of those days is Ilya Voronov, who lives and works in a village in Orlov Region. This veteran was wounded 25 times by bullets and shell splinters, but he has no intentions of sitting back and relaxing. That's what the front-line men, the Stalingraders, are like.

* * *

I once read that Western historians have compared the Battle of Stalingrad with the British offensive at El Alamein in the fall of 1942. I'll cite just a few figures related to the two battles: At El Alamein, 4 German and 8 Italian divisions were routed, while in the Soviet counteroffensive at Stalingrad 32 enemy divisions and 3 brigades were completely destroyed, and 16 other divisions were routed. All told, the Hitlerite army at Stalingrad lost up to one and a half million men—about a fourth of its forces on the Soviet-German front.

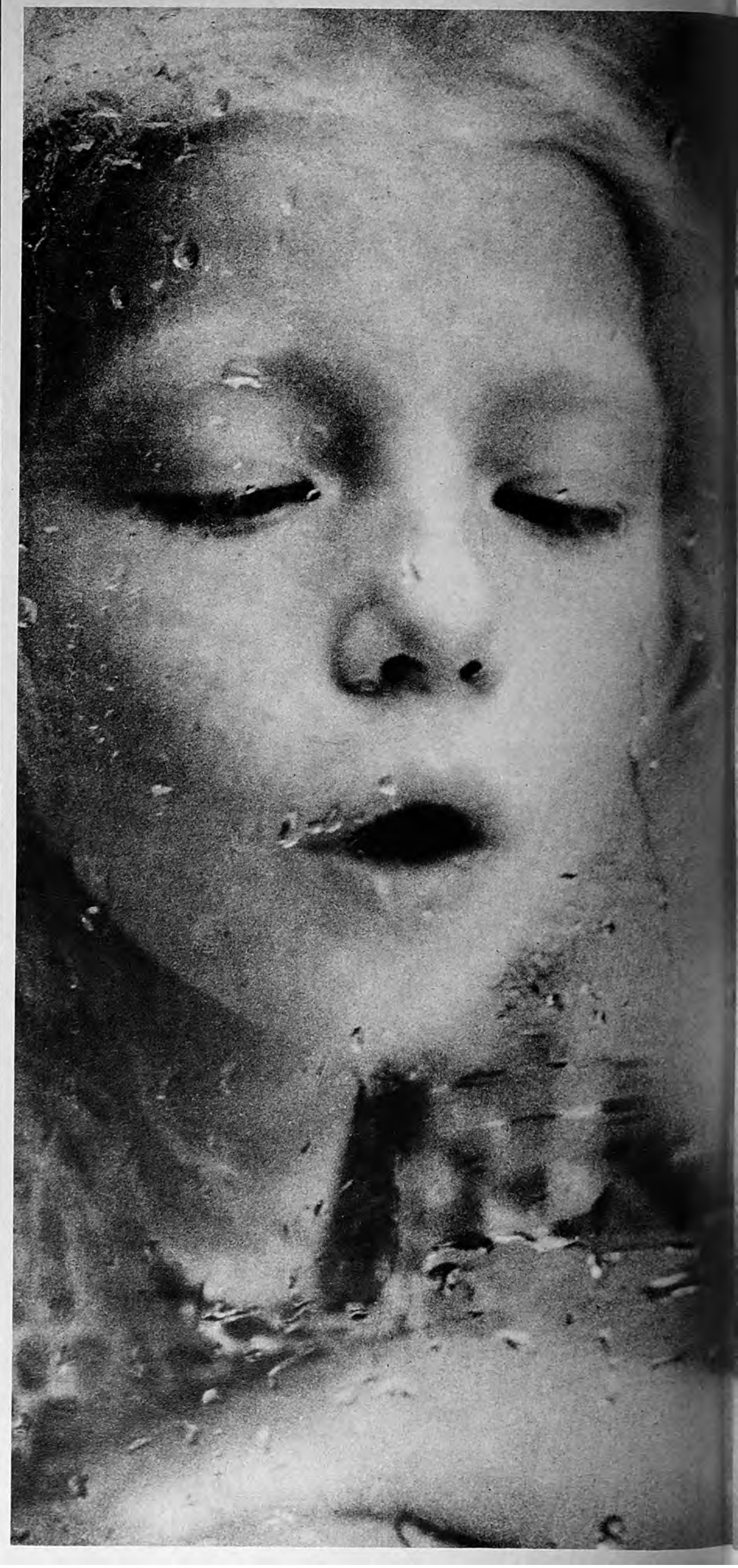
The meaning of Stalingrad cannot be ignored or distorted. In the museum honoring the city's defenders is a scroll signed by the late U.S. President Franklin D. Roosevelt, which reads:

"In the name of the people of the United States of America I present this scroll to the City of Stalingrad to commemorate our admiration for its gallant defenders whose courage, fortitude, and devotion during the siege of September 13, 1942 to January 31, 1943 will inspire forever the hearts of all free people. Their glorious victory stemmed the tide of invasion and marked the turning point in the war of the Allied Nations against the forces of aggression."

The Eye of the Artist



Self-Portrait with Mother.





After the Rain.



Group Portrait of Vilnius Cartoonists.

LITHUANIAN PHOTOGRAPHER

By Konstantin Vishnevetsky

ALWAYS SEARCHING, always trying to capture the elusive—that is photographer Vitas Luzkus, whose work appears on these pages. Luzkus, 29, lives a life of unending visual exploration, of inner tension and movement. He is seldom satisfied with what he has produced.

Luzkus is as demanding of his colleagues as he is of himself, often reproaching them for showing too many photos: "Better fewer, better only one, but let it be the real thing," he says.

From his own work he demands an honest and understanding representation of men and nature.



Portrait.

Happy Man.
Portrait of a Lithuanian collective farmer.







Friends and Familiar Places



The Wood.



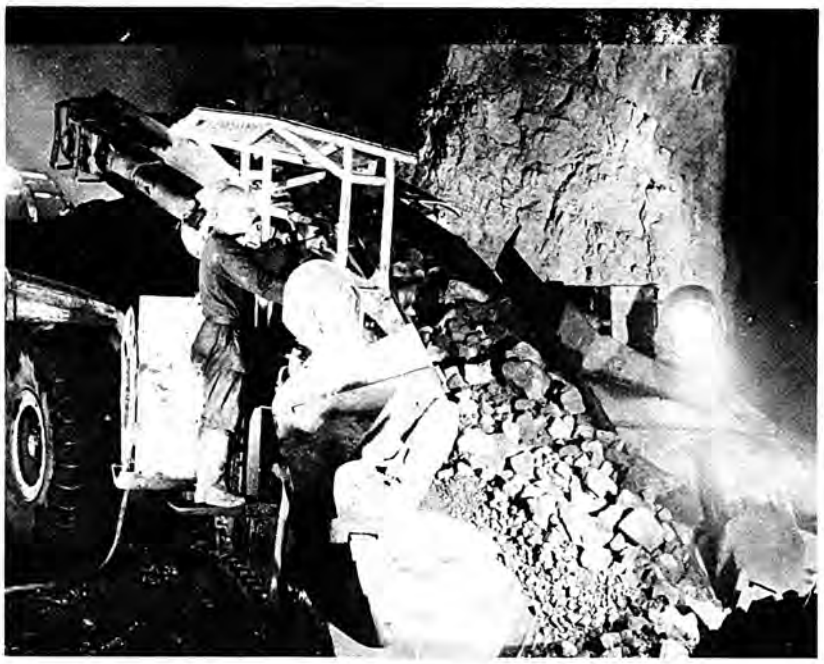
Movement.
A rehearsal of the Kaunas Mime Theater.



Wedding.

Taking up photography in 1960, Luzkus worked for three years with the Kaunas Photo Club. Then he got a job in the advertising department of an office in Vilnius, the capital of Lithuania. There is plenty to keep him busy—traveling, decorating show windows, enlarging and printing advertising photos. He likes the travel the job requires—it gives him a chance to meet new people, and that means new ideas.

people and events



Mining Deep Ore

The Glubokiy (deep) Mine in Kentau, South Kazakhstan, one of the largest of its kind in the country, extracts highly concentrated complex ores. It is 2900 feet below the surface, under the operating mine of a lead casting plant. Glubokiy uses 25-ton trucks, continuous action loaders and remote controlled bulldozers for fully mechanized stoping.

Ores are mined at the rate of 500 to 650 feet a month in vertical workings and 1,000 feet in horizontal workings, more than double present-day rates of high-speed mining.

Self-propelled machines work three ore zones simultaneously.



UN Secretary General Visits Moscow

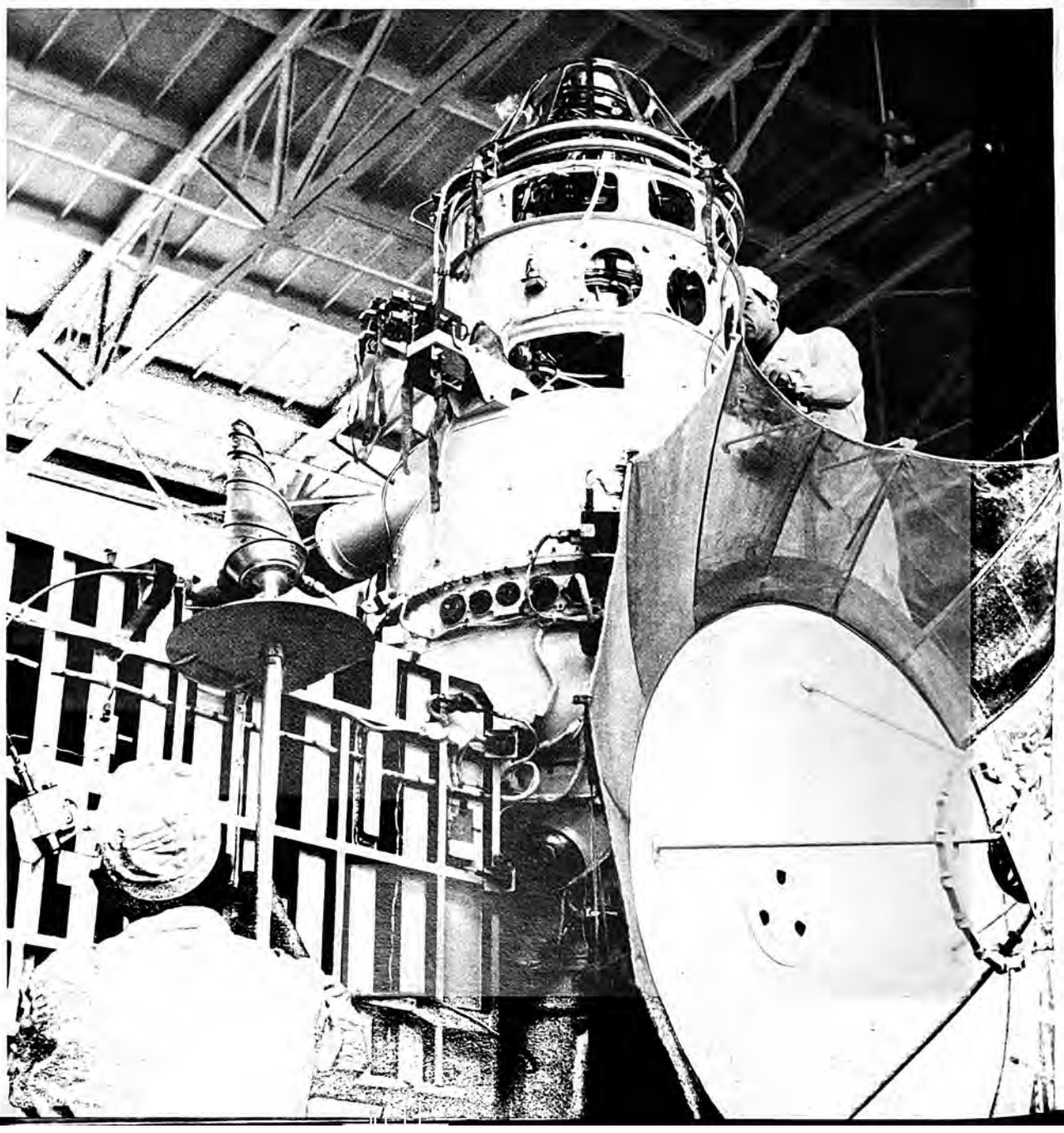
At the invitation of the Soviet Government, Kurt Waldheim, Secretary General of the United Nations, visited Moscow and the Uzbek cities of Tashkent, Samarkand and Bukhara.

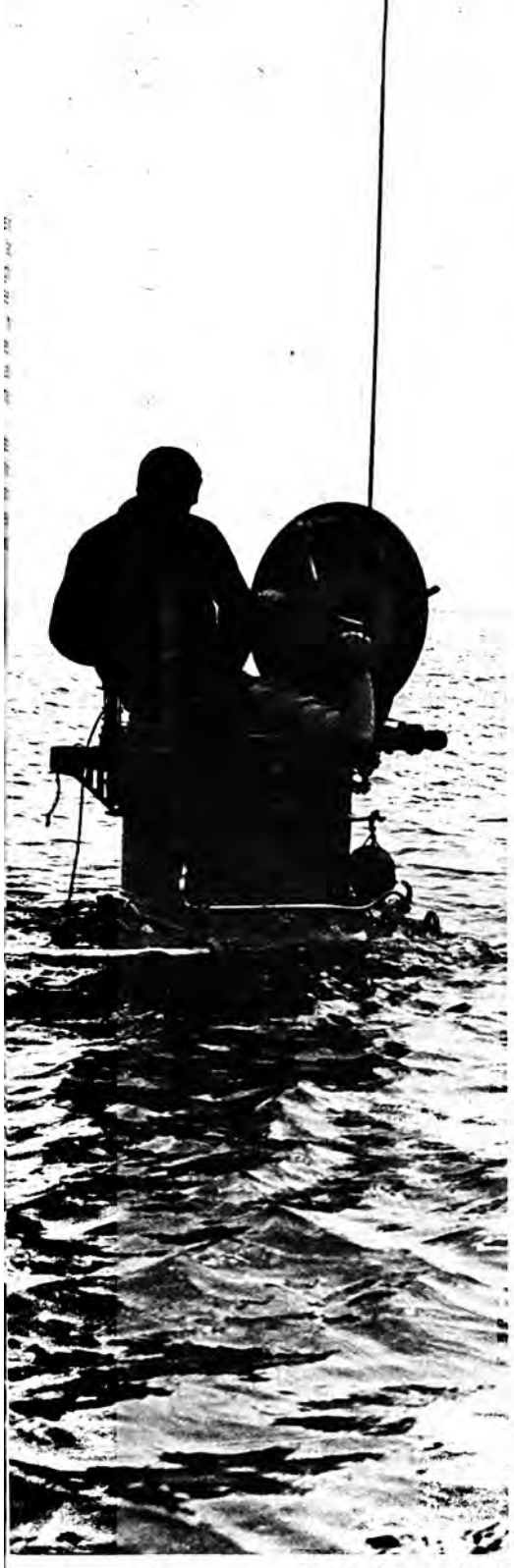
In Moscow Waldheim conferred with Alexei Kosygin, Chairman of the USSR Council of Ministers, and Minister of Foreign Affairs Andrei Gromyko.

Before he left New York, the UN Secretary General held a press conference at which he noted the recent efforts of the Soviet Union to achieve mutual understanding and cooperation with other states. He cited as examples the signing and ratification of the treaty between the USSR and the Federal Republic of Germany, which recognizes the inviolability of Europe's postwar frontiers; the signing of the four-party agreements on Berlin; and the important documents that resulted from the Soviet-American summit talks in Moscow last May. "I believe," Waldheim said, "that these actions of the USSR will be of invaluable aid to the UN."

New Landing On Venus

After a 117-day flight that covered 185 million miles, the automatic probe Venera 8 has made a soft landing on the illuminated side of the planet. As the station penetrated the Venusian atmosphere, it released a descent apparatus that has been transmitting information to Earth on the planet's surface layers, the pressure and temperature of its atmosphere, and other important phenomena.





Self-Propelled Bathyscaph

Igor Danilov and Oleg Pavlov, engineer-oceanographers, have invented a new, self-propelled underwater apparatus called the Guidon. It is intended to monitor schools of fish and fishing tackle, study the bottoms of lakes, seas and rivers, and explore the ocean bed at shallow depths.

The Guidon has a displacement of more than three tons and can descend to a depth of 820 feet. Its air regeneration system is sufficient for a crew of two or three for 72 hours.

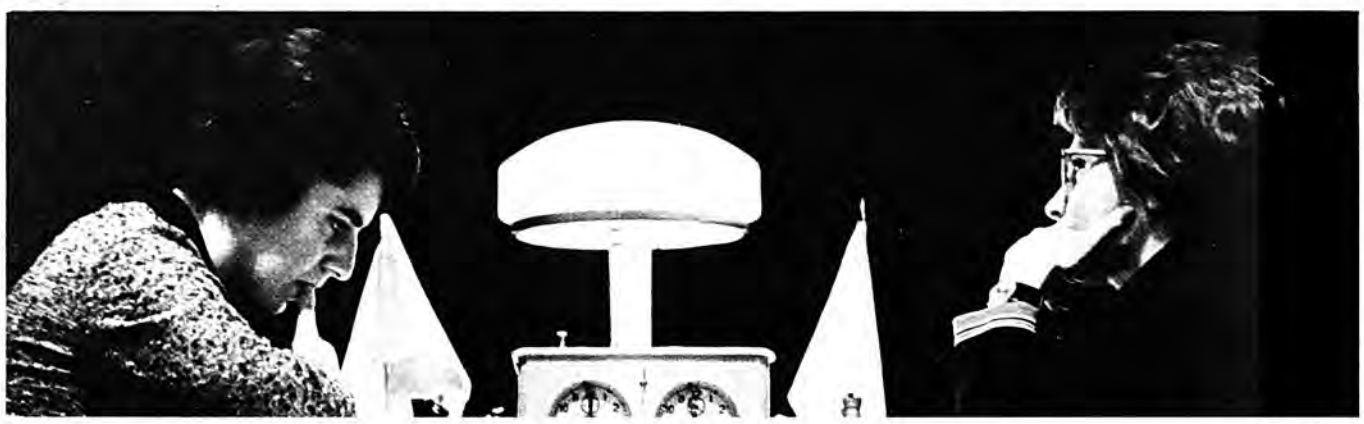
The Guidon has already passed preliminary tests in the Black Sea.

Foreign Students In the USSR

More than 3,000 foreign students received diplomas from Soviet universities and institutes this year. Some 30,000 students from 130 countries, including 13,000 from Asia, Africa and Latin America, are studying at our institutions of higher education. They take the usual courses plus some special ones to meet the needs of their countries. The professional orientation of these students varies widely. Those from the developing states, for instance, are training for 170 different specialties.

Tuition is free, and foreign students enjoy the same privileges as their Soviet colleagues. They receive stipends, live in student hostels and are entitled to free medical care.







Woman Chess Champion

At the women's world chess championship in Riga, Nona Gaprindashvili of Georgia won the gold medal for the fourth time. Her score against Alla Kushnir of of Leningrad was 8½:7½. The 48-day match was one long, fierce battle, and even in the fifteenth game it was hard to tell who would win.

Gaprindashvili, 31, has been playing since she was 15. She won her first championship 10 years ago while studying at the Tbilisi Institute of Foreign Languages. She is now an English teacher at the institute and a deputy to the Georgian Supreme Soviet.

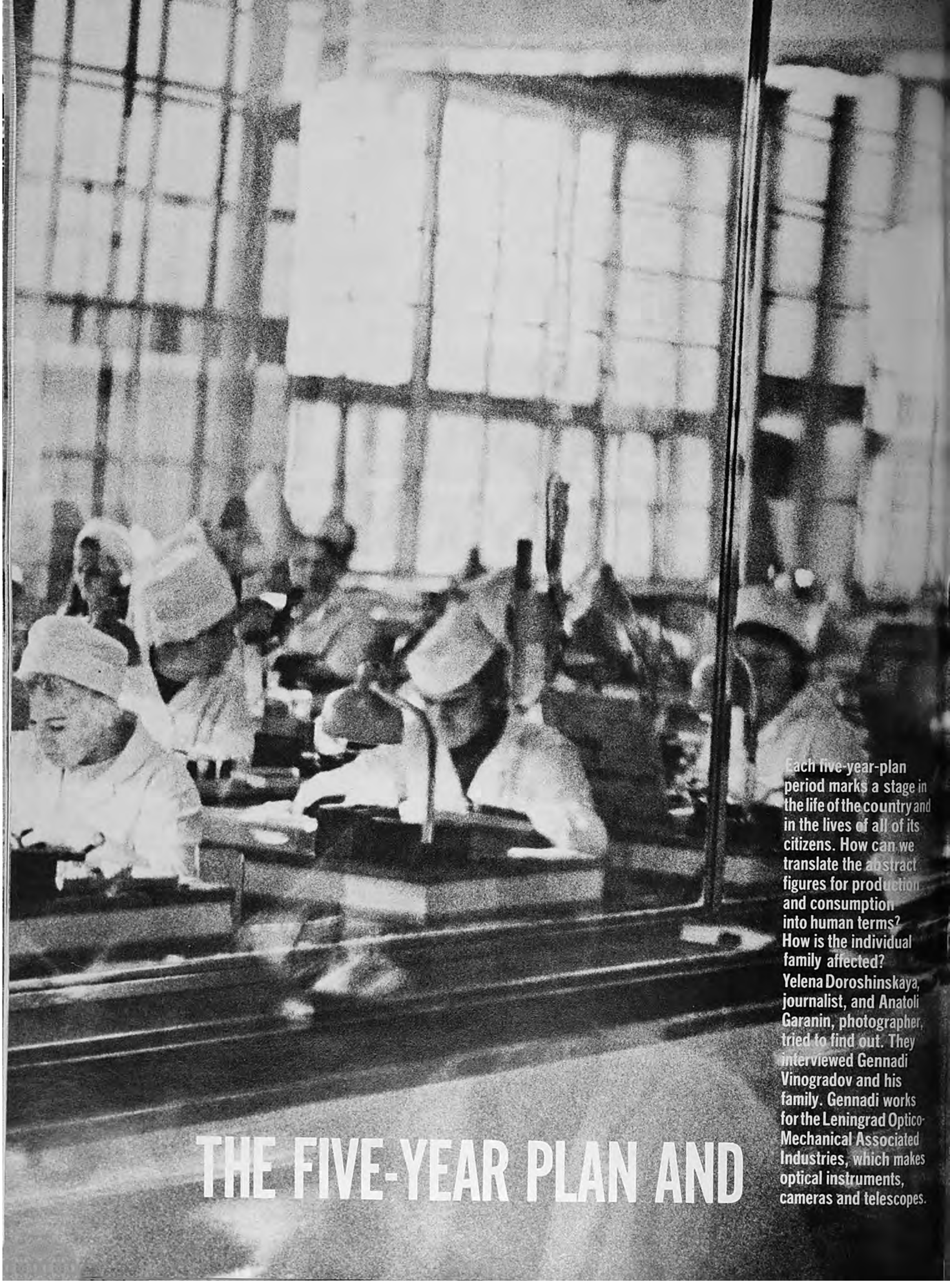
Maya Plisetskaya As Anna Karenina

The première of Rodion Shchedrin's ballet *Anna Karenina* took place recently at the Bolshoi Theater in Moscow. The libretto, by Boris Lev-Anokhin, is based on Leo Tolstoy's novel of the same name. The title role was performed by prima ballerina Maya Plisetskaya, who also helped compose the dances.

The composer and choreographers did not even try to translate the entire novel into dance form. However, much of the mood of Tolstoy's monumental work is reflected in the production.

Shchedrin's music is both poetic and dramatic. It is altogether individual in approach, with strong contrasts and great expressiveness. Occasionally he weaves Tchaikovsky's music into the score to reproduce the atmosphere of the past century.

Maya Plisetskaya creates a moving, completely believable image of Anna, whose defiance of social taboos ended in tragedy. She is ably supported by Marius Liepa as Vronsky and Nikolai Fadeyechev as Karenin.



THE FIVE-YEAR PLAN AND

Each five-year-plan period marks a stage in the life of the country and in the lives of all of its citizens. How can we translate the abstract figures for production and consumption into human terms? How is the individual family affected? Yelena Doroshinskaya, journalist, and Anatoli Garanin, photographer, tried to find out. They interviewed Gennadi Vinogradov and his family. Gennadi works for the Leningrad Optico-Mechanical Associated Industries, which makes optical instruments, cameras and telescopes.



THE FAMILY

By Yelena Doroshinskaya
Photographs by Anatoli Garanin

10 QUESTIONS FOR GENNADI VINOGRADOV

The Vinogradovs are a young family. The picture in the family album of Gennadi in a black suit and Ludmila in a white dress and bridal veil was taken only seven years ago. Gennadi is now 32, and Ludmila 30.

"What can you possibly find to write about?" Ludmila asked. "There is nothing unusual about us."

It is true that many other couples their age have much the same background. Both their fathers were workers. Gennadi's dad was a painter and Ludmila's a cabinet maker. When the war broke out, their mothers were left alone with the children. They volunteered for work normally done by men. Gennadi's mother went to the lumber camps to help provide besieged Leningrad with wood. Ludmila's mother took a job in a foundry. Her husband died of wounds in an army hospital. Gennadi's mother succumbed to a heart attack brought on by the hunger and cold of the siege.

When Gennadi graduated from high school, his father brought him to Associated Industries and said:

"Now that you are starting work on your own, don't bring shame on my head."

The boy began as an adjuster, supervised by an experienced foreman until he learned the job. Evenings he took courses to qualify for more demanding jobs. Now he is a skilled worker.

When Ludmila was at school, she went in for amateur dramatics. Then she took a liking for foreign languages. But her mother said:

"These things are all right as hobbies. But for work, go to a factory."

The girl listened to her mother, went through a specialized secondary technical school and took a job in a telephone equipment factory.

What was the happiest and most significant event in your life in the last couple of years?

I'd say there were two events. The first was the birth of our second child. We both wanted her very much because we know how hard it is to bring up an only child without spoiling her. An only child will inevitably feel that all the thoughts and hopes of the parents are centered on her. Yulia, our elder daughter, is six, and Irina will soon be one. Yulia enjoys helping her mother look after the baby.

The other important event was joining the Communist Party. This is a very serious step in a man's life. Though I have been active in community affairs from my schooldays, my new responsibility is far greater.

I really enjoy community activity. I'm not the only one. In the past five years close to 600 people at my factory have become Communists.

At a meeting of the department party bureau. Below: Irina, youngest member of the family.





What are the new and interesting developments at your plant?

I don't know all of them, but I can tell you about those I do know. Our factory drew up a five-year plan of socio-economic development that we fulfilled ahead of schedule. We accomplished quite a lot. For instance, we developed more than 350 models of optical instruments. They are exported to 88 countries.

Our wages have gone up an average of 30 per cent. Our holiday resort outside the city has been expanded to accommodate 3,000 adults and 7,000 children every summer. Our hospital added another building with room for 200 beds. Our stadium—it's right near the factory—was enlarged, the house of culture was rebuilt, and we laid out a garden on the factory grounds.

Things have happened in the department as well. More modern equipment has been installed. Working conditions have improved. We have better lighting and ventilation.

Oh course, we haven't solved all our problems. Housing still has a high priority although many of us have moved into new apartments recently.

At his bench in a shop of the optics plant. Below: One of the plant's newest buildings.





Has your housing improved?

Yes, we moved into a new apartment. We did have to give up the convenience of living right in the center of the city, where we shared an apartment with my dad, and move to a new neighborhood closer to the edge of town. But we have plenty of space now.

The whole family taking a walk to explore the neighborhood they have just recently moved to.



How about medical services? Do you have any problems with the baby?

Fortunately she's a health child, we seldom have to call the doctor. But we have her checked regularly. The children's clinic isn't far away. It has just opened. The doctors are young, but they are very competent.

Now that we live closer to the country, the surroundings are better: The air is purer, there are trees and bushes and lots of space. It's much better for the children here, both for health and recreation.

A routine physical checkup for Irina at the new children's clinic near their apartment.



What is the new neighborhood like? Comfortable?

Yes and no. Things are only starting there. Our district is second in Leningrad in rate of construction. Services and conveniences lag behind the housing. In the beginning there were complaints about overcrowded buses during the rush hour. But new bus lines were opened. People were annoyed that there were so few shops and shopping centers, but now a department store has opened. We have a modern movie house. The kindergarten we used to take Yulia to is not too close. But the school she'll go to is practically next door.

Gradually everything is being ironed out. We like our apartment, and that's the main thing. We did all the interior decorating ourselves. Ludmila provided the ideas, and I worked them out. We like our home.

Top to bottom: The nearby supermarket, widescreen movie house and Yulia's kindergarten.







How do you spend your weekends?

Working days I'm very busy, so when I get home I'm really exhausted. That's why I devote my Saturdays and Sundays to the wife and kids. I play all sorts of games with the girls. Sometimes Ludmila and I go to our house of culture to see a new film or to dance. We also like to stroll through the streets of Leningrad in our free time.

Ludmila and Gennadi pause at the Neva Embankment on their walk through Leningrad.



What are your interests beyond work and home?

Well, first, I'm a member of a People's Control group. We work with our trade union and management on such matters as the quality of products, economical expenditure of factory funds and employee welfare. There are many sides to our work. For instance, I visited several shops that sell our cameras and talked to both the shop assistants and the customers. What they thought was important for our designers. The bigger the market for our products and the higher the profits, the bigger the allocations for employee welfare.

Legal pointers for People's Assessor Gennadi. Below: Meeting of the People's Control group.





I have another job. Several years ago I was elected people's assessor of a district court, and just recently I was re-elected. The people's assessor has the same responsibilities as the judge. To express an opinion on the sentence, I not only have to know the law; I must be able to discern the motives behind the crime and understand the psychology of the defendent. I get help from the legal department of Associated Industries, of course. They always give me advice I can rely on. But that isn't enough. So I've begun studying evenings in the Department of Law at Leningrad University.

More than a hundred workers from our department are going to one or another kind of school. Some attend the evening school for general education, others the physicomechanical secondary school, still others the evening section of the Institute of Precision Mechanics and Optics or the correspondence course at the Polytechnic Institute.

What else do you do in your free time? Have you any hobbies?

We like driving. A short while ago we bought a car. There are quite a few car-owners at Associated Industries.

I also like playing around with my movie camera. This has been my hobby for some time. I shoot landscapes a lot, reminders of our auto trips.

Before Ludmila and I got married I preferred musical comedy. But now I like drama more. She has given me a taste for more serious theater and for classical music and museums.

At St. Isaac's, the early eighteenth century cathedral that is now a magnificent museum.



What friends do you have?

We have many friends. Old ones from my schooldays and the job and new ones I've met at the university. The pity is that we don't get together as often as we would like to. Many of them have moved to new apartments in new neighborhoods. Practically all of us are married and raising families. Everybody seems to be so busy. But we do see one another on special occasions—birthdays and wedding anniversaries. And we celebrate New Year's together. We always have plenty of news to share.

But frankly speaking, my closest and dearest friend is my dad. He is our most frequent guest too.

Top to bottom: Visiting with Gennadi's father, new friends at the plant, old friends at home.







Do you have any unsolved personal problems?

Ludmila with Yulia and Irina. She plans to go back to work when the children are a little older.



None that I can think of. When Ludmila worked at the telephone factory, our income was larger, of course. Today we have to plan our buying more carefully.

But that's no problem really. What's more important is that Ludmila misses her job and the people there. She feels out of things at home. She wants to meet more people. Household chores are boring although she is an excellent housekeeper.

This isn't the right time to talk about Ludmila's going back to work. She still has to look after the baby. When Ira is ready for nursery, we'll start talking.

SOCIAL CONTOURS OF THE FUTURE

Addressing the Fifteenth Congress of the Trade Unions of the USSR on March 20, 1972, Leonid Brezhnev, General Secretary of the CPSU Central Committee, said that work would be started soon on a long-term economic plan for the period ending in 1990. It will include a comprehensive plan of economic and social development for the city of Leningrad and Leningrad Region. Grigori Romanov, First Secretary of the Leningrad Regional CPSU Committee, touches on some of the major aspects of this plan in an interview for *Literaturnaya Gazeta,* reprinted here.

QUESTION: News of the first social development plan drawn up by a factory spread throughout the country six years ago from Leningrad, or from the Svetlana Plant, to be more exact. As far as we know, all Leningrad enterprises now have such plans.

The time has come for a single long-term social development plan for the city and the region as a whole, and then for the entire country. The logic of this development is obvious. But still, since our previous development plans included the economic as well as the most important social goals, will you explain what motivated it?

ANSWER: You're right. Major social problems, whether they concerned a rise in living standards or better social relations, have always been included in our economic plans and were solved. This is evident in the striking changes in our Union, which will celebrate its fiftieth anniversary this year. But life, especially under the impact of the scientific and technical revolution, is developing a dynamism which is unprecedented. New horizons are opening up as a consequence of the country's increased scientific and economic potential, our higher living standards and the growing requirements of our people.

"The very nature of the tasks facing us is such that their solution, as a rule, calls for the coordinated effort of many branches and economic regions, and includes the implementation of a whole system of various undertakings," the Report to the Twenty-fourth Party Congress noted. I draw your attention to the term "system of undertakings," that is, to the comprehensive nature of our approach.

It is becoming an increasingly pressing necessity to analyze constantly, and in all their diversity and interconnection, the complex processes in the related spheres of production and services, the economy and people's living standards. To analyze is an understatement, we must control these processes scientifically. It is in the levers, in the instruments of this control, that we often fall short.

What is our Leningrad Region today? It has fast developing agriculture and a growing industry. As for the city, it has many huge research and design institutes, a complex municipal economy and about a thousand industrial enterprises responsible to more than a hundred different ministries. But we still do not have the mechanism for coordinating the development of each cell of this single organism with its other elements.

All our goals derive from the individual. All the fruits of labor depend on him and are returned to him.

We are beginning work on a comprehensive plan for the economic and social development of Leningrad and Leningrad Region up to the year 1980. It will require scientific precision and the assistance of the central government. The tasks of the central ministries and the deadlines will be determined in the near future.

QUESTION: It is probably too early to talk about the specific targets of the future plan. Still, will you give us some idea of the new elements in this plan for social development?

ANSWER: I would like to stress one point. The economy has been and always will be the foundation of social transformations, whether for the country, a region, a town or an enterprise. We have learned from experience that the solution of purely social, human problems is ensured only when the necessary material and technical resources are accumulated. Here are some examples:

Heavy manual labor has been completely eliminated at the Leningrad opticomechanical plant. Nearly 8,000 of the workers have raised their general and technical educational levels, and workers are being trained in various trades in anticipation of demand. There are enough kindergarten and nursery facilities for the children of every interested parent. The plant's outpatient clinic and hospital are able to handle the over-all medical requirements of the staff.

What is the source of these considerable social achievements? First of all, the plant's economic progress. It invested nine million rubles in modernizing production and reorganizing management with the help of a computer-based system. The money came mostly from its development fund, built up by drawing on its profits. Labor productivity went up 50 per cent, and profits 200 per cent.

This is the springboard for eliminating heavy manual labor and satisfying the needs of today's worker.

That, too, is why we link our future first of all with more efficient and more specialized production. For example, only by specializing the output of products required by general engineering plants—castings, forgings, tools and the like—

will we be able to raise output by 150 per cent, increase labor productivity, shut down the small production shops and sections that are still operating, where working conditions are usually not the best, and free over 20,000 workers for more necessary and more interesting jobs.

QUESTION: But in the course of scientific and technical progress certain paradoxical situations emerge. One of our scientists wrote an article for Literaturnaya Gazeta entitled "Oh, These Boring Semiautomatons . . ." His point was that we cannot rely entirely on the inner logic of technical progress and that designers of new equipment must have in mind not only the technicoeconomic but also the social parameters, that is, they must think of the person who will be operating the future machines. What is your feeling about that?

ANSWER: Even in your own example we can trace a characteristic chain of interconnections. As a rule, plants do not manufacture the equipment they use. And designers are not usually concerned with these social aspects. All of which is added reason for large-scale comprehensive economic and social plans. Without such planning we have often found ourselves in absurd situations which could have been resolved in a single plant.

Studies in the sociology of labor show a new type of modern worker, one who has a well thought-out philosophy of life, an appreciation of the creative, intellectual content of labor, who has high production. Also the modern worker is interested in his future, in the possibilities for advancement. These considerations often push even such a vital consideration as wages into the background.

At the same time, as a result of the scientific and technical revolution, production makes greater demands on the worker. We often, as we should, link labor productivity to the mood and health of personnel, to the psychological climate at the plant, to the relations between management and staff. All this is true, but what is decisive today is the skill, breadth of interests and the general educational level of the workers.

A special decision that opens up very interesting and wide-ranging possibilities in Leningrad was adopted on the initiative of our party organization. I mean the creation of a network of vocational-technical schools that will offer both a trade and a formal secondary education. Estimates show that by 1978 there will be twice as many young people in vocational-technical schools as graduates of general education schools.

But that is only one side of the problem. Another is whether these labor resources are sufficient. We are searching for an answer to this question. We have instructed design organizations to think in terms of equipment and technology at newly built or modernized enterprises that would give us two or three times higher labor productivity than presently operating enterprises.

QUESTION: Now we would like to walk out of the factory gates and have a look at Leningrad, at the problems of urban living that the comprehensive development plan will tackle. Leningrad is famous for the beauty of its architectural monuments and ensembles. This makes the facelessness and lack of identity of the new housing projects even more painful by contrast. Can't we insist that architects, like designers, give more attention to human, esthetic needs of Leningraders and of people throughout the country who admire the city?

ANSWER: No question about it, the architecture of the new residential areas should and must be improved. We are interested, for instance, in Moscow's shift from conventional-type apartment house construction to standardized elements that allow room for diversity. Variety in urban architecture has also appeared in the neighboring Baltic republics, as well as in Minsk and Yerevan. We are studying this experience with due consideration for Leningrad's architectural and urban traditions. We will soon be discussing our city planning and its architecture in the context of the comprehensive plan. The plan, we hope, will help us solve other urban problems as well.

QUESTION: Could you give us some examples?

ANSWER: Well, let's take the housing construction we're talking about. In the last few years alone we've built 130 million square feet of housing. In the same period we built 120 schools, 150 kindergartens and nurseries, 40 outpatient clinics, hundreds of trade and service enterprises and cultural institutions. In the past five-year-plan period every fourth family in Leningrad had its housing conditions improved.

On the one hand, with the comprehensive plan we can make provision for constructing housing, cultural institutions and service enterprises financed not only by the local Soviets but by industrial plants and commercial agencies. On the other hand, like many other Soviet towns, Leningrad is expanding rapidly and hundreds of thousands of people are leaving their old homes—often not very comfortable or too small for their growing families—for apartments in the new residential areas. That is all to the good. But what happens at the same time? The man who only yesterday lived near his factory now finds himself at the other end of town. It takes longer to get to work and back. And traveling whittles away the time he might use to go to a theater or an exhibition, the time he needs for his own development.

The long distances between home and work account increasingly for job turnover. People look for jobs near homes. Very good, if they find them. But our aim is to give every person a job he likes because it's what he wants to do, not because he lives in a particular part of the city. The personnel of the Baltic Shipping Administration, for example, offered a big apartment house in a suburb far from the port. Of course, a house closer to the port could have been found. But as things are today such simple solutions are frustrated by lack of contact between the various districts. As you know, Leningrad is divided into a number of districts. Well, in the comprehensive plan the city will really be considered as a single organism, and we will be able to regulate the process.

Another example. Take a look at the geography of services. The service industry is lagging behind the growth of new residential areas. This is a general deficiency we are making efforts to remedy. But we also find that the volume of services varies greatly from district to district.

QUESTION: Some of that might be explained by the fact that the enterprises themselves often finance the construction of housing, cultural institutions and service facilities. One plant will have a Palace of Culture while another will find even a club building too expensive. There's really nothing you can do about that.

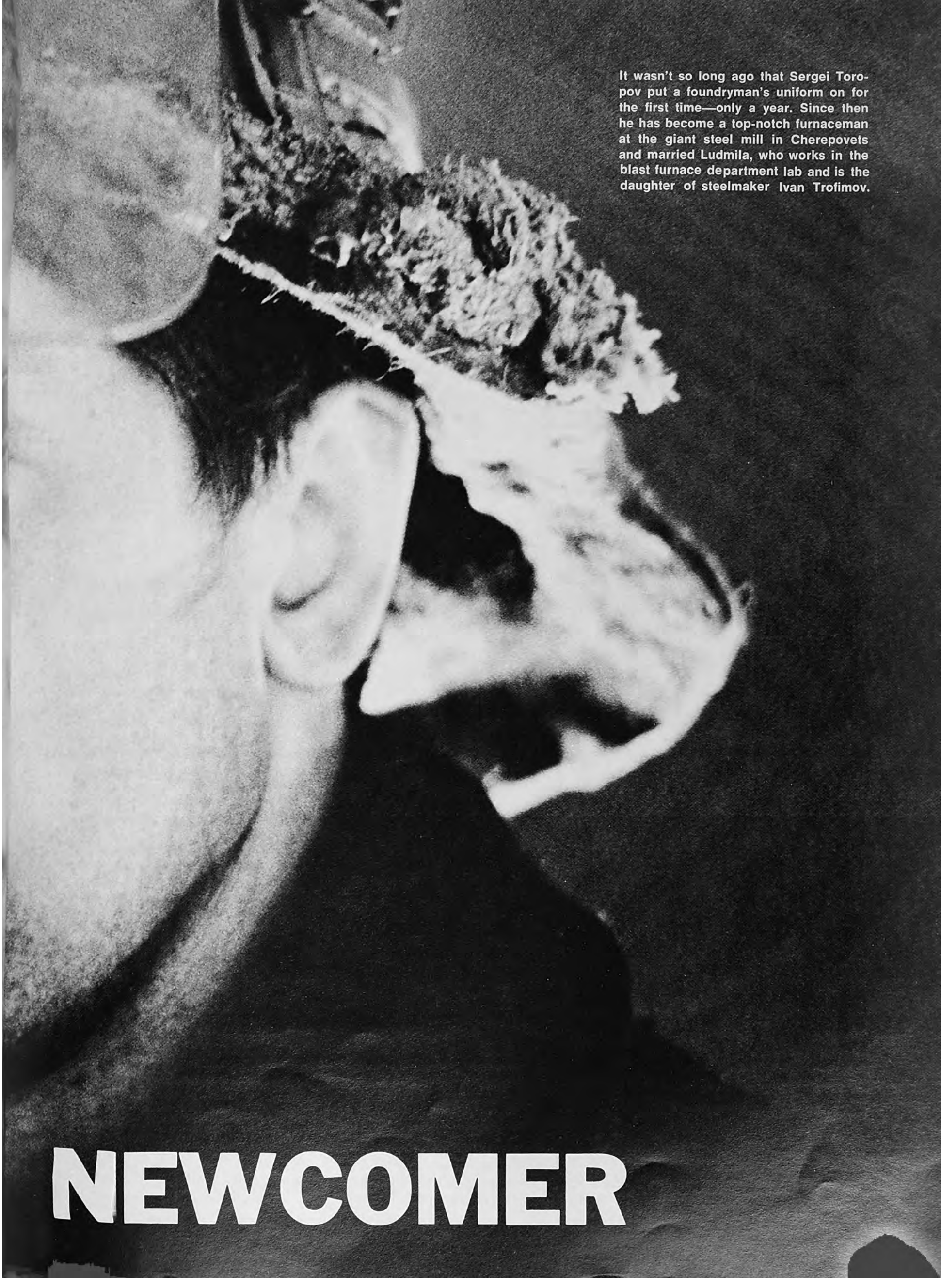
ANSWER: That isn't so. There is a good deal we can do about it. How about pooling resources? We already have plenty of experience with enterprises that share the cost of construction. Combining funds means they can be used to better effect. There is the example of Volkhov, a town in our region. In the past five years enterprises in that town invested five million rubles in the municipal economy and will invest another six in the next five years. Using this money, the town will build children's institutions, vocational schools and houses of culture. This collective approach has become routine in all the districts of Leningrad and Leningrad Region.

We have a clear-cut program for the concentration and specialization of industry and for intensified farm production. With it we can formulate the targets of a single comprehensive plan, a plan that will ensure the harmonious development of all branches of industry and the municipal economy, and the continued growth of Leningrad as one of the most important industrial, scientific, technical and cultural centers of the country.

Photographs by Vsevolod Tarasevich

The Cherepovets steel mill at night.





It wasn't so long ago that Sergei Toropov put a foundryman's uniform on for the first time—only a year. Since then he has become a top-notch furnaceman at the giant steel mill in Cherepovets and married Ludmila, who works in the blast furnace department lab and is the daughter of steelmaker Ivan Trofimov.

NEWCOMER

NEWCOMER

By Stanislav Sergeyev



Sergei with smelting team foreman Netronin and his teacher Alexander Mikushin (right).



Cherepovets, in Northern Russia, is on the Sheksna, a tributary of the Volga. For two centuries it remained the same provincial town of its founding, but in the last few decades things began to happen. A man-made sea, the Rybinsk Reservoir, was created there in 1941, just before the beginning of the Second World War. Transformed into a port city, Cherepovets began to build ships for the Baltic and Caspian Sea routes. In 1949 construction started on the biggest ferrous metallurgical center in the northwestern part of the Soviet Union. The country got the first tons of Cherepovets pig iron in 1955, coke in 1956 and steel in 1958. Life in Cherepovets now centers on the giant steel mill. The steelworkers and their families make up half the population of 200,000. Young people come to Cherepovets from many parts of the country. The mill is expanding and needs people. This young fellow has just stepped off a train and is looking around the station square with the slightly bewildered air of a newcomer. Chances are he is headed for a job at the steel mill and is looking for its smokestacks. Let's follow him and see him through his first year at the mill.

SERGEI TOROPOV is a 23-year-old Siberian. His parents still live in Ishim, a small town in Tyumen Region. After graduating from an eight-year school, Sergei joined his older sister Galya in Novo-Kuznetsk, a major Siberian industrial center, where he enrolled in a vocational school to become an electrician. Sergei got his first look at the iron and steel industry when Anatoli Rubanov, Galya's husband, showed him around the blast furnace department. After half a day there Sergei was sorry he had not picked steelmaking as his trade. He was only 18 at the time, too young then for a blast furnace job, but the idea of becoming a steelmaker took root.

Anatoli and Galya moved to Cherepovets a couple of years later, and one day they wrote and asked Sergei to join them. "You can work in the blast furnace department if you want to," they said. It didn't take Sergei long to pack his things.

When Anatoli invited Toropov to join his team, he knew that it would be tough going at the beginning, but he also knew that Sergei wanted to learn steelmaking and that he also wanted to go on with his education.

The Cherepovets mill has its own vocational schools, a metallurgical secondary school and a branch of the Northwest Polytechnic Institute. A large number of the workers, 45.8 per cent, have a secondary,specialized secondary or higher education. The figure is even higher, 57.4 per cent, for the millhands under 35: 855 of the men are enrolled in institutes, 1,001 in specialized secondary schools, and 919 in schools for working youth. There is no substitute for studying if one wants to get ahead, because blast furnace production keeps changing all the time. Until fairly recently, the fourth Cherepovets 95,000-cubic/foot furnace was the biggest in the world. Novo-Kuznetsk and Lipetsk now have bigger ones, and a gigantic blast furnace of 177,000 cubic feet is being constructed in Krivoi Rog. Much of steelmaking today is highly automated and demands a correspondingly high level of specialized knowledge.

The mill needs people, especially young people who can take rigorous training. But much is expected from them also in terms of both vocation and attitude. A newcomer, as he finds his place, will learn the mill's code of honor, will feel responsible for the operating of the plant, will be answerable to the entire work force, in short, he will become a member of the team.

Sergei still remembers his first days on the job, the older men sizing up this skinny fellow in outsized protective work clothes. There was good reason for that critical eyeing of a new recruit—work in the shop is hard and sometimes dangerous.

"Sergei, grab a rod!" Pyotr Malyshev, the team leader, yelled. The metal rod weighed about 65 pounds. Sergei rushed up with it, as close to the furnace as he could get, he didn't want the others to think he was afraid. But the team leader yelled again: "Stand back from the fire! Get another rod ready!"

"Keep away, everybody!" Malyshev's order could be heard above the roar of the furnace. The warning came just in time. An instant later the white-hot pig iron knocked the remainder of the clay plug out of the notch. Bits of molten metal hit the distant shop wall. Sergei pulled back in fright.

"Tired, son?" Malyshev sat down next to him as though he hadn't seen the fear. "Yes, it was pretty hard this time, but you did fine."

Sergei knew that the praise was given before it was earned. But he felt good that the team leader had found a kind word for him at that moment.

Alexander Mikushin, assigned Toropovs' instructor, hails from the Urals, whose people are known for their stamina and good humor. These qualities the Siberian youth made his own, along with a new life.

Though one was teacher and the other pupil and there was a difference of 10 years between them, their relations were friendly and equal. This was teamwork. The new trainee gradually became "one of our own men," and, in turn, he talked of the shop as "my" shop and the plant as "my" plant. Like the rest, he began to develop a sense of responsibility for the plant; what it gave the country was also given by him, and what it received, he also had a part in. This understanding was brought home to him one day.

The foundry yard was being prepared for a smelt. When the metal poured out, Sergei went inside the control-panel room, where senior shop foreman Niko-

Iai Sapozhnikov was watching the operation.

"Take a look, Sergei," he said. "That's the tenth bucket already. The furnace was charged very well this time!"

Sapozhnikov took a sidelong glance at Sergei and for some reason asked: "Do you have any idea of quitting?"

"Why should I want to quit?" Sergei replied. "I've been here only a short time. Do you think I'm not doing all right?"

"No, no," the foreman protested. "You're doing fine. I just wanted to know. We don't feel good about it when someone quits."

Sapozhnikov looked through the window and exclaimed: "They've filled the fourteenth bucket. That's a record. Congratulations, Sergei!"

The embarrassed novice shook the veteran's hand. Now that he had been congratulated for a team operation, that meant he was accepted, part of the team, once and for all.

People with personalities like Sergei Toropov—he is open, responsive, even-tempered, fun-loving—are good mixers. There are others who are quiet and unnoticed, with nobody able to say anything about them one way or another. But there are more of the Toropov types at the Cherepovets mill.

That's what I was talking about with Valeri Netronin, a 32-year-old engineer, who graduated from the Leningrad Polytechnic Institute and is now a smelting-team foreman.

"Our team gets along like one big, happy family, with family rules, praising and criticizing when and where it's deserved."

"What about new workers?"

"We're always glad to have them, and we do our best to help them adjust to us and to the place. We often get together outside the shop too. For instance, our team celebrated New Year's together."

"What are you fellows concentrating on at the moment?"

"Study. Without that, these days, the team would be just a bunch of people brought together only by coincidence."

"A really integrated group makes for fewer transfers, I suppose."

"Right. We haven't had one man drop out of our team in all three years of its existence."

It's only a year since Sergei came to the Cherepovets blast furnace shop, but it has been a year packed full of happenings for him. There was passing the exam for top-grade furnaceman. And the presentation, before a capacity audience in the city Metallurgists Club, of a challenge banner to Sergei and his teammates for taking first place in a socialist emulation drive.

Then there was the marriage of Sergei and Ludmila, a blue-eyed blonde from the blast furnace department laboratory. All of the bridegroom's shopmates and the bride's lab friends were at the wedding.

Ludmila's father, Ivan Trofimov, is a well-known steelmaker. "I was about your age, even younger," he told his son-in-law, "when I first started in an open-hearth furnace department. That was in 1940, out in the Urals at the Magnitogorsk mill. That makes 32 years for me at the hearth."

Ludmila's mother also works at the Cherepovets mill, in the maintenance department. Her two younger sisters, Tatyana and Olga, are still at school; Ludmila is still attending classes at the evening metallurgical secondary school along with working.

The three older Trofimovs and Sergei Toropov are in the same shift so they walk to work together. Striding along with his famous in-law, Sergei is no longer that bewildered fellow who walked through the mill entrance gate a year ago. One look at him and you can see that he steps into the mill yard like one of the owners of the place.

Sergei with his wife and in-laws at dinner.





Sergei is a member of the city team.





Once the furnace is charged, everyone has to be on hand to do his own job and ready to help someone else in case of an emergency. It is a demanding occupation requiring accuracy, attentiveness and courage.

SOCIAL PROFILE OF THE YOUNG SOVIET WORKER

The authors of this article, Leonid Blakhman, sociologist, Professor at Leningrad University, and Leonid Ananich, YCL official, have for several years been working together on studying problems related to Soviet youth.

By Leonid Blakhman,
Doctor of Economics

Leonid Ananich
Secretary of the Estonian Komsomol
Organization

WHAT ARE THEY like, the young Soviet workers of today? A good part of the answer to the question is provided by the census of 1970 as well as by numerous sociological studies done in recent years under Komsomol sponsorship in a number of Soviet cities—Moscow, Leningrad, Tallinn (capital of Estonia), Sverdlovsk (in the Urals) and others.

Characteristic of these young men and women is their political activity. About 70 per cent of the young workers are members of the Komsomol (Young Communist League). Another figure: Seventeen per cent of Leningrad machine builders 20 to 29 years old are candidates for party membership. This last is true in many cities.

The cultural level of the present generation of young workers can be assessed from a comparison of contemporary surveys and studies done in 1935-36. At that time half the young men and a third of the young women had home libraries. In Moscow and Leningrad these figures were several times higher than in the countryside. In 1970 three out of every four young workers had their own libraries of Russian and world classics, sociopolitical, scientific and technological books. Now the home libraries of young workers in small cities like Almetyevsk, Oktyabrsky (Tatar SSR) have almost as many books as those of their counterparts in Leningrad.

In czarist Russia industrial workers came from working-class or peasant families. In the thirties the Soviet working class was recruited mainly from the countryside. Today's working-class youth come from widely varying classes and strata of Soviet society: About 50 per cent are of urban working-class origin, about 10 per cent come from rural workers' families, more than 15 per cent from collective farm families and over 25 per cent come from office worker and professional backgrounds. Moreover, three-quarters of the young heads of shops, departments and factories are former workers or come from workers' families.

Typical of today's generation is the push for independence, particularly from the family. To a considerable extent this is due to physical and intellectual development at an earlier age. At 20 to 25 one-third and beyond 25 two-thirds of the young people questioned had their own families.

The average age of young-family heads is about 24. More than two-thirds set up homes of their own. These figures show the increased sense of responsibility of young people for parenthood.

One of the striking features of young industrial workers today is their high educational level. Every succeeding generation has more and better schooling.

Economists and sociologists often disagree as to whether a high educational level among the workers is beneficial to industry. Statistics again give the answer. If we compare 25- to 30-year-olds with a complete secondary education and less educated workers, we find that 1.5 times as many of the former are inventors and rationalizers; they are responsible for 2 to 2.5 times fewer accidents, bottlenecks and waste, and need only half the time to qualify for better jobs.

According to surveys, by the age of 25 or 26, every fifth worker is at the highest possible job level in his field. More education rather than less is the answer. We are now in the process of reforming our system of vocational and technological training. Vocational school courses of study are being extended to three and four years, combining vocational training with a general secondary education. Industrial plants are also opening such combined schools of their own so they can be assured of full staffs of trained personnel. The graduates of these new types of vocational-general secondary schools will be staffing the new enterprises projected by the current five-year plan, many of which will be built in the medium-sized cities, towns and settlements.

THE WORKING CLASS: FACTS AND FIGURES

The working class is the largest class in the Soviet Union. It now makes up over half the country's labor force.

* * *

The number of workers in industries that are critical for the country's general economic progress is growing rapidly. The total number of industrial workers multiplied by 2.7 times between 1940 and 1970, while the increase for the power industry was 4.4 times, the chemical and petrochemical industries more than 4.2 times, and machine-building and metalworking more than 3.6 times.

* * *

The level of vocational training is high. During the Ninth Five-Year Plan period (1971-1975) another nine million graduates of vocational schools will join the labor force. Students of these schools graduate with a complete secondary education and a trade. In 1959, 386 of every 1,000 workers has a secondary or higher education; the figure for 1970 was more than 550.

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Young workers are encouraged to train for better jobs, and the opportunity to do so is readily available. In 1968 alone 8.5 million young workers raised their qualifications by taking special courses.

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Young people incline to the industrial trades; 54 per cent of the workers in industry, 61 per cent in construction and 47 per cent in transport are less than 34 years old.

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Workers make up 40.1 per cent of the membership of the Communist Party of the Soviet Union. In more recent years 50 per cent of all new members have been workers, and in a number of large industrial regions the figure is as high as 60 to 70 per cent. There were 1,195 industrial, construction and transport workers among the elected delegates to the Twenty-fourth Congress of the CPSU (1971).

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Workers form 62 per cent of the total membership of the trade unons. They have an active voice in management through their factory committees.

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The Soviet Union is among those countries with the lowest level of occupational injuries. In the last four years injuries in industry have fallen by 35 per cent.

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The over-all labor protection program for 1971-1975 provides for large-scale mechanization of manual operations, additional installation and reconstruction of ventilation units, and construction of more health and service facilities for workers.

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In the Ninth Five-Year Plan period (1971-1975) average wages of workers will increase by 20-22 per cent. By 1975 welfare benefits paid for by the public consumption funds will reach 90 billion rubles, an increase of about 40 per cent.

QUERIES FROM READERS

QUESTION: We have many consumer cooperatives in the United States. If you have them in the Soviet Union, we would appreciate an article about them. (A. B. Jackson, Arizona)

ANSWER: We have a Central Association of Cooperative Societies (Centrosoyuz), with about 60 million members, mostly in rural areas.

Consumer cooperatives sell the surplus produce of collective farms and farmers, and run public food-catering facilities.

Farm people today demand much the same in the way of consumer goods as do city dwellers. Through their consumer cooperatives, collective and state farm people buy TV sets, refrigerators, washing machines, automobiles, clothing and footwear. The cooperatives put up shopping centers in the towns and villages; groceries and other shops, a restaurant, a canteen and a coffee house are given space in the large buildings. Department stores and specialty shops are built in the bigger villages. Smaller places have stores that handle items in daily demand and special-order such articles as furniture and motorcycles.

Cooperatives get most of their goods from state agencies. But they produce some items themselves. They own over 15,000 factories and shops that process and sell canned food, sausages, bread, soft drinks and the like. They also make some light-industry products, knitwear and clothing, for example.

They finance their enterprises from the contributions of consumer societies and the profits of their trade and manufacturing projects. Forest areas, for example, are sources of abundant mushrooms, nuts and berries that are collected for sale at cooperative stores in various cities.

Cooperatives do public catering in the countryside, too. Many families now have lunch and dinner at a coffeehouse, canteen or restaurant to give themselves a little more leisure time.

The staffs of consumer cooperatives are trained at 5 higher educational, 121 technical and 139 vocational schools, and at other institutions in the cooperative network. Tuition is free. The students get stipends and are guaranteed jobs in their specialties.

Administrative bodies, from the lowest level —the board of a village consumer society—to the board of Centrosoyuz are elected by the membership. The organization's charter requires that it make regular reports to the shareholders.

Centrosoyuz is affiliated with the International Cooperative Alliance (Alexander Klimov, chairman of the Centrosoyuz Board, is vice president of the alliance). The country's consumer cooperatives do business with dozens of cooperative associations and private firms in 32 countries.

QUESTION: Readers ask about people who are hurt in an automobile crash or some other type of accident. Who pays for the injury?

ANSWER: Let us take first the case of an auto accident. If the victim is not at fault, and if he has been rendered unable to work, the owner of the car has to pay him. (If he is killed, damages must be paid to his dependents.) In cases where the vehicle is not privately owned and the driver is not responsible for the accident (for instance, if the brakes go or the steering gear fails), the organization that owns the vehicle is liable. If both the driver and the pedestrian are to blame, they share the responsibility.

In other accidents much the same thing holds. If a person has been crippled through no fault of his own, say, because there was no fence around a construction site or because there were no warning signs that dangerous work was in progress (cleaning snow off roofs or timber felling, for example), the organization guilty of violating the safety rules has to pay damages.

As for industrial accidents, compensation works this way: All factory and office workers are insured at their place of employment by compulsory state social insurance paid by the enterprises, with no contribution from the worker. If a person is incapacitated by an occupational injury, he is paid by the state—regardless of whether he is to blame or not—throughout the period of temporary disability or, if he becomes an invalid, for the rest of his life. If the accident was the fault of management and the victim's social insurance benefits are less than his earnings, the enterprise pays the difference. The victim in that case may also claim reimbursement from management for expenses connected with his recovery, such as treatment at a health resort.

In addition, we have voluntary state insurance—life and accident insurance and insurance against natural calamities.

QUESTION: I'd like to know about life and education in Kazan. (S. K. Rimov, Berkeley, California)

ANSWER: Kazan, the capital of the Tatar Autonomous Republic, is one of the oldest cities in the Volga area. It has a population of 904,000. The city is located on the spot where the Kazanka River flows into the Volga.

In the 52 years since Lenin signed the decree forming the Tatar Autonomous Republic, Kazan has grown into a major industrial, cultural and research center.

It manufactures airplanes, helicopters, powerful compressors, electrical equipment, overhead cableways, furs and numerous other products. Large deposits of oil and gas were discovered in Tataria back in the twenties and thirties, and many petrochemical installations were built in Kazan. Their output is in great demand both in the Soviet Union and abroad.

Kazan is a major transport junction and an important Volga port. The railroads and highways joining Moscow with the Urals pass through the city. Public transport, including buses, trolley buses and street cars, is, of course, in general use. A subway is planned.

Kazan prides itself on having one of the country's oldest universities where Lenin studied and began his revolutionary activity. Today it has a student body of 10,000, half of them Tatars. There are 12 other higher educational institutions, as well as branches of Moscow and Leningrad institutes, in the city.

Kazan has six theaters, including a children's theater, a puppet company and the Tatar Opera and Ballet Theater. It has many music schools, a conservatory and a philharmonic society, numerous palaces of culture, clubs and Young Pioneer palaces. The city has its own TV center and a motion picture studio. A new circus accommodating 2500 spectators was completed recently.

There are many interesting and picturesque spots in the city. The old part of Kazan, for instance, has a sixteenth century kremlin built of white stone.

In summer the people of Kazan can swim in a river, visit the broad Volga beaches, or wander in a real forest without leaving the city limits. For those who prefer lakes, there are several in the city. The largest, five miles long, is surrounded by new buildings. A park with deep lakes and tall pines—a favorite recreation area—begins three to five miles from the city center.

A master plan for the development of Kazan, with emphasis on the central area, was approved not long ago. A sports palace, circus, stadium and Tatar national restaurant have already been built. In the section from the Kremlin to the Volga, old wooden houses will be pulled down and replaced with large administration buildings, hotels and motion picture theaters.

QUESTION: Who was the cyclist who climbed Mount Elbrus? (Maurice Luce)

ANSWER: The first man to ride his motorcycle up 18,481-foot Mount Elbrus in the Caucasus was Alexei Berberashvili. That was in 1966. He also crossed the Donguz-Orun Pass (10,509 feet high) in the main Caucasus range and rode over one of the world's longest mountain glaciers—the 48-mile Fedchenko Glacier in the Pamir Mountains (Central Asia). To memorialize his ascent, Berberashvili left his motorcycle on top of the mountain.

He is 40 now and a senior engineer at the High Mountain Geophysical Institute in Nalchik, the capital of the Kabardinian-Balkar Autonomous Republic. Berberashvili started motorcycling when he was 20. He is a many-time champion in our country and in international cycling tournaments.

Some day he hopes to ride his motorcycle to Lenin Peak (23,407 feet)—one of the highest summits in the Pamirs.

ACADEMICIAN SERGEI KOROLYOV

By Pyotr Astashenkov

THOUGH his background was not especially different, Sergei Korolyov is a unique, a legendary figure.

He devoted his life to the development of rocketry, to the realization of man's ancient dream of space flight. A good knowledge of engineering designing experience, a pilot's know-how and a lively interest in new ideas all contributed to his extraordinary talent in this field. Korolyov combined an excellent theoretical background, scientific foresight and organizing ability with the determination to fight hard for his ideas. In October 1957 a carrier rocket built under his direction placed in orbit the world's first artificial Earth satellite. It marked a turning point in scientific history.

The launchings of the first sputniks were followed by flights of unmanned spaceships and interplanetary probes, one of which brought the Soviet flag to the Moon. The first lunar satellite was orbited, and pictures were taken of the far side of the Moon. A soft landing was made on the lunar surface. Spacecraft were developed that could fly man to outer space and bring him back to Earth. It was then that man's extravehicular activities became possible.

Korolyov foresaw the trends in the development of modern technology. He made an immense contribution to early Soviet investigations of outer space, absorbing the daring ideas of Russian science and enriching this heritage.

First Manned Space Flight

Early in 1960, a settlement now known as Zvezdny Gorodok (Stellar Town) was founded in a pine forest near Moscow. After a careful selection process, cosmonaut trainees—former pilots—arrived in the town.

"Do you know what sort of vehicles you'll be flying?" he asked the future space pilots at their first meeting. "Not planes, but completely new vehicles."

Korolyov won them over quickly. He always treated the cosmonauts like close associates.

Inviting them to his design office to look over the first manned spaceship, which was then under construction, he explained:

"The ship will be mounted on a powerful multistage carrier rocket, and after ejection it will be separated from its final stage. The first space pilot will orbit the Earth just once, but the ship is designed to make longer flights as well. Cosmonauts will be able to land either inside the cabin or separately, outside the descent vehicle. At an altitude of 23,000 feet the entry hatch will open automatically, and in two seconds the cosmonaut and his seat will be ejected. A parachute system will go into operation. At an altitude of 13,000 feet the cosmonaut will be separated from his seat and continue his descent by parachute. He will have an emergency reserve and a boat that will inflate automatically in the event of a splashdown. As soon as he touches down, a direction finder will switch on, and he will be located by its signal. The descent vehicle will also land by parachute, but it will drop faster than the cosmonaut."

The preparations for the first manned space flight entered their final stage. The designers spent days and nights at the plant. At the first sign of trouble Korolyov was there. On one occasion he was told that a part needed for training had not arrived. He calmly showed the senior engineer the figure 9 on his watch face. "By tomorrow at nine the part will be in place." And it was.

On April 6, 1961, at a session of the State Commission, Korolyov reported on the air regeneration system in the spacecraft cabin. Despite the fact that the flight would last only two hours, the system, he noted, would be able to operate for several days.

At the end of the session, together with other designers, he signed the space flight program for one circuit of the Earth.



Academician Sergei Korolyov, head of the Soviet space program, and first cosmonaut Yuri Gagarin.

On April 10, at a meeting of the cosmonauts and the launching crew, he said with deep feeling:

"We're ready for the first manned space flight. It will be made by Gagarin. In the near future, maybe even this year, he'll be followed by others. All the flights are of great interest to science. This one is well prepared and we're confident it will go well."

Yuri Gagarin recalled that the day before the liftoff Korolyov came to the room where he and backup pilot Gherman Titov were staying. Korolyov said with a smile:

"In five years people will apply to their local trade union committees for spaceship accommodations."

On the night of April 11-12 none of the specialists could sleep. At three A.M. Moscow time the prelaunch checkout began. At five Yuri Gagarin and Gherman Titov were due to get up.

Before Gagarin put on his spacesuit and left by bus for the launching site, Korolyov dropped in again. "It was the first time I'd seen him worried and tired," Gagarin wrote. "The sleepless night had had its effect. I felt like embracing him as though he were my father. He made a few suggestions and told us some things I hadn't heard before that might be very useful on the flight. It seemed to me that after talking to us he cheered up."

Korolyov had reason to worry—he was seeing Gagarin off on an unprecedented mission.

The minutes of the first manned space flight passed quickly. From the control center Korolyov and his closest colleagues guided the touchdown of Vostok 1. The attenuated short-wave signals indicated that the spacecraft had reentered the atmosphere. Then the transmitters of the craft's direction finder started sending signals; the Vostok had touched down. Soon a message came: "Yuri Gagarin landed at 10 hours 55 minutes near the village of Smelovka in the vicinity of Saratov."

A human being had orbited the Earth and returned safely.

Walking in Space

The time had arrived for a walk in outer space. This problem was also solved for the first time by teams headed by Sergei Korolyov.

A two-man spacecraft was obviously necessary; there had to be someone inside the ship to help the man who was outside.

Walking in space would be necessary for a two-craft rendezvous, for transfering from one ship to another, for special observations and, finally, for spaceship repairs.

Korolyov believed that a cosmonaut who took such an assignment should know all the operations required for repair, up to and including welding.

"This is a must," he said. "As manned space travel develops, one spacecraft may have to help another. But how? The ships are strongly armored for heat resistance and rigidity. You can't get to the people inside. And if the ship is depressurized through the access hatch, those inside will die. The air-lock, life-support and exit systems must be designed to make outside aid possible."

That was how Voskhod 2 was designed. The sealed cabin and the instrument compartment were its main components. The cabin housed every piece of life-support equipment, everything needed for the control of on-board systems, as well as television cameras and other equipment. As in earlier spacecraft, the outer surface of the cabin was covered with a thermal insulation layer. There were three hatches with heat-resistant glass. After landing, cosmonauts could leave the ship through any of the hatches.

Only the cabin was to return to Earth. The instrument section was to burn on reentry. It housed the radio instruments, a liquid-propellent retrorocket engine, a thermal control system and power supplies. On the exterior surface of the compartment were the aerials, bottles of compressed gas, orientation system engines and radiators.

In addition to the main retrorocket the craft had a standby powder rocket engine.

Voskhod 2 differed from other spaceships mainly in its air-lock chamber. One hatch led from the cabin to the air-lock chamber and the other from the air-lock chamber to outer space. Both hatches could be opened manually or by an electric motor.

Inside and outside the cabin film equipment was installed to record the flight. After the cosmonaut's return from the walk in outer space the air-lock chamber was to be separated and burn in the atmosphere.

The man who was to walk in space and the ship commander were to wear the same spacesuits. In an emergency the commander had to be ready to leave the ship and help his comrade. Special attention was paid to sealing the spacesuit, which consisted of several layers. The helmet had a double hermetic glaze and a protective filter. A special cover protected the cosmonaut from the heat of the sun, and he carried his own oxygen in a back pack.

The craft was designed for a soft landing.

Finally the date of the flight was set. The crew consisted of Pavel Belyayev, commander, and Alexei Leonov.

A few days before the liftoff Korolyov told Academician Blagonravov: "Even when everything is checked, there's still a risk. That's what troubles me."

On March 7, 1965, he wrote to his wife from the cosmodrome:

"We are trying to work without rushing, thoroughly. We want to spare people. It would be wonderful if we always had the needed skill, but that would be contrary to the laws of exploration. I am an optimist, but I am trying to mobilize all of my mind and experience to foresee the worst that might threaten us at every step on our road to the unknown."

The bold experiment was well prepared and carried out on schedule. Voskhod 2 lifted off at 10 a.m. Moscow time on March 18, 1965.

Alexei Leonov recalled:

"Korolyov was intensely involved in our preflight preparations. He saw the walk in space, of course, as the main part of the flight program. We were to test the spacesuit and the self-contained life-support system, find out how the temperature difference —from 200 degrees below zero to 284 above —and the vacuum would affect the human organism, and see whether human beings could function in outer space. In the future, space experiments would involve assembling orbital stations and mounting various structures.

"What was my spacesuit like? It was a kind of spaceship, but a small one, reduced to the size of a human body.

"Yes, we trained very thoroughly. Korolyov followed our progress closely, he noticed every detail. In 1964 a demonstration of space technology was organized at the cosmodrome. Belyayev and I were to demonstrate leaving the ship. I put a spacesuit on over my regular clothes, but I didn't want to use the protective cover because it hung and I felt clumsy in it. But Korolyov told me to put it on, the reason would be clear to me afterward. The exit began, and I kept clutching at the bumps and angles of the air lock. I understood at once what difficulty I would have had in a suit tied up by cords. I certainly would have been caught on something if I hadn't taken his advice.

"When Voskhod 2 separated from the carrier rocket, we got ready for the main part of the program. I opened the air-lock hatch above Africa. A shaft of light, as bright as a welding arc, burst into the cabin.

"Belyayev warned me: 'Don't rush! It's still early.'

"After a while Voskhod 2 entered the field of vision of the observation point, and we were seen on the Earth's TV screens. 'It's time now,' Belyayev said.

"I stepped on the hatch section and started to think. When two metal plates were put next to each other in a vacuum, they got welded. What would happen to me? Would I get stuck to the air lock and not be able to separate my folded hands?

"I stretched out my hands and waved them. Everything seemed to be all right. I heard Korolyov's voice from Earth and relaxed.

"Then I pushed away from the air lock slightly and started floating in space. It's hard to say how I felt.

"The scorching sun was on one side and the temperature was 277 degrees, while on the other side there was a frost I can't even begin to describe—a temperature of 220 below zero. There was a higher vacuum than on the Moon.

"While floating near the spaceship, I covered a distance from the Black Sea to Sakhalin. I wanted to stay in outer space longer, but soon the ship would be entering the Earth's shadow, and I was running the risk of floating in complete darkness.

"Korolyov therefore gave the command to stop my walk.

"I couldn't get into the air lock on the first try. I unfastened the movie camera and put it into the hatch, but it floated out. I tried several times to put the camera back in—I couldn't leave it and the film in outer space. Now I see this film and I can hardly believe that it was I who made it.

"The first landing of Voskhod 2 took place without automatic control.

" 'Land it manually!' Yuri Gagarin ordered from the Earth with Korolyov's approval.

"We orbited the Earth a second time, then oriented the ship manually and switched on the retrorocket.

"We heard a noise from outside. Where would the ship move? If the orientation was wrong, it would go not toward but away from the Earth.

"From falling dust particles, we saw the orientation was right—the ship was heading for the terrestrial atmosphere.

"During reentry we saw the instrument section burning and disintegrating. Then the aerials melted from the heat, and liquid metal poured past the heat-resistant glass of the hatch.

"Time for the parachute system to begin operating. We heard a sort of shot and the hatch separated. A strong impact followed, the ship hung from the parachutes and landed smoothly in a dense forest near Perm. For the first time in the history of astronautics Pavel Belyayev, commander of Voskhod 2, had landed a spaceship manually."

After the flight the results were summed up. In 10 minutes Leonov had walked in space a distance of 16 feet, inspected the surface of the ship, made observations of outer space and the Earth, and returned to the cabin. His exit and return had taken 10 minutes each. These 30 minutes are a memorable page in the annals of science.

In one of his articles Korolyov assessed the launching of Voskhod 2:

"Yuri Gagarin's flight ushered in the era of space navigation. The era of walking in space began in 1965, on a March day, when Alexei Leonov stepped out of the air lock and floated free."

The flight of Voskhod 2 was successfully completed, and the tempo of space exploration continued. Under Korolyov's direction Luna 5, 6, 7 and 8, the Molniya 1 communication satellites, and the Zond 3 and Venera 2 and 3 probes were launched.

This is how Academician Mstislav Keldysh described Korolyov's place in science: "The name of Sergei Korolyov will be forever associated with one of the greatest achievements of science and technology—the ushering in of the space era."





Fish.
Tiyu Pirsko, 7.

The Four Spaceships.
Kalev Kalias, 6.



Magic Wood.
Anneli Ruubel, 8.



Winter Landscape.
Irina Zalekezina, 8.

Kadriorg Pond in Winter.
Rea Priyt, 5.



Rainy Day.
Mayu Maks, 9.



AN EXHIBITION BY YOUNG ESTONIANS

CHILDREN DRAW THEIR WORLD

By Lyubov Iovleva

A CHILD will first pick up a pencil at the age of two or three and with delight and wonderment gaze at the scribbles he has made. The next stage is even more fascinating. With a crayon he creates colored pictures! His preferences are decidedly for the bright, warm, glowing colors—red, orange, yellow. He becomes completely engrossed in transferring to pieces of paper what he sees or experiences in his life and imagination.

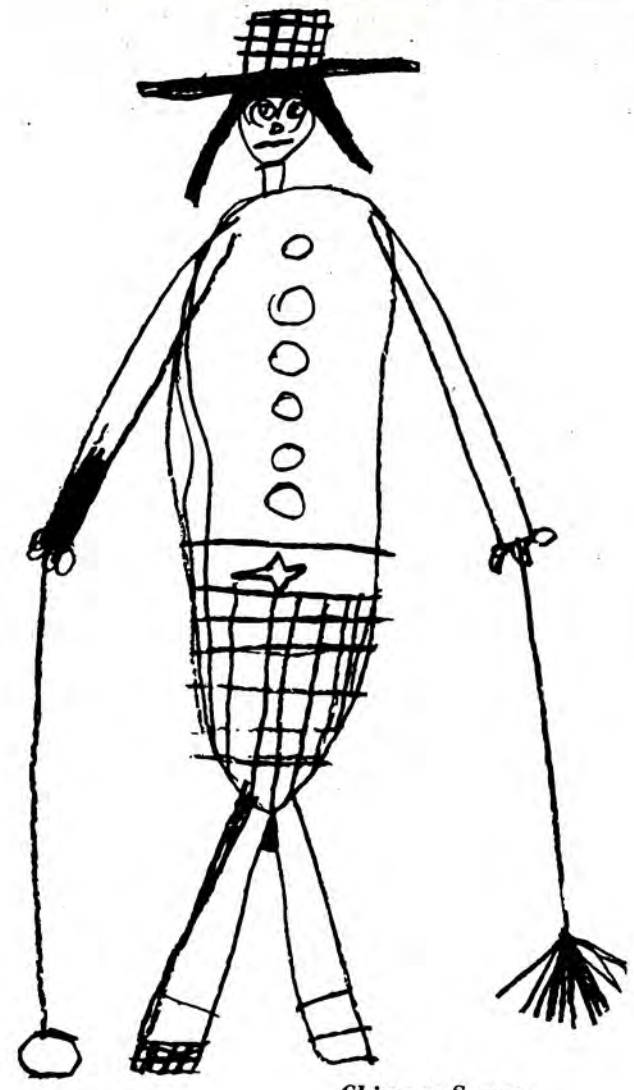
Children draw from memory and from life. No photographic realism for them. Their interpretation is always subjective: There is invariably some detail which catches their imagination and to which they give strong emphasis. They draw people with sticks for arms and legs and a circle for a head; somewhat later they produce cats that look like tigers, automobiles that look like beetles, fish never seen at sea and trees with fantastic fruit.

Children like drawing the street on which they live, their fathers, mothers, grandparents, the school they go to. When important events fire their imaginations, they make pictures of space travel and faraway planets.

In the Soviet Union art appreciation is a major educational tool. In the many Young Pioneer palaces and in after-school art classes the primary objective is not to train young artists but to foster in every child a feeling for what is beautiful.

The drawings by Estonian children reproduced here have been exhibited in Britain, Bulgaria, Czechoslovakia, India, the United States and other countries.

Their charm is intrinsic but, more, they make us see the world once again with the open and trusting eyes of childhood.



Chimney Sweep.
Khugo Mitt, 4.

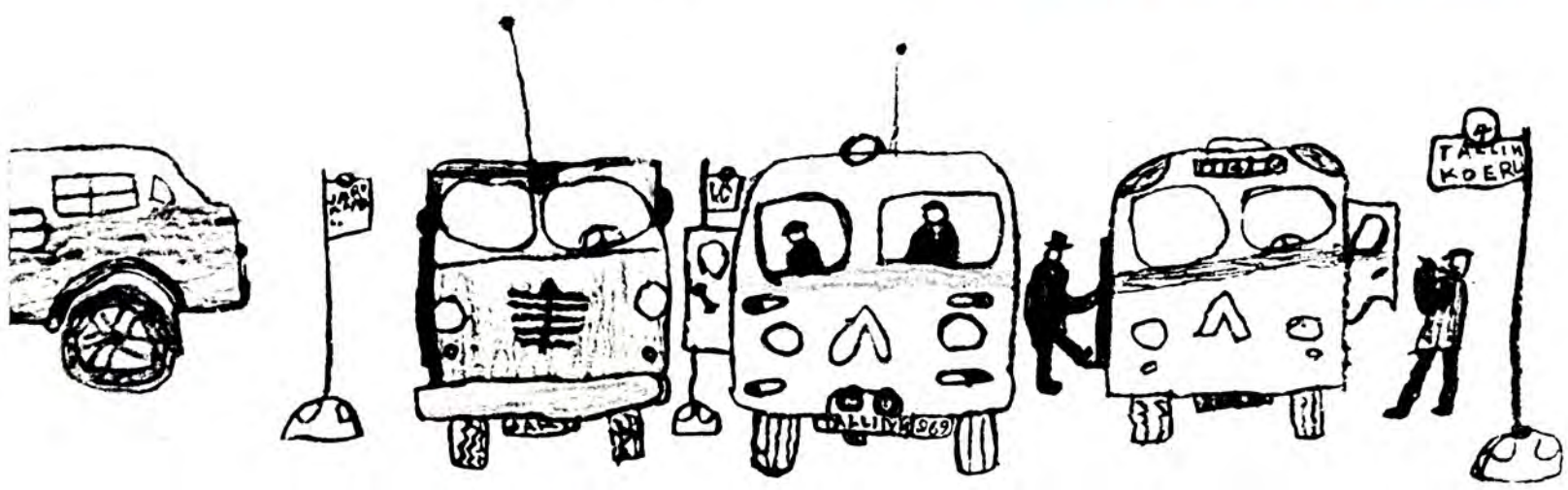


The Mill.
Viyve Puskar, 6.



On the Moon.
Yuri Pays, 7.

Bus Station.
Kalle Liykvart, 6.



THEATER ARTISTS IN THE MAKING

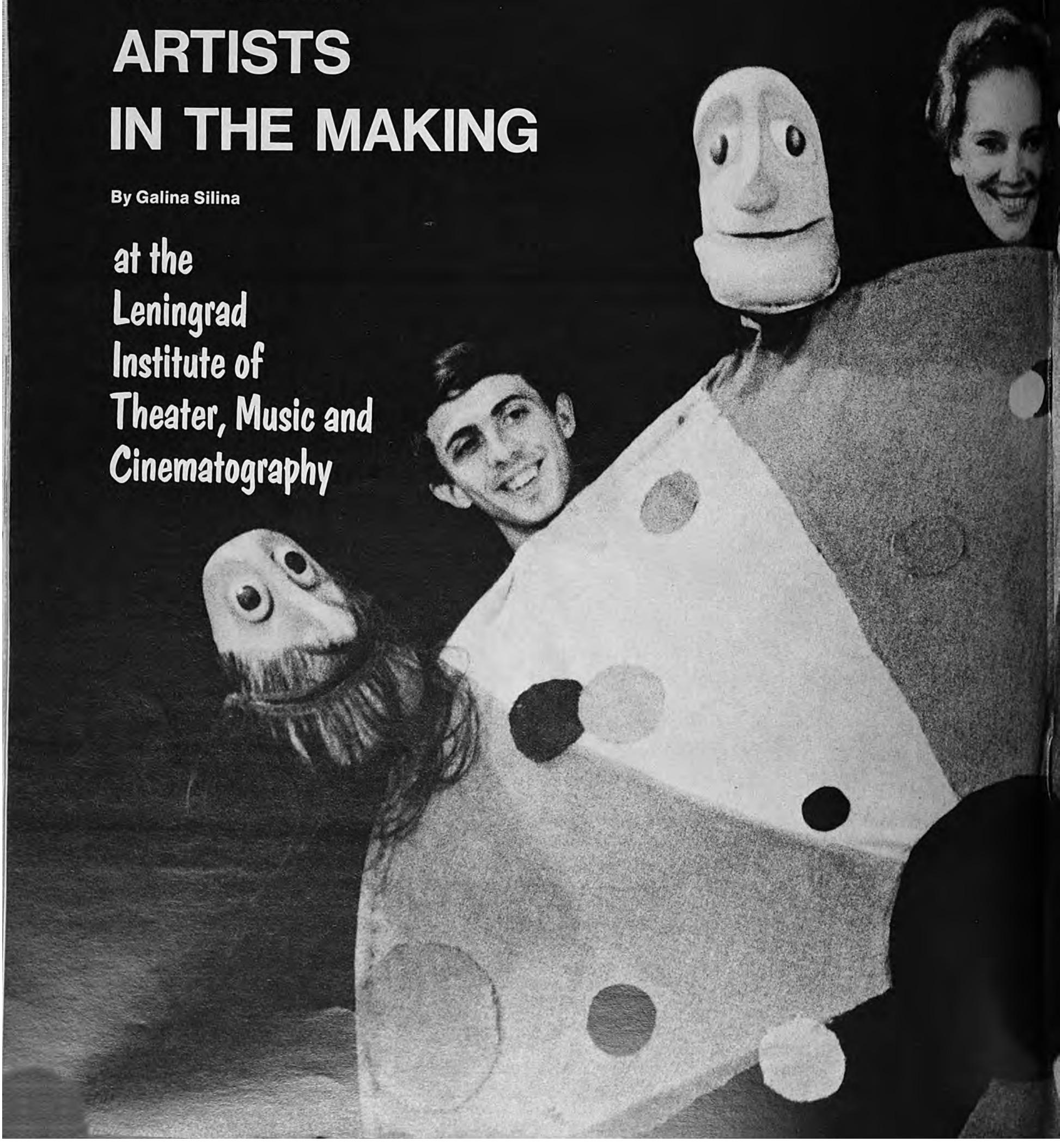
at the Leningrad Institute of Theater, Music and Cinematography

By Galina Silina

A YOUNG GIRL was being auditioned. She drew a slip and read: "Act out this scene: You had a quarrel with your boyfriend at a dance last night and decide to write him a letter. You are sitting in front of an open window through which you hear strains of music. You tear up the letter." This young girl was one of the many applicants taking their entrance examinations at the Leningrad Institute of Theater, Music and Cinematography.

Illusion of Rain

Young people who dream of a stage or film career flock from all the republics of the Soviet Union to the handsome mansion in the center of Leningrad where the institute is located. Its 14 departments train actors and directors for drama and musical comedy theaters, directors for TV and people's theaters, puppeteers, theater critics, designers



and even administrative theater consultants.

The college admits no more than 200 new students annually. There are only 50 openings in the acting department for as many as 2,000 applications.

Would-be actors are tested for voice, ear and sense of rhythm. Auditions are held in several stages so that the best best can be picked from the large number of hopefuls who first recite poetry and prose and then act out a bit from a play or an assigned improvisation. Applicants to the directing department are asked to direct a dramatic fragment; puppeteers to present an act from a puppet show; future set designers to submit a portfolio of their drawings.

These stiff competitive examinations are followed by another round in the academic subjects. Then comes an interview by the board of examiners. These are typical questions:

"What are the main trends in the theater today?"

"What is the theater of the absurd?"

"Which actors have you seen play Hamlet? Which one do you prefer and why?"

"A play is set in rainy weather, how do you create the illusion of rain on the stage?"

Those students who are accepted receive stipends and those who come to Leningrad from out of town live in one of the college's two dormitories where their rooms cost no more than five per cent of their stipends.

Puppeteers



Classes

The curriculum includes the history of the Russian and world theater, literature, the history of music and fine arts, as well as philosophy, political economy, foreign languages and subjects in the student's special area.

Small groups of students form workshops led by distinguished stage and film personalities who are also trained teachers. The workshops devise their own study programs. Student actors and directors begin with short improvised sketches, move on to fragments from plays, and in their fifth and last year produce their diploma performance.

We sat in on a small workshop of third-year students, future directors, led by Georgi Tovstonogov, artistic director of Leningrad's Bolshoi Drama Theater, in one of the institute's spacious, cheerful rooms. The students were grouped in a half-circle around Tovstonogov's desk, and they were discussing the plays they had chosen to direct; at the end of the term they are expected to submit a report on their efforts.

One young man said: "I'm working on a stage adaptation of Bulgakov's novel *White Guard*. My biggest problem is translating the author's feeling for his time into action on the stage."

Another student had chosen Anouilh's *The Lark*. The play, he said, had very precise stage directions. They got in his way. Could he take the liberty of working out his own?

Discussing the individual work of each student, Tovstonogov stressed points of common interest.

A student regretted his choice of Chekhov's *Uncle Vanya*. The play had been staged so many times, he said, that it was almost impossible to look at it with a fresh eye.

Tovstonogov took issue with this attitude. He asked the student if he had seen the current production of Chekhov's *The Three Sisters* at the Moscow Art Theater. Since the company still had the notes Stanislavsky had used for the Moscow Art Theater's first production of *The Three Sisters* it was possible to see that the two productions, decades apart, were very different indeed.

Tovstonogov reverted to the theme of the workshop's previous session.

"The way a play is staged varies with the director, of course, but the essential thing is to reveal the world as the playwright sees it. Chekhov uses a variety of artistic devices to win you over. And the more his characters appeal to you, the more moved you are by what they feel. To neglect Chekhov's own attitude to his characters is to cut the branch you are sitting on, it is to miss the main point. The minute his characters begin to bore the audience, Chekhov is mutilated and his plays lose their meaning. That's why it is such a challenge to stage Chekhov."

The discussion continued to focus on Chekhov,and Tovstonogov suggested they look into the reasons for that playwright's enormous popularity in the West.

Molière in Tuvinian

Leningrad's biggest concert hall, which seats 4,000 persons, was packed for the fiftieth anniversary of the Institute of Theater,Music and Cinematography. Leading stage and

screen figures, among them actors Nikolai Cherkasov, Nikolai Simonov and Arkadi Raikin, paid tribute to the institute.

One of the speakers was a young man who appeared on the stage with a tall fur hat in his hand. "I want to present this hat, part of my national costume, to our dear school," he said. The young man, Sin Ool Oyun, was a Tuvinian, a representative of one of the nationalities of Siberia. He was the artistic director of the drama theater in Kyzyl, his native town.

The Leningrad institute has trained many companies that perform in the native languages of the different nationalities of the Soviet Union. Members of the faculty scout the republics where these minority peoples live for potential talent. The students they recruit follow the regular curriculum, but they also retain their identity as distinct national groups and rehearse plays in their native tongue. The Tuvinian group was thus able to stage Molière's *Tartuffe* in a Tuvinian translation. The production is now having a successful run at the national theater of the Tuva Autonomous Republic.

A number of graduates have become artistic directors of these national theaters. Toivo Haimi works in Karelia, Vladimir Dolgov—in Mordovia, and Ruslan Hakishev and Mimalt Soltsayev in the Checheno-Ingush Autonomous Republic.

Relations with their alma mater do not end at graduation. The young theater people come back for advice, and they correspond with their former teachers.

Elza Kokova, a Khakass girl who finished the program at the institute, is taking a two-year advanced training course. Together with four-year Khakass students, she will stage plays to be shown later at the theater in Abakan. The Khakass group has already prepared a production of *Altyn-Arykh,* based on a folk legend and stage versions of folk tales about Khodja Nasreddin. They also did a play by Ostrovsky and are planning to stage some of Shakespeare's works.

The institute also has Adyghe and Tatar students. Recently several Dargins, a small nationality in mountainous Daghestan, were accepted.

There are representatives at the institute today of the Nenets and Yakuts from the Far North, Udmurts, Chechens, Circassions, Kalmyk and other nationalities who previously had no theaters or plays of their own.

In the spring requests for actors, directors, designers pour into the Ministry of Higher Education from theaters all over the country. Graduates make their selection and sometimes whole groups will go to one place. This is how theater companies were formed in Siberia's newly built cities.

A year before they graduate the students go through a practice period at various theaters where they both stage plays and act in them. Instructors later go to these cities to evaluate the plays, their students' diploma performances. Graduates frequently choose jobs in theaters where they worked during their practice period.

There is a job for every graduate who wants one; there are more than enough jobs available. And as the graduates go to work in theaters around the country, the competitive entrance examinations are given again.



The Chuvash studio grou after their diploma performance (right) and at a rehearsal.





Fourth year students of the Tatar national studio discuss the role of the director with Larissa Dachko.



The Khakass national studio about to perform their stage version of Khodja Nasreddin's legends.
Below: Professor Ivan Kokh gives a fencing lesson.



NEXT ISSUE



On December 30, 1922, the delegates to the First Congress of Soviets of the USSR proclaimed the formation of the Union of Soviet Socialist Republics. In his closing speech, Mikhail Kalinin, who was chairman of the congress, said the Union was the foundation of a truly fraternal community of nations. The half-century that has passed is testimony to the accuracy of his words. To honor the event, the next issue is dedicated to the fiftieth anniversary of the USSR.



Academician Nikolai Nekrasov, a specialist on the distribution of the productive forces and a member of the UN consultative committee on training specialists for territorial industrial development, has written an article dealing with the complexity of planning the distribution of the productive forces in a country as huge as the Soviet Union, where 1,870 major enterprises were put into operation in the Eighth Five-Year Plan period. The emphasis now is on creating large inter-republic industrial complexes and shifting industry eastward. The article is accompanied by a comprehensive map and many illustrations.



The Moscow Institute of Electronic Technology has an enrollment of 2800 students representing 29 nationalities. One-third are young women. An especially large number of the students come from the republics of Central Asia, Trancaucasia, the Ukraine and Byelorussia, where the electronics industry is being developed rapidly. Referring to the institute, Vyacheslav Yelyutin, Minister of Higher and Specialized Secondary Education, said that with an institute like MIET "we are ready to enter the year 2000." Our illustrated article covers various aspects of student life—from examinations to a wedding celebration.

A visit to Daghestan and talks with old people and young workers building a power station are the basis for an illustrated article telling how the transition from a patriarchal way of life to socialism was made.

From a hinterland where the people did not even have a written language to an autonomous republic with its own professional national opera theater —the formation and cultural growth of the Chuvash Autonomous Soviet Socialist Republic is also the story of actor and director Boris Markov.

Charles Burroughs, curator of the Du Sable Museum of African History, who grew up in Moscow, recently returned for a visit. Slava Tynes has written an article telling how he was received by his Russian friends.

Sketches of the new fashion collection of Slava Zaitsev, the Soviet designer who borrows the rich national patterns of the country's many peoples.

Academician Boris Petrov has written an article on the experimental docking of the American Apollo and the Soviet Soyuz, planned for 1975.

COMING SOON

The Soviet woman of the seventies

STAINED-GLASS ARTISTRY

By Alexei Nikolayev

THE STAINED GLASS panel a representational or ornamental composition of pieces of colored glass framed in lead, goes back to ancient times. Samples were found in excavations of Pompeii and the ancient capital of the Gauls. In the Middle Ages these panels were essential to the decoration in much church architecture.

In our day the art of stained-glass panel-making is enjoying a new lease on life. Contemporary panels develop new themes and serve new purposes. Architects use them for decorating buildings, museums, theaters, clubs, health resorts, hotels and subway stations.

Modern technique has given the artist a new array of tools —a whole variety of chemical and mechanical methods for staining glass. The glass fragments are not only framed in metal but glued together. New methods of glass-making and tinting have enlarged the artist's palette.

Maria - Anorte Mackelaite, Salomeja Jankauskaite, Kazys Morkunas and Antanas Garbauskas, all Lithuanian artists, have been doing interesting work in this medium. The stained-glass panels of the buildings in the health resort town of Druskininkai are the product of their joint effort. The luminous glass pictures re-create the mysterious and colorful world of the Lithuanian folk tale "Eagle, Queen of the Grass Snakes."





Eagle, Queen of the,
Grass Snakes
on stained glass panels.









THE WISE WEAVER

AN ARMENIAN FAIRY TALE

ONCE UPON A TIME, when a king reigned in the land, a traveler from distant parts came to him. The stranger drew a circle around the throne and silently took his stand at a distance. The king was at a loss to know what all this meant. He summoned his counselors, but they, too, were dumbfounded. The king was terribly ashamed that nobody in his kingdom could guess what the circle meant. He threatened to execute every sage who could not puzzle out the riddle. His retainers went in search of someone who could figure it out.

They picked a house at random. Stepping into it, they found a cradle rocking and nobody anywhere around. They went into another room, and there, too, stood a cradle rocking although there was no one there.

They climbed to the roof of the house, where they found washed grains of wheat spread out and alongside a reed swaying, though there was no wind, to keep birds from pecking at the grain.

The king's retainers were at their wits' end. Descending to the ground floor, they came upon a weaver at his loom. The weaver had one thread tied to the warp, a second to the woof and a third to the heddle. While he wove, the threads moved both cradles and the reed on the roof.

"That's a master hand for you. He has the mind of a sage!"

They told the man about the stranger who had drawn a circle around the throne and that nobody had been able to tell what he meant by it. "If you can, you will receive rich presents from the king"

The weaver fell into deep thought. Then he took two knucklebones and a hen and went to the palace. He walked up to the stranger and threw the two knucklebones on the floor in front of him. The stranger took a handful of millet from his pocket and poured it on the floor. The weaver put his hen down, and the bird began to peck at the millet. The stranger quickly pulled on his slippers and left.

"What was he telling the king?" the weaver was asked.

"He wanted to tell our king that his king intended to attack our land. He wanted to know whether our king would surrender or fight. I cast the knucklebones in front of him to show that his people were children compared to us and that they would do better to play knucklebones at home than to attack us. The stranger poured the millet on the floor to show that his king's armies had countless men. I set down the hen to reply that one warrior of ours would crush their entire army."

The king bestowed great honors on the weaver and gave him many gifts. He wanted to make the weaver his vizier, but the man refused.

"All I want, Your Majesty, is for you to know that among your servants there are people far cleverer than your viziers. We would like to see you begin to look upon your weavers and other poor folk as worthy people."

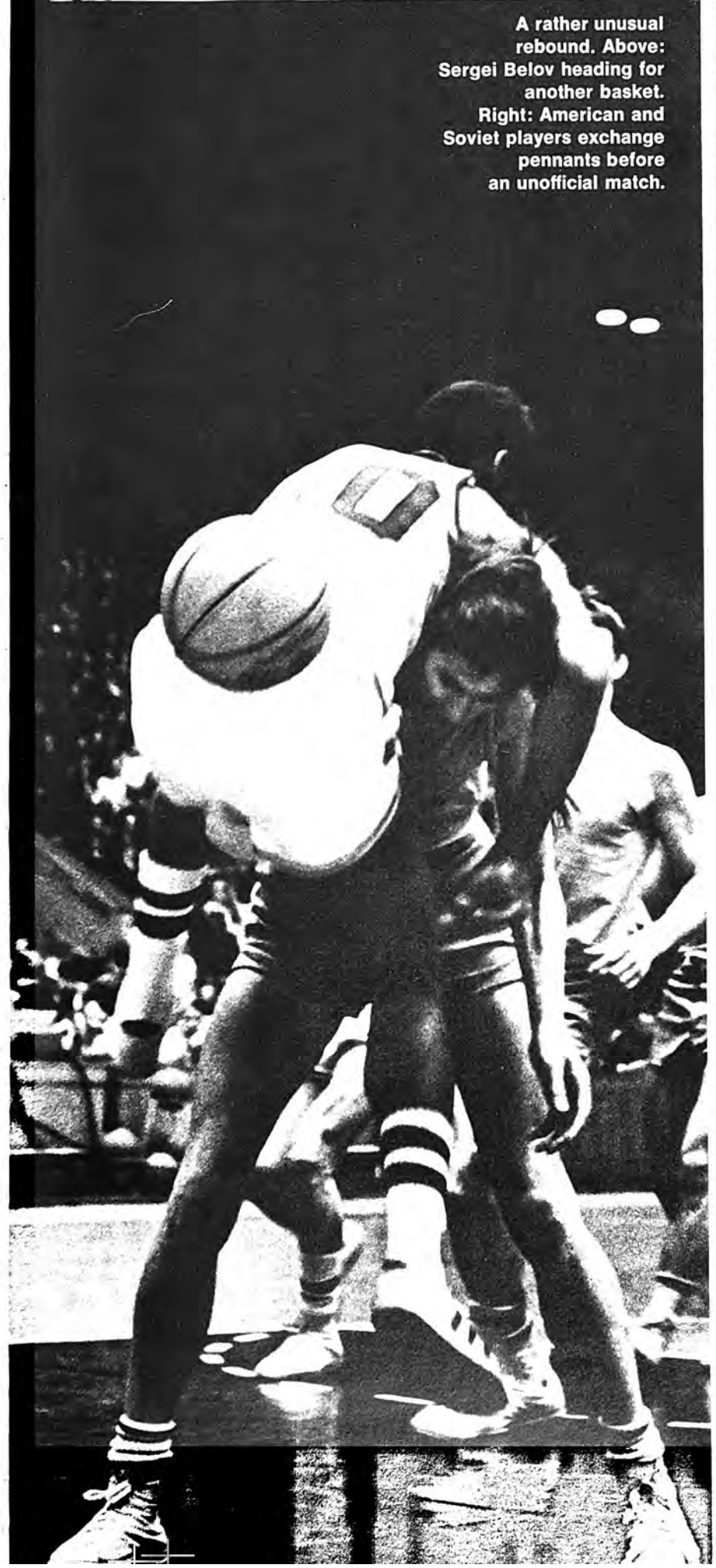
BASKETBALL'S SILVER JUBILEE

By Anatoli Pinchuk



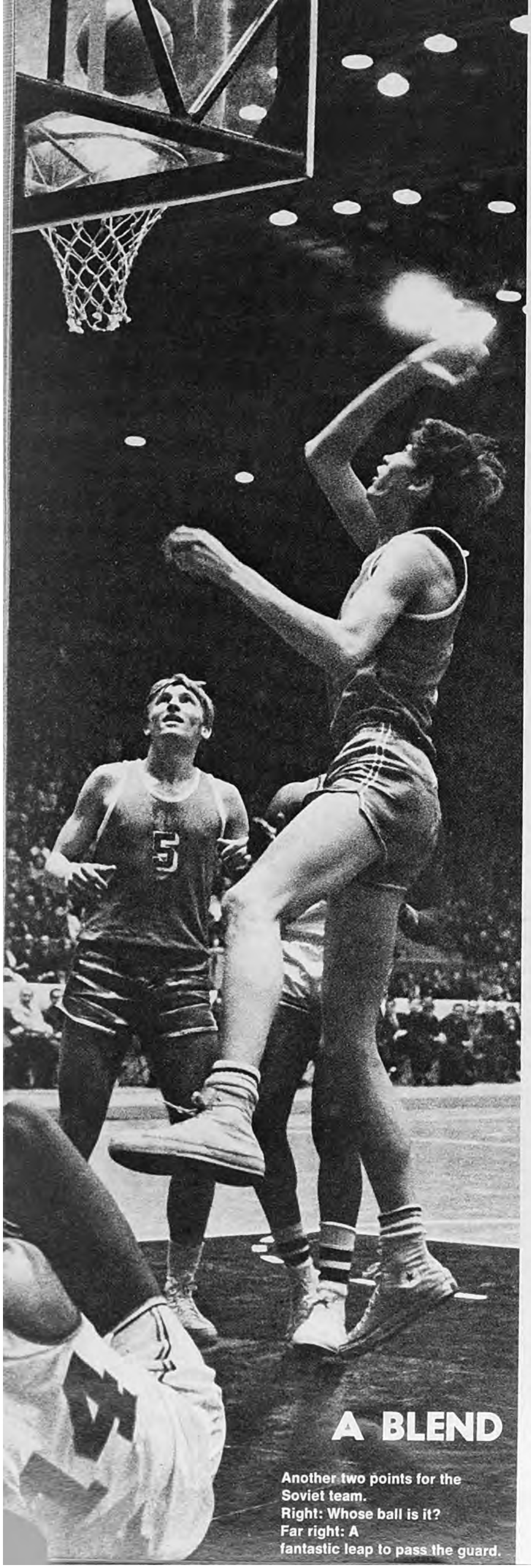


A rather unusual rebound. Above: Sergei Belov heading for another basket. Right: American and Soviet players exchange pennants before an unofficial match.



Basketball is played by more than 3.5 million people in the Soviet Union, three-quarters of them students. The mass scale of this sport is a built-in guarantee of successful performance in both the men's and women's national squads. The men have won the European title 11 times. They have also done well in the world championships, Olympics and other meets.

A BLEND OF TECHNIQUES



Another two points for the Soviet team.
Right: Whose ball is it?
Far right: A fantastic leap to pass the guard.

THIS YEAR the USSR men's basketball team celebrated its twenty-fifth anniversary. Its first official game was played on April 27, 1947, at the Fifth European Championship in Prague. Beating the Yugoslav five with a score of 50:21, it was launched on a succession of victories.

The team has played in 22 official tournaments. Out of a total of 184 games, it won 165. The USSR lost more than it won to one rival only, the USA (3:8).

Some additional facts: Since 1947 the team has had only five head coaches: Pavel Tsetlin, Stepan Spandaryan, Konstantin Travin, Alexander Gomelsky and the present coach, Vladimir Kondrashin. Over the years, 46 of its 93 players and coaches have been Honored Masters of Sports, and 17 have been Honored Trainers of the USSR.

We must go back to the 1947 squad to account for this success. In the past 25 years much has changed in basketball. The sport has kept growing. This growth, in the literal sense of the word, may be judged from the fact that Anatoli Konyev, 6 feet 4 inches, was the tallest player on the 1947 team, the first Soviet team to win gold medals in a European championship competition. Among the members of the 1971 national squad, which won us the European title for the eleventh time, he would have been taller than only three of the twelve players (the average height of the team members is 6 feet, 5¾ inches). Perhaps the technical variants of the plays and the demands made on the team have changed as rapidly, but that was not as obvious.

The 1947 squad had players from four republics—the Russian Federation, Lithuania, Georgia and Estonia. And each of the 21 USSR squads that followed invariably had players from the Russian Federation, Georgia, and two or three Soviet Baltic republics.

The 1947 team represented three schools of basketball, each with its obvious strong points and just as obvious weaknesses.

The Russian was superior to his teammates in physical strength and stamina, the best at defensive play and group play.

The Georgian was the most successful in individual play, and a better improvis r. The Baltic men played a tac-



tical game, which demands the strictest kind of discipline and technique.

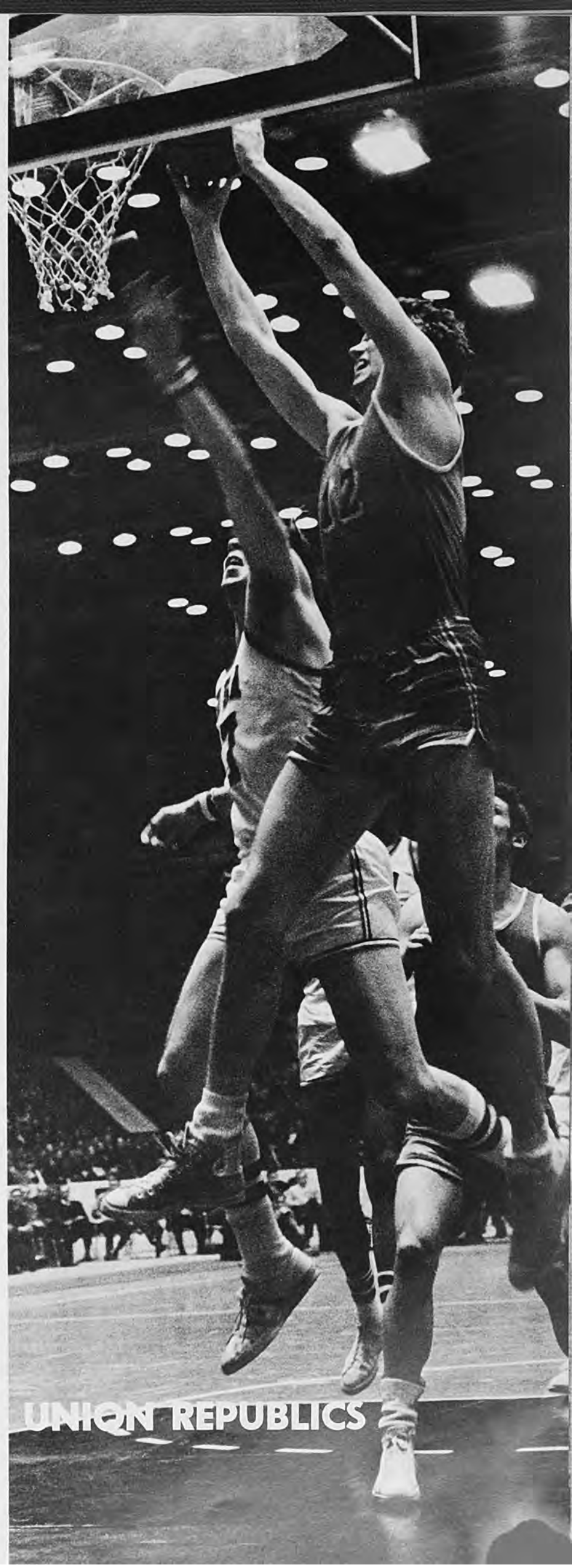
Each school had its negative aspects. The Russians lacked technique and did not think it was important to rehearse combinations. The Georgians, while they liked offensive play, were not enthusiastic about defense and showed little aptitude for it. The Baltic teams played too much by the book, avoiding any kind of gamble.

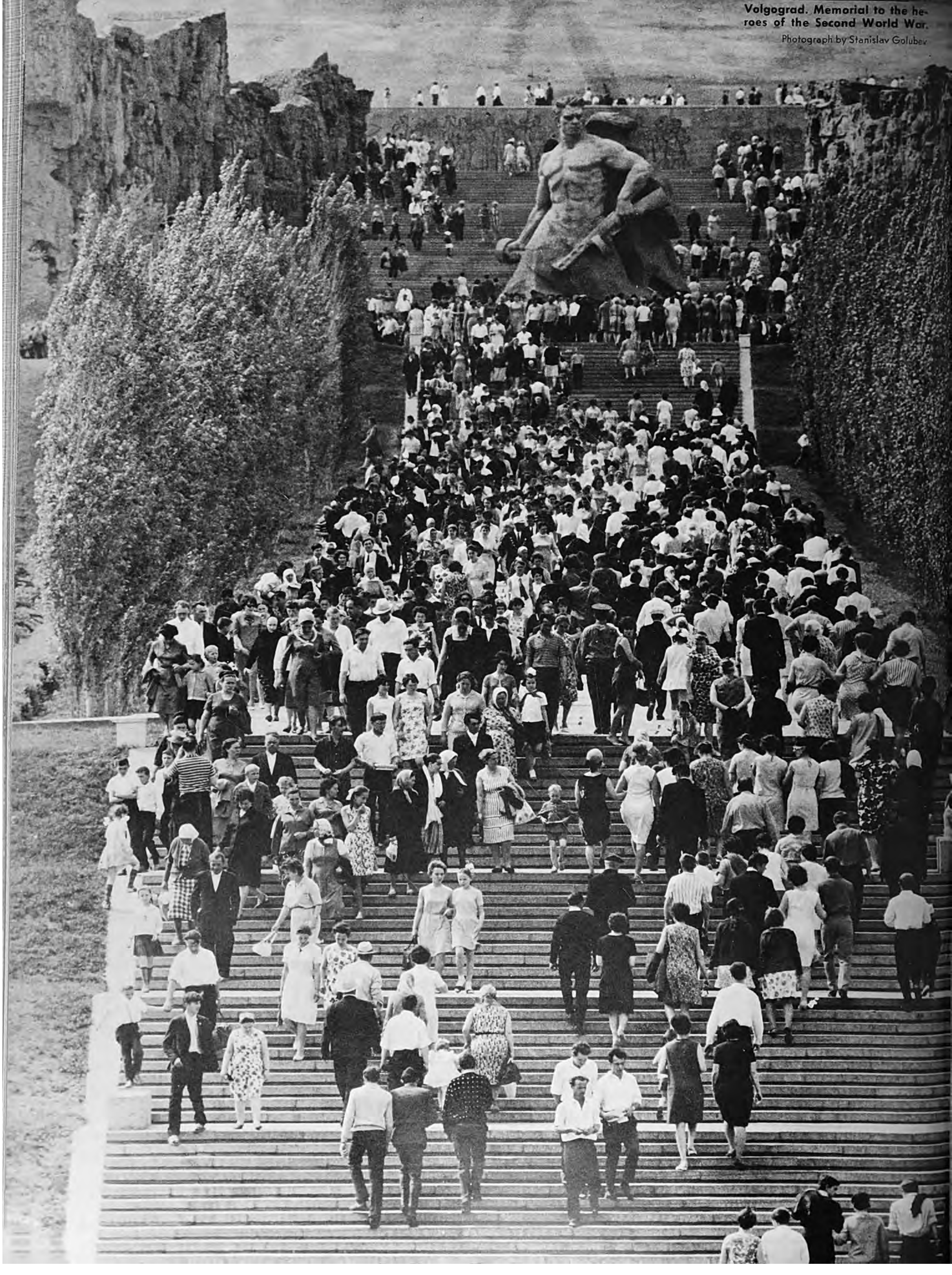
However, domestic tournaments and international meets provided the Soviet players with many opportunities for give and take. The result was that the three schools, contributing to one another over the years, evolved into a single new school—Soviet basketball.

Georgians had been reluctant to play defense, but Gurma Minashvili (a member of the national squad in the late fifties and early sixties) became one of the most proficient guards we have ever had. The men from the Russian Federation may have neglected technique, but Mikhail Semyonov's—he came to the national team a bit earlier than Minashvili—was faultless. The Baltic teams had been criticized for playing by rote, so that they couldn't last out two periods. But since the early sixties the Kalev squad of Tartu has been noted for its innovations.

Basketball made its appearance in our country way back before the Revolution. But at that time the game was played only in St. Petersburg (now Leningrad), Moscow and two or three other cities. The 22 USSR major teams now include 88 players of 11 nationalities from 10 union republics.

The composition of the 1972 team is proof of the game's popularity. Our best shooter, Sergei Belov, started playing in Siberia. Another Belov, Alexander, is from Leningrad; forward Alzhan Zharmukhamedov is from Uzbekistan; and Ivan Yedeshko is a Byelorussian from Minsk. Modestas Paulauskas, captain of the USSR team, is a Lithuanian from Klaipeda. This selection of players is not accidental. The quintet was invited to be part of the European team, which played several games against the USA five. The matches marked the fortieth anniversary of the International Amateur Basketball Federation.





Volgograd. Memorial to the heroes of the Second World War.

Photograph by Stanislav Golubev

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With the thought of the new generations to come



Vladimir Lenin guided the party
n working out the form for a multinational
ocialist state, the first in the history of the world.

DECEMBER 1972, No. 12 (195)

SOVIET LIFE

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Front Cover: The national emblem of the USSR. This anniversary issue describes some of the changes in the country and the individual republics during the past half-century. *Drawing by Victor Andreyev.*

This issue designed by Nikolai Yeryomchenko

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A SWORD IS NOT OUR EMBLEM

HOW THE SEAL OF THE USSR WAS DESIGNED

In the winter of 1918 Lenin asked the Council of People's Commissars to find an artist who would make a sketch of an official seal for the world's first government of workers and peasants. The sketch, designed by artist Alexander Leo, was shown to Lenin and the People's Commissars in April. A sword stood out clearly against the steel-gray background of a shield, dominating a sickle and hammer joined to it. Lenin objected to this proposed state seal. He wanted the sword erased. A sword, he thought, must not become the emblem of the Soviet Republic. The change was made. In July 1918 the Fifth All-Russia Congress of Soviets adopted the First Soviet Constitution, which closed with a description of the official emblem. It read:

> The arms of the Russian Soviet Federative Socialist Republic are a gold sickle and hammer depicted in the red rays of the sun. They are crossed with handles downward and are surrounded by ears of grain with the inscription
> a) Russian Soviet Federative Socialist Republic, and
> b) Workers of all Countries, Unite!

This is still the emblem of the Russian Soviet Federative Socialist Republic, now one of the 15 republics of the USSR. On December 30, 1922, the First USSR Congress of Soviets adopted a declaration forming the Union of Soviet Socialist Republics. The new coat of arms of the USSR was a sickle and hammer against a globe depicted in the rays of the sun and surrounded by ears of grain. At the top was a five-pointed star. Artists of the Moscow Goznak printing press made sketches for the new emblem, and the one done by cartographer and graphic artist Vsevolod Korzun was considered the best. The present coat of arms of the USSR was adopted in 1956 (see the front cover of our magazine). Ribbons entwining the ears of grain bear the words "Workers of All Countries, Unite!" in the languages of the 15 union republics. Each constituent republic of the USSR also has its own coat of arms (see the back cover). So does each autonomous republic.

EDITOR'S NOTES

CHILDREN OF ONE SOCIALIST HOMELAND

FOR THOSE who want to understand the world today the fiftieth anniversary of the founding of the Soviet Union has profound significance.

In October 1917 the peoples of colonial czarist Russia put an end not only to social injustice and the exploitation of man by man, but to colonialism as well. In its place a union of equal national republics has emerged, each with a highly developed industry, culture and science.

What does this transformation mean for world history?

To grasp the historic significance of the creation of the Soviet Union, let us ask these questions: Could the country have become a great industrial power otherwise? Would the Second World War have ended in the defeat of Hitler Germany if the multinational socialist Soviet Union had not stopped the Nazis? Could the rapid development of the national liberation movement have occurred if there were no USSR? These major historical developments became possible because of the existence of the Union of Soviet Socialist Republics.

On the eve of the anniversary it would not be out of place to note that the Soviet Union was the first country to declare for and implement such basic rights as the right of nations to self-determination up to and including secession, the right of every man and woman to a job, economic and political equality for women, suffrage for young people at 18, free education all the way through college, state social insurance, free health services, and many other humanist goals for which progressive people have fought.

The Report of the Central Committee to the Twenty-fourth Congress of the CPSU said that a new historical community of people, the Soviet people, had taken shape in the Soviet Union during the years of building socialism and communism—not a nation of the "Soviet-Russian type," as some bourgeois historians claim, but an international community, in which each member regards himself part of his own national group and of the Soviet people as a whole.

"There is probably no one who does not have an ineradicable feeling of love and affection for the land of his ancestors, for his native culture, language, traditions and customs," Leonid I. Brezhnev, General Secretary of the CPSU Central Committee, said at the celebration of the fiftieth anniversary of Soviet Georgia.

"But in a socialist society this feeling—the feeling of patriotism—transcends the boundaries drawn by national belonging and is filled with a new content. . . . All of us, no matter in which republic we live, are Soviet patriots, children of one socialist homeland."

In the 50 years since the formation of the Union, the population of the USSR has acquired common traits of socialist psychology. It has drawn closer together around a common tradition of struggle, a single form of political organization, a single planned economy. Culture, national in form, has taken on a common socialist content.

The emergence of this new kind of social and political community of people in the Soviet Union is the direct result and continuation of the October 1917 Socialist Revolution.

The national question still remains acute in many countries with an ethnically heterogeneous population. Each country solves it differently. But any solution is subject to the test of practice. Social and national inequality can hardly be ended if economic inequality is preserved. Economic oppression is always the root of national conflict. We in the Soviet Union believe that by ending the exploitation of man by man we have also ended national enmity forever. The entire practice and experience of our state confirms that conclusion.

In our dynamic age anniversaries presuppose not only recollections of the past, however majestic and heroic, but thought about the future. It is the future that will realize the rising expectations and social ideals of humanity. The Soviet Union can already be seen as the prototype of a world community of free nations.



Festival on Red Square

A new historical community of peoples has evolved over the years of socialist and communist construction in the Soviet Union.

Photograph by Ivan Denisenko


1917













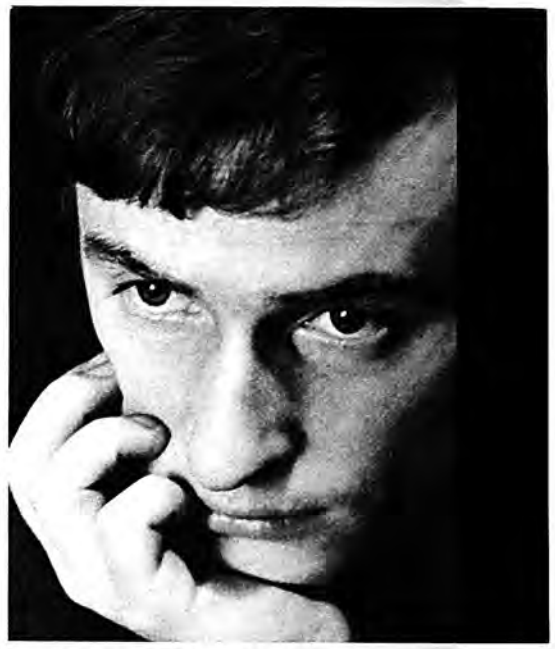





THE FAMILY



















OF SOVIET PEOPLES

"I'M A CITIZEN OF THE SOVIET UNION"

In celebration of this jubilee year readers of different nationalities, generations and walks of life have been writing to magazines and newspapers, telling what they feel as citizens of a socialist country, what the cooperation of the union republics has meant to them and their people. From a variety of publications we bring you these letters from Soviet citizens in all the 15 republics.

RUSSIAN FEDERATION

Iskra Lizogubova
Honored Teacher

I'm a teacher and in daily contact with children, so that I already see the future. Our children are growing into fine people, always ready to come to the assistance of the weak and to fight against injustice. They have a sense of civic responsibility and participation way beyond their years. Brought up in the spirit of internationalism, they have a feeling of relationship with children all over the world.

UKRAINE

Fyodor Minailenko
Participant in the October Revolution and Civil War

Our state was born in the joint struggle of working people of different nationalities. Russians and Ukrainians, Estonians and Kazakhs, Letts and Georgians fought side by side on the Revolution's barricades and the Civil War fronts for the happiness of all nations and nationalities. After the triumph of Soviet power, we all worked together to rehabilitate the disrupted economy, build factories for our young industry and fulfill our first five-year plans. We traveled the entire road of our country's development hand in hand.

Friendship created and steeled in struggle is the most lasting kind. That's why I know that our multinational brotherhood is invincible.

KAZAKHSTAN

Zhilkibek Dzharkolikov
Team leader, Kaskelensky State Farm, Alma-Ata Region

For many centuries Kazakhstan consisted of boundless feather-grass steppes. Our rich land lay idle. But in 1954 the government decided to develop a portion of the steppes and turn them into farmlands. This was an important and complex project, involving uninhabited areas and uncertain natural conditions. It wasn't merely manpower that we needed, but enthusiasts. That was when young people from all the republics began coming to Kazakhstan. They lived in tents and worked with ardent dedication.

Sedge and feather grass began to make way for wheat. Large, modern settlements rose in the steppes, and people of different nationalities, who called themselves simply virgin landers, came to live and work there. The whole country helped. Orders for the virgin lands took priority at all enterprises. Even children became involved—they collected books for virgin land libraries.

Now Kazakhstan is one of the country's richest granaries, and for this it is indebted to the young people of the entire country who sacrificed convenience and comfort to work here.

UZBEKISTAN

Bualma Dzhurayeva
Weaver at the Tashkent Textile Mill

Before the Revolution a certain manufacturer applied to the Russian governor-general of Turkestan (as the Central Asian regions were then called) for the permission to build a mill in our area. The governor refused him, saying that the development of the country's outlying regions would undermine Central Russian industry. Today Uzbek products are shipped to all the Soviet republics and to 91 foreign countries. Industrially, Uzbekistan has surpassed many countries not only of the East, but of Europe. What is more, the development of any one Soviet republic in no way infringes on the interests of the others. On the contrary, it furthers the cooperation of all our country's nationalities. In that lies the strength of socialist economic policy.

BYELORUSSIA

Yevgeni Klimchenko
Patternmaker at the Minsk Tractor Works

We have a tradition that goes back to the first years of Soviet power: Our largest and most important construction projects, regardless of where they're located, soon involve the whole country. That was the case in Byelorussia. All the Soviet peoples helped lay the foundation of our republic's heavy industry. A quarter of a century ago working people from all parts of the country came to war-devastated Minsk to rebuild the Byelorussian capital's housing and industrial plants.

Now that Byelorussia has become a highly developed republic, my countrymen, in their turn, are working at construction sites in Siberia, the North and Central Asia. It was joint efforts like these that helped mold our people as internationalists, as world-minded citizens.

GEORGIA

Akaki Skhirtladze
Party Committee Secretary, Chiatura Manganese Trust Mining Board

There have long been close ties in every sphere of life between the union republics. I want to point out just one manifestation of this friendship—the exchange of know-how and experience. The people in the Chiatura manganese basin, where I work, have been cooperating for many years with the miners of the Ukrainian city of Nikolayev. The constant exchange of know-how, collective and personal, is benefiting both enterprises and making for rapid advances in production.

I could cite thousands of concrete examples. Their essence is clear—mutual assistance rather than market competition, exchange of experience rather than commercial and industrial secrecy. These are just some of the reasons for the stability of our economy.

AZERBAIJAN

Dzhabir Novruz
Poet

I do a lot of traveling in my republic, and workers, collective farmers and intellectuals frequently write to me. Meeting different people and corresponding with them is very interesting and rewarding—again and again I see how my fellow countrymen's spiritual needs are growing and their interests broadening.

One need only attend concerts, art exhibitions or literary debates to realize that the arts have become an integral part of people's lives. And what is particularly important is that national cultures evoke a mutual interest among all peoples. For instance, the works of Azerbaijanian painters are popular with Moscow's art lovers, while songs by Russian composers are sung all over Azerbaijan. New books and articles from one republic are quickly translated into the languages of other Soviet peoples. All this works toward the harmonious development of both art and the individual.

MOLDAVIA

Svetlana Shosheva
Student at the Beltsy Teachers Institute

I was born in a village. My grandparents and great-grandparents were born, worked and died on their small plot of land. The first literate people in our family were my parents. But my being an institute student is no longer an exceptional case. Tens of thousands of children from workers' and peasants' families gather each morning in institute classrooms and auditoriums. This, to my mind, is one of our chief gains. Access to knowledge, to the sophisticated world of scientific problems, has opened alluring prospects to Moldavia's youth.

Perhaps my choice is a modest one—I'm going back to my village to teach. I made this decision because, naturally, I want to do something for the place I was born and raised in and for its people. Incidentally, many former classmates of mine will also be returning to the village as doctors and agronomists, zootechnicians and engineers. There's plenty of work to do in the countryside.

LITHUANIA

Yuras Pozela
Vice President of the Lithuanian Academy of Sciences and Director of the Institute of Semiconductor Physics

I appreciate internationalism because I know the true price of nationalism. We in Lithuania remember how, during the fascist dictatorship, tens of thousands of workers and peasants were forced to leave the country because they couldn't find jobs at home. We also remember how much innocent blood was shed by nationalist gangs hiding in Lithuania's forests after the war.

I can hardly imagine what life in Lithuania would be like without the changes the socialist community of nations has brought. Even the success of our institute is to a considerable extent linked to the assistance of our colleagues all over the Soviet Union. On a broader scale, there is no question that progress in Soviet science is a result of the creative cooperation of scientists from all the union republics.

KIRGHIZIA

Usenbek Makishev
Electric Welder at a Farm Machinery Plant

As late as the 1920s the Kirghiz were still nomads. It's hard to say how many decades or, perhaps, even centuries it would have taken us to part with our felt tents and build up our own developed industry and agriculture. Fortunately we did not have to do it alone. The Soviet republics worked together to develop their economy and culture.

In the thirties the city of Leningrad, which was known for its skilled personnel, became Kirghizia's patron. That meant that hundreds of workers, engineers and technicians arrived in our republic to help us build and operate large industrial enterprises. At the same time, our youth was acquiring skills and know-how at plants in Leningrad and other cities.

A Kirghiz intelligentsia—engineers, teachers, doctors, artists and actors—was also trained with the help of all the Soviet peoples. As a result, we made unbelievable progress in just a short period of time.

TAJIKISTAN

Yakub Chanyshev
Lieutenant General (Ret.), Delegate to the First Congress of Soviets of the USSR

I'm 80 years old and a veteran soldier. I was an eyewitness to, and a participant in, many major events in the country's history. During the Civil War I fought for Soviet power in Central Asia. In December 1922 I was elected a delegate to the First Congress of Soviets of the USSR.

I was also fortunate enough to see with my own eyes how the things I fought for, and voted for at that historic congress, were translated into life. I saw how national discord, inequality and backwardness were done away with. It was worth living and fighting for that.

ARMENIA

Konstantin Orbelyan
Conductor of the Armenian State Jazz Orchestra

My people have had many bitter trials —poverty, the denial of civil rights, the horrors of genocide, and the emigration to which thousands upon thousands of Armenians were doomed. For centuries we dreamed of a free and peaceful life in our native land. It was Soviet power that helped us realize that dream. It gave us freedom and rights, it gave us a homeland, the Soviet Union. From its might and wealth we draw confidence in our future. Its family of peoples is our family. In any city, in any village of our country, even a thousand miles from Armenia's mountains, we feel at home.

LATVIA

Konstantin Brokans
Worker at the Rigaselmash (Riga Agricultural Machinery) Plant and Deputy to the Latvian Supreme Soviet

I'm not a specialist in economic forecasting, but I'm sure that singlehanded neither we Letts, nor any other nation, could have achieved a tenth of what we did during the years of our cooperation within the Union of Soviet Socialist Republics. Take industry. Planned specialization of production in the union republics is benefiting us all. Account is taken of the needs of the country as a whole, the potentialities of the republic economies, and local conditions and customs. This is steadily enhancing the economic might of our unified socialist state and the living standards of its population.

TURKMENIA

Kurban Dzhenov
Pensioner

I'm a Turkmen but I consider the entire Soviet Union my homeland. Back in the twenties, the Russian poet Vladimir Mayakovsky wrote in "My Soviet Passport":

"You now, read this and envy: I'm a citizen of the Soviet Union."

With these words he voiced the sentiments of our entire multinational country. Why are we so proud of our citizenship? Because we ourselves proclaimed and realized the right of every person to a job, to rest and leisure, to education, to care in his or her old age. We ourselves built a society for which we fought, sparing neither our strength nor our lives. We ourselves decide the affairs of our state. A sense of responsibility for their country is what distinguishes our people, whatever their nationality. That's precisely what unites all those who call themselves citizens of the Soviet Union.

ESTONIA

Axel Elvelt
Worker at the Tallinn Excavator Plant

My homeland is Estonia and together with it Russia, Byelorussia, Lithuania, Uzbekistan, Moldavia and the other union republics. There are 247.5 million Soviet citizens, and all of them are my countrymen. I know that my work and effort contribute to the country's common cause. And millions of my fellow citizens are working so that I have everything I need. Within the great brotherhood of working people each individual senses his contribution, and that makes him stronger.

Everything we have we created ourselves—free education and medical care, pensions, low-rent housing, palaces of culture and stadiums that are open to everyone. And this is just the beginning. We will do even more, because our future is in our own hands.

SCANNING THE VERBATIM REPORT

The morning of December 30, 1922, thousands of people, many of them in colorful national costume, filled the Bolshoi Theater in Moscow. Among them were envoys from Russian towns and villages, sons and daughters of the Ukraine, delegates from the factories and fields of Byelorussia, representatives of the multinational Caucasus and of the many other nations and nationalities of what is now the Soviet Union.

There were 2,215 delegates all told. The congress opened at 11 A.M. As instructed by the conference of plenipotentiary delegations elected by the Congress of Soviets of the Russian Federation, the Ukraine, Byelorussia and the Transcaucasian Federation, held the day before, the First Congress of Soviets of the USSR was opened by the oldest delegate from the Russian Federation, Pyotr Smidovich.

He declared:

"A unanimous will of the working people of the Ukraine, Azerbaijan, Georgia, Armenia and Byelorussia to unite the separate Soviet republics into a single whole, powerful state, a union of socialist Soviet republics, was expressed at the congresses of Soviets of the Ukraine, Byelorussia and the Transcaucasian Federation. This will was supported with indescribable enthusiasm by representatives of the working people of the Russian Federation at the December 26 session of the Tenth All-Russia Congress of Soviets. A resolution adopted by that congress reaffirmed, as the basis for the Union, the principle of equality of the republics, their voluntary accession to the union state while reserving the right of free secession.

"To this day our states have been like separate armies on a common front of struggle. We have been jointly upholding a common cause, the power of labor, the power of the Soviets, against a united front of imperialist governments, and building up a socialist economy in the face of advancing capitalism. And what colossal force of resistance we have been finding in this pooling of the efforts of the republics to face up to each new danger! Remember our struggle on the hunger front. Remember the trains from Petrograd to the Tatar Republic, or from Moscow to the Chuvash Region. Remember the ships from Georgia sailing to the Crimea and the trainloads of grain from Byelorussia and the Ukraine for the famine-stricken Volga area. We owe our victories on the external war fronts and the internal economic fronts to this joining of the forces of separate republics. Now we are uniting in a single state, forming a single political and economic organism. . . . In this new degree of union of the Soviet republics lies the source of new colossal forces of resistance and creation—incomprehensible and awe-inspiring to the capitalist world but a joyful and inspiring marvel to the workers of all lands. . . . Long live the Union of Soviet Socialist Republics which is now being established!"

Smidovich's last words drew stormy applause. The delegates rose to their feet and sang the "Internationale." Smidovich gave the floor to Avel Yenukidze, who proposed, on behalf of the delegations of the four republics, a list of candidates for the presiding board of the congress.

Vladimir Lenin was nominated honorary president of the congress. The proposal was received with an ovation and shouts of "Hurrah." The delegates were expressing their love and gratitude for the man whose thoughts and deeds, whose whole life had been given to uniting in that auditorium and outside it, on the expanses of a vast country, the working people of dozens of nations and nationalities. They now had the task of bringing to life Lenin's ideas for the construction of the world's first multinational state of workers and peasants. They knew that the drafts of the Declaration and the Treaty on the Formation of the USSR were based on the principles of a union of equal Soviet republics in a federation, elaborated by Lenin, on his theory of the national question. The congress sent Lenin, who was too ill to attend, this message of greeting:

"Beginning its work, the First Congress of Soviets of Workers,' Peasants' and Red Armymen's Deputies of the Union of Soviet Socialist Republics extends ardent greetings to the honorary chairman of the First Congress of Soviets of the USSR and the leader of the world proletariat, Comrade Vladimir Ilyich Lenin."

Mikhail Frunze proposed that Mikhail Kalinin be elected chairman of the congress. The proposal was carried.

Back in 1919 when Kalinin was elected president of the All-Union Central Executive Committee, Lenin said of him: "Here we have a comrade who has been engaged in party work for nearly 20 years. He is a peasant from Tver Guberniya. . . . Petrograd workers have witnessed his ability to approach wide sections of the working masses. . . ."

Then the delegates approved the agenda. There were three items:

1) consideration of the Declaration on the Formation of the USSR,

2) consideration of the Treaty on the Formation of the USSR, and

3) elections to the Central Executive Committee of the Union.

Joseph Stalin reported on the first point and read the drafts of the declaration and the treaty, which had been discussed the day before by the conference of plenipotentiary delegations of all the Soviet republics.

Mikhail Frunze was the first to take the floor.

"One can see after even a cursory acquaintance with the declaration and the Union treaty which have been read here that in building our Soviet state we differ considerably from what is to be observed in this field in the bourgeois countries of the world," he said. "This is natural, for in all our efforts we are forced to search for new ways, those conforming to the nature of the new class that has taken power—the proletariat."

Frunze moved that the declaration and the treaty be approved, and read the draft of the decision of the congress:

". . . 1. To approve in substance the declaration and the Union treaty.

"2. In view of the extraordinary importance of the adopted declaration and the concluded treaty and the desirability of hearing the final opinions of all the constituent union republics regarding the text of the present treaty, to submit the declaration and the treaty to the Central Executive Committees of the union republics for additional consideration, so that the opinions of the union republics can be communicated to the next regular session of the Central Executive Committee of the USSR.

"3. To instruct the next regular session of the Central Executive Committee of the USSR to examine the opinions received, approve the text of the declaration and the Union treaty, and immediately put it into effect.

"4. To instruct the Central Executive Committee of the USSR to prepare for the Second Congress of Soviets of the

Continued on page 14

FIRST CONGRESS OF SOVIETS OF THE USSR





World history has no precedent,
in relations between so many
nations and nationalities, for the
unity of interest and goal, will
and action, the affinity, trust
and mutual concern demonstrated day
after day in our fraternal Union.



The concentration of resources, the assistance the Soviet nations and nationalities rendered each other made it possible to develop a modern industry and a large-scale mechanized agriculture in all the republics. By comparison with 1922, the year the USSR was formed, the country's income has multiplied a hundred times.

Steel production at the metallurgical plant in Izhevsk, Udmurt Autonomous Republic.



The harvest festival at the Rossiya Collective Farm. New-baked bread for a good new year.

FIRST CONGRESS OF SOVIETS OF THE USSR

Continued from page 10

USSR the final text of the declaration and the Union treaty and to submit it to the Second Congress for final approval."

The historic moment for the adoption of the decisions arrived.

"Chairman: Comrades, does anyone wish to speak on Comrade Frunze's proposal? (Voices: No.) Allow me to put this proposal to the vote. I shall have it voted upon as a whole, thereby both the declaration and the treaty of the Union of Soviet Republics will be endorsed. I now proceed to take a vote. Those for the adoption of this proposal. Any against? Any abstaining? None. Carried unanimously. (Applause)."

Thus, by the will of the Soviet peoples, the formation of the Union of Soviet Socialist Republics was proclaimed.

Speaking for the workers of the Transcaucasian republics, Sergei Kirov devoted his speech to the international friendship of nations. "We now have every possibility for gathering into a single whole, into a close-knit family," he said. On behalf of the peasantry the congress was greeted by Grigori Odinets, a Ukrainian grain grower.

Then the verbatim report notes that the congress unanimously elected the Central Executive Committee of the USSR, consisting of 371 members and 138 alternate members.

In his closing speech, Mikhail Kalinin said:

"At this moment the importance of this event may not be fully realized, but its political significance will grow daily. There is no doubt about it. Firstly, this unifying congress will enable us to build up our material resources in the face of the hostile bourgeois world. Secondly, in political terms the union of the Soviet republics vastly increases the real significance of the Soviet republics for the whole bourgeois world. And, thirdly and finally, we here are laying the cornerstone for a truly fraternal community. For thousands of years mankind's best minds have been struggling with the theoretical problem of finding forms in which peoples might live in friendship and fraternity, without great anguish and internecine struggle. Only today, at this moment, has the first stone of such a life actually been laid. . . . The most difficult thing is to make a start, to lay the foundation. And today the four independent Soviet republics have laid the foundation. I am convinced that, given the support of the working people, the success of the work we have started will be assured."

That same day, December 30, 1922, the Central Executive Committee of the USSR elected by the congress met for its first session. On the proposal of the bureau of the communist group in the Central Executive Committee, the session unanimously approved members and alternate members of the CEC Presidium, four presidents (one representing each republic)—Mikhail Kalinin, Grigori Petrovsky, Nariman Narimanov and Alexander Chervyakov—and the secretary—Avel Yenukidze.

The problem of a single union of the republics was so ripe for solution, the desire of all the peoples for that union was so great—the need for it had been demonstrated so clearly in the battles against invasion, hunger and incredible economic difficulty—that the entire agenda took only one day to complete, December 30, 1922, celebrated ever since as the anniversary of the Soviet Union.

By Academician Mark B. Mitin

WORLD HISTORY—the history of mankind, the history of states that grew up and disintegrated—has never before recorded such unity of interest and aim, of will and action, such spiritual kinship, mutual trust and concern as are constantly manifest among the tens of nations and nationalities that constitute the Union of Soviet Socialist Republics.

The voluntary unification of independent and equal Soviet republics into a single multinational state in December 1922 was a decisive factor in the reconstruction of our society along socialist lines.

A vital role in setting up the Union was played by the Communist Party, multinational in composition and profoundly internationalist in nature. It was, indeed, that leading political force for the solution of our national problem which ensured both the validity of the theory and practice in this field.

The Communist Party of the Soviet Union works for the comprehensive development of every one of the republics, the gradual drawing together of nations and nationalities. "This drawing together," General Secretary of the CPSU Central Committee Leonid Brezhnev pointed out at the Twenty-fourth Party Congress, "is taking place under conditions in which the closest attention is given to national features and the development of socialist national cultures. Constant consideration for the general interests of our entire Union and for the interests of each of its constituent republics forms the substance of the party's policy on this question."

Leninist Principles

Marxist-Leninist teaching holds that the national question is a component part of the proletarian (socialist) revolution. The national question can be resolved only after the elimination of class antagonisms, after the working class takes power. To end national inequality and oppression, a socialist system must first be established. In "The Discussion on Self-Determination Summed Up," Lenin wrote:

> It is *impossible* to abolish national (or any other political) oppression under capitalism, since this *requires* the abolition of classes, *i.e.*, the introduction of socialism.[1]

It was Lenin who elaborated the policy of the party and the Soviet socialist state on the national question. As early as the party conference of April 1917 he concluded that the overthrow of czarism in Russia and the revolutionary upswing in the country had changed the character and importance of the national question, that the formation of separate sovereign national states in Russia was possible. He wrote in his pamphlet "The Tasks of the Proletariat in Our Revolution" (April 1917):

> As regards the national question, the proletarian party first of all must advocate the proclamation and immediate realization of complete freedom of secession from Russia for all the nations and peoples who were oppressed by czarism, or who were forcibly joined to, or forcibly kept within the boundaries of, the state, *i.e.*, annexed.[2]

But the Communist Party, guided by Lenin's ideas, was not proposing that the Russian state be divided into large and small states. It was calling for the establishment of as large a state as possible, since that would be best for the working people. The party wanted a drawing together and further merging of nations, but it wanted to achieve that end not through force but through a free and voluntary union of the working people of all nations.

For the First Time in History

New principles of national relations—radically different from those in the bourgeois world—were proclaimed as state policy in the very first documents of the Soviet Government. The right of nations to self-determination and their equality was announced as a principle of international relations in Lenin's "Decree on Peace."

The Third All-Russia Congress of Soviets, held in January 1918, took a crucial step in the formation of the party's national policy.

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[1] V. I. Lenin, *Collected Works* (Moscow, Progress Publishers, 1964), vol. 22, p. 325.

[2] *Ibid*, vol. 24, p. 73.

THE COMMUNIST PARTY: LEADING FORCE IN CREATING THE USSR

The "Declaration of Rights of the Working and Exploited People," adopted by that congress, had been submitted by the Bolshevik fraction to the Constituent Assembly. When the counterrevolutionary Constituent Assembly refused to discuss that major document, the Bolsheviks left the Assembly.

On January 12 (25 New Style), 1918, the declaration was approved by the Third All-Russia Congress of Soviets. It read in part:

> The Russian Soviet Republic is established on the principle of a free union of free nations, as a federation of Soviet national republics.[3]

Lenin said that decision began a new epoch in world history.

Another important step was taken at the Eighth Congress of the Russian Communist Party (Bolsheviks) in 1919, where a program was adopted for the construction of a socialist society. So far as the national question was concerned, the Party Program called for the real unity of the workers and peasants of all nations in their revolutionary struggle for the reconstruction of society along socialist lines.

The Communist Party's plan of building a Soviet multinational state was a part of the general plan of socialist construction. But to set up and develop state relations among sovereign Soviet republics was a difficult and complicated process. According to the definition of the Eighth Congress of the RCP(B), these republics were "separate Soviet republics," though, of course, they were to cooperate closely and assist each other.

The process of setting up the multinational Soviet state was complicated by the events of the autumn of 1918: On the one hand, the RSFSR was being formed on the principle of autonomy, and, on the other, a state alliance of sovereign Soviet republics was emerging simultaneously. Proceeding from the experience of "uniting a number of national Soviet republics around Soviet Russia," the congress, on Lenin's proposal, suggested a federal unification of states organized on Soviet principles as a transitional form on the road to complete unity.

The Communist Party worked out an organizational structure for a multinational socialist state. Rejecting a proposal for "autonomization," that is, the inclusion of all the other republics into the RSFSR with autonomous rights, Lenin proposed a federation of equal states—a Union of Soviet Socialist Republics.

Lenin's teaching on the national question was formed and has been maturing in uncompromising struggle against the ideology of nationalism and against the cosmopolitanism and national nihilism that are closely related to nationalism. Hostile to Leninism by their very nature, they slow down the progress of the peoples. Bourgeois nationalism preaches self-isolation, mutual enmity and hatred which erupt in bloody wars. Cosmopolitanism and national nihilism give rise to pessimism, preaching that efforts to establish friendly relations and cooperation among nations and peoples are doomed to failure.

In his "Critical Remarks on the National Question," Lenin declared:

> Bourgeois nationalism and proletarian internationalism—these are the two irreconcilably hostile slogans that correspond to the two great class camps throughout the capitalist world and express the *two* policies (nay, the two world outlooks) on the national question.[4]

[3] *Ibid*, vol. 36, p. 423.

On the Basis of Socialist Democracy

A socialist type of federation was already in existence by the time the Soviet Union was formed.

This new type of federal state came into being with the RSFSR. The Soviet federation precludes the violence of one nation against another, creates the most favorable conditions for fraternal cooperation, does away with national dissension and guarantees local and central government with the broadest possible democracy for the working people.

Our state system embodies the idea of national equality, national community, the unity and fraternity of peoples. At present, the USSR—a union of nations and nationalities—includes 15 union republics, 20 autonomous republics, 8 autonomous regions and 10 national areas.

The Soviet multinational state rests on the principles of Soviet socialist democracy. The problem of sovereignty in a union state has been discussed endlessly in the bourgeois press and literature. How is this problem solved in our country? In the USSR, there are no contradictions between the Union as a whole and the interests of the individual republics. Here we have a harmony of interests, a community of aims and tasks. The state form itself ensures maximum development of the initiative and independent activity of the union republics. Common social, economic and political foundations and the guiding role of the CPSU are characteristic features of the union of the republics.

One important element in strengthening the fraternal family of Soviet peoples is the fact that in planning and moving toward economic and cultural goals for the country at large, attention is paid to the concrete situation in the republics and to their national peculiarities.

In the Soviet multinational family tens of nations and nationalities have been given a new lease on life. They have become self-governing. The economies of the once backward hinterlands have been progressing at a faster rate than the economy of the country as a whole. The nations have blossomed culturally. The peoples of the USSR have changed themselves.

The party's policy fosters this blossoming of socialist nations and their drawing together. The party comes out equally strongly against artificially accelerating the elimination of national differences and against everything that hampers the natural historical process that brings socialist nations closer.

Our experience at setting up a multinational state on the basis of socialism has been successful. The diversity of the forms of autonomy is a specific feature of the Soviet state system. The native language of the given national group is the official language in government offices, in the press, the courts, the theater and literature. Their own autonomous republics and autonomous regions allow for the fullest national development of all the Soviet peoples.

Class and national antagonisms have already been done away with in Soviet society. The nations and nationalities have a uniform social structure, comprised of workers, collective farmers and intellectuals. The development and the unity of union statehood and the national statehood of the republics are ensured by the democratic centralism and socialist federalism basic to Soviet socialist democracy and by the creation in all the republics of the conditions necessary for the active participation of working people of all nations in every field of endeavor.

This fraternity of peoples, unprecedented in history, has been steadily developing for half a century. Impressive socioeconomic, political and cultural transformations have carried tens of nations and peoples from poverty and backwardness to the summits of civilization. Half a century's practice of history has tested and proved the viability and indestructible might of the state form found by the Communist Party under Lenin's guidance for welding the multinational people of our country into a new society.

[4] *Ibid.*, vol. 20, p. 26.



The interaction and mutual enrichment of the traditional and modern cultures of the country's many nations and nationalities are a natural outgrowth of Soviet life.



ECONOMIC POLICY AND THE DISTRIBUTION OF THE PRODUCTIVE FORCES

By Nikolai Nekrasov

PLANNING the distribution of the productive forces on as vast a territory as the Soviet Union is a complicated economic, social and political task. It is possible only with public ownership of the means of production.

Every year 300 to 400 large new state-owned enterprises are placed in operation. Eighteen hundred seventy were built in the Eighth Five-Year Plan period alone. These enterprises do more than increase the potential of one or another branch of production. Directly or indirectly they affect the manpower balance, employment, the cultural level and people's everyday life. They also influence the economic development of particular regions, production contacts between them and their economic relations with the country as a whole.

Economic Equality for the Republics

This year the Union of Soviet Socialist Republics will mark its fiftieth anniversary. The all-round economic development of the union republics by a single plan serves to unify the country and makes for a harmonious distribution of its productive forces.

The building of the material and technical basis of communism presupposes a continued effort to even up the economic development levels of the republics. The Ninth Five-Year Plan (1971-1975) schedules the highest growth rates in industrial production—64 per cent—for Armenia and Turkmenia. Moldavia is next with 62 per cent, then Kazakhstan (59 per cent) and Byelorussia (58 per cent), as against a 47 per cent growth for the Soviet Union as a whole.

With the development of socialism, it has become possible to solve increasingly complicated problems that affect all the republics to a greater or lesser degree. Besides large thermal and even larger hydroelectric stations (the Sayano-Shushenskaya and Ust-Ilim in Siberia, Zeya in the Far East, Toktogul in Kirghizia, Nurek in Tajikistan, Inguri in Georgia, and others), several nuclear power stations are projected by the current five-year plan. In the Russian Federation the Leningrad, Kola, Kursk and Novo-Voronezh nuclear power stations will be placed in operation, and construction of the Smolensk station will begin. In the Ukraine, besides the Chernobyl station, two other nuclear power plants will be built. A nuclear power station is also scheduled for Armenia.

In the Ninth Five-Year Plan period work will continue on the project for a united power grid for the entire Soviet Union. The existing grid in the European part of the country, with its capacity of more than 100 million kilowatts, will be linked to the power systems of Siberia, Kazakhstan and Central Asia. This United Power Grid of the USSR will increase the supply of electricity to all the union republics. New long-distance transmission lines are to be built for the purpose.

The same trend is evident in another important field. A single system of oil and gas supply is being created for the whole country. At least 18,000 miles of gas trunk lines are to be built in the current five-year period. Pipelines are being laid for large quantities of oil and gas from the new fields in Western Siberia, Mangyshlak, Vuktyl and Orenburg.

A unified state technical policy is becoming the principal instrument for achieving high rates of production growth, both for the country as a whole and for each union republic. Indicative of this trend are the planned changes in the structure of industrial production in the republics. For instance, in the Russian Federation a substantial increase in industrial output will be accompanied by the accelerated growth of the machine-building, gas, oil and chemical industries. In the Ukraine much larger capital investments will be made in branches vital to technical progress, thus raising the general level of production. New instrument-building and electronics plants will be built in Azerbaijan. In Georgia, Armenia, Byelorussia, Lithuania, Latvia and Estonia the emphasis will also be on the accelerated development of branches essential to technical progress: power, chemicals, instrument building, electrical engineering and machine-tool building.

Large new economic complexes are being created in the union republics on the basis of new techniques. Examples are the Mangyshlak, South Tajik and Navoi complexes. (See map on pp.19-20.)

Every union republic has an academy of sciences which not only does basic research, but also works on regional economic problems. For instance, the Ukrainian Academy of Sciences is studying nuclear power production, and the scientists of Kazakhstan are investigating problems in geophysics and geology.

In the Russian Federation there are numerous regional scientific centers affiliated with the USSR Academy of Sciences. The Siberian Branch of the academy was opened more than a decade ago. In the past several years three large new scientific centers were set up in the Far East, the Urals and the Northern Caucasus. The northwestern scientific center is being organized in Leningrad, and the advisability of opening a center in the Volga area is being discussed. The Bashkirian, Buryat, Daghestan, Karelian, Kola, Komi and Yakut branches of the USSR Academy of Sciences have researchers working in every field of study.

Many of the scientific and technical problems involved in the economic transformation of large areas have been solved in the Soviet Union. The huge hydroelectric stations on the Volga, Dnieper, Angara and Yenisei have made new industrial complexes possible. Water arteries have been built in the deserts of Central Asia and Kazakhstan, with a resulting increase in irrigated acreage. The Far North has several new industrial centers—Khibiny, Norilsk and Mirny. For a long time the whole country has, in effect, been one great building site stretching from the Pacific and Arctic oceans to the Caspian, Baltic and Black seas.

A New Approach

The scale of our economic development, the size of the country, its highly diverse natural conditions and differences in population density make a new approach to the distribution of our productive forces necessary.

The scale of building will grow considerably in the current five-year period. In 1971-1975 capital investments will total 501 billion rubles, almost 42 per cent more than in the previous period.

We can no longer rely on local research, which at best is adequate to handle fairly narrow problems such as distribution of the enterprises of one branch or one region. We need a comprehensive system of research that will work out the long-term distribution of the country's productive forces.

The general plan for this distribution for 1971-1980 has already been prepared. It is a huge multifaceted project. Some 560 research and design organizations under the direction of the State Planning Committee elaborated the underlying concepts, which were then discussed in the republics, at the appropriate ministries and individual enterprises.

In the second stage plans were drawn up for the distribution of material production by branches, union republics and economic regions. Since 1971, decisions for the design and construction of enterprises and other projects have been consistent with the general plan.

In economic planning the state can now rely on the plan's analysis and assessment of actual and potential natural resources, both in developed and developing economic regions. It can take into consideration all the social, economic, scientific and technical factors involved in the distribution of branches of industry (for example, raw-material, power and manufacturing branches) and in the regional development of agriculture and transport. Equally important for planning are scientifically founded variants of production specialization and formation of economic complexes in the union republics and economic regions. The general plan also makes it possible to choose the most rational methods of creating large economic complexes in newly developed territories with large concentrations of resources. Of great practical significance are the new methods and indices for determining how effective the distribution of the productive forces will be economically in both the near and distant future.

None of these problems can be solved separately. Long-term distribution of the productive forces must take into account numerous interconnected economic, social, scientific and technical factors.

The Shift of Industry to the East

For the harmonious development of the country as a whole, the right development ratios must be set for the various geographical areas. The present emphasis is on optimum development of the European (including the Urals) and the eastern parts of the USSR.

The European regions account for 25 per cent of the territory and 76 per cent of the population of the country and contribute more than 80 per cent of the industrial and about 80 per cent of the agricultural output. The western European areas are already beginning to feel the shortage of land resources. Industry, cities and transport have appropriated part of the farmland.

The eastern regions (without the Urals) occupy three-fourths of the territory of the Soviet Union. At the beginning of 1971 they had a population of more than 59 million, 24 per cent of the country's total. The economic potential of the East is growing steadily. It now produces more than two-fifths of the country's coal, more than one-fourth of its natural gas, about one-third of its timber, over one-fourth of its elec-

Academician Nikolai Nekrasov is chairman of the council for the study of the productive forces under the USSR State Planning Committee and of the research committee concerned with the same problems under the USSR Academy of Sciences. He is a member of the UN consultative committee on research for territorial industrial development and on the training of specialists in this field. Nekrasov was born in Irkutsk in 1906. He is a graduate of Irkutsk University and the author of more than 200 books and articles on problems of economics.

tricity, one-sixth of its cardboard, almost a quarter of its cement, more than one-fourth of its grain and more than nine-tenths of its raw cotton. It has practically limitless raw material and power resources. The water power resources of Siberia and the Far East are unequaled anywhere.

The over-all shift of industry eastward is pivotal to the rational distribution of production. In the current decade new territories with rigorous natural conditions—from the Arctic regions in the North to the semideserts and deserts of Central Asia and Kazakhstan—will be reclaimed.

Characteristic of the territorial development of the economy in this period is the rapid growth of the Northeast. A start on the construction of industrial centers in the North was made long ago. The growth of these centers is due primarily to the mining of highly valuable metals and minerals, including nonferrous metals at Norilsk, diamonds in Yakutia, and gold and tin in the Northeast. Mass-producing branches (timber and woodworking complexes, installations to process Khibiny apatites) have been developed only in the northern European areas.

In the current decade the share of the East in the total extraction of all types of fuel will increase considerably. The discovery of the world's largest oil and gas deposits in the West Siberian plain and in the Yakut Autonomous Republic makes it possible to set up eastern fuel and power bases of national importance, change the fuel and power balance of the country by increasing the share of natural gas and oil, ensure the gas and oil supply of the rapidly developing European regions with a system of trunk pipelines, and build large petrochemical complexes in the southern part of Siberia. The progressive changes in the fuel and power balance will bring savings of billions of rubles.

The organization of new fuel and power bases in the East is proceeding at a very fast pace. For instance, the extraction of oil in the West Siberian plain (chiefly in Tyumen Region) grew from 1.05 million tons in 1965 to 34.5 million tons in 1970. In 1975 it will grow to 130-135 million tons and in 1980 to 255-285 million tons.

West Siberian oil and gas have already made it possible to begin building large petrochemical enterprises near Tobolsk and Tomsk. In the near future these plants will become nationally important suppliers of synthetic rubber, plastics and artificial fibers.

Construction and modernization of a number of aluminum plants is to be completed in Siberia during the current five-year period. According to preliminary estimates, by the end of 1975 the eastern areas will be producing 70 to 73 per cent of the country's aluminum, about one-third of its chemical pulp and large amounts of other energy-consuming items.

Large-scale production of nonferrous metals, diamonds and gold will continue to be developed in the East. Lumbering, wood processing and woodworking will be expanded in the North.

The intensive exploitation of the natural resources of the East has been accompanied by many problems arising from the rigorous climate, large area, scant population and lack of roads. The methods of development and location of the productive forces there are highly specific. To tap the great natural wealth of Siberia and the Far East, the highest possible labor productivity must be assured by the widest use of new machines and equipment especially adapted to the northern climate, the application of fundamentally new production processes and new materials different from those in the populated areas, and entirely new approaches to housing construction and to the provision of comfortable living conditions.

It should be noted that in Siberia and the Far East it is vital not only to build specialized enterprises and organize auxiliary production, but also to develop an integrated production and social base, which often has to be created anew in remote areas. The construction of electric power stations, communications systems, new cities and industrial settlements predetermines the successful development of new territories.

Angara-Yenisei Industrial Belt

A system of economic complexes forming the Angara-Yenisei industrial belt is already taking shape in the river basins.

In the southern part of Krasnoyarsk Territory, work will begin during the current five-year period on the Sayan economic complex. This will be made up of the Sayano-Shushenskaya hydroelectric station; an aluminum refinery; a railroad car plant; a large steel mill nonferrous metal, electrical-engineering and light industry plants, and food-processing enterprises based on the well-developed local agriculture.

Construction of a group of interconnected enterprises is nearing completion in the Krasnoyarsk area. The group consists of the Krasnoyarsk hydroelectric station, nephelite mines, the Achinsk alumina works and the Krasnoyarsk aluminum refinery. To the east of Krasnoyarsk is the large Irkutsk-Cheremkhovo complex, where the Zima electrochemical plant is being built.

The Bratsk-Ilimsk industrial complex continues to grow. The construction of an aluminum refinery is being completed there and the Ust-Ilim hydroelectric station and a woodworking plant are being built. In the middle reaches of the Yenisei and in the Angara area new prospects are opening up for the construction of large, economical hydroelectric stations and a group of power-consuming enterprises based on Siberian raw materials.

Building the system of Angara-Yenisei complexes will take a long time and large capital expenditures, but it will do much to improve the territorial organization of the economy and the distribution of power-consuming industries. The trend of development is the same for industrial complexes in Kazakhstan and the Central Asian republics. For instance, the South Tajik complex also provides for the construction of new power-consuming enterprises (an aluminum refinery, an electrochemical plant and others).

Population Distribution

The distribution of production regulates employment and migration trends to some degree. The vigorous industrial development of the country is accompanied by systematic growth of the urban population with all its resulting economic and social problems. In 1971 the urban population of the country made up 57 per cent of the total, as against 18 per cent in 1913 and 33 per cent in 1940.

Besides that, extensive territorial changes in the distribution of the population are taking place. According to the 1970 census, the population of the southern regions of the country (the Ukraine, Moldavia, the Northern Caucasus) has grown by 11.4 million since 1959. In the central and western regions the growth was more moderate: just 5.4 million. Characteristically, in all the economic regions of the central areas and the West, the increase in population was smaller than the average for the country.

In the foreseeable future, population patterns will directly influence the structure of the economy in specific regions and the trends of distribution of the productive forces. In the central regions, the West, and the Ural and Volga areas, the prevalent form of development should be large-scale modernization and reconstruction of existing enterprises around new technical methods and production processes, without any substantial increase in the number of workers. In the southern and Central Asian regions, which have considerable manpower resources, the forecast is for large-scale labor-consuming branches of production.

A task of national importance is to attract labor to the newly developed regions, especially Siberia and the Far East. Material incentives and priority construction of housing in the new regions—included in the decisions of the Twenty-fourth CPSU Congress—will encourage people to move to and settle in these regions.

The rapid increase in urban population places a strain on large cities. In addition to the capitals of many union republics, Kharkov, Gorky, Novosibirsk, Kuibyshev and Sverdlovsk now have a million or more inhabitants. A dozen other cities, including Odessa, Donetsk, Chelyabinsk, Kazan, Dnepropetrovsk, Omsk and Volgograd, are nearing the one million mark. Not only the large industrial communities, but medium-size and small cities and rural towns are growing.

All this has made it imperative to develop a planned system of long-term distribution of the population in every economic region and union republic. The general plan provides for the prohibition or limitation of new industrial construction in a number of cities, and for the location of new enterprises in medium-size and small cities.

A better territorial structure of the national economy is closely connected with the development of the productive forces of the fraternal socialist countries. They have made significant progress in the theory and practice of territorial planning.

The present task is to work out a single methodology for regional economic research and to apply the research in territorial economic planning. In November 1971 the first conference of experts in this field from the socialist countries was held in Moscow. It placed on record the participants' complete agreement on basic principles for the territorial organization of the economy.

Courtesy of the magazine *Kommunist*

MAJOR PROJECTS OF 1971–



1975 FIVE-YEAR PERIOD



Power Stations

- hydroelectric (HPS)
- thermoelectric (TPS)
- nuclear (NPS)

Industries

- ferorus metallurgy
- nonferrous metallurgy
- machine building
- chemical
- oil refining
- petrochemical
- gas refining
- building materials
- pulp, paper and woodworking
- light
- porcelain-earthenware
- food

Transport

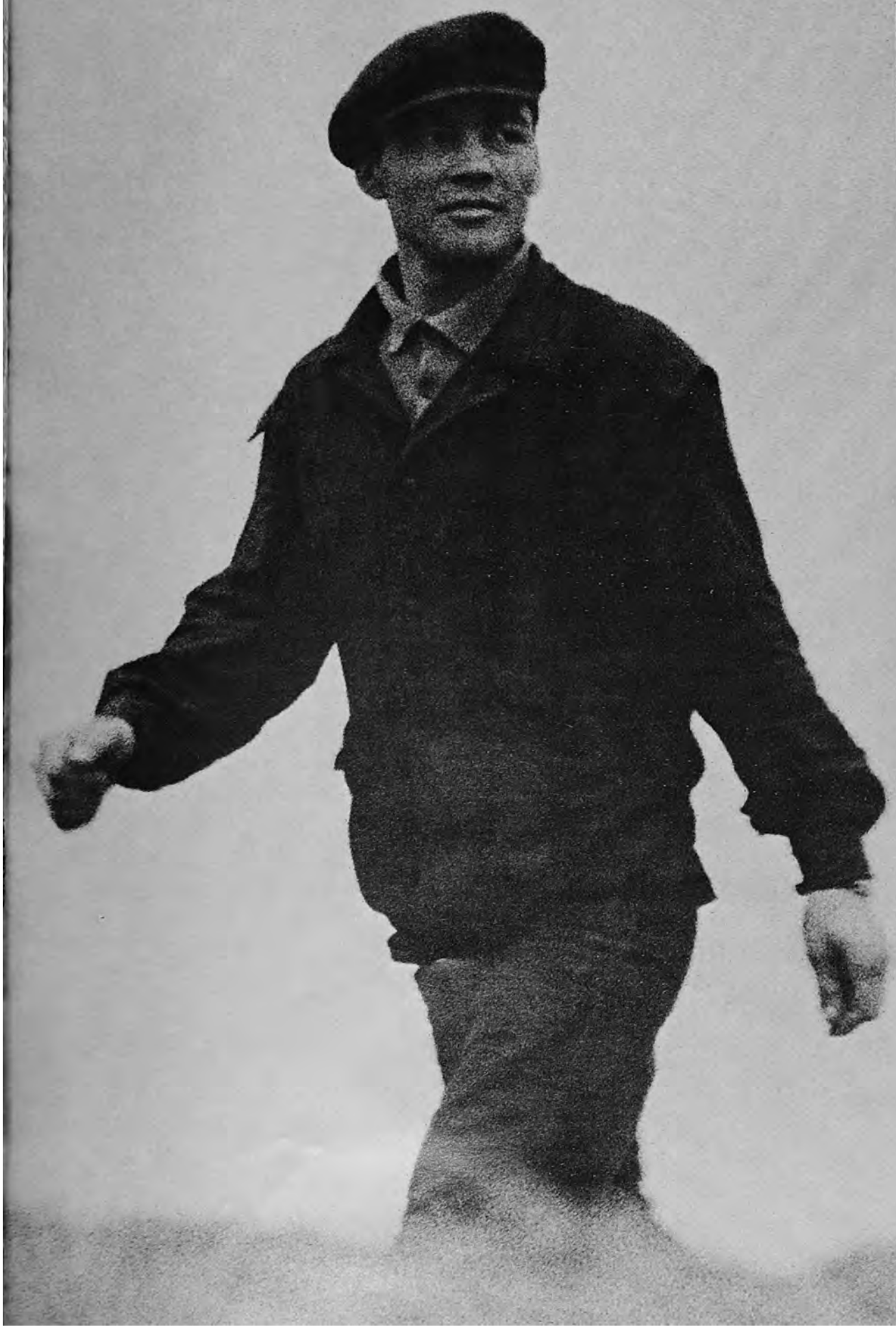
- oil pipelines
- gas pipelines
- railroads
- railroad ferries
- ports

- industrial complexes
- hydrotechnical complexes
- land reclamation areas
- canals

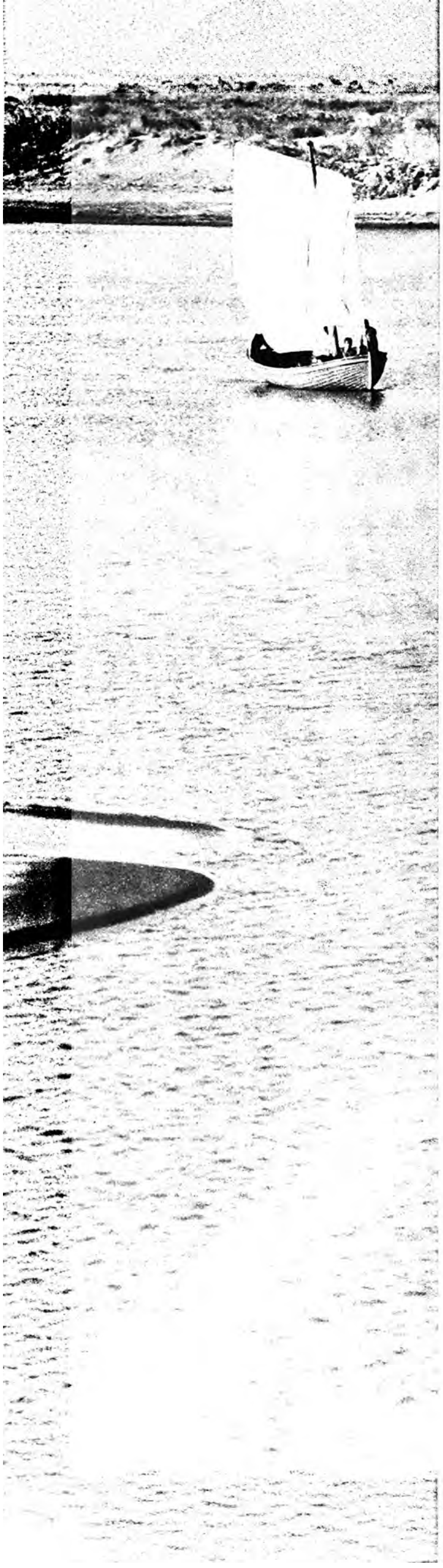


New Landscape Under Way

In the Kara Kum Desert: 500-mile man-made river







River in the desert

TURKMENS say that where water is, there is life. The Kara Kum Canal now brings water to 115,800 square miles of sun-scorched Central Asian desert. The whole country helped build this canal, one of the Soviet Union's largest hydrotechnical developments. It stretches 530 miles across the sand: from the middle reaches of the Amu Darya River to Ashkhabad, the capital of Turkmenia.

With an intake of more than 12,360 cubic feet of water a second, the canal branches off into hundreds of ditches and ducts that bring life giving moisture to this once lifeless land. Some 865,000 acres have been developed or improved. White stone communities have replaced bare hills, and birds now wing their way across green fields. The area accounts for 40 per cent of the cotton raised in Turkmenia and big grain, vegetable and melon crops.

The canal has also solved the water supply problem of Ashkhabad, a major industrial and cultural center and serves for the transport of cargo and passengers.

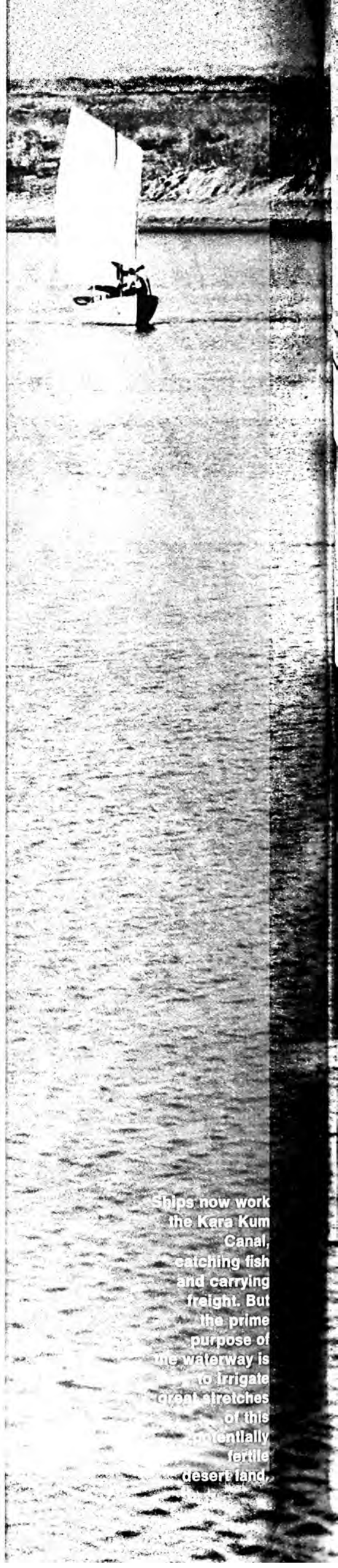
A new branch is under construction. It will cross the southwestern area of Turkmenia toward the Caspian Sea and extend the main bed to 870 miles. The already built Khauskhan Reservoir will be supplemented by another big man-made lake in the Kopet Dag oil-producing area.

But building the canal did not end the job. The desert has to be pushed back over and over again. To hold back the sand, special varieties of trees, shrubs and herbs are being planted on the canal banks and around the fields.

No less important is the endless cleaning. The canal carries so much silt in its water that, if not for suction dredges, the bed would fill up quickly. A special difficulty was water plants. Here, under the generous desert sun, they grow four to six inches a day. Ichthyologists provided the answer. They suggested that the Far Eastern white amur be let into the canal. This fish devours its own weight in food every day. The white amur now disposes of the algae.

An ancient Turkmenian proverb calls the sun the curse of the desert. Here it shines more than 300 days a year.

Turkmenian helioengineers are devising ways of utilizing solar energy. For example, they have developed solar water-freshening installations which are performing well on the pastures of local collective and state farms. Experimental construction of solar refrigerators, hothouses, etc. is being done at a helioengineering base six miles from Ashkhabad. Houses have been built which are cooled in summer and heated in winter by solar energy.



Ships now work the Kara Kum Canal, catching fish and carrying freight. But the prime purpose of the waterway is to irrigate great stretches of this potentially fertile desert land.









Extracting Nature's Treasures

A FEATURE characteristic not only of the current, ninth, five-year period, but the next 10 to 15 years as well is the planned development of great areas of Siberia. The country's industry is moving eastward. Two systems of industrial complexes based on very rich local natural resources are being structured: the Ob-Irtysh system (Western Siberia), which is utilizing local oil, gas, timber, bauxite and nonferrous metals, and the Angara-Yenisei system (Eastern Siberia), which is utilizing the cheap electricity of the East Siberian rivers, nonferrous and rare metals, timber and other chemical raw materials.

A glance at a map will show that this is not simply a matter of constructing several mammoth interconnected industrial projects. It means founding new industrial centers with towns and settlements, railroads and highways, power transmission lines and big farms.

The conquest of Siberia did not begin yesterday, nor will it be over tomorrow, but the decisive and most difficult steps toward that end have been made in our day.

As far back as the thirties Academician Andrei Trofimuk, a distinguished scientist, made this aphoristic prophecy, confirmed today: "All Western Siberia floats on oil and gas."

The first major oil deposit here was found in 1960. Then discoveries followed one after another. More than 100 large oil and gas deposits have been prospected to date. Of those already being exploited, Samotlor (the middle Ob) is considered a star of the first magnitude. It will soon be the country's main oilfield. Even now more oil is extracted here in 24 hours than in all of Azerbaijan. By 1975, Western Siberia should be producing 137 million tons of oil a year.

But getting at the oil is no simple matter. Almost all of the Samotlor deposit is located beyond the Arctic Circle and is covered with lakes and swamps as deep as 50 feet. Drilling equipment is brought in by plane. Roads and building sites are bedded by filling in swamps with a 50-foot layer of sand and gravel. In winter the temperature drops to 50 degrees below zero.

The transportation of oil is also a complicated business. A huge transcontinental pipeline—Ust-Balyk – Altemyevsk (total length 1,140 miles, pipe diameter 48 inches)—is now being built under extremely arduous conditions. It will extend from the center of the oil area across the Ob River, the Irtysh and other rivers, through the Ural range, Bashkiria and Tataria, and run up to Altemyevsk, where the head installations of the trans-European Druzhba (Friendship) oil pipeline are sited. Of its 1,140 miles, 250 cross swamps, rivers and lakes.

Another giant pipeline—1,430 miles long—stretching from this same Samotlor to Kuibyshev (the middle Volga) will be laid by 1976.

Accompanying the extraction of gas and oil in Western Siberia is the creation of large petrochemical complexes in the southern part of Siberia, like the ones in Tomsk and Tobolsk, which will make synthetic rubber, synthetic fiber and plastics.

Eastern Siberia is also on the threshold of a great industrial leap. Construction of large interconnected power-consuming enterprises, which will use the energy produced by Siberia's turbulent rivers, is at present under way on large areas of the Angara and Yenisei basins.

ALL OF US DEFENDED THE MOTHERLAND

By Ivan Bagramyan
Marshal of the Soviet Union

DURING the Civil War (1918-1920), a group of fighters from the famous Nestor Kalandarishvili partisan detachment visited Vladimir Lenin, Chairman of the Council of People's Commissars. After listening to Kalandarishvili's report on combat operations, Lenin said:

"I've heard that your division is international. What countries are your people from?"

"We have representatives of 18 nationalities," answered Kalandarishvili. "Russians—mostly Cheremkhovo miners and other Siberians—Ukrainians, Georgians, Byelorussians, Lezghians, Ossetians, Tatars, Magyars, Koreans, Chinese, Buryats, Mongols."

Working people of many lands fought with extraordinary dedication for Soviet power, for socialism. The Red Army, born of the Great October Socialist Revolution, owed its strength to the efforts of all the Soviet peoples.

The exploits of the units commanded by Vasili Chapayev and Vasili Blücher of the Russian Federation, Nikolai Shchors of the Ukraine, Amangeldy Imanov of Kazakhstan, Jan Fabricius of Latvia and other famous military leaders are part of our country's history. Among the heroes of the Civil War were a number of my fellow Armenians, men like Alexander Myasnikyan (Myasnikov) and Gaik Bzhishkyants (Gai).

Myasnikyan was mobilized into the czarist army at the beginning of the First World War. After the victory of the Socialist Revolution he was elected commander in chief for the Western Front at the congress of soldiers' and officers' deputies of the Front. He took an active part in the establishment of Soviet power in Byelorussia and fought against the enemy on various Civil War fronts. Gai commanded Red Army units operating in the Volga area, Siberia and the Ukraine.

The Great Patriotic War of 1941-1945 was another grim test for the multinational Soviet state. In their attempt to destroy our country, the German fascist invaders assumed that the union of Soviet peoples was unstable, that the non-Russians would secede. But they were disappointed.

All the nationalities of the Soviet Union closed ranks to preserve the freedom of their socialist motherland. The courage of the people who defended the border city of Brest will never be forgotten. On the first day of the war the soldiers of the Brest garrison withstood a surprise attack by the huge nazi army. For 29 days, soldiers of 30 nationalities fought a heroically unequal battle with the enemy.

Some of the toughest engagements of the war took place in 1941. In that year the approaches to Moscow were defended by General Panfilov's division, formed in Kazakhstan of Ukrainians, Kirghiz, Kazakhs, Russians and other nationalities. Many of them perished, but the enemy did not break through.

Entire national divisions fought in our armed forces. This was true in my native Caucasus, perhaps the most multinational area in the Soviet Union. Hitler was convinced that when his divisions appeared in the Caucasus foothills a murderous struggle would begin between the peoples of this area.

Actually, however, as soon as the war started, tens of thousands of volunteers representing all the nations and nationalities of the Caucasus and Transcaucasus flocked to the recruiting stations. With the assistance of the Central Committee of the Georgian, Armenian and Azerbaijanian Communist Parties, national units were formed in record time. They included the 414th and 176th Georgian infantry divisions, 233rd and 416th Azerbaijanian divisions and 89th Armenian division. The national units of the Soviet Army routed the fascists in Kuban, on the fields of the Ukraine and in Byelorussia. They also helped liberate the peoples of Europe and fought in the Battle of Berlin.

From 1943 to 1945 I commanded the First Baltic Front. The units there included the Lithuanian infantry division, which saw its first action at Orel and the Kursk Bulge. Afterward it liberated the western parts of the Russian Federation, Byelorussia and Lithuania.The 130th Lettish and 8th Estonian infantry divisions showed equal courage on the neighboring fronts. The Bashkirian guards cavalry division fought its way through from the Don to the Spree.

Instead of destroying the fraternal union of Soviet socialist nations, as they had hoped, the enemies of the USSR were to see this union grow even stronger. I recall a letter from a group of Uzbek soldiers in which they said: "We cannot imagine the great motherland, the Soviet Union, without our sunny Uzbekistan. But now, especially, we feel that the motherland means much more than Uzbekistan alone. There is no motherland for us without the clear Moscow sky. To us our country means the banks of the Volga, the steppes of the Ukraine and the fields of Byelorussia drenched in our blood."

Reunion. Second World War veterans from all parts of the country gather in Tashkent's Victory Park. Uzbek Alim Mallayev (with skull cap) and Russians Vasili Lisenko and Prokofii Kazankov trade reminiscences.



KAZAKHSTAN: VIRGIN LAND CULTIVATED

PRESENT-DAY KAZAKHSTAN is frequently referred to as the virgin land. One of the dictionary definitions of the word virgin is "undisturbed, fresh, new, as in *virgin* soil." But in the case of Kazakhstan is has acquired another, quite opposite, meaning—"newly plowed up and settled land."

The development of the area was begun only a score of years ago. The Soviet Union was working at the time toward a sharp rise in output of agricultural produce, primarily grain. Arable land in the country's central regions had more or less been plowed up, while in the East, especially in the Kazakh Republic, there were vast tracts of undeveloped steppe in no way inferior to the fertile chernozem—the black earth of the Ukraine and Kuban.

The government decided to transform this area into a new granary, and trainloads of machinery and building material started moving toward Kazakhstan in 1954. People headed for the area, too. The centuries-old barren Kazakh steppe became the home of thousands of Russians, Ukrainians, Byelorussians, Moldavians and Estonians. Dinmukhamed Kunayev, First Secretary of the Central Committee of the Communist Party of Kazakhstan, once said his people were proud of the fact that, along with Kazakhs, over 350,000 young men and women from a hundred of the country's nationalities helped to rejuvenate this ancient land. The actual process of developing Kazakhstan's lands took only a few years, during which a vast field of 62 million acres was put to the plow. Today these "virgin" lands account for three-fourths of the republic's gross grain yield, more than half of its milk and a third of its meat. Where there was not a trace of human habitation for miles on end, there are now settlements threaded by highways and railroads.

The state and collective farms of today's virgin land are highly mechanized. Each of them has an average of 117 tractors, 79 combines, 69 trucks and cars and hundreds of other farm machines.

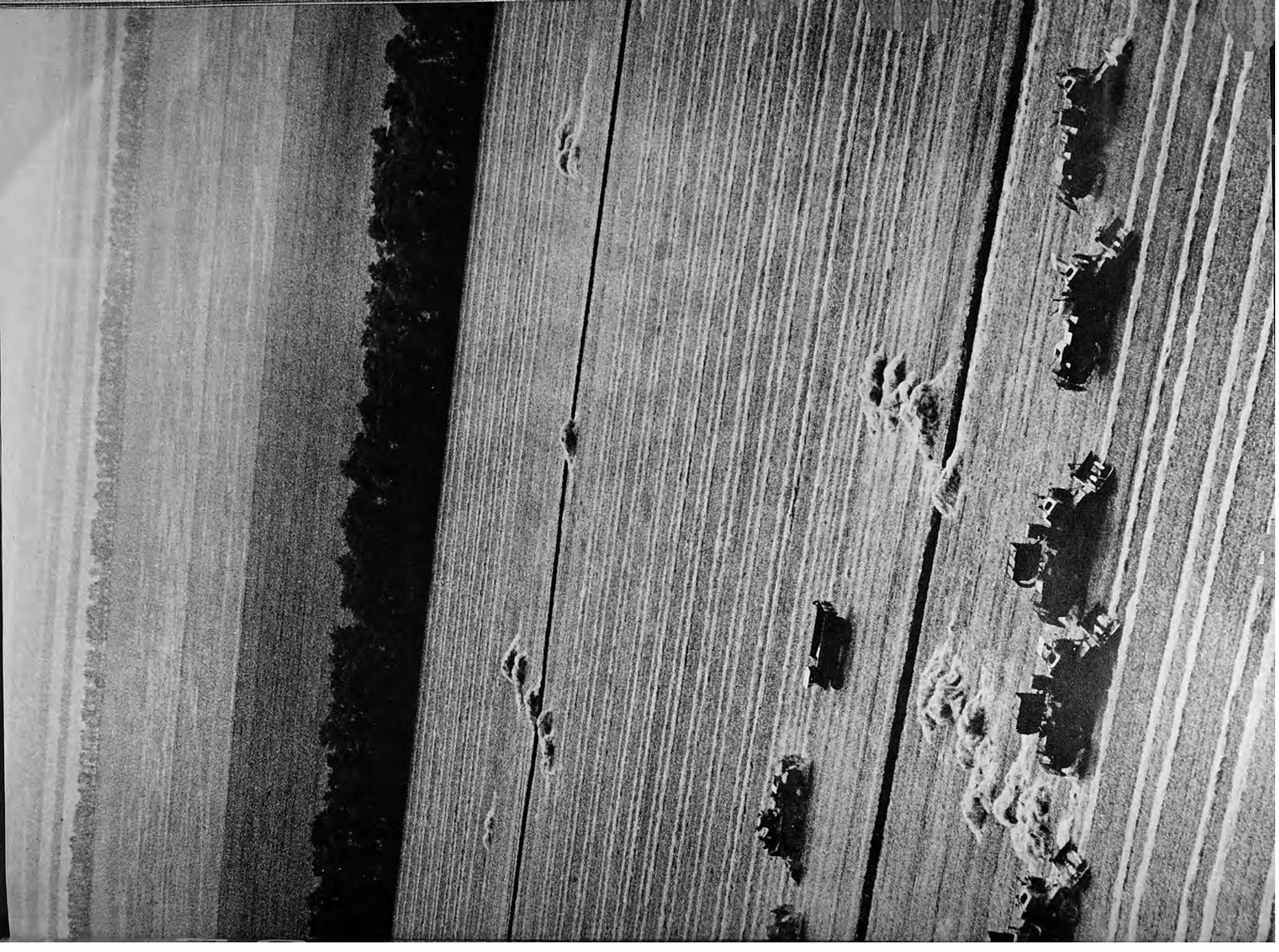
Kazakhstan's virgin lands are, in effect, a mammoth experimental laboratory. The vast areas under crops, the variety of climatic conditions and other factors provide favorable conditions for testing the latest findings in science and engineering as they apply to agriculture. Studies on newly developed lands are being done by four research institutes and a dozen experimental stations.

The virgin lands have greatly increased the country's acreage under grain. Having developed large areas of formerly unused land and built scores of chemical plants over the years, we now have the job of sharply increasing yields. Incidentally, yields on virgin lands have increased by more than 50 per cent over recent years.

Kazakhstan is famous for more than its grain. Its highly developed industry produces metal, oil, coal, machine tools and machinery. The cultivation of the virgin lands with the influx of manpower and the building of communications that accompanied it guarantees Kazakhstan's continued economic growth. In industrial capacity it is now third among the Union's 15 republics.

Scientists from the Kazakh Academy of Sciences and its 200 affiliated institutions work in practically every branch of science. Their staffs and those of industrial plants are trained by scores of local institutions of higher learning. Alma-Ata, the capital, alone has 12 schools of higher education. The republic has 152 students per 10,000 of population, more than many developed capitalist countries.

Kazakhstan is one of the most multinational republics in the Union. Its population of 13 million is composed of over 100 nationalities.



MULTINATIONAL UNITY IN THEORY AND PRACTICE

By Victor Perevedentsev
Candidate of Science (Economics), Demographer

THE SOVIET UNION is a multinational country with more than 100 large and small peoples. Their development as nations and nationalities and the relations between them were critically important for the construction of a socialist society.

The theory for the solution of the national question had been worked out by Lenin long before the Socialist Revolution of 1917. One of the first documents of the new Soviet government was The Declaration of the Rights of the Peoples of Russia, which proclaimed the equality and sovereignty of all the nations of the country; their right to self-determination, up to and including secession and the creation of an independent state; and the free development of national minorities.

National equality is one of the basic principles of Soviet statehood. The Soviet Union is made up of 15 equal union republics which include 20 autonomous republics, 8 autonomous regions and 10 national areas. These politicoadministrative territorial units, as a rule, are named after corresponding indigenous nationalities.

All-Round Progress of Nations and Nationalities

How is the theory on the national question worked out by Lenin being applied?

The years of socialist construction ended the economic and social backwardness of the peoples in the former national hinterlands of the Russian Empire. Moreover, socialist planning made it possible to redistribute the resources of the whole state, to solve economic problems on a countrywide scale and, at the same time, work to even up the socioeconomic levels of the different republics.

The practical approach to the national problem in prerevolutionary Russia was dictated by the interests of the ruling classes, while the Soviet Union's economic policy proceeds from the interests of the working people of our multinational land.

Central Asia is a striking example. The industrial bourgeoisie of Central Russia was interested in Central Asian cotton. It was least concerned with the development of a textile industry in the area. Cotton was shipped 2,000-2,500 miles to Central Russia and brought back to Central Asia in the form of textiles, which were then exported to the eastern countries. The young local industry could not compete with the Central Russian textile industry, which had capital, skilled manpower and other advantages.

In the Soviet period, large-scale textile-manufacturing centers were organized in all the republics of Central Asia. The considerable capital investments required came from the state budget.

Incidentally, state subsidies became one of the most effective methods of raising the levels of the economically backward republics. These subsidies accounted for more than 50 per cent of the revenues.

The intensive industrial development of these republics required more than large capital investments—thousands of engineers and skilled workers were needed. The industrial centers of the Russian Federation sent their own forces to Central Asia. Some 10,000 skilled workers came from the Russian Federation alone in the period between 1933 and 1935.

A training program for native personnel—engineers, technicians and workers—was started at the same time. Short-term courses, technical schools and college branches were set up. The professional and trade schools in the old textile centers also admitted large numbers of young Uzbeks, Turkmens, Tajiks and Kirghiz.

The progress of the small peoples of the North—Nenets, Evenks, Khanty, Chukchi and others—is another case in point. These peoples, whose traditional occupations were hunting, fishing and reindeer breeding, were among the most oppressed and backward nationalities in prerevolutionary Russia. The geographical remoteness of the northern areas and their scattered population hindered development even in Soviet times. It took a number of years and considerable effort, plus substantial assistance from the state, to end the centuries-old economic and cultural inequality of the Northern peoples as compared with the other nations of the Soviet Union. They were given the right to self-government and to representation in the highest legislative bodies—the Supreme Soviet of the Russian Federation and the USSR Supreme Soviet. National alphabets were created and a national intelligentsia educated. Over the years, the peoples of the North have produced prominent party and government officials, scientists, technical specialists, educators and writers.

Not only light industry, but coal mining, oil extracting, ore mining, metallurgy, machine building and other branches of heavy industry were developed in the former hinterlands of czarist Russia. An indigenous working class emerged everywhere, in places where there had been none at all before the Revolution, and in others where there had been only the first beginnings.

The rates of industrialization in the previously underdeveloped national areas have been much higher than in the central areas. While between 1913 and 1970 total industrial output increased by 92 times for the country as a whole, the increase for the Kazakh Republic, for example, was 146 times, and for the Kirghiz Republic 188 times.

Another important fact: Industrial centers set up in national areas were the nuclei for a new socialist way of life. They helped transform the archaic socioeconomic structure inherited from the past.

The social composition of the population is the same all over the country—the working class, the collective farmers and the intelligentsia. The ratios, of course, differ from one area to another. In Central Asia, for example, the proportion of workers is still considerably smaller than in the central regions of Russia. But the trend is toward a reduction of these differences.

National cultures were discouraged in czarist Russia. Immediately after the Revolution, a radically new course was taken. In czarist Russia, the teaching was almost entirely in Russian, particularly in the secondary and higher schools. Russian was the state language, and national languages were discriminated against in every way. In the Soviet Union, instruction at all levels is usually in one or another national language, depending on the location of the school. The choice is up to the parents in the primary schools and the students themselves in the colleges.

Higher education was poorly developed throughout czarist Russia, and in the national hinterlands there was almost none at all. Now all the union republics have a complete range of higher educational institutions—universities and technical, agricultural, medical, pedagogical and other colleges. The number of universities engaged in research in addition to teaching has been growing rapidly during the last few years.

Incidentally, in all the union republics, a higher education is available both in Russian and in the language of the predominant nationality. In most higher educational institutions where there are both indigenous and nonindigenous student groups, the instruction is in Russian. As the national intelligentsia has grown and produced scientists and scholars working in relatively esoteric fields, there has been an increasing tendency to expand the use

Mahomet Abakarov, born and brought up in Chirkei, learned his trade at a course offered right on the construction site. Some 600 local people found jobs on the project.



Mustafa Gadzhibekov manages a sheep-breedng collective farm. Right: Gaji Atayev, hereditary farmer, changed vocations three years ago. He's a crane operator.





Vera Ilyushina's family moved to Chirkei from a town near Moscow. The whole family works on the project. She's a mine surveyor.



Daghestan (area — about 19,300 square miles; population—1.5 million, consisting of over 30 nationalities; capital—Makhachkala) is an autonomous republic, part of the Russian Federation, in the Northern Caucasus.



THE MORE INFORMATION we gathered on Daghestan, the harder it was for us to choose a route for our trip. Since we had heard a lot about Gunib, Khunzakh and Kubachi, villages famous for their picturesque settings and historical monuments, we were inclined to head for the high mountain areas. But in Makhachkala we met someone who insistently advised us, "Go to Chirkei. It's only in the foothills, but there isn't a more interesting place." We took his word for it and had no reason to regret the choice.

In the Footsteps of Film Directors and Historians

A deep fissure between sheer cliffs. Old-fashioned but sturdy and graceful houses, resting one against the other, climb steep streets along their entire length. Mountain-spring waterfalls glitter in the sunlight, while below, under the village, the yellowish Sulak races through its gloomy canyon.

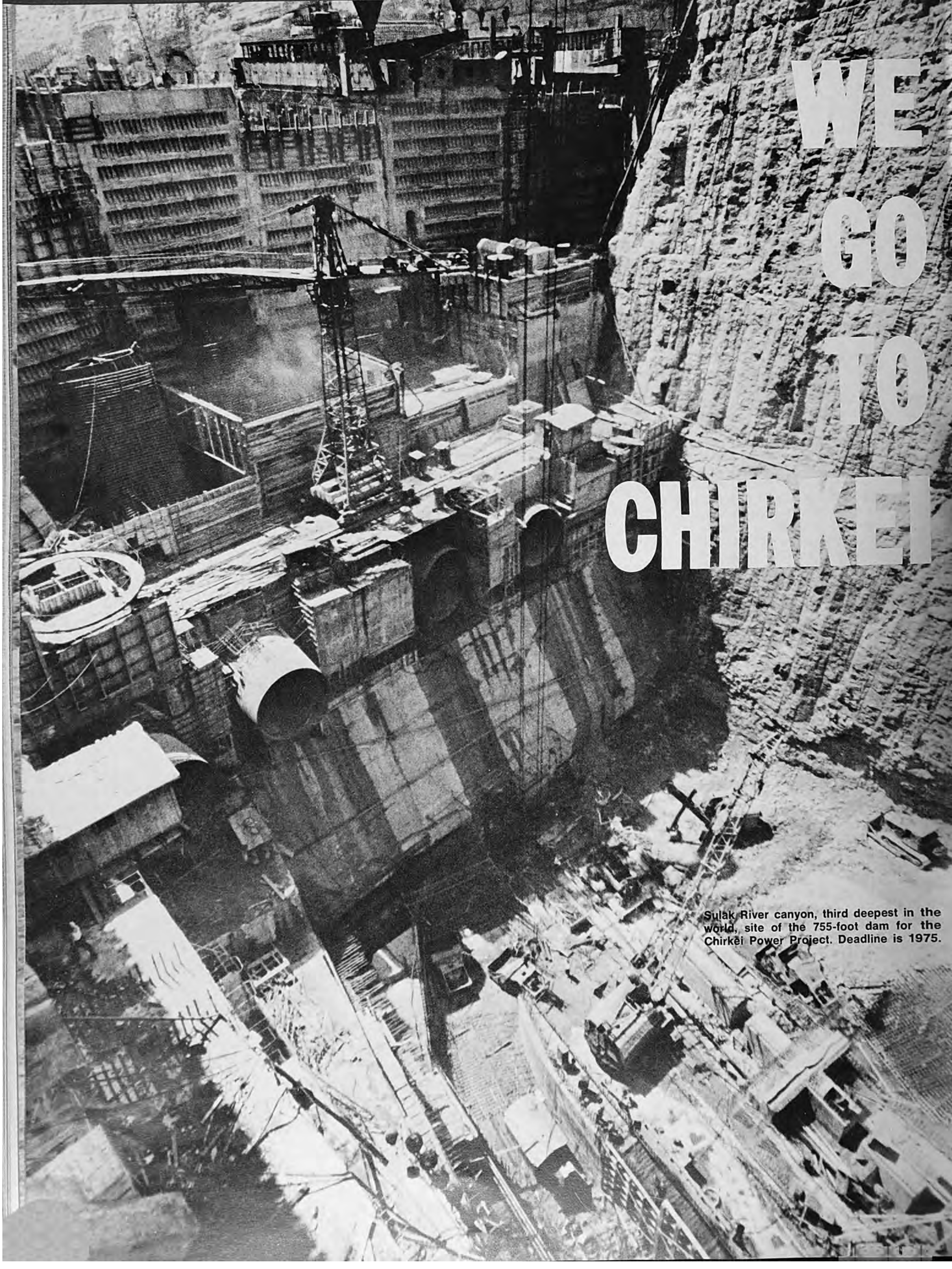
A shepherd with a dagger in his belt walks behind a flock of sheep. A bashful mountain girl in national dress carrying a copper pitcher heads for a spring. Children run about noisily. Veteran sages in sheepskin hats converse leisurely in the *godekan,* the combined central square and debating club of the village.

People's faces here show a peculiar inner nobility, the outward expression of the Daghestanian's courageous straightforward and expansive nature. And a very hospitable nature: Not to please one's guest is to bring disgrace on the village.

Yes, Chirkei is indeed uncommonly picturesque. Not for nothing do film directors come here to shoot films about Highlanders, especially historical films. The local people have become quite experienced at doing crowd scenes. They like the motley film-making people. That liking has also been sealed by a tragic incident: A young Leningrader, an assistant cameraman, saved two village boys from being run over by a bus, but was himself killed.

The whole country pitched in to help rebuild Buinaksk, the district center, when it was leveled by an earthquake. Now it has the look of a new town.



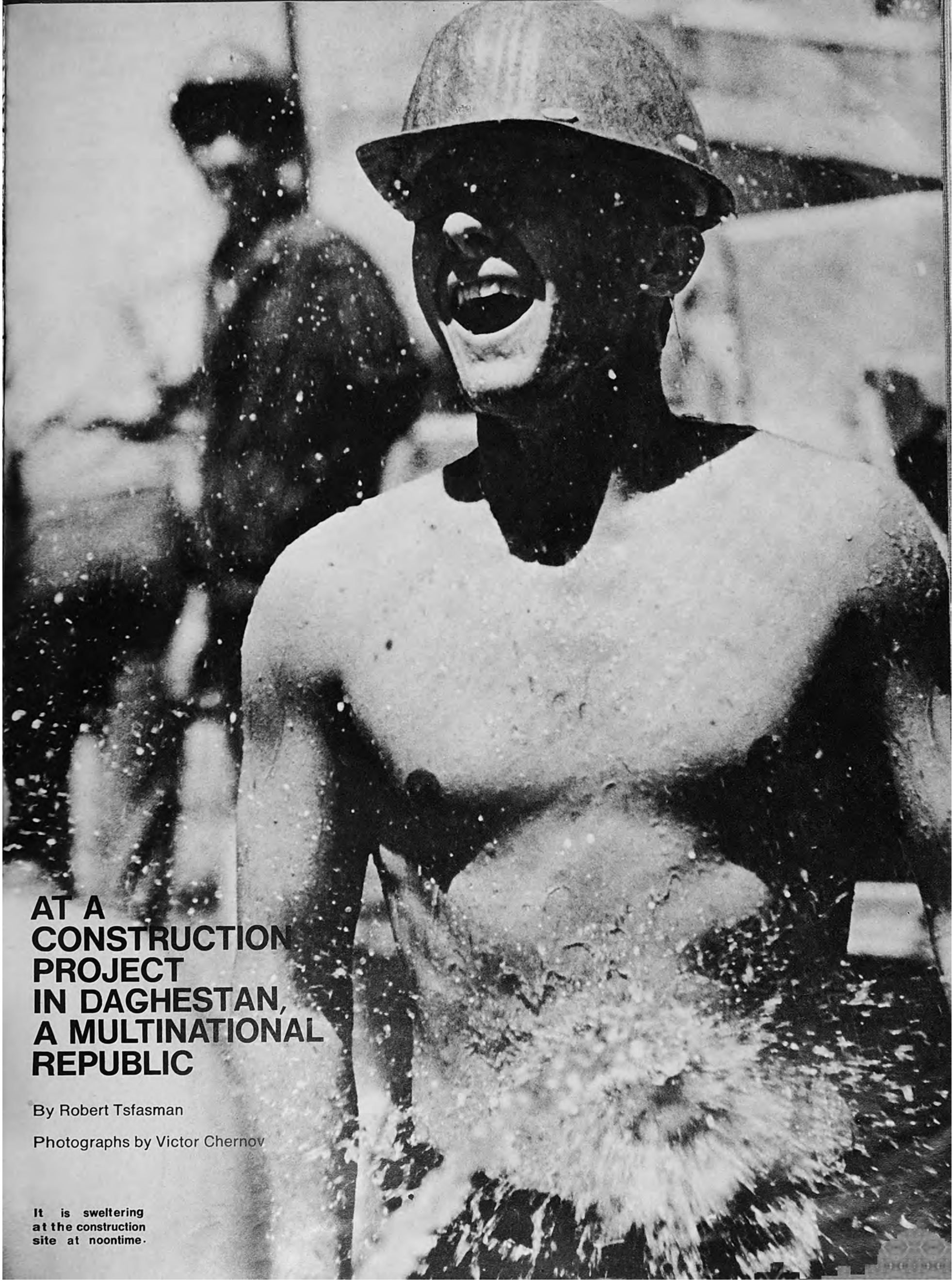


Sulak River canyon, third deepest in the world, site of the 755-foot dam for the Chirkei Power Project. Deadline is 1975.

AT A CONSTRUCTION PROJECT IN DAGHESTAN, A MULTINATIONAL REPUBLIC

By Robert Tsfasman

Photographs by Victor Chernov



It is sweltering at the construction site at noontime.

senselessly shed each other's blood for years

This is all in the past. The imposing and ornate building which once belonged to Uzair, a local millionaire, houses a school. The *saklias* (mountain dwellings) outwardly look the same, but inside you find modern furniture, radio and TV sets, books. Motorcycles and cars are parked at former tethering rails (the Daghestanians are as daredevil drivers as they once were dashing horsemen). The woman has kept her national dress, but today she is an equal member of her family and the group she works with, be it a collective farm, a rural Soviet or a hospital staff. The old are as respected as before, but the young choose their own road in life. Conversations at the *godekan* are different too. Not only local problems are discussed, but big-time politics. People's minds, outlook, interests have broadened immeasurably.

A Village with Two Addresses

Talk here frequently turns to what has marked a complete epoch in Chirkei's development.

Construction of the Chirkei Hydroelectric Power station, the biggest in the Northern Caucasus, was begun back in 1963, right next to the village in the Sulak canyon (the world's third deepest). The purpose of the project was not only additional electricity for Daghestan, North Ossetia and the Checheno-Ingush Autonomous Republic. Droughts are frequent here, and the resulting huge reservoir will finally help solve the irrigation problem.

The Sulak's waters, backed up by a 755-foot-dam, should reach Chirkei by 1975. The village will be at the bottom of a man-made sea. The district authorities offered the Chirkeians fertile lands in Southern Daghestan, giving them plenty of time for resettling. But the idea didn't appeal to the old men, who told their deputies quite firmly: "We won't move far from our native parts."

"They're right," the collective farm board and rural Soviet seconded them. And a site for New Chirkei was found some two and a half miles from the old village, on the other



Local color: beautiful shawls and copper water pitchers.





Gussein Suleimanov comes from an alpine Daghestan village, Khunzakh. Left: The Cherkei project is setting new standards in hydropower construction. Engineer Boris Pinchuk tests the concrete.



Abduraghim Gusseinov works for the Buinaksk District Committee of the Communist Party. "New ways of life," he says, "create new problems. We're all learning."





The *godekan*, central square and debating club headquarters, is the hangout of the elderly sages of Chirkei. The karakul hat is traditional garb.

Chirkei is a treasure house for historians. In a way, its past is the long history of all of Daghestan. The village was founded some 600 years ago by runaway peasants from highland Avar villages who had fled the oppression of wealthy nobles. The Kumyks, a people that populated these parts, were kindly disposed toward the newcomers, and the village soon spread out. Mainly Avars sought refuge here, and to this day it is considered an Avar village, though the faces have a mysterious diversity of features. People of other nationalities had probably come to these parts in long bygone days.

A very strong-minded and enterprising people settled here, and Chirkei acquired the reputation of an independent village. It never payed tribute to the khans; conquerors—from the mighty Tamerlane to pirating petty princes—preferred to bypass Chirkei.

Courage is valued very highly in Daghestan. They even have a saying: "There's nothing more disgusting than a man trembling with fear." Perhaps because of all this, the gravestones at the Moslem cemetery where Chirkei's heroes rest remind you of swords thrust into the ground up to the hilt.

The Chirkeians were one of the first in Daghestan to side with the Bolsheviks after the 1917 October Revolution and, finding themselves encircled by a counterrevolutionary rebellion, stood their ground stubbornly until Soviet power finally triumphed. A modest memorial obelisque was placed by schoolchildren on a hill near the village. In 1918 Chirkei's Red Army men beat off an attack of Nazhmutdin Gotsinsky's cavalry. Gotsinsky headed Daghestan's counterrevolutionary forces. Inscribed on the obelisque are the names of the machine gunners who decided the outcome of the battle. There were three of them: Alyosha, a Russian, and two Avars—Ali Barayev and Pakhrutdin Abdulkhalimov.

So, Chirkei, in community with the Russians and the other peoples of Russia, ushered in a new age. This community spelled great changes for the people of Daghestan: collective labor on common land, literacy, self-government. The Daghestan Autonomous Republic is represented in the RSFSR and the USSR Supreme Soviets.

Chirkei itself has changed. Its seemingly timeless and traditional exoticism is only a transparent shell through which one can readily discern the signs of our day.

Hidden behind Chirkei's romantic veil were once the cruel laws of a semifeudal world. The village was actually ruled by several rich men. The rest, living in poverty, illiterate and with absolutely no rights, blindly submitted to the age-old way of life. Particularly hard was the woman's position, a downtrodden slave of her husband. Blood feuds between clans and families were common. The local Montagues and Capulets


Scenic but not for timid drivers.



Tradition and Fashion

VYACHESLAV ZAITSEV PRESENTS HIS 1973 FASHIONS

By Lyubov Iovleva

bank of the Sulak. Moving was in progress, and many Chirkeians had already changed their addresses when the area was hit by a calamity.

On the night of May 14, 1970, the inhabitants of old Chirkei were awakened by terrible claps of thunder. Everybody rushed into the street. It was raining but there was no storm. It was the earth quaking underfoot that thundered so, and the collapsing houses added their thunder to the over all roar. The people ran off to the mountains and stayed there in the rain till dawn. The thunder finally subsided, but a hollow subterranean rumble fused with children's crying, like the last note of a tragic finale, reverberated for a long time in the valley.

The village was a sad sight in the breaking dawn. Fortunately, very few lives were lost, but half the dwellings had been destroyed. What saved some was their peculiar masonry, dating back to ancient times.

The situation was about the same in New Chirkei, for the earthquake, covering a fourth of Daghestan's territory, had hit both villages badly.

The old men, who had heard from their grandfathers about the earthquake in 1830, recalled that people had to live in dugouts for years afterward. Now, of course, no one doubted that help would be forthcoming, but they didn't expect it to come so soon and so generously.

The very next day food and clothing began arriving from neighboring districts and other republics. On the third day after the earthquake, tents arrived, sewed after working hours by women from the city of Gorky.

The earthquake finally forced the mountain dwellers to move down to the plain, and more than half the village has already settled in. They are growing orchards, building themselves comfortable homes, and a new life under new conditions is taking shape.

Housing construction is mostly private, but the state, of course, is financing the construction of schools,a hospital, clubhouse, shops and the like. The state paid each family the value of their house in old Chirkei (from 4,000 to 6,000 rubles), gave them long-term loans (3500 rubles, of which only 2500 has to be returned eventually, and issued nonreturnable grants (from 100 to 300 rubles) to the victims.

New Neighbors

The all-Union construction project on the Sulak not only was responsible for Chirkei's moving, it made telling changes in its pattern of living, in the occupations and psychology of its inhabitants. No more than 15 years ago there was a surplus of manpower here. A traditional occupation of the local inhabitants was sheep breeding on distant pastures. Twenty thousand head of collective farm sheep move the year round from the high Daghestan mountains to the Kalmyk plains and back, grazing and breeding. But not all of the village's 5,000 adults can be set to tending sheep. The collective farm also has some farmland, not much—1730 acres—a considerable distance away, in the fertile lowlands of a neighboring district (the soil in the vicinity of the village is arid and rocky). So the farm machine operators have to leave their families for long periods.

Unlike the inhabitants of many other villages in Daghestan, the people of Chirkei do not work at any of the traditional artistic crafts. That's why the men usually took off for different parts of the country, to building sites, factories, plants and mines, though they eventually returned home—that was the custom. It's not mere chance, therefore, that the people here, as a rule, are worldly and experienced. Many speak old Yaroslavl and Don Russian without the slightest Caucasus accent.

For almost 10 years now Chirkeians have had no need to leave their native parts—interesting and qualified work is available right on the spot; 600 local people are working on the construction site of the hydroelectric power station alongside representatives of 30 other Soviet nationalities. They are truckers, concreters, welders and, of course, cliff climbers (the local steeplejacks), for no one can beat the highlanders at this dangerous job.

The young people are learning new trades at courses given right at the construction site. Many are getting a higher education, working in the daytime and taking evening classes at a branch of the Daghestan University's School of Civil Engineering opened here.

The settlement of builders from other parts of the country is near old Chirkei, and is called Druzhba (Friendship) because of its multinational composition. Close and friendly ties link the newcomers with the local population. Still very fresh are the memories of the earthquake, when the power station builders worked around the clock giving the Chirkeians a helping hand, while the latter repayed in kind, for all the hydrotechnical structures were endangered —the cliffs the dam was leaning on had also cracked.

There are other, more usual developments: the summer camps for the village children organized by the construction project's YCLers, the joint evening parties at the station builders club, the lectures and amateur concerts given for the Chirkeians. Chirkeian girls formerly devoted themselves to housekeeping and the kitchen (the old traditions are tenacious despite the high-school education girls are getting). But on arriving at the construction site, they tried to catch up with and follow in the steps of their peers from Moscow, Siberia, the Ukraine and the Don. Many are continuing their education, going in for sports, and joining amateur activity groups.

A word about mixed marriages. Avars are marrying Russians and vice versa. In the old days such things were rare. Even marrying out of the village was not encouraged.

Perhaps we should not exaggerate the importance of the hydropower project. Social changes would have taken place without it too, as it has in other parts of Daghestan. But in Chirkei it's more obvious. Everything here stands out more distinctly.

Construction work will soon be completed. Some of the Chirkeians employed here will stay on as specialists to run the hydroelectric power station. Other trades learned will come in handy at the collective farm which, in view of developing irrigated farming, is changing its crop pattern and expanding.

Some Portraits

Chirkei is now at a turning point. That's probably why it made such a deep impression on us, why we remembered its people so well.

Tagir Akhmedvziyadinov, the school principal, a man with a keen mind, has written a book about his native village. He was our full-time guide. A colorful personality. His clean-shaven head and the penetrating gaze of his light daring eyes reminds you of a nineteenth century mountain military leader —the only thing missing is a *beshmet* (tight-fitting jacket) and a *shashka* (saber). His great grandfather, by the way, was one.

Lakhit Gasanov, the assistant principal, is a touching and kindly soul, a most hospitable host, an expert on Avar and Russian literature. He likes to make merry and let go at a feast, though he is still afraid of the stern gaze of his aged father, a former Red partisan.

Mukhtar Khvadzhakov, a driver from the hydrosurveying team, is a nice 30-year-old chap, father of a big family, who used to drive us to the construction site. He was very upset that urgent assignments kept him from treating us to homemade shashlyk, when he would have introduced us to all his friends.

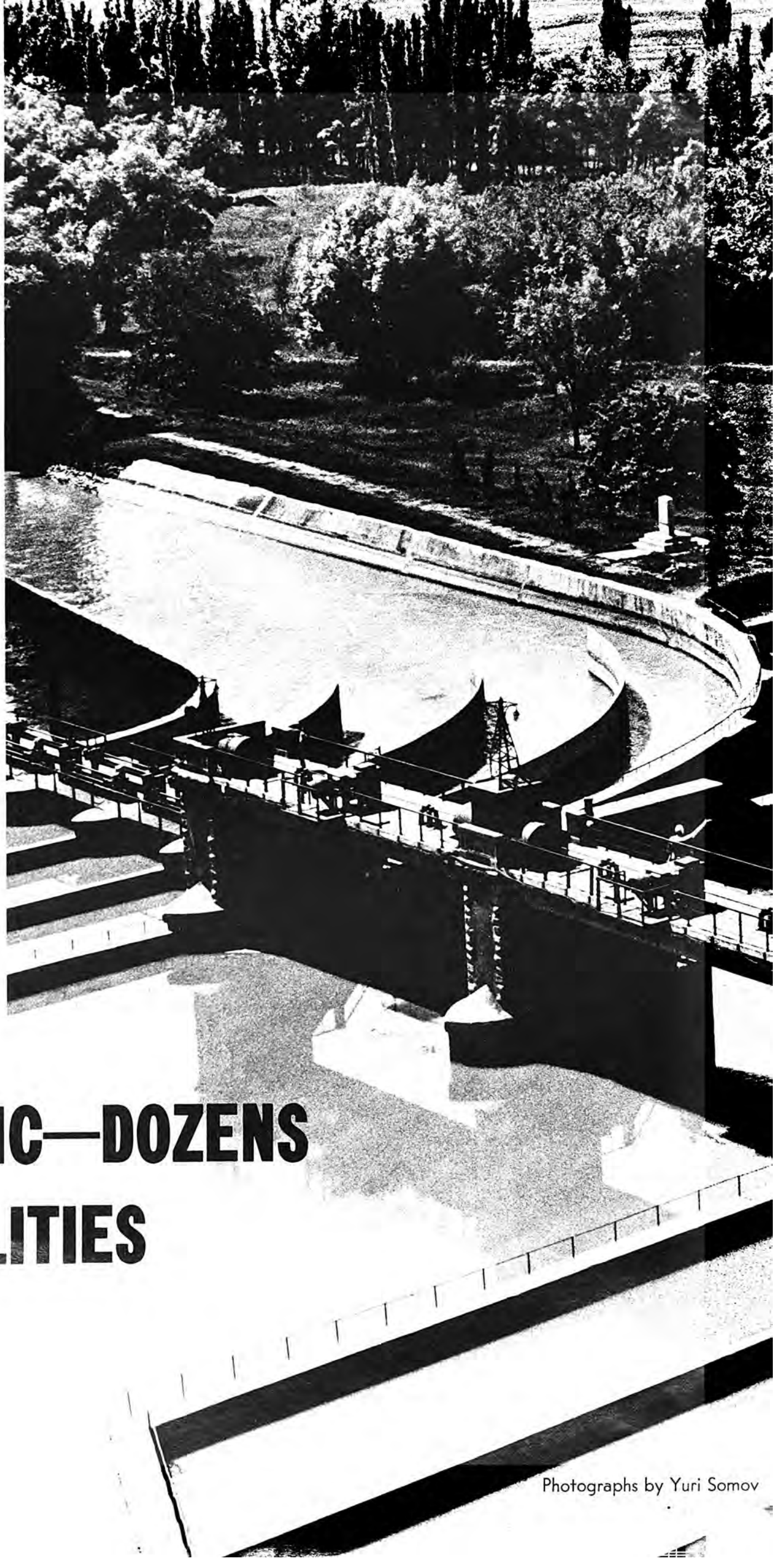
We did manage to meet his younger brother, Mahomet, an English and French language teacher at the Chirkei school. Foreign languages were not taught here at one time—there was no qualified teacher. Mahomet filled the vacancy when he came back home after graduating from the university in Makhachkala. He says the children like studying a foreign language, though they are also taught Russian and Avar.

And one more Mahomet, Mahomet Gamzatov (the same name as the famous Avar poet Rasul Gamzatov [See page 59 for an article by him. Ed.], whose verses are read not only here, in the Soviet Union, but abroad). He's 35 and looks very much like a

Continued on page 52



Soviet Foreign Minister Andrei A. Gromyko and Soviet Ambassador to the United States Anatoli F. Dobrynin came to the White House on October 3 for a signing ceremony as the Strategic Arms Limitation Treaty was formally put into effect. From left: Dobrynin, Gromyko, U.S. President Richard M. Nixon, U.S. Secretary of State William P. Rogers and Gerard C. Smith, Director, U.S. Arms Control and Disarmament Agency



Most of our readers know that the Soviet Union is made up of 15 union republics. But few are aware that the republics themselves are multinational, that besides the main nationality each republic has dozens of others. A case in point is Kirghizia, a union republic in Soviet Central Asia with a population of three million. What are the relations between Kirghizia's different nationalities like? Turdakun Usubaliyev, First Secretary of the Central Committee of the Kirghiz Communist Party, answers the question.

ONE REPUBLIC—DOZENS OF NATIONALITIES

The new Kirghizia is a product of the fraternity of Soviet peoples.

Photographs by Yuri Somov

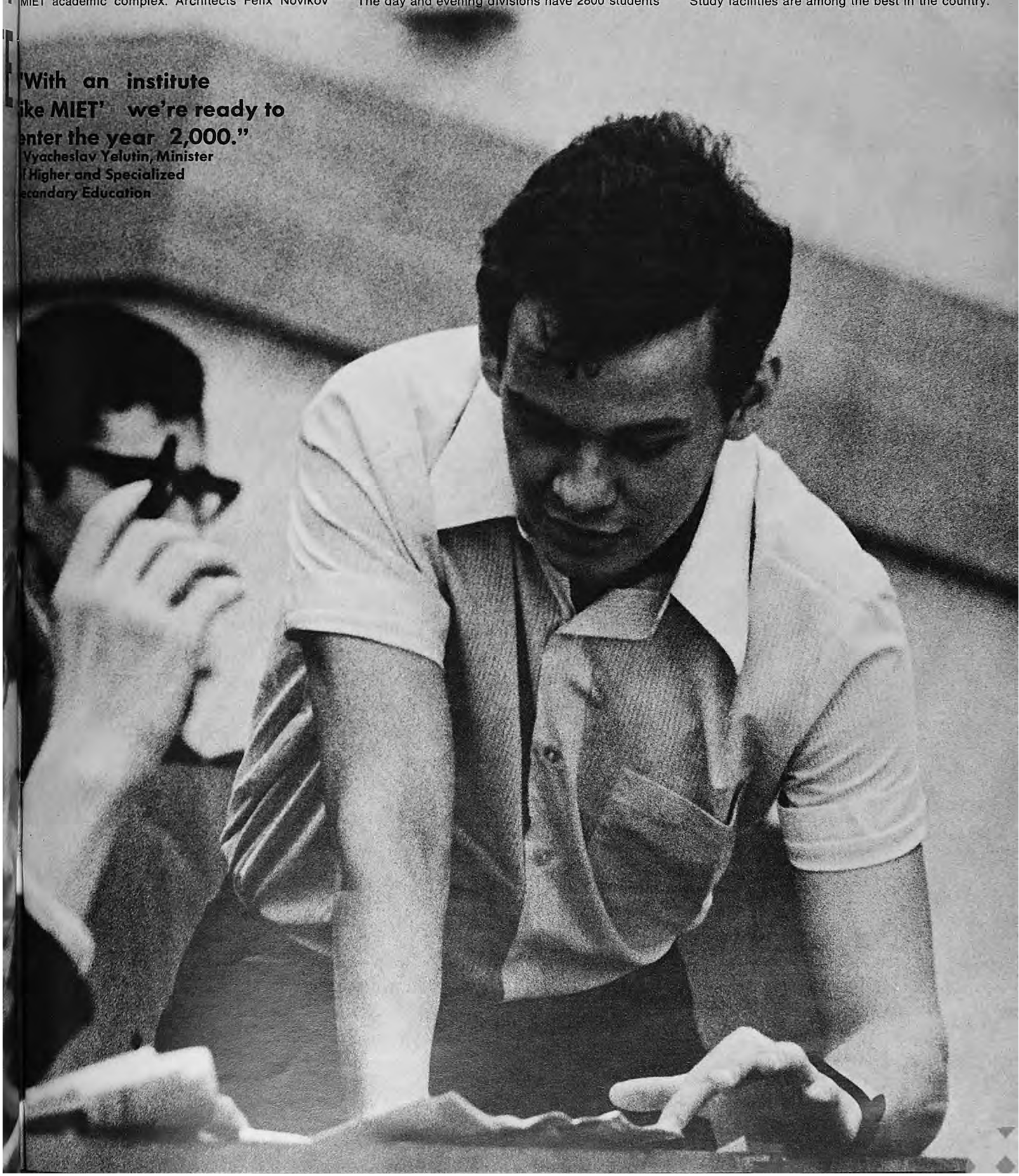
The recently founded Moscow Institute of Electronic Technology (MIET), unlike many of the capital's institutions of higher education, is situated outside Moscow, in the small town of Zelenograd. It has five departments: physics and chemistry, physics and technology, microinstruments and engineering cybernetics, electronic engineering, and an evening division that offers all these specialties. Like any university or institution, it has a graduate division, a department for advanced training of specialists and a preparatory department.

Architectural circles are still buzzing about the MIET academic complex. Architects Felix Novikov and Grigori Sayevich rejected in principle the idea of another glass and concrete high-rise, the kind you see everywhere these days. Using modern and traditional materials—brick and wood—the architects created a striking red-and-white structure, a combination of old Russian architecture and rational modernism. The complex consists of five well-planned two- and three-story buildings linked by internal passages. The 10,500 square feet of halls and vestibules are decorated with bas-reliefs and frescoes illustrating the progress of science. At the main entrance is a clock that chimes a variety of melodies.

The day and evening divisions have 2800 students of 29 nationalities. An especially large number come from the republics of Central Asia, Transcaucasia, the Ukraine and Byelorussia, regions that are rapidly developing their electronics industry. One-third of the students are women.

Most of the students in the preparatory department are workers in the electronics industry. After a year of residential study, during which they get stipends from the enterprises that sent them, they take their entrance examinations like other applicants. As a rule, 90 to 95 per cent of them become MIET students.

Study facilities are among the best in the country.





VYACHESLAV ZAITSEV is a familiar name in the world of fashion. His collections have been admired in many countries. As acting chief art director of the Moscow Fashion House, he has had a decided influence on styling in our country. Like all our designers, he uses folk motifs. The native dress of the peoples of the Soviet Union has a freshness, a flavor, a wealth of colors and shapes, a versatility of embroidery, appliqué and ornaments.

The sketches Zaitsev made especially for our magazine show some of the national motifs in the 1973 fashions. His designs do not simply copy folk dress, they are a creative synthesis, a tasteful utilization of national elements in the modern costume.

(1) An original coat of soft thick cloth with a round collar reminiscent of the famous Zhostovo trays, with their attractive pattern of bright-colored flowers on black. The embroidery is styled like the equally famous Khokhloma painting in which black, red and gold dominate.

(2) This coat of sturdy black broadcloth with its slender silhouette is like the traditional Georgian cherkeska. People in Georgia, and in the South in general, like black. The hand-made chased-metal belt shows the designer's concern with detail. The ancient art of metal-chasing was revived some 10 years ago and is now flourishing in Georgia. The tall Caucasian hat of natural Persian lamb is part of the outfit.

(3) This suede coat was inspired by the Ukrainian national dress. It can also be made of broadcloth. Its handsome embroidery and appliqué make it unique, while the accessories—the soft Persian lamb Caucasian hat and high boots with multicolored leather inlays—add a special note to the ensemble.

(4) The combination of fabrics with different patterns and different design rhythms in the same costume is typical of modern fashion. It is featured in this spring suit inspired by the national costume of the Baltic people.

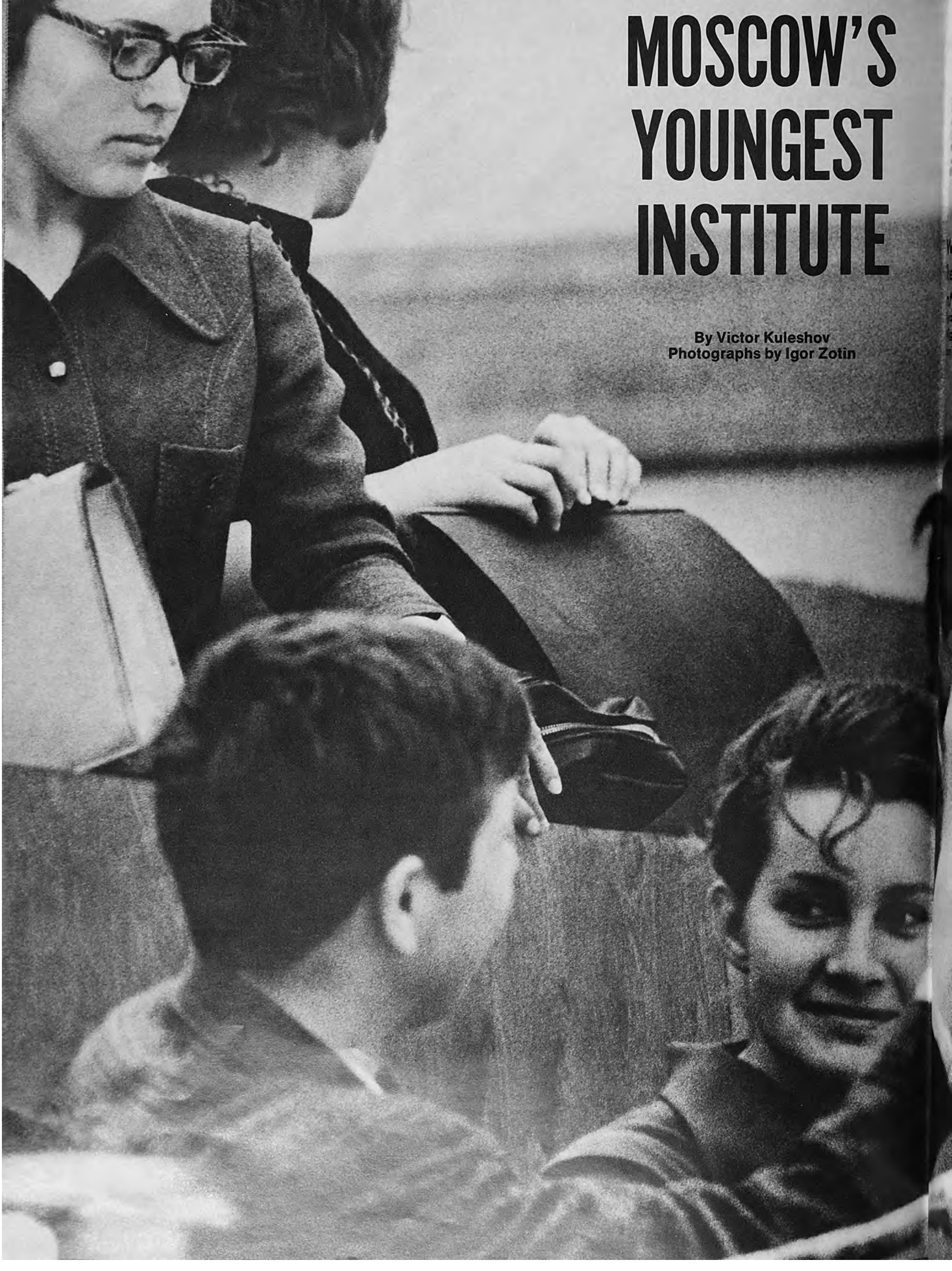
(5) This ensemble for relaxed moments is made of natural silk and evokes images of Eastern fairy tales and dazzling sunshine with its bright and open color. It has touches of the Turkmen national dress.

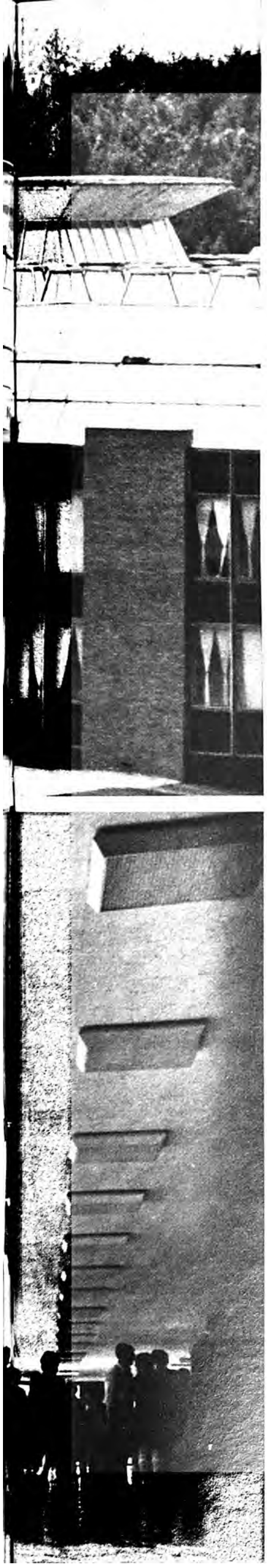
(6) The rich filigree embroidery, intricate ornament and fancy patterns that decorate the blouse, skirt and vest make this suit, inspired by Moldavian motifs, especially dressy.

(7) The national costumes of Central Asia are traditionally multicolored. They are made of bright silk fabrics. Some components of these costumes almost seem a natural part of contemporary fashions. Their soft lines give a functional costume a romantic look.

MOSCOW'S YOUNGEST INSTITUTE

By Victor Kuleshov
Photographs by Igor Zotin





Since electronics now influences the development of virtually every branch of the economy, the attention paid to the training of specialists in this field is not surprising.

The laboratories and lecture rooms of the institute are provided with 67 cameras for a closed-circuit television network that broadcasts 10 programs simultaneously. Press a button and you switch to any laboratory. In addition, multiple-choice tests projected on the TV screens can determine the progress of a whole group in a matter of seconds. (Movie screens are also used for this purpose.) The students' replies are flashed to a control panel that shows how many and who gave the correct answer.

Schedules, consultations and examinations are all compiled by an electronic computer. This machine incorporates the information from 200,000 volumes in the library.

A listing of the institute's study aids would be too long for this page. MIET is better equipped in that regard than most of the capital's institutes. But the most important contribution is made by the highly trained faculty. Every second instructor is a Candidate of Science, and every twelfth a Doctor of Science.

In curriculum MIET differs little, if at all, from similar institutes throughout the country. However, its production practice program is substantially different. As early as the freshman year students are given practice assignments at an experimental plant specially built for MIET. (Its other function is to test



Freshman Vera Alexandrova was sent to the institute by the locomotive plant in her home town. She has a job waiting when she graduates. Below: Vladimir Tsoy from Kazakhstan is a second year microinstrument student. Center: A physics lecture.





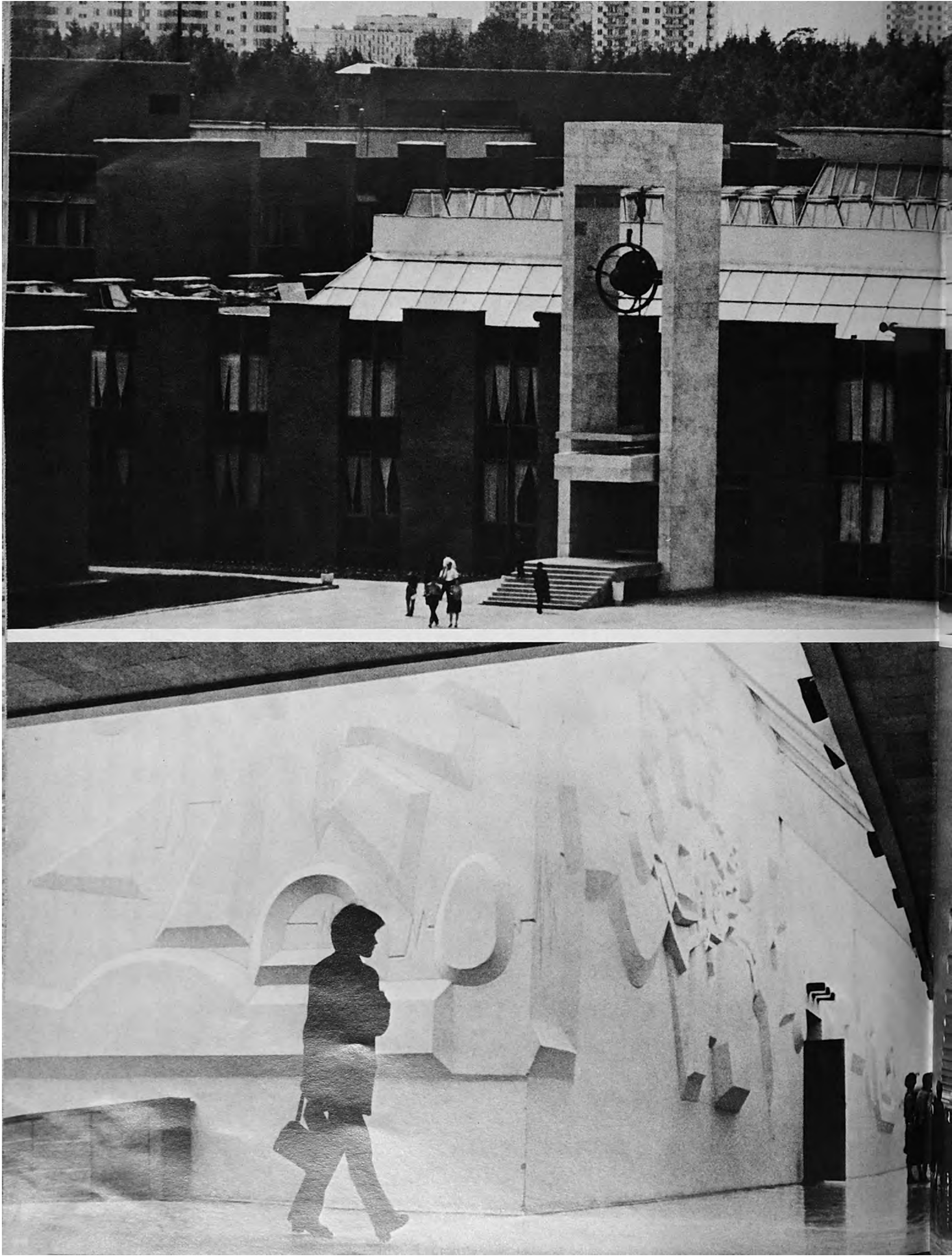
scientific developments originated by the institute.) Beginning with the fourth year the study schedule is divided into classes (three days a week) and production practice (also three days). At first students work in Moscow enterprises as technicians and later—in their fifth year—as engineers. End-term reports and diploma theses are written on topics of interest to factory shops and departments. This year, for instance, the students did research valued at 1.8 million rubles at the request of various enterprises. With their wide theoretical and practical knowledge, the institute graduates are well qualified for jobs as specialists.

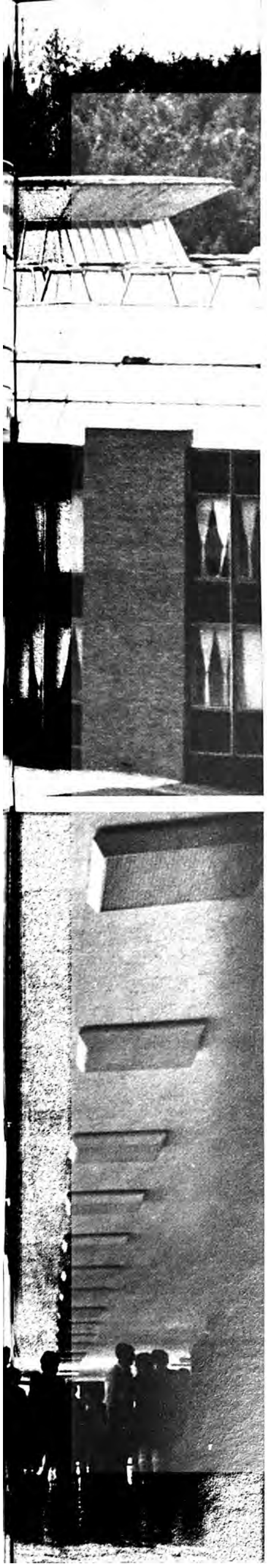
One would think that MIET seniors are too busy to relax, but that is not the case. Student life here is as effervescent as in other institutes, with weekend backpacking trips outside Moscow and the usual evening parties. The students have a club of their own where guest lecturers discuss the fine arts, the theater and so on. There is a sports complex with a swimming pool, a stadium and indoor playing areas. During the summer some of the students—freshmen mostly—work on youth building teams in Siberia or in Moscow. Others go to the institute's sports camps in the Caucasus.



Second year microinstrument students (from left) Nelly Ayrapetyan, Lida Malyarova and Zhenya Fomina wait to take oral exams. Right: Evening students prepare for their last exam, defense of a thesis.







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Second year microinstrument students (from left) Nelly Ayrapetyan, Lida Malyarova and Zhenya Fomina wait to take oral exams. Right: Evening students prepare for their last exam, defense of a thesis.

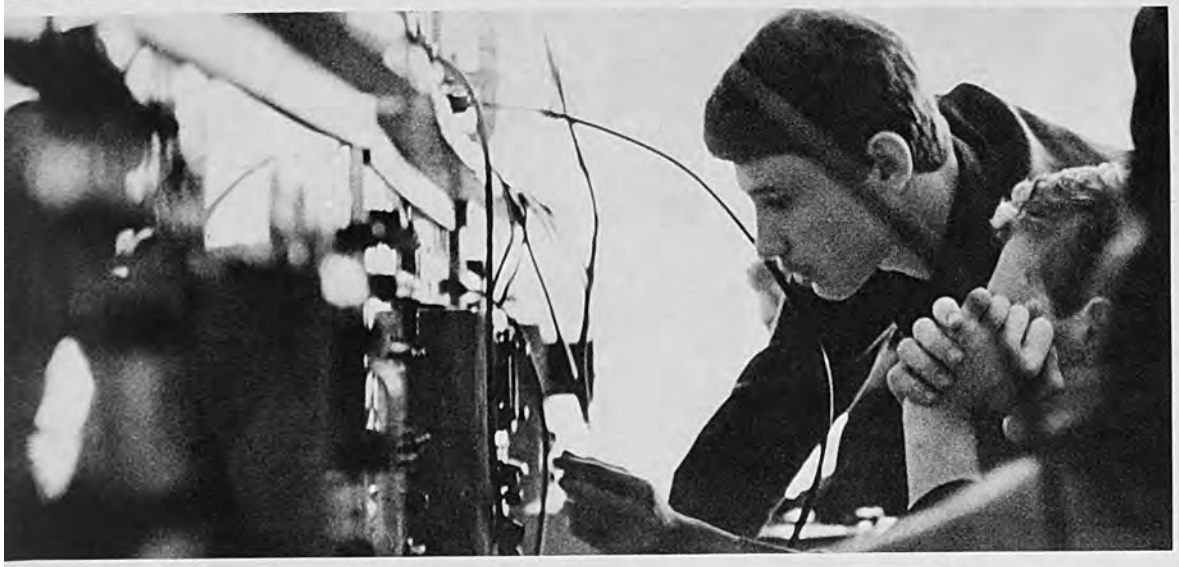




Third year student Irina Sizova comes from Penza, an industrial city west of the Middle Volga region. She is active in the student scientific society, which trains young people to do research.



Brothers Marat (left) and Aslan Abduyev, Laks by nationality, are fourth and third year students, respectively, in the physics and technology department. They live in Makhachkala, the Caucasus. The 2800 students in the institute come from 29 nationalities. Below: Radio and electronics lab.





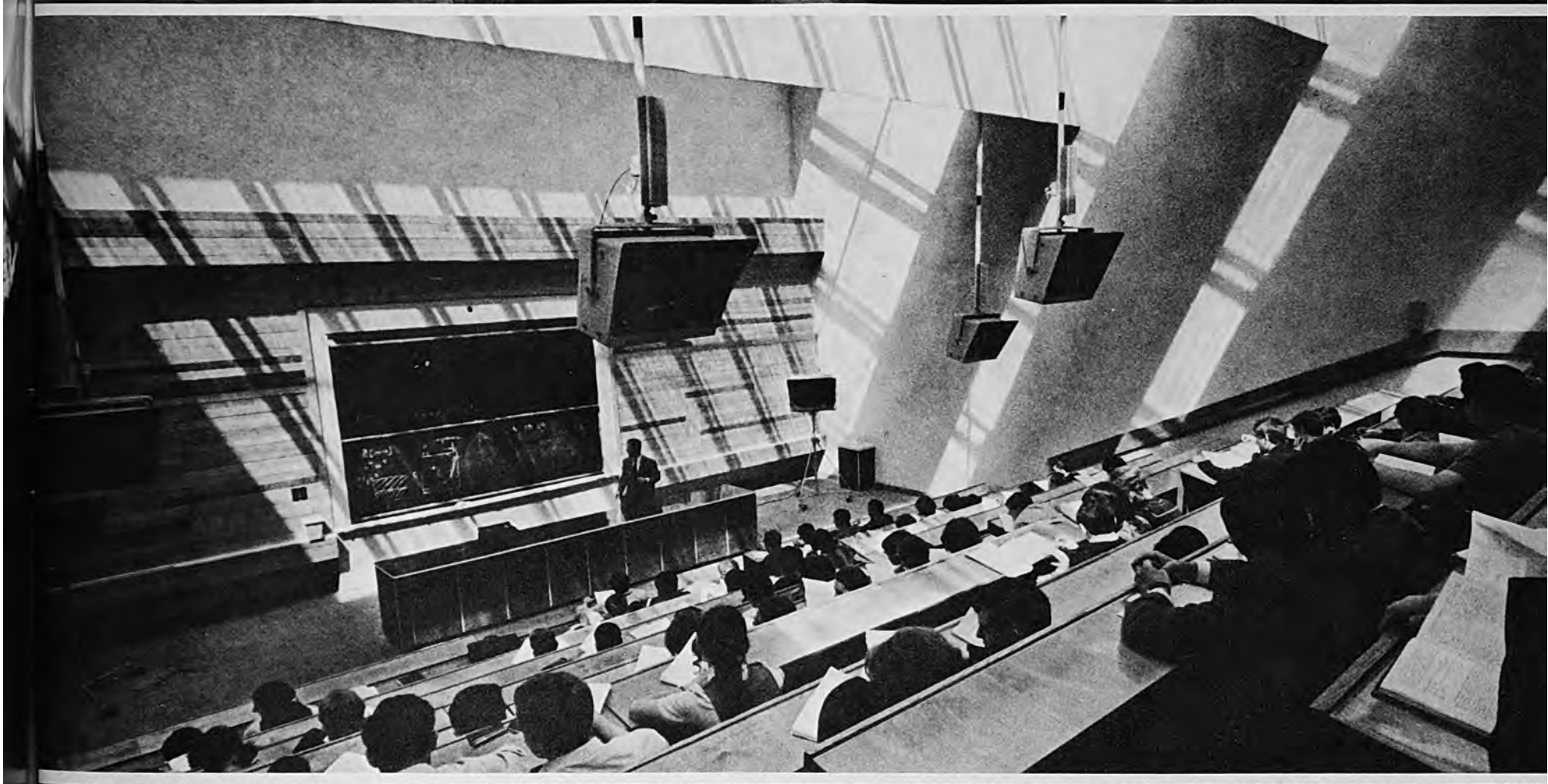


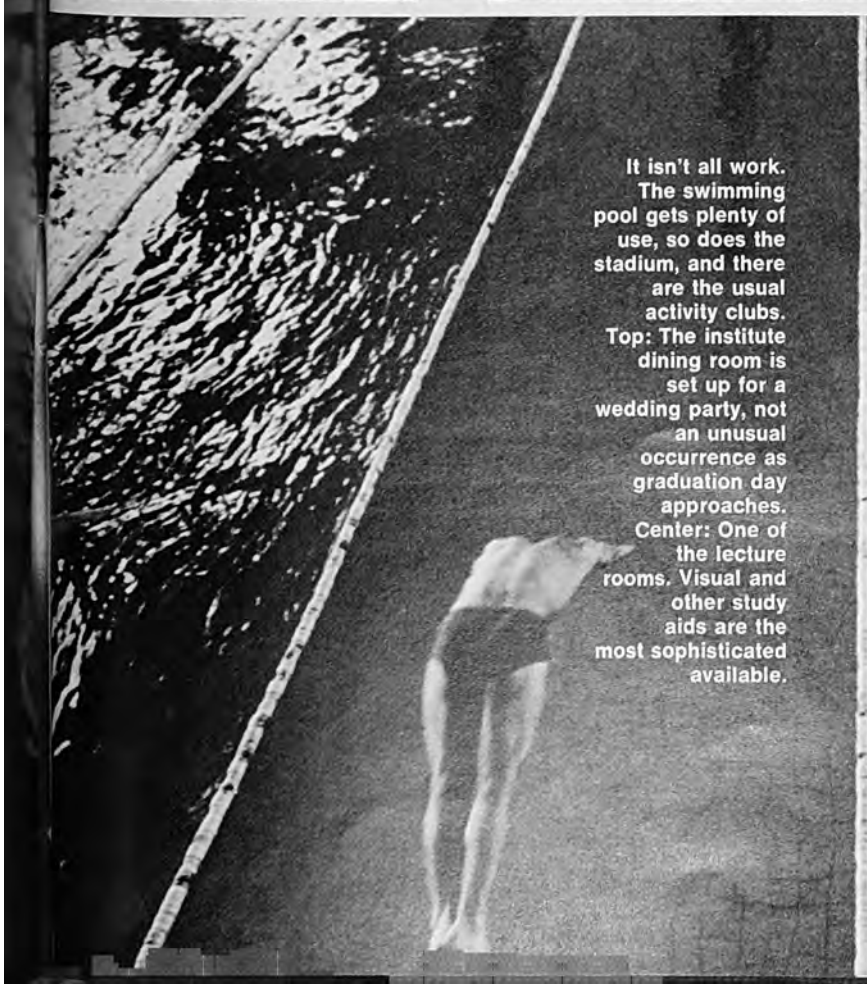
Fourth year student Gennadi Ashurov, a Tat from Daghestan, tuning a computer. Left: Ten years ago Farida Sharipova, an Uzbek, finished a Moscow technical school. Married now and the mother of a son, she graduated from the institute this spring.

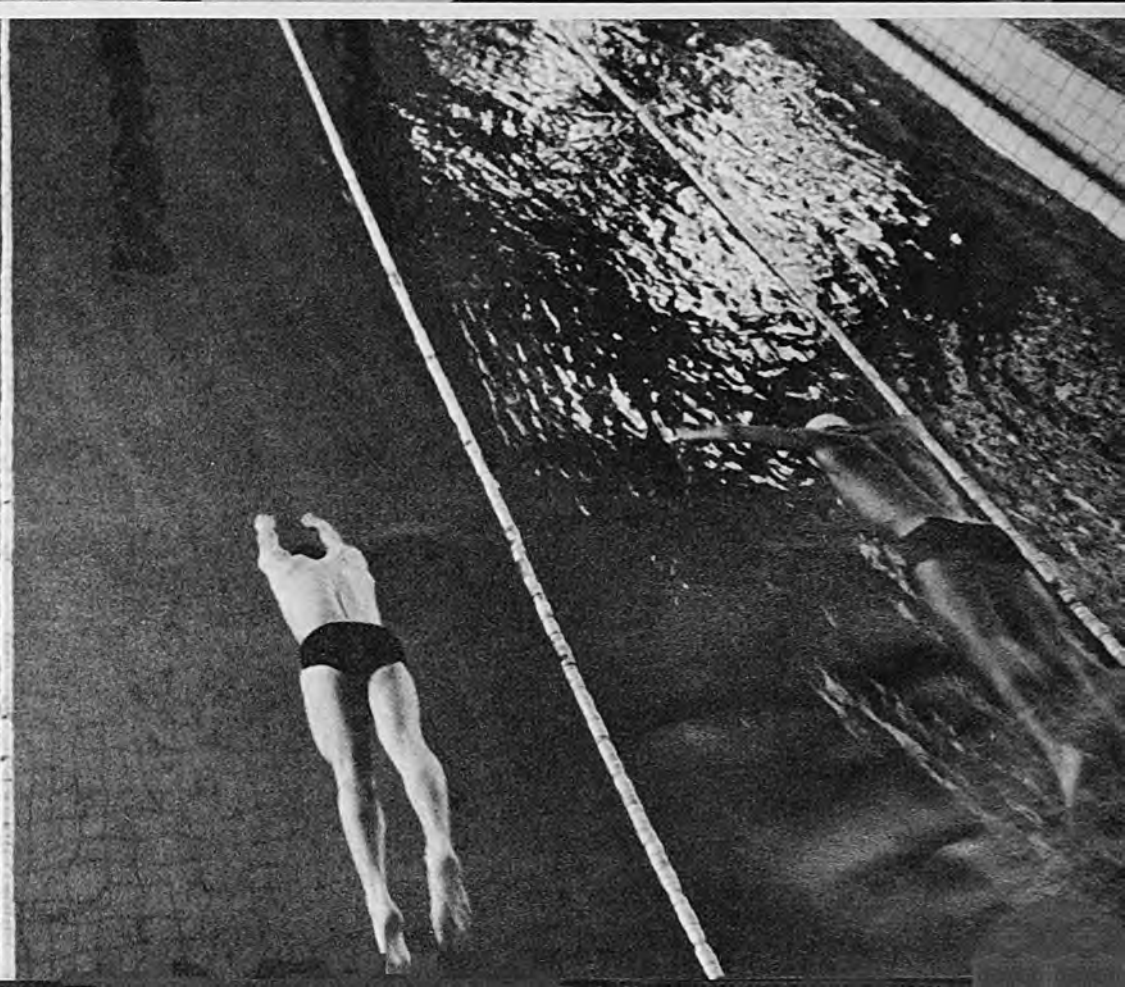


Second year microinstrument student Nadezhda Chizhova talks over her summer plans with a faculty member. Some of the students, freshmen mostly, work on construction teams nearby or in Siberia during the summer vacations. Others go to the institute camp in the Caucasus.









It isn't all work. The swimming pool gets plenty of use, so does the stadium, and there are the usual activity clubs. Top: The institute dining room is set up for a wedding party, not an unusual occurrence as graduation day approaches. Center: One of the lecture rooms. Visual and other study aids are the most sophisticated available.

NEXT ISSUE



Marina Popovich has 2500 flying hours and 13 world records to her credit, and she did it by sheer dint of will. The obstacles that stood in the way of her learning to fly seemed innumerable and insurmountable. Any one of them would have defeated a less determined woman. She was attending an aircraft technical school and was supposed to "learn how to build airplanes, not fly them"! She was "too "short," "such a little one," and so on. Finally, she was admitted to a flying school, and the rest is what our article and pictures in January are about.



The more knowledge mankind amasses, the harder it gets for the schoolchildren. They're the ones who have to assimilate it all. That is why the revision of school syllabuses has been discussed so much in recent years. Now a few practical experiments are under way. How are the children and their teachers reacting to them? A visit to an experimental school would indicate that nobody is suffering from the attempt to absorb the maximum amount of information in a minimum period of time. The younger pupils are as lively as their counterparts anywhere, while the older ones seem to be more thoughtful and mature. Alexander Lobov's text and photographs tell us about recent trends in education.



Improvement of relations is possible and desirable," states the Joint Soviet-U.S. Communiqué signed in May 1972. These words head a group of articles and photo stories on the development of diverse contacts between the United States and the Soviet Union. They include Van Cliburn's concert tour in the USSR and the visit of a delegation of the United Automobile, Aerospace and Agricultural Implement Workers of America. Novosti political commentator Spartak Beglov sums it all up by calling the summit the contribution of the year because for the first time two major world powers officially recognized the fact that peaceful coexistence is the only acceptable principle in relations between states.

At the request of our readers, we begin a new series on learning Russian for those who already know how to read the language. An article by the late Academician Victor Vinogradov, eminent researcher in Russian linguistics, will be followed by original excerpts from Russian literature.

To get our readers off to a good start in the New Year, some comic pictures, interviews with Soviet people and a photo story about the Ural Folk Chorus, a participant in the Russian Winter New Year Arts Festival.

Dmitri Zhimerin, First Deputy Chairman of the State Committee for Science and Technology of the USSR Council of Ministers, answers questions on economic management and the automation of management systems.

A picture story on the Kola Peninsula in the Arctic, an area rich in people and natural resources that has been transformed in the past 50 years.

COMING SOON

Assistance to developing countries

WE GO TO CHIRKEI

Continued from page 40

hero out of an adventure film. He's a section superintendent at the construction site, and got his engineering diploma studying evenings. His wife is Russian by nationality, and their four children resemble her, though their names sound Eastern.

Mahomet Gamzatov lives in New Chirkei, where every house is distinctive and tastefully decorated. The dwellings are rather imposing, eight to twelve rooms each, they have big families here. New and old Chirkei account for from 150 to 160 babies annually.

A Man from the "Village of Heroes"

We left Chirkei and were approaching Buinaksk, the district center. Ancient Temir-Khan Shura (the city's prerevolutionary name) looked like a young and promising construction project. The earthquake did even more damage here than in Chirkei. The Daghestan Government decided not just to rebuild the houses but to reconstruct the entire city. Many union and autonomous republics offered their assistance.

Mounted on some buildings are what you might call commemoration plaques. One school, for instance, was built by North Ossetia as a gift to Daghestan. Another apartment house is a gift from Krasnodar Territory. There's a big department store that was constructed by builders from the Volga. At one of the construction sites Armenians are working—you can tell that from afar by the pink Armenian tufa, their characteristic building material.

There are as many nationalities in the city as there are at the Chirkei power station construction site. People from all parts of the country came to rebuild Buinaksk. Many came with their families and settled down for good, and their children are studying at local schools.

But even before Buinaksk became an all-Union construction project the composition of its population was variegated. Not only the city proper, but the surrounding area. Kumyk, Avar and Dargin villages neighbor on one another. There are Laks living here, Tats (mountain Jews), Lezghians and no few Russians. All the nationalities are represented in the District Soviet of Working People's Deputies in proportion to their number.

Previously there was a language barrier. The main language in Buinaksk District is Kumyk (60 per cent of the population are Kumyks), and a district newspaper is published in that language. But part of the population does not know Kumyk. That's why the local nationalities use Russian.

In Buinaksk we were to meet a certain Bulach Gadzhiyev, a history teacher (mostly teachers seemed to be coming our way), the very man who had, back in Makhachkala at the hotel, suggested we head for Chirkei. He was born in the Avar village of Megeb, known in Daghestan as the Village of Heroes. Its men had won fame at the fronts of the Second World War. Particularly revered in the republic is Bulach's brother, Mahomet Gadzhiyev, a Hero of the Soviet Union, a gallant submarine commander who went down with his boat fighting fascist ships.

Bulach is past 50, still very active and as full of energy as a 20-year-old. He is forever traveling through Daghestan, knows the country like his hand, and has written a dozen books about it. An ethnographer, he has repeatedly been offered higher posts than teacher, but he always turns them down. What he likes most is working with children.

Bulach was very pleased that our opinion of Chirkei coincided with his.

"The past, present and future in Chirkei converge, as it were," he said. "And that is Daghestan today."

QUERIES FROM READERS

QUESTION: What opportunities does a young worker have to rise with time to an engineer's post? (An unsigned letter)

ANSWER: The opportunities are very real. Once he gets a higher technical education, he will not even have to look for an engineer's job. Specialists are always wanted.

There is nothing to prevent him from leaving his factory job to enter an institute (education is free), get his training and return to the factory as an engineer. The more usual thing, however, is to hold a job and study at the same time. Technical institutes have evening and correspondence departments. A part-time student attends lectures three to four times a week. A correspondence student (usually from out of town) comes to the institute for his winter and spring examinations and does his studying at home.

Many institutes in big cities have branches or consultation centers elsewhere. Some higher schools have branches in large factories. Finally, some of the big plants have their own evening institutes. In short, the problem of where to study is easily solved. The course for full-time students is five years. For part-time or correspondence students it is six years—not easy when you hold a full-time job, but there are some compensations. Student workers get additional paid time off (besides their annual vacations) to prepare for examinations. In their senior year they are entitled to a one day shorter workweek, and they get 50 per cent of the pay for that day. Student workers do not work evenings, night shifts or overtime. They have priority for free or cut-rate accommodations at health and vacation resorts and tourist camps. If a correspondence student has to go to another city to take his examinations, the factory pays the fare.

The number of young people who go on to get a higher education without leaving their jobs is increasing. There are 700,000 part-time and some two million correspondence students now, most of them industrial workers. After completing his or her course of study, the new engineer will usually stay on at the factory. Openings for them are planned in advance since management wants to hold on to specialists already familiar with the work. But if the graduates prefer, they can get a job at another factory or a design bureau. Promotion then depends on the individual. Figures show that over half the country's plant managers and shop and department chiefs began their careers as plain workers.

QUESTION: I would like to know about the postal service in the Soviet Union (T. G. Renno, Tucson, Arizona)

ANSWER: The USSR Ministry of Communications and the corresponding ministries of the union republics are in charge of the postal service.

There are central post offices in the larger cities and a network of local post offices in every town. In settlements where there are no stationary post offices (in the mountains, for instance, or in distant regions where geologists, lumbermen and builders work), service is by mobile post office.

The post offices handle letters (regular mail is four kopecks, air mail six), books and magazines, parcels, money orders, telegrams and phototelegrams. They take subscriptions for newspapers and magazines. The privacy of all mail and telegraph correspondence is protected by law.

Soviet post offices make 42 billion deliveries a year. Every citizen receives and sends an annual average of 200 letters, parcels and book parcels. Dispatching and delivery is done by about 86,000 post offices.

Letters are dropped in mailboxes painted blue. In large towns red mailboxes take care of local delivery. Letters are picked up five or six times a day. Many post offices have special service bureaus: Sick people and the aged are serviced at their homes.

Postmen on duty use city or interdistrict transport without charge. In the majority of cases mail is delivered to residential areas by truck and motor scooter. All the postman has to do is to drop the mail through the slots of private mailboxes installed on the ground floors of multistory buildings. Air, automobile and railway transport is used for deliveries to other towns and villages. Special mail trains run between large cities.

The processing of mail is mechanized to a large degree. Automatic sorting machines are used. Their capacity is 20,000 letters per hour. Electronic computers are used for bookkeeping operations—accounting and controlling money orders, issuing pension grants and the like. Some districts have fully automated postal departments. In the very near future the number will be increased by over a hundred. Four thousand new mobile post offices will also begin operating in rural areas.

QUESTION: How is the problem of permafrost solved in the USSR? (T. Scott, Towson, Maryland)

ANSWER: Forty-seven per cent of the territory of the Soviet Union—the northern parts of European USSR, Siberia and the Far East—are permafrost regions.

The depth of the layer is not the same everywhere. In Siberia, for instance, it ranges from three feet in the southern regions to 1300 in the North.

This problem is dealt with by the Institute of Frost Studies of the Siberian Branch of the USSR Academy of Sciences (Eastern Siberia). Incidentally, Yakutia has the widest spread of permafrost soils.

The institute researchers are particularly interested in construction on permafrost soils, drilling artesian wells (in winter many Siberian rivers and lakes freeze solid to the bottom) and related practical problems.

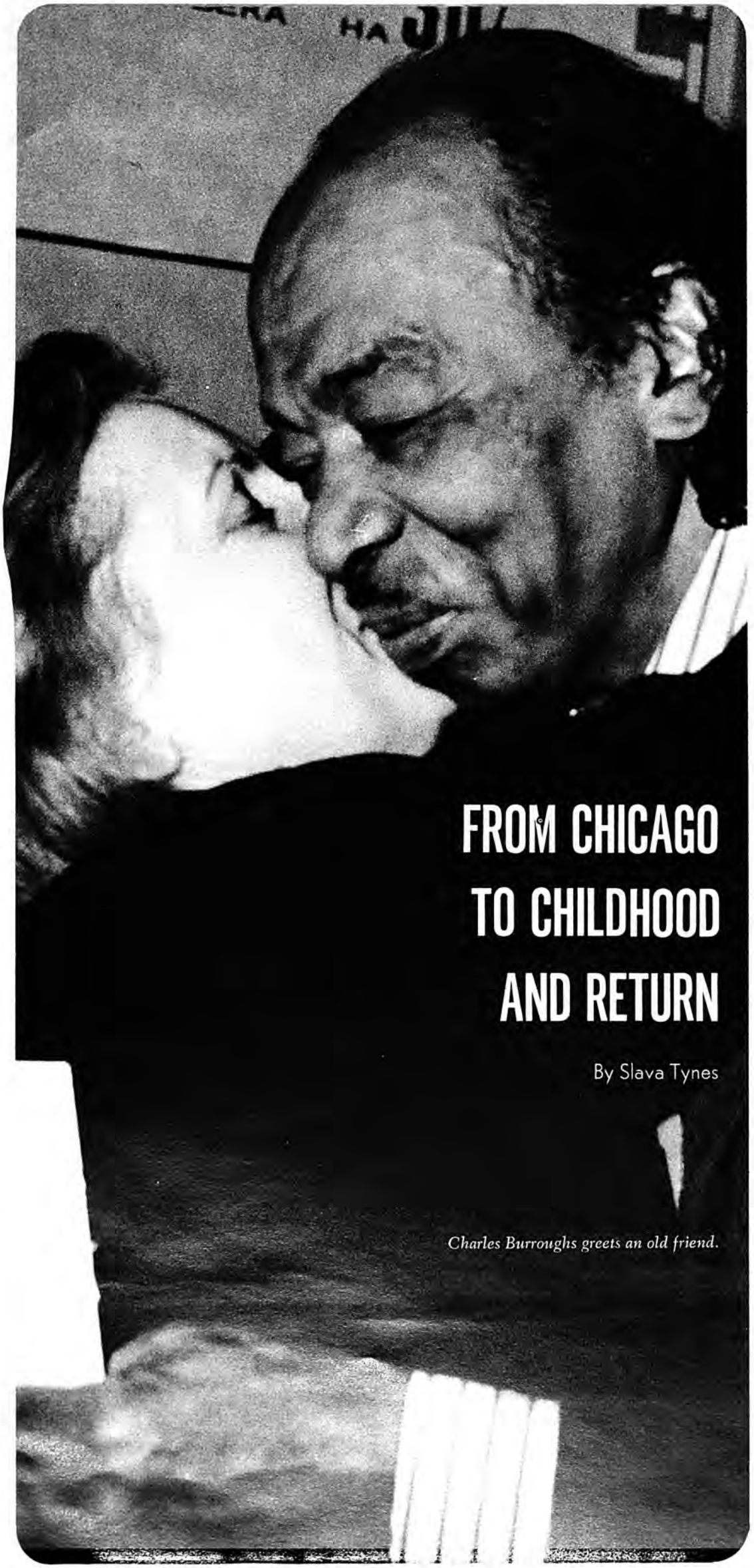
Permafrost has two insidious properties. When it thaws in summer the ground that had been frozen sags considerably, and when it begins to freeze in the cold, it heaves up. In both cases the force of pressure is so great that an ordinary foundation collapses from the strain. Attempts to build stone structures on permafrost soils are invariably unsuccessful. The buildings crack, sag and fall apart. Scientists found a solution. Instead of foundations, ferroconcrete piles are rammed into the ground to a depth of 25 to 30 feet. The space between the ground and the floor of the house is filled with sawdust. This is to reduce seasonal drops in the temperature of permafrost soils.

The city of Norilsk, beyond the polar circle, was built that way. So were the northern ports of Dudinka and Igarka.

Scientists have proposed still another method: Hollow metal pipes are rammed into the frozen ground and then filled with artificial ice. No matter how hot the polar sun is in summer, a constant freezing temperature is maintained in the permafrost soil.

The most economical and convenient method of construction, however, is building on thermopiles: gas is circulated through the pipes laid in the ground. At somewhat warmer depths (at 25 feet deep the temperature is 19 to 23 degrees Fahrenheit) the gas begins to evaporate and rise; there it cools, becomes liquid and seeps down, freezing the soil along the way. House foundations may be laid on such a base with no fear of sagging in summer. This method, incidentally, is also used in laying gas and oil pipelines.

One of the Leningrad research institutes has worked out a standard design for an apartment house in permafrost regions. It has withstood tests made at the permafrost research center at the Amderma settlement on the shore of the Kara Sea. The house set on piles is built of assembled blocks made of synthetic materials and sheathed in Duralumin. The doors are airtight when closed, the rooms all have ventilating installations, the floors are heated by electricity. The walls, no thicker than the palm of a hand, can resist a temperature of 76 degrees below zero. Series production of such houses has already begun.



FROM CHICAGO TO CHILDHOOD AND RETURN

By Slava Tynes

Charles Burroughs greets an old friend.

THE HALL of Columns of the House of Trade Unions was the scene of a gay reunion that evening. Middle-aged people embraced one another, called each other by first names and nicknames, laughed and cried at the same time. It was the annual Moscow get-together of people who had been brought up in children's homes. Conspicuous among them was a tall, lean man with African features and dark skin. "Hi, there, Harry!" came calls from all sides.

Charles Burroughs, an American boy, was nicknamed Harry when he came to the children's home in Moscow's Krasnaya Presnya district 44 years ago.

"In 1928," this guest from Chicago told me that evening, "my mother, a New York schoolteacher, visited the Soviet Union on her vacation. She was very interested in the system of education in the USSR and interviewed Anatoli Lunacharsky, then People's Commissar of Education of the RSFSR, met many Soviet teachers, and visited schools, Young Pioneer camps and children's homes. Mother liked the idea that in the Soviet Union children of different nationalities sat together on the same school benches and felt no national prejudice whatever. She wanted me and my brother to be brought up in a friendly international collective, and so I was placed in a children's home and my younger brother in a kindergarten. That is how I came to live in the Soviet Union."

In those years the government opened many homes for children who had lost their parents in the Civil War, and Charles was raised and educated in one of them.

"The friendships that originated there survived all these years," he said. "We lived according to the principle of "one for all and all for one." I'm sure that none of us will ever forget that.

"The Soviet system of education has progressed considerably in the years since, but then, too, we got a firm foundation of knowledge."

When he finished high school, Charles stayed on in the Soviet Union and went to work at the Likhachov Auto Plant in Moscow. In two years he learned two trades: toolmaker and truckdriver. In 1941, when fascist Germany attacked the Soviet Union, Charles was a student at the Moscow Circus School. With other actors, he made the round of the fronts and war plants, and performed for soldiers and workers. In April 1945, just before V Day, he left the Soviet Union for his term of service in the U.S. Army.

He is now one of the founders and the present curator of the first museum of black history and art in the United States. Founded in Chicago 10 years ago, it was later renamed the Du Sable Museum of African Art.

"The museum's aim" Burroughs says, "is to show the contributions made by the black people to the history of the USA and the influence of African culture on the formation of America's national art."

Now, 27 years afterward, he crossed the ocean again.

"My great impression," he says, "is the obvious progress made by the various nationalities in this country. I traveled from republic to republic and saw Kazakhstan, Uzbekistan, Azerbaijan, Georgia and Armenia. I was particularly impressed by the cooperation of people of all nationalities and their respect for one another's cultures. They all considered themselves first-class citizens of the single Soviet Union. For example, in Alma-Ata I went to a Kazakh theater. The Russians in the audience were provided with a simultaneous translation.

"The fact that the Russians are so concerned with and interested in the culture of the Kazakhs is of paramount significance for me. Twenty-seven years ago the Soviet nationalities were a friendly and cooperative family, now they are an indivisible and unified whole."

SOVIET-AMERICAN SPACE FLIGHT



In 1975, a Soyuz and an Apollo will rendezvous in outer space and crew members will transfer from one vehicle to the other. A cosmonaut and a scientist describe preparations for the joint flight.

SOYUZ AND APOLLO: JOINT SPACE PROJECT

By Academician Boris Petrov

THE Agreement on Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes Between the Union of Soviet Socialist Republics and the United States of America, signed on May 24, 1972, during the Moscow summit meeting, includes provisions for the docking of Soviet and American piloted spaceships and stations. The first docking of Soviet and American manned spacecraft, with visits by cosmonauts and astronauts to each other's ships, is planned for 1975.

Cosmonauts Vitali Sevastyanov (left) and Pavel Popovich (right) with American astronauts Alan Shepard, Stuart Roosa and Edgar Mitchell at a reception in the Soviet Embassy in Paris during the 29th international aerospace exhibition.



"The experiment in docking a Soyuz and an Apollo will make it possible to develop compatible systems of rendezvous and docking for all spacecraft."

The technical aspects of such a flight, including the rendezvous and docking of a Soyuz and an Apollo, were examined at preliminary talks between representatives of the Academy of Sciences of the USSR and the National Aeronautics and Space Administration of the USA (NASA). At this meeting, which ended at the Manned Spacecraft Center in Houston, Texas, agreement was reached on the basic characteristics of all systems connected with the rendezvous and docking, and on plans for elaboration of the project and for the actual flight.

What are the goals of such a flight, and what are its specific features?

The experiment in docking a Soyuz and an Apollo will make it possible to develop compatible systems of rendezvous and docking for all spacecraft. These would increase the safety of future flights by enabling spacemen to transfer from one craft to another. Of course the systems need not be identical to be compatible. Each country would make its own equipment, but specifications would be coordinated.

The difficulty is that in the past each nation has designed a rendezvous and docking system applicable to its own program. Now we must develop common standards.

As a result of studies by Soviet and American specialists, many such standards have already been worked out, and ways have been found to overcome a number of problems. However, we have a long way to go.

Thus, a design has been completed for the outside of the so-called androgynous docking device. It follows a completely new principle, permitting each ship to play both an active and a passive role. It also enables spacemen to transfer from one craft to the other through inner portholes, without emerging into open space.

Till now a different docking device—either active or passive—was required for each ship. The new design is distinguished from earlier ones because instead of a central pin in the active device and a cone in the passive one, each has guiding "petals" around its rim, as well as coupling devices, locks, and portholes for the transfer of spacemen.

Another innovation is the special docking bay on the Apollo, which has a device at one end compatible with the corresponding mechanism on the Soyuz. The spacemen will use the docking bay to adapt to changes in atmospheric pressure during the transfer from one ship to another. (The atmosphere in the Soyuz consists of ordinary air under a pressure equal to a 760-millimeter column of mercury, while that in the Apollo consists of pure oxygen under a pressure equal to a 260-millimeter column.) In the future, the atmospheres of all spaceships will probably be very similar to that of the Earth, and then there will be no need for a transitional compartment. It is essential for this first joint experiment, however.

The Soviet and American technicians are also studying methods of radio communication between the two spacecraft, and from the spacecraft to ground control centers. These include radiotelephonic systems for exchanging messages between the crews during rendezvous and docking. It has been agreed that the Soviet spacemen will learn English and the Americans Russian so that they can understand verbal messages and react to them correctly. Also, the crews will familiarize themselves with each others' ships, hold joint training sessions and work together to test the new rendezvous and docking systems.



American astronaut Frank Borman with a group of cosmonauts during his visit to the Soviet Union in 1969.

Signing the April 22, 1968, Agreement on the Rescue of Astronauts. From left: Peter Dalton, chargé d'affaires of Great Britain in the USSR; Andrei Gromyko, USSR Minister of Foreign Affairs; and Emory Swank, counselor of the U.S. Embassy in the USSR.



"This international project represents a long step forward in the exploration and use of space for peaceful purposes."

The flight has been scheduled for the latter half of 1975. First a Soyuz spacecraft will be launched from a Soviet cosmodrome, and about seven hours later an Apollo will be launched in the United States. An alternative plan is to launch the Apollo on the second or third day after the Soyuz. For about 24 hours the Apollo will travel independently, and then the two craft will carry out a rendezvous and docking. After the docking the spacecraft will form a piloted space station, which will be controlled and stabilized as a single unit. Its orbital flight, lasting for approximately 48 hours, will include visits by the spacemen to each other's craft and joint scientific-technical experiments. TV programs will be beamed to Earth. Later the spacemen will return to their respective ships and the craft will separate. The Soyuz will land on Soviet territory and the Apollo will land in the Pacific area.

This international project represents a long step forward in the exploration and use of space for peaceful purposes.

It is a major contribution to the conquest of space in the interest of science and technology.

Courtesy of *Pravda*

Cosmonaut Georgi Beregovoi takes Borman through the Soviet space-training laboratory.



RENDEZVOUS IN SPACE

Major General Vladimir Shatalov, cosmonaut and twice Hero of the Soviet Union, discusses the 1975 joint flight with our correspondent.



American astronaut Neil Armstrong presents samples of lunar soil brought back by the crew of Apollo 11 to Alexei Kosygin, Chairman of the Council of Ministers, on June 2, 1970. Below: Neil Armstrong with Soviet cosmonauts.



Q: What, in your opinion, will be the results of the first docking of Soviet and American spaceships?

A: This is, first of all, an event of great historic significance. Researchers, scientists and prospectors of different countries have worked together before to solve problems common to people everywhere. This will be the first time, however, that such cooperation takes place in outer space, the first time that representatives of the two hemispheres join in exploring the use of space flight for the benefit of all mankind.

The Soyuz-Apollo joint flight will prove that with the necessary effort and good will any space problem can be solved, despite differences in language or in the type of air used in the various spacecraft.

It will pave the way for spacemen and scientists from various countries to work together aboard long-term orbital stations like the Salyut and the Skylab, and to assist each other in emergencies.

"It will pave the way for spacemen and scientists from various countries to assist each other in emergencies."

Q: What criteria do you think the two countries will use in selecting candidates for a joint experiment?

A: Professional skill and a good knowledge of Russian or, in our case, English.

Q: Would you like to take part in it?

A: Yes, of course. I've made three space flights already, but I'd like to stay active.

Q: Do you think it's necessary for the crews to meet each other first?

A: The success of any joint effort depends largely on how well the participants understand each other. Preparing for the first linkup of two piloted spaceships, Soyuz 4 and Soyuz 5, and for the first transfer of cosmonauts from one ship to another, we reviewed every detail in dozens of joint training sessions, studied, talked and even argued together for hours. Everything had to be tried, tested, touched, so that in space each movement could be made without hesitation.

The Soyuz-Apollo flight is no exception. It will benefit from thorough joint preparations, which are inconceivable without personal contacts.

Q: Will these contacts involve joint training sessions?

A: Such training is important, and it's sure to take place both here and in the United States.



Signing the Convention on International Liability for Damage Caused by Space Objects on March 29, 1972. From left: U.S. Ambassador Jacob Beam, Foreign Minister Gromyko and British Ambassador Sir John Killick.

Q: To what extent should the crews know each other's language?

A: Enough so that they can understand each other without an interpreter in ship-to-ship and ship-to-Earth communication.

Q: Will the hosts treat the guests to meals?

A: No good host would let his guests leave without offering them the best he has. Our visits in space will be no exception, I believe.

Soviet cosmonauts Boris Volynov and Yevgeni Khrunov with American astronauts Neil Armstrong and Charles Conrad at the 63rd Conference of the International Aeronautical Federation, Delhi, 1970.



"Space is a huge treasure house of opportunities. So far we are using only the ones that are close at hand."



Alexander Vinogradov, Vice President of the USSR Academy of Sciences (on right) and Lee Scherer, representing NASA, exchange samples of lunar soil on June 10, 1971.

Q: What forms do you think space cooperation will take in the more distant future?

A: Space is a huge treasure house of opportunities. So far we are using only the ones that are close at hand, but even these have broadened our outlook and increased our scientific knowledge immeasurably. As research continues, it will require the assembly in space of more powerful and more specialized equipment. Probably, one form of further cooperation will be large jointly operated space laboratories for solving problems that are insoluble on Earth.

I don't think human beings will be satisfied until they can visit Mars and other planets. This goal will be easier to realize if all the countries combine their efforts. I am convinced that the first interplanetary expedition will be an international one.

Below: A model of the Meteor satellite.



"I don't think human beings will be satisfied untill they can visit Mars and other planets."

What are the relations between the artist and society? How much is the artist responsible for the direction of social movement? What is society's interest in his creative work? Is his creative freedom limitless, or is his approach in the final analysis determined by the social ideals and the ideas he advocates? Those are some of the questions writers, artists, philosophers and social scientists in every country are puzzling over.

In the 50 years since the formation of the Union of Soviet Socialist Republics, the peoples of our country have made a giant leap forward in the development of their cultures. Regions where the overwhelming majority of the population was illiterate before the Revolution can today boast of their own writers, famous not only throughout the Soviet Union but abroad. Their work, profoundly national in form, color, source and subject matter, is at the same time concerned with mankind in general. National separatism, racial segregation and parochialism are alien to them, because they owe their rapid development to the mutual enrichment of national cultures under socialism.

THE ARTIST AND HIS TIME

By Chinghiz Aitmatov

Khirgiz writer Chinghiz Aitmatov, 44, is a Lenin and State Prize winner, and Deputy to the USSR Supreme Soviet. He is the author of a number of stories, including "Jamilya," "My Little Poplar in the Red Kerchief," "The First Schoolteacher," "Maternal Field" and "Farewell Gyulsary."

EACH OF US is a particle of humanity, the writer even more so, since it is in him that the parallels and meridians of the universe converge and the centuries cross. The artist is formed by the rhythm and climate of the era, by a global responsibility for rational human life. The Soviet artist, moreover, is influenced by the special duties and conditions attending the construction of the new society.

There are no untrodden paths in the world. What matters is your particular vision, what you are able to discover on the road others have traveled. People may be born with the eyes of artists and writers, but unless with the years they develop the urgent need to use themselves in the cause of life, their talents alone will not be enough. If that need never arrises, the talent supplied by nature inevitably wears away like the texture of the shagreen leather in Balzac's tale.

Artistic thought has always reflected the spiritual trend of a society. Lenin analyzed the development of such thought under conditions of the proletarian class struggle and discovered the principles that governed national literature and art in the era of the socialist revolution.

The communist world outlook gives the Soviet writer his social and human values.

We have created an unprecedented multilingual and multinational Soviet culture, which incorporates the best products of both our large and small nationalities and of world culture as well.

Not too long ago the many nations that comprise our country had widely different levels of development and cultural and social experience. They followed the most diverse traditions and customs, and did not even know each other's languages.

But in one respect they were equal: They had walked the same path of history, had fought the October Revolution and laid the foundations for a Soviet society.

All of us, large and small nations, have contributed to this historic mission. And the process has engendered a common multinational culture, evolved from national cultures that are different in language and tradition.

This was no easy path to travel, nor was it direct. For many nationalities, reaching the modern cultural world required difficult transitions from oral-folklore cultures, from patriarchal epics in which the hero had still not taken shape as a personality, to social and psychological studies of people living under new historical conditions.

But all this is now behind us. We borrowed what we needed from Russian and world culture and reached, in the years of Soviet power, approximately the same artistic level as the developed countries.

Each time we come across new talented works on vital social themes that breathe a genuine national spirit, it seems a revelation. They come from writers with a breadth of thought, an understanding of what is important and what will interest people generally and their own people in particular. They tell the reader about his background and traditions, his present and his future.

Soviet art proceeds from the premise that a work has merit if it gives us a sense of how a particular national culture perceives the world. That, however, does not mean settling for provincialism or oversimplification, for exotic clichés and pseudofolksiness.

Nor is it right to give national uniqueness the main role, to make it an end in itself. Of decisive significance to all our national arts and literatures is the development of their socialist content. In other words, the partisan

ideological character of all literature, regardless of national affiliation, must be determined through a definite set of artistic principles.

The experience of Soviet culture demonstrates that as a rule the best national works of art deal with ideals and problems common to the whole country. Their ideological viewpoint is that of the Soviet citizen—they present his concepts of history and the social struggle, of the individual and society.

These works also have international motifs. They are concerned with the social trends of the times and highlight the common human element in a unique and dramatic form. But no matter what form a work of art assumes, its province is always the clash of ideas, the dialectics of human character.

Socialist culture is a gigantic store of everything that has been achieved, amassed and created by the Soviet nations, both large and small. Different in our modes of expression, we are alike in the main thing—we are true to the Leninist principles of the partisan and folk character of literature and art.

Soviet literature has no other purpose, nor can it have, than to help mold the people of the future, to make them more ethical human beings. The books with this mission are our contribution to the construction of tomorrow.

THE POET AND CONTEMPORANEITY

By Eduardas Mieželaitis,

Lithuanian writer Eduardas Mieželaitis, 53, is a Lenin Prize winner and the author of numerous collections of poetry. The best known is* Man, *a philosophical study of man in contemporary society.

TO MAKE THE READER think about human destiny without dampening his spirit or frightening him, to foster his civic interest without burdening him with too much responsibility, to fight improvidence and foolishness, cruelty and obscurantism, violence, greed and despotism in the chaotic sea of ideas, outlooks, concepts and emotions—therein lies the poet's function. And this is certainly not easy, because there are no absolute truths or final solutions. The Great October Revolution triumphed in 1917, but the struggle for its ideas goes on to this day throughout the world, as does man's struggle with himself. That is why the writer is called upon to be an advocate and to nurture advocates.

The poetic word echoes the heart. The rhythm of the poet's heartbeat determines the rhythm of his communion with the reader. He seeks to examine his contemporary's soul, to probe the millenniums of history, to embrace with his mind not only the whole Earth but the expanses of space. Only then will the poet's thoughts have scope and boldness, and his imagination firmness and reality. Other people's fear, pain and joy will then become his own, and he will see the Earth's destiny as his, too. But for this one must have faith in mankind's power and reason, in its progress.

A poet is distinguished for his keen sense of time, but he must have an even keener perception of the main idea in his creative work, which both nourishes him and makes him a guide for others. To prove faithless to this idea is to prove faithless to oneself, to betray oneself.

I wrote my poem *Man* not in any official capacity or as a party assignment. I am free in my creative work. I can write on any subject I please, but to express my ideas I chose the subject of man. At first glance it may seem that the viewpoint of the poem is abstract humanism. But this is not so. Though the ideals it expresses are indeed common to all people, they are at the same time the ideals of communism. And there can be no contradiction here. A soldier who is defending the revolution with arms knows perfectly well that there is no such thing as abstract humanism. He knows there are ideas that can evoke the lowliest instincts in people, turning them into beasts. He also knows that there are other ideas, the ideas of communism, that spell harmony of form and content in life. There is no ignoring this, for there is no third choice. Abstract humanism exists only in the imagination, while real life is a struggle between two worlds.

That is why the main character of my poem, embodying both the image of the people and the author's lyrical "I," evaluates each occurrence from the position of Communist Party principles. Those principles reject any detachment or passivity, they call for revolutionary struggle to achieve harmony in the world and in human beings.

The artist is free to choose his banner, but before he does, he must think long and hard about his fellow human beings, their present and their future.

LITERATURE IS THE STUDY OF MAN

By Rasul Gamzatov

Rasul Gamzatov (born 1923), people's poet of Daghestan, is of Avar nationality. The author of more than 30 collections of poems, he is a State Prize winner and Deputy to the USSR Supreme Soviet.

SOMETIMES a highlander stops to look back over his life and forward to the road ahead. It's that way with us Daghestanian writers. We look back at the work we have done and set ourselves fresh goals.

Daghestanian literature, like every other, has problems that have been solved and others still awaiting solution. Our literature is being created in nine languages.

It began with works born of the Revolution, by such men as Ashug (minstrel) Suleiman Stalsky and poet Gamzat Tsadas [Gamzatov's father—Ed.]. Today a new generation of poets is at work in Daghestan, a generation of educated people, equipped with both the traditions of their native literature and the experience of the fraternal people's poetry.

Daghestan has been greatly influenced by nineteenth and twentieth century literature and culture. But for truly talented writers this does not tend to wipe out the native culture. The one who creates a harmonious blend of these two sources—the national and the international—is not only a talented but a happy man.

To constantly feel oneself involved with one's own people, to be able to think historically, to express the spirit of one's time, and, at the same time, not divorce oneself from living reality—that is to see into the intellectual depths of poetry. Art belongs to the millions, Lenin taught us, and he called on men of literature to affirm the ideals of the Revolution with their work. That is why we proudly declare: The tasks the party sets before the people are also our tasks.

What comes first, the writer or his theme? Does the theme engender the writer or vice versa? My answer would be that the theme is the writer's world. Without it he cannot exist. It's his sky, his air, the water he drinks, the bread he eats.

My theme is my country. We do not have to look for it, or choose our country—it chooses us. There is no eagle without the sky, no trout without a mountain stream, no mountain goat without a steep cliff. There can be no writer without a homeland.

The life of the people, the life of the human heart, is the cardinal theme of poetry. That is what makes literature the study of man.



Boris Markov's native village.



FIRST COMPOSER OF CHUVASH OPERA



By Konstantin Telyatnikov

Photographs by Yuri Trankvillitsky

Sovetsky Soyuz Magazine

When Boris Markov, the present Chief Stage Director of the Musical Drama Theater in Cheboksary, capital of the Chuvash Autonomous Republic, decided to stage the Chuvash Opera *Shivarman (Watermill),* by Fyodor Vasilyev, many thought the idea grandiose. Not because they underrated Markov's talent for stage directing or thought the opera score too complicated for scenic interpretation. Simply, in the early fifties Chuvashia had no musical theater. And so Boris Markov boldly set about creating one.

It certainly took boldness on the part of this then recent graduate of the Institute of Theater Arts. Fifty years ago most of Chuvashia's population could neither read nor write. "My industrious but very impoverished people," wrote the Chuvash author Nikolai Ilbekov, "lived deep in the woods, engaged in trapping and making bast shoes and dug up the soil with a wooden plow and hoe. Poverty and ruin, disease and oppression—that was their lot." This people doomed by czarism to drag out a miserable existence could not even imagine having its own theater, let alone opera.

But Markov was no idle dreamer. His decision to open an opera theater rested on the reality of the change Chuvashia went through after the Great October Socialist Revolution. Soviet power made it possible for the Chuvash people, in an incredibly short time, to cover an economic distance that would have taken centuries under any

other social system. The republic already had its developed industry, including maching-building and metal-working, a university in Cheboksary, several institutes, specialized schools and a number of drama theaters. It also put out periodicals in the Chuvash, Russian and Tatar languages. When real *lapti** were required for the production of *Shivarman,* the theater people had to search high and low to find a few oldsters who still knew how to weave them.

Unfortunately, other problems of opera production proved far more difficult to solve. The opera is a synthetic genre. Combining, as it does, dramatic action with music, it demands of all its participants—conductor, stage director, orchestra, soloists, chorus, stage and costume designer—a musical and theatrical sophistication based on national traditions of more than one century. The Chuvash opera had no such traditions, only folk dances and folk songs. And the road from a song to an opera production is very long.

After a Moscow higher education in acting and stage directing, Boris Markov got to work in the Cheboksary drama theater with professional actors, playing in the Chuvash language. They were dramatic actors and could neither sing nor dance. The theater did not have the soloists, chorus or corps de ballet required for a musical show. It seemed that the only answer was to invite singers and dancers from opera houses elsewhere in the Soviet Union. With their stage experience they could help the young stage director create a diverse repertoire of opera and ballet productions at a high enough level of professional mastery. The theater would have singers, dancers, actors—everything but the national uniqueness that would distinguish it from hundreds of other theaters in the country.

Boris Markov chose a different more difficult way. He decided to find the artists for his company in Chuvashia itself. Not to find but, rather, to train professionals from amateurs at the palaces of culture and the clubs of factories and schools. He opened two evening studios—vocal and ballet—at the Cheboksary drama theater and announced a competition for entrance.

Of 700 applicants, 100 qualified. They were to be the nucleus of the Chuvash musical theater.

Meanwhile, these enthusiasts of the ballet and opera, who attended the studio after work and study hours, lacked what was most important—professionalism. And though they were taught singing, acting, plastic movement, elocution and other subjects in the drama school curriculum, skeptics persistently maintained that it would take a much longer time than a year

* Bast shoes worn by poor peasants before the Revolution.



Anna Markova, the pioneering opera-maker's mother. He comes from old Chuvash peasant stock. Fifty years ago this region had no theater of any kind, let alone an opera.



Boris Markov (below) with the cast of a production at the Cheboksary Opera Theater. Besides the first Chuvash opera, he staged its first ballet.











Left:
Anatoli (third from left) is rector of a teacher training institute. He is looking over student work.
Below:
Family reunion.







Boris works off some surplus energy with a scythe at his parents' home.
Above:
Semyon Markov critically follows the reviews of his son's productions.

for them to reach the heights of professionalism.

The heights were scaled, notwithstanding. Proof was the enormous success of the première of *Shivarman* (1960) and the glowing reviews of both the Chuvash and Moscow press.

Shortly thereafter, Markov staged Tchaikovsky's *Eugene Onegin,* and Boris Mokrousov's epic opera *Vasili Chapayev,* the Civil War hero. The latter production was staged in Moscow by the Kremlin Theater.

Next, Markov began work on the production of the first Chavash ballet, *Ulina,* by Mikhail Alexeyev. And though, soon after rehearsals began, he was invited to Moscow to be one of the stage directors of the Bolshoi Theater, he brought the ballet to its highly successful première.

At the Bolshoi, that holy of holies of opera, Markov did more than stage several productions which came as a pleasant surprise to Moscow's opera-goers and balletomanes. He also studied opera directing.

On completing his "higher education" in this subject at the Bolshoi, Markov returned to Cheboksary and became chief stage director of the Chuvash Musical Drama Theater. He now devotes the lion's share of his time to the production of new shows and the polishing up of old ones. Moreover, he is constantly searching for new means of scenic expression, for techniques that would enhance the production: present events of antiquity, say, through the eyes of our contemporary. His work bubbles with fresh ideas, the only guarantee against scenic clichés and stagnation.

Not so long ago Boris Markov published *The Birth of the Musical Theater of Chuvashia,* which was well received by both critics and specialists. The book sums up his work and looks to the future of Chuvash musical theater. He is now working on a study of the national specifics of musical productions, his dissertation for the degree of Candidate of Arts.

The few days he is free, Markov flies to the small village in Chuvashia where he was born and grew up. His parents still live there.

On holidays all the Markovs gather: Anatoli, Rector of the Chuvash Teacher Training Institute; Arkadi, senior teacher at the Moscow Correspondence Institute of Soviet Trade; Alexandra, docent of the Chuvash State University; Darya, docent of the Cheboksary Teacher Training Institute, and Boris, Chief Stage Director of the Chuvash Musical Drama Theater. Anna Petrovna and Semyon Alexeyevich Markov, hereditary Chuvash peasants, are proud of their sons and daughters, whose names are known throughout the republic. But they never show it. Celebrated names and scientific titles are left outside their house. Inside, the children are simply children—as they were 20, 30 and 40 years ago.



The way of life of the Chuvash village may have changed radically, but not the traditional songs and dances.















National emblems of the union republics.











The Union of Soviet Socialist Republics is a socialist state of workers and peasants.

The political foundation of the USSR is the Soviets of Working People's Deputies, which grew and became strong as a result of the overthrow of the power of the landlords and capitalists and the attainment of the dictatorship of the proletariat.

All power in the USSR is vested in the working people of town and country as represented by the Soviets of Working People's Deputies.

The economic foundation of the USSR is the socialist system of economy and the socialist ownership of the instruments and means of production, firmly established as a result of abolishing the capitalist system of economy, the private ownership of the instruments and means of production, and the exploitation of man by man. . . .

Work in the USSR is a duty and a matter of honor for every able-bodied citizen, in accordance with the principle: "He who does not work, neither shall he eat."

The principle applied in the USSR is that of socialism: "From each according to his ability, to each according to his work. . . ."

The Union of Soviet Socialist Republics is a federal state, formed on the basis of a voluntary union of equal Soviet Socialist Republics. . . .

From the Constitution (Fundamental Law) of the Union of Soviet Socialist Republics













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