USSR

A GOOD BEGINNING

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Front cover: Vienna, June 4, 1961. Chairman Nikita S. Khrushchev and President John F. Kennedy at the Soviet Embassy. Photo by Vladimir Lebedev.

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A GOOD

Joint Statement on

Chairman Khrushchev-President Kennedy Meeting in Vienna on June 3-4

Nikita S. Khrushchev, Chairman of the USSR Council of Ministers, and John F. Kennedy, President of the United States, have concluded two days of useful meetings during which they exchanged views on the question of USSR-USA relations as well as other questions of interest to the two countries.

The questions discussed today, with the participation of their advisers, were the banning of nuclear tests, disarmament and Germany. The Chairman and the President reaffirmed their support of a neutral and independent Laos headed by a government elected by the Laotian people themselves, and also of international agreements ensuring that neutrality and independence. In this connection they have recognized the importance of an effective cease-fire in Laos.

The Chairman and the President have agreed to maintain contact on all questions of interest to the two countries and the whole world.

BEGINNING

"We welcome you to a little bit of Soviet territory," Khrushchev said to Kennedy. "Though it is little, we receive you with great feeling."

EARLY IN JUNE all eyes were focused on the Austrian capital, where Chairman Nikita Khrushchev and President John Kennedy, the leaders of the two Great Powers, were meeting.

This is how *Pravda* chronicled these two memorable days in Vienna:

June 3. The hands of the clock approached 12:45, a moment when, according to the program published in newspapers all over the world, the first meeting between the two statesmen was to begin at the U. S. Embassy.

With chronometric punctuality Nikita Khrushchev's car drove up Weidlichgasse. The people on the street waved as they saw the head of the Soviet Government ride by. The car went through the gates toward the building where the head of the capitalist world's largest state was awaiting the leader of the great socialist power.

At the entrance the car screeched to a halt. "It's nice to see you," said the President with a smile as he shook the hand of the Soviet Chairman. The tireless press photographers and movie cameramen wanted to take many shots of the moment when the two heads of government met. They begged the two statesmen to shake hands once again. "It's all right with me," Khrushchev said. "What about you, Mr. President?" They shook hands again as cameras whirled and clicked. Khrushchev and Kennedy then entered the villa where in a small cozy room the heads of the world's two most powerful states sat down at a small black lacquered table and began their conversations, with a select group of advisers in attendance.

It was agreed in advance that this summit meeting would be informal. The problems of concern to the world today are too great, involved and important to be decided all at once. Everyone realizes that it is precisely through private conversations behind closed doors that the leaders of the USSR and the USA will find it easier to establish personal contacts, exchange views and opinions on cardinal issues of interest to both countries and try to work out a common language.

June 4. Usually quiet, Reisnerstrasse, with its luxuriant chestnut trees, today became a mecca for a host of newsmen, press photographers, radio reporters, movie and TV cameramen, and ordinary Viennese. They had all come to witness the meeting at the Soviet Embassy be-tween the leaders of the two Great Powers.

One Austrian journalist aptly noted that in a few minutes it woul be the first time that President Kennedy had set foot on Soviet territory

At 10:10 A.M. a black limousine drew up and President Kenned Secretary of State Rusk and other officials stepped out and were we comed at the entrance by the Soviet Chairman. "We welcome you to little bit of Soviet territory," Khrushchev said with a smile as h shook the President's hand, "and though this is only a little piece c territory, we are receiving you with great feeling."

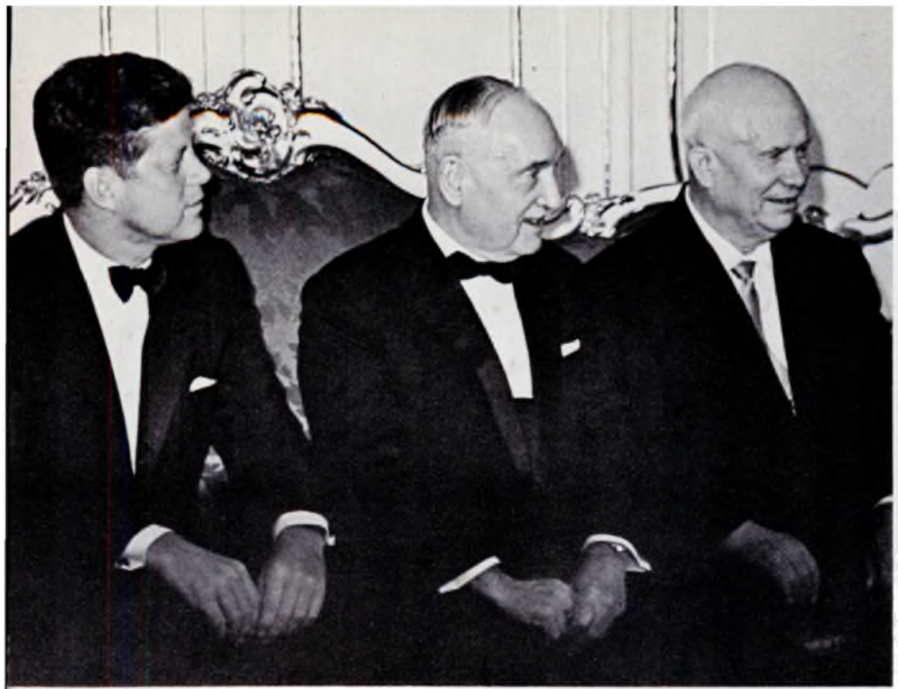
Accompanied by their advisers, Khrushchev and Kennedy walke up the carpeted marble staircase to the first floor, where they entered small room with crimson moire drapes.

Khrushchev told his guests to feel at home and make themselve comfortable. Addressing the Secretary of State, he jokingly remarke "Pull your chair a bit closer, Mr. Rusk, or you might be taken for a oppositionist."

According to the program the talks were to end at 3:15, at whic time President Kennedy was to leave. The President's black limousi had already drawn up to the entrance and the motorcycle escort was i readiness. However, the Soviet and American leaders were still talkin "You see," some of those journalists who cannot imagine life without t cold war gloated, "it's not the same as yesterday. They're probab arguing." "It doesn't mean a thing," the others objected. "If that we the case, the talks would have been over sooner."

It was 4:30 when Khrushchev and Kennedy finally appeared in t doorway. The crowd eagerly scrutinized them. Were they frownin or smiling? They were smiling, smiling and shaking hands! Th meant the talks had not been in vain. This opinion was fully confirm when Soviet Foreign Ministry press chief Kharlamov and White Hou press secretary Salinger held their news conference.

Some 1,500 newsmen filled the Hall of Ceremonies at the Hofbu Palace, press headquarters. There wasn't an inch to spare. Newsm and reporters were even sitting on the staircase leading to the chai



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1. The Chairman of the USSR Council of Ministers and the President of the United States at the American Embassy in Vienna June 3. 2. President John F. Kennedy, President Adolf Schaerf and Chairman Nikita S. Khrushchev at Schoenbrunn Palace, where the visiting heads of state attended a dinner given in their honor by the Austrian President. 3. Postcards with the portraits of Khrushchev and Kennedy were sold all over Vienna while the two-day meeting was taking place. 4. The streets were lined with thousands of people welcoming Chairman Khrushchev on his arrival in the Austrian capital. 5. At the airport Nikita Khrushchev waves farewell as he is about to leave Vienna for Moscow.

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man's table. Others packed the doorway so they would be first to get to the telephones.

Everybody waited impatiently for the official statement at the end of the Khrushchev-Kennedy Vienna meeting. With bated breath this assemblage of representatives of the world press heard the statement that Soviet Chairman Khrushchev and U.S. President Kennedy had concluded a useful two-day meeting during which they had exchanged opinions on Soviet-American relations and other matters of concern to both sides. Meanwhile the newsmen scribbled frantically and underscored the words "useful meetings." They also underlined the words "the Chairman and the President have agreed to maintain contact on all questions of interest to our two countries and the whole world."

The joint statement had been read aloud. A hush descended on the hall. No one had expected a miracle from the Vienna meeting.

Present-day international problems are too complicated to be settled all at once, and the parley participants could not set themselves that task. Their aim was to establish personal contact and exchange views on Soviet-American relations and questions of concern to both countries.

This aim has been achieved—there was an exchange of opinions and both sides considered it useful. Contact between the Soviet Chairman and the U.S. President will be maintained on all matters of interest to both countries. Their parting words were, "Till we meet again," and not "good-by."

The Moscow-Washington talks will continue. This is the conclusion drawn by all who were present at the close of the Vienna meeting.

It is likely that at that moment many newsmen recollected the cloudy day of September 19, last year, when Nikita Khrushchev set foot on the bank of the East River in New York to discharge his lofty mission at the UN General Assembly's Fifteenth Session. "I am confident," the Soviet Chairman said then, "that the relations between our great countries will improve. It is well known that no matter how dark the night, dawn will come. That is why I am confident that, try as they may to bring the atmosphere in the relations between our countries to red heat, the evil forces are bound to fail."

"THANKS, MY AMERICAN FRIENDS,"

Says Yuri Gagarin

MY DEAR AMERICAN FRIENDS,

I HAVE BEEN PROFOUNDLY MOVED BY THE WARM CONGRATULATIONS I HAVE BEEN RECEIVING FROM PEOPLE ALL OVER THE WORLD, INCLUDING THE UNITED STATES. I WANT TO TAKE THIS OCCASION TO THANK AND GREET MY AMERICAN FRIENDS AND TO SEND MY BEST WISHES TO THE READERS OF USSR MAGAZINE.

I KEEP FEELING IN ALL THE CONGRATULATORY LETTERS A RING OF WONDERFUL PRIDE IN MAN, IN HUMANITY. IT MAKES ME HAPPY TO REALIZE THAT THESE CORDIAL WORDS OF GREETING AND ADMIRATION ARE ADDRESSED FIRST AND FOREMOST TO MY PEOPLE—TO OUR WORKERS, SCIENTISTS AND ENGINEERS—AND TO OUR SOVIET SCIENCE AND TECHNOLOGY THAT WAS ABLE TO MAKE THE SPLENDID SPACESHIPS THAT ARE CONFIDENTLY PIONEERING THE COSMOS FOR MANKIND.

I AM CERTAIN THAT THE DAY IS NOT FAR OFF WHEN THE WORDS "MAN IN SPACE" WILL BE A HOUSEHOLD PHRASE AND MEN WILL BE BLAZING NEW TRAILS IN THE COSMOS.

I SINCERELY WISH SUCCESS TO ALL THE NEW ASTRONAUTS AND PARTICULARLY TO MY AMERICAN COLLEAGUE, ASTRONAUT ALAN SHEPARD.

TO THE WORLD'S FIRST COSMONAUT

LETTERS addressed to Yuri Gagarin, Moscow, USSR . . . to the Conqueror of Outer Space . . . to the Pioneer of the Cosmos . . . have been arriving from every country in the world. They come to the cosmonaut's native village, to the USSR Academy of Sciences, to the Union of Societies for Friendship and Cultural Relations with Foreign Countries, to the editorial offices of newspapers and to broadcasting stations. Soviet embassies everywhere have been flooded with congratulatory messages.

In the Soviet Union Gagarin has become a synonym for heroism. Songs and poems have been dedicated to him. Moscow is commemorating his flight in a monument. A state farm in the virgin land territory and a volcano in Kamchatka now bear his name. So do streets in Magadam, Riga, Ufa and other cities. The people of Kaluga, where Konstantin Tsiolkovsky pioneered jet propulsion, have elected Gagarin an honorary citizen.

A youth organization in the town of Lanusei on the island of Sardinia; streets in Brno, Czechoslovakia, and Sofia, the Bulgarian capital; and a house in London all carry his name. Lebanese mothers in Beirut wrote in that they had named their newborn sons after the world's first cosmonaut.

The famous Dutch botanist D. V. Lefeber sent a letter from Lisse to say that "as a token of the admiration we in the Netherlands have for your flight we have given your name to one of our newest tulip varieties." Public groups in India are collecting signatures to a letter to Gagarin inviting him to be a guest of their country.

We reprint here, with Gagarin's permission, extracts from a few letters sent him from the United States and other parts of the world.

Mr. and Mrs. T. write from California: "Yuri Gagarin is the first hero of the space age. The USSR has demonstrated the magnitude of its scientific leadership in the world. Congratulations! We think that the greatest achievement in the history of the world is the one by which the Soviet people recovered from the most devastating war in their history and, within a few years, became the leaders in the scientific conquest of space."

Miss C. S. from Ohio says: "Major Gagarin is a hero of our time. He has won himself a glorious place forever in history, just as his splendid country has."

"Both my mother and myself would like to offer our most sincere congratulations and admiration for your great country's latest historical achievement in mankind's conquest of outer space," writes Mr. J. G. from Colorado. "We have long admired your country for its brave and giant strides up the stairway of progress, making this world, the treasured gem of the solar system, one to be proud of."

Mr. G. S. of New York feels that "no other nation in such a short period of time has accomplished so much! To transform a nation that was so backward and illiterate under the czars into a first-class scientific and industrial power in 40 years' time is in itself not only a remarkable but a shining example of the courage and determination of the Soviet people to lead the world to a better way of life."

From Mr. C. P. from California, "I fully appreciate and understand the scientific and technical requisites of the flight, nevertheless, I am most pleased with the prospects of peace which have resultantly accrued from the most noble achievement of not only the man but, even more so, of the great Soviet people in the land of Lenin."

Mr. C. S. of Chicago writes: "I believe most Americans expect the Soviet Union to continue to lead in space. The Soviet Union has broken the barrier to space travel and has raced close to the eventual goal of flight to other planets."

Mr. B. M. from French Camp, California, is moved to this comment: "Television film clips of your reception in Moscow were shown here just now. Very inspiring . . . very impressive! May Providence watch over you! Think of me as a friend of yours in America, a friend who has a deep respect for you and the wonderful people of the Soviet Union!"

Mr. D. F. of Berkeley, California, says: "Our lives and philosophies may differ in many ways, but this in no way subdues my great respect for your fantastic act of heroism. Perhaps you have signaled the beginning of a healthy competition between our nations to conquer the secrets of space travel and interplanetary exploration."

This is from R. W., Michigan. "Beneath all the perverse iniquities of international politics, the American people and the Soviet people are, to use the words of Nikita Sergeyevich Khrushchev, 'brothers.' And so now say to the Soviet people: 'Good job, well done!' "

And from Mr. D. O. of Seattle: "On behalf of the citizens of Washington State, I heartily congratulate you, and would like to extend to you an invitation to attend Seattle's World Fair which will take place during April 21, 1962, to October 21, 1962. The theme of the fair is 'Man in Space.' Being the first reported human being to successfully orbit the earth, you will certainly be in a position to better the relations between our two great peoples, thus showing our many neighbors that two types of cultures can become somewhat compatible with words and deeds, not men and might."

Miss A. S., an eighteen-year-old college student from Brooktondale, New York, writes: "Well done, Yuri Gagarin! I am not a Communist, nor do I believe in the communist doctrine. But I do believe that this was not just a Soviet victory but also constituted a world victory. May your exploit be the beginning of true peace in this world."

A. S. sends this letter from New York: "The great and wonderful act of today by a Soviet man in space is proof enough to the world that only socialism can lead the world to greater deeds. No need for war or unemployment, discrimination, depressions—inventions need not mean a loss of jobs."

Among the multitude of messages from other parts of the world is this one from British L. G. addressed to the "Russian

Christopher Columbus": "Dear Friend of Humanity, What words can adequately convey to you the deep heartfelt affection I have for you, true citizen of your promising Soviet country, represented so remarkably by its loyal son. Having carried out your flight to the glory of mankind and world science, you have made famous both the Soviet people and their remarkable technology and science."

From Belgian student M. H. of the town of Namur: "I am writing to you in order to express my admiration and enthusiasm for this achievement of Soviet scientists, and particularly for your personal courage. I must say that this event moves and interests me more deeply than the well-publicized adventure of some American or French movie star."

And from Mr. D. D. of Luxembourg: "Now we should be proud of the name of man, we should be proud that we are living in such a remarkable time, we should be proud of friendship with the Soviet Union. I join millions of Soviet people who pay tribute to you and your country.

"My son dreamed," the letter goes on to say, "that Major Gagarin had taken him along to the moon, and he now calls his little brother Yuri."

Monsieur E. M. writes from Paris: "It is your socialist homeland that enabled you to fly so high in the sky. It was possible because your compatriots can study and develop their capacities without any financial difficulties and obstacles. That is why your people have managed to achieve such great results."

K. A. de la T. from the French town of Nantes sends this congratulatory message: "I am Jules Verne's niece and I would like to express my admiration at your exploit. You have made Jules Verne's dream come true. Had he been alive today, he would have certainly been there with you in your country sharing in its joy. My congratulations to you from the bottom of my heart!"

The above is only a sampling of the many letters received by Gagarin from people all over the world.

The Lenin Prize Committee on Science and Technology with Academician Nesmeyanov presiding evaluates nominations made by research and industry bodies throughout the country.

Producer Yuri Zavadsky (left) and film actor Sergei Bondarchu
at a session of the Prize Committee on Literature and the Art

CHOOSING the Lenin Pr

LENIN PRIZES for the most important contributions to science, technology, industry, agriculture, literature and the arts are awarded each year on April 22, the birthday of Vladimir Lenin, founder of the Soviet state.

The final choice of Lenin Prize laureates is made by two government committees—one for science and technology, the other for literature and the arts. The committee members who serve as judges are distinguished leaders in their fields—eminent scientists, engineers, writers, composers, stage directors. The final selections are not made behind closed doors: they are the distillation of months of public discussion.

Nominations are made by a large number of bodies—the USSR Academy of Sciences and its many branches and departments; the Academies of Sciences of the Union Republics; the special Academies (Agriculture, etc.); scientific and technical societies; economic councils, ministries and other government agencies; factories and enterprises; the editorial boards of newspapers and magazines; unions of writers, journalists, composers, artists, film workers.

For example, Alexander Tvardovsky was proposed as Lenin Prize laureate for his poem *Space Beyond Space* by several bodies—the USSR Writers Union, the editorial board of the newspaper *Pravda*, the Writers Union of the Russian Federation, writers' organizations of Moscow and Leningrad, the State Publishing House of Fiction and Poetry, the Young Guard Publishing House, and the editorial board of the newspaper *Krasny Mayak*, published in the Pskov Region.

Similarly, the work of a group of scientists and engineers who had developed a new process for smelting steel from open-hearth pig iron was presented by the Central Iron and Steel Research Institute and the Economic Councils of two economic areas—the Tula Economic Area in Central Russia and the Dniepropetrovsk Economic Area in the Ukraine.

Thus, before a recommendation is made to the Prize Committee, the research study, poem composition or machine has been carefully weighed against others by hundreds and sometimes thousands of competent and highly critical judges.

Nominations are submitted the year round until the middle of November. This year the Committee on Science and Technology received 127 nominations; the Committee on Literature and the Arts, 61. All nominations are listed in the newspapers. Through the press the committees appeal to the public at large for an opinion on these works. Thereupon a general discussion of the comparable merits of the works submitted gets under way in newspaper and magazine articles and in letters to the committees. The Committee on Literature and the Arts this year received more than 1,500 such letters, and Moscow newspapers published more than 500 articles.

The committees pay careful attention to the opinions expressed in these letters and articles

Before awards are made the work nominated is closely scrutinized and discussed by the public. This is a scene in the USSR Academy of Arts where paintings under consideration were hung.

Viewers are asked their reactions to the paintings. Comments are carefully considered by the committee.

ze Laureates

By Mikhail Ozersky and Yuri Grafsky

As soon as the list of nominees is published, the various sections of the two committees—on physics, mathematics, chemistry, music, theater, etc.—begin their work. The Committee on Science and Technology has 20 sections with more than 600 specialists checking through each invention or scientific study proposed for the award. When necessary, they travel to distant spots for firsthand inspection. This year, for example, a group of committee experts visited Azerbaijan to see the offshore oil development. Other groups visited Siberia, the Kuban, the Urals.

These various sections then ballot secretly to decide which nominations to recommend for further participation in the competition and which to reject. The results of the vote are presented to a plenary meeting of the given committee by the chairmen of the various sections. If a section decides to reject a work, representatives of the organizations that nominated it are invited to attend the plenary meeting of the committee. On such occasions there is an open discussion and the experts either justify the rejection or withdraw it. Only after this procedure does the committee make its decision.

This year the first round of discussion resulted in 41 semifinal choices in science and technology and 29 in literature and the arts. The list of nominees was again published, in February as usual. And a second round of public discussion began in the press, at scientific societies, industrial plants and in the sections. The medical research studies were discussed by the Moscow and Leningrad surgeons' societies; the iron and steel nominations, by the scientific society of the central council of the trade union concerned. There were 90 such discussions , with steno graphic reports submitted to the proper com mittee.

General discussion of work submitted was likewise stimulated by the Committee on Literature and the Arts. Debates were held at libraries, art institutes and galleries, at the Academy of Arts, by unions of writers, artists, etc., at the All-Russian Theater Society, the Institute of the History of Arts, the Moscow House of Scientists, and by the Moscow University student body.

A public exhibition of works submitted for awards was held at which the USSR Academy of Arts organized four big conferences for visitors to express their choices. These—as well as the 1,500 or so entries in the Visitors Book—were all considered by the committee in making the final selections.

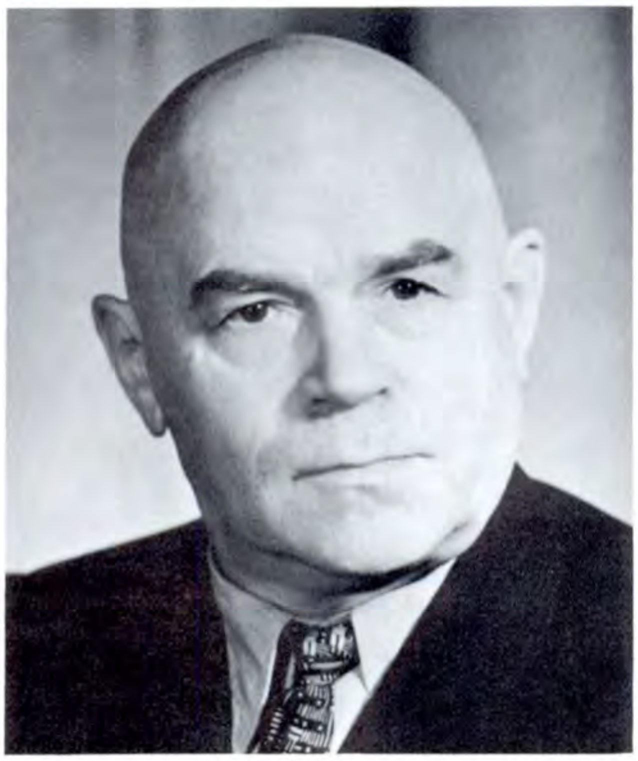
Following the second round of public discussion, the committees meet once again in plenary session and again cast secret ballots to determine the year's Lenin Prize laureates. All plenary meetings must be attended by at least two-thirds of the membership and a nomination must get the vote of three-fourths of those present.

This year there were 16 awards made in science and technology and 10 in literature and the arts to individuals and groups of workers.

Vladimir Soloukhin addresses a readers' conference on his book Due Drop. *It was recommended for the Lenin Prize but did not get a majority of the votes.*

Abram Ioffe, Academician

Nikolai Strakhov, Academician



Lenin Prizes in SCIENCE

LENIN PRIZES were presented to 74 scientists, engineers and technicians for outstanding work in their various fields of endeavor.

Thermoelectricity

An award was made posthumously to Academician Abram Ioffe for his theoretical and experimental researches into the properties of semiconductors and the theory of thermoelectric generators. As a result of the studies made by Academician Ioffe and his students and coworkers, thermoelectricity has grown from a practically insignificant branch of science into a well-developed division of modern physics with broad prospects for major technological application. His work in the theory and experimental investigation of semiconductors has gained extensive popularity and is considered fundamental by world science. These investigations have already produced results of great practical value.

Mathematics

In the past ten to fifteen years substantial progress has been made in solving hitherto insoluble problems in topology, an important branch of mathematics. A Lenin Prize was awarded to Mikhail Postnikov for work in algebraic topology that has brought him international recognition. His most important achievement is the theory of natural systems—a complete cycle of research that provides a general approach to an understanding of the problems of algebraic topology.

In the social sciences Academician Vyacheslav Volgin won a prize for his work on the history of pre-Marxian socialist doctrines, reflected in his book *The Development of Social Thought in France in the 18th Century* and in the series under the general title *Forerunners of Scientific Socialism*.

Medicine

A number of Lenin Prizes were awarded for achievements in medicine. Radical surgery has been used widely in the past decade to treat tuberculosis, cancer and other diseases. For new diagnostic and remedial methods in lung surgery, a most difficult and critical surgical area, doctors Nikolai Amosov, Nikolai Antelov, Lev Bogush, Ivan Kolesnikov, Boris Linberg, Victor Struchkov and Fyodor Uglov received the honored award.

A Lenin Prize in medicine was also given to Nikolai Konovalov, director of the Neurological Institute, for his study *Hepatocerebral Dystrophy*. The book gives a detailed description with suggested treatment for this hitherto incurable degenerative disease of the nervous system, whose pathogenesis was unclear in many respects and whose prognosis was entirely hopeless.

Extraction of Minerals

A number of awards were made for work relating to the theory and practice of prospecting for and extracting useful minerals.

Academician Nikolai Strakhov received a prize for his book *Fundamental Principles of the Theory of Lithogenesis*. Lithogenetic processes are widespread geological phenomena having to do with the formation of the most important deposits of useful minerals—iron and manganese ore, coal, various salts, as well as oil and gas. The prize study is significant both for its contribution to the development of geology as a science and for its practical value in the discovery of new and promising deposits of sedimentary minerals.

A group of scientists and technicians were awarded prizes for finding and exploring the gas-condensate fields in Krasnodar Territory whose

Vyacheslav Volgin, Academician

Nikolai Konovalov, Doctor of Medicine

AND TECHNOLOGY

deposits surpass the richest gas fields not only in the Soviet Union but anywhere in the world.

For their complex exploitation of offshore deposits in the Azerbaijan Republic a group of oil experts were awarded the Lenin Prize. As a result of the solutions found to many scientific-technological problems the Azerbaijan oil fields have raised their output 3.7 times in ten years.

Industrial Mechanization

Productivity in the coal pits of the Tula Economic Area has been greatly increased by the complex mechanization of the mining and hauling operations. For work done in this field a group of scientists and mine technicians were awarded the prize. An adjustable timbering system for all-round mechanization of work at the walls has been devised and is in wide use. It has relieved the miners of heavy physical labor and made work completely safe.

The prize was also awarded to a group of mine specialists for working out a system of forced block caving for the pits of the Leninogorsk Polymetallic Combine that has made it one of the most profitable nonferrous metal enterprises in Kazakhstan.

Implementation of the great electrification plan of the USSR has been accompanied by a tremendous scale of hydroelectrical construction in many parts of the country and its equipment with highly complex machinery. The invention by Grigori Gertsenberg of automatic regulators of high-action excitation for powerful hydrogenerators and synchronic compensators won him the Lenin Prize. This original Soviet design makes for greater stability of hydropower plant operation and increases the capacity and reliability of long-distance power transmission lines. Gertsenberg's regulators have been in operation at the Lenin Hydropower Station on the Volga and have proved highly efficient.

A group of designing engineers have been awarded the Lenin Prize for the creation of a standard continuous billet mill. It incorporates new technical ideas and makes use of a number of original machines. Technically speaking, this mill is more advanced than any now in operation or in process of construction abroad. Installed at the Anshan Iron and Steel Works in the People's Republic of China, at Bhilai in India and at Nova Guta in Poland, the mill has demonstrated its excellent operating qualities.

A group of workers and specialists in a watch factory won the prize for designing and installing automated equipment. This is the first time anywhere that a conveyor line has been used in watch assembly. It raises the level of interchangeability of parts and permits mechanization of the most difficult assembly operations. Soviet watches are presently made in sufficient quantities to meet all domestic needs with a surplus for export to 48 foreign countries.

A large group of builders received the prize for developing and introducing in practice a new technology of straining prestressed reinforcements of ferroconcrete constructions for industrial and home building with the aid of electric heating.

A group of specialists who devised and applied a biochemical and physiochemical method for continuous champagne production using an automated process received the Lenin Prize.

Professor Artemi Ivanov of Leningrad University was honored with the Lenin Prize for his study published under the title *Pogonophores.* Pogonophores are a class of sedentary invertebrates that live in protective tubes at the bottom of the sea at depths of 6,000 to 30,000 feet. Structurally they have the general features of Deuterostomata, a widespread group of the animal phyla. They are the only highly organized multicellular animals without a digestive system, assimilating food through their tentacles.

Grigori Chukhrai, Film Director

Vera Pashennaya, People's Artist of the USSR

Lenin Prizes in LITERAT

THREE LENIN PRIZES in literature were awarded this year, one in journalism, two in music, two in the graphic arts and three in the dramatic arts.

Literature

Alexander Tvardovsky, the noted Soviet poet, named a Lenin Prize laureate, is widely read both at home and abroad. His long poem *Vasili Tyorkin and* his shorter poems and prose works, which use for their theme the most momentous and significant problems of our day, have won him the deserved admiration and affection of a large body of readers.

In 1960 Tvardovsky completed his poem *Space Beyond Space*, the work of a whole decade. It is a lyric chronicle of our time and pictures Soviet life and people with great artistic power and expressiveness.

As one reviewer put it, *Space Beyond Space* is a lyric portrait of the nation and its destiny. This, in the opinion of many readers, is the principal merit of Alexander Tvardovsky's new work. A deep sense of civic responsibility and an intense purposefulness are characteristic traits of the poem. In awarding it the Lenin Prize, the committee has paid homage to Tvardovsky's precious contribution to the treasure house of Soviet literature.

Another distinguished poet, Alexander Prokofiev, was awarded the Lenin Prize for his new book *Invitation to a Journey*, which mirrors with great artistry the thoughts and aspirations of the Soviet man. The moving and deeply thoughtful poems in this volume constitute a bold and very successful attempt to broaden the horizons of poetry, to paint in rich colors a picture of today's moods and attitudes, to recount the outstanding deeds of the Soviet people, of our homeland, of the great feats of the builders of the new world.

Mikhail Stelmakh, the Ukrainian novelist, was awarded a Lenin Prize for his trilogy *Many Kinsfolk, Human Blood Isn't Water* and *Brea and Salt*, all three of which have won high praise from the critics Together they constitute an epic picture of the life and struggle of th Ukrainian peasantry over a period of nearly half a century. The novel have been published in many languages and are widely read, particu larly by young people. The heroes of Stelmakh's books are typica of our Soviet times. And while the events described in the novels ar set mostly in the Ukraine, they reflect the thoughts and deeds of al Soviet people, the lofty spirit of Soviet man, his devotion to the struggl for the triumph of communism.

Last year for the first time a Lenin Prize was given for work in th field of journalism. This year the gifted Estonian journalist Johanne Smuul was honored with the prize for his *Ice Chronicle*, in which h gives a stirring account of the glorious exploits of the conquerors o the Antarctic, their dedicated labors and heroic deeds, the purity an unselfishness of their scientific ambitions, the fine patriotism of th participants in the *Kooperatsia* expedition. The book can really b called poetry in prose, it is so full of artistic generalizations and por trayals. It is a book about Soviet men, their daring plans and thoughts

Music

Soviet composers have made tremendous contributions to music. Th works of Shostakovich, Khachaturyan, Prokofiev, Kabalevsky and man others are heard in all the concert halls of the world as well as ove the radio and television. Recitals by Soviet pianists, violinists an symphony orchestras are invariably a great success and have won th highest international awards. A conspicuous place among these brillian Soviet musicians belongs to Lenin Prize winners Svyatoslav Rikhter an Yevgeni Mravinsky.

Rikhter, recognized as one of the great pianists of all time, receive

Alexander Tvardovsky, Poet

Alexander Prokofiev, Poet

URE AND THE ARTS

his musical education at the Moscow Conservatory. He has played for audiences in many Soviet cities and in Hungary, Poland, Czechoslovakia, Rumania, Finland and the United States. Everywhere, at home and abroad, his performance has been hailed as "fantastic," "phenomenal." His interpretations have enormous depth and feeling. His is a never-ending search for new interpretive values that reflect the humanist ideals and aspirations of our age. Rikhter recently gave a concert series in which he played Tchaikovsky, Beethoven and other classical composers as well as the Soviet composers Prokofiev and Shostakovich. Once again he held his audiences enthralled with his breadth of perception and flawless technique.

Yevgeni Mravinsky is the conductor and art director of the Leningrad Symphony Orchestra. Under his baton the orchestra has won high praise from critics and the enthusiastic applause of music lovers for its interpretation of the works of Beethoven, Berlioz, Tchaikovsky, Prokofiev, Shostakovich, Wagner and other composers. Mravinsky has led the orchestra in concerts at home and abroad.

Graphic Arts

The two graphic artists honored with Lenin Prizes are Martiros Saryan and Boris Prorokov.

Martiros Saryan has been painting for many years. He is a singularly gifted and versatile artist, teacher and scenic designer. His landscapes and portraits are characterized by the buoyancy and optimism of a man taken with the world's beauty and man's strength of spirit. The veteran artist was awarded the prize for a recent series of paintings bearing the common title *My Homeland*. In these vivid canvases he shows his native Armenia as it has been born anew in Soviet times.

Boris Prorokov was awarded the Lenin Prize for his series of black and white drawings on the war, *This Must Not Happen Again*. On pages 38-41 of this issue we reproduce some of these stark and unforgettable graphic protests together with a brief biography of the artist.

Theater Arts

The brilliant actress Vera Pashennaya was awarded a Lenin Prize for the gallery of characters she has brought to life from the works of Ostrovsky, Gorky and other Soviet and foreign playwrights. Emotional, temperamental, gifted with the wonderful ability of revealing the character of the heroes of both classic and Soviet plays, Pashennaya enjoys merited popularity and recognition among all lovers of the theater. Among the many dramatic portraits Pashennaya has created, the two most memorable of recent years are Vassa Zheleznova, from Gorky's play of the same name, and the old mistress of Niskavuori house, from the Finnish play *Stone Nest*.

Lenin Prizes were awarded to director Grigori Chukhrai and script writer Valentin Yezhov for *Ballad of a Soldier*, a film which has had an enthusiastic reception at home and abroad and has won a number of awards at international film festivals. It is the story of young soldier who has asked for a pass to go home in lieu of a citation for bravery. His warmth and sympathy for his fellow man takes him from one errand to another, with the result that when he finally arrives home, he has only a few minutes left to spend with his mother before returning to his unit. It is the story of six days in the life of a boy that could be any mother's son—a kind, gentle and sensitive boy. There are no battle scenes in this film and no antiwar speeches, but the eyes of the mother searching the horizon for a glimpse of her boy is a heartrending outcry against the barbarism that robs the world of youth and beauty. As of this writing this extraordinarily simple and moving story is being shown in American motion-picture theaters.


Fidel Castro (Republic of Cuba)


William Morrow (Australia)


Rameshwari Nehru (India)


Antoine George Tabet (Lebanon)


Ostap Dluski (Poland)


Mihail Sadoveanu (Rumania)


Sekou Touré (Republic of Guinea)

Lenin PEACE PRIZE Winners

THIS IS the fifth year that Lenin Prizes for the Promotion of Peace Among Nations have been awarded to statesmen and public leaders of various countries who have made an important contribution to the consolidation of world peace.

The Committee on International Lenin Prizes for the Promotion of Peace Among Nations, composed of prominent public figures from Britain, China, France, Germany, India, Poland, Latin America and the Soviet Union, met in Moscow in April of this year to consider the nominations that had been submitted by public organizations of many countries.

Honored with Lenin Peace Prizes this year were seven world figures whose work has contributed immeasurably to the cause of peace—Premier Fidel Castro (Cuba), President Sekou Touré (Guinea), Mme. Rameshwari Nehru (India), writer Mihail Sadoveanu (Rumania), architect Antoine George Tabet (Lebanon), Ostap Dluski (Poland) and William Morrow (Australia).

These Lenin Prize winners voice the aspiration of millions upon millions of men and women of all nations who are striving to achieve a stable and lasting peace. Their personal contribution to the active struggle of the people for peace, for creating conditions in the world that will forever outlaw war, has been deservedly honored with this high reward.

SOVIET DIARY

GAGARIN'S RECORDS SUBMITTED FOR FAI CERTIFICATION

ON MAY 30, A. I. Tatyanchenko, a representative of the Chkalov Central Aeroclub, turned over to Jacques Allez, President of the International Aeronautical Federation (FAI), the documents on the records set by Major Yuri Gagarin, Hero of the Soviet Union, Pilot-Cosmonaut of the USSR, during his space flight on April 12.

The documents supply specific information concerning the establishment of USSR and world records: duration of flight of the spaceship *Vostok*—108 minutes; maximum altitude at apogee—327 kilometers (203 miles); payload—4,725 kilograms (10,419 pounds); the weight of the space vehicle with the pilot in orbit); launching site—the Baikonur cosmodrome, located at about 47 degrees North Latitude and 65 degrees East Longitude (Western Siberia); and place of landing—near Smelovka village, Ternovka District, Saratov Region.

The report also states that the rocket which orbited the spaceship *Vostok* with cosmonaut Gagarin on board around the earth had six engines at the time of launching with an aggregate horsepower of 20,000,000.

The FAI President, Jacques Allez, thanked the Chkalov Aeroclub for the report on the records set by Major Yuri Gagarin and, on behalf of the International Aeronautical Federation, congratulated the Soviet people on the outstanding achievement of Soviet science and aviation.

NEW PRESIDENT OF ACADEMY OF SCIENCES

THE USSR Academy of Sciences unanimously elected Mstislav Vsevolodovich Keldysh its new president at its general meeting in May. Academician Alexander Nesmeyanov, who had held the office for two five-year terms, had tendered his resignation as of the expiration of the current term. It was accepted by the Academy with an expression of deepest gratitude for his many years of fruitful leadership.

Keldysh, who had been the Academy's vice president before his election to the new post, is an eminent mathematician and expert in mechanics as well as an outstanding organizer of Soviet science. He was born on February 10, 1911. In 1931 he was graduated from the Physics and Mathematics Faculty at Moscow University and subsequently spent many years working at the Central Aerodynamics Institute (TSAGI), concentrating on the study of the unsteady motion of bodies in fluid, aerodynamics and air compressibility, the theory of water impact, the wave-motion theory, and the theory of elastic oscillations in an air stream.

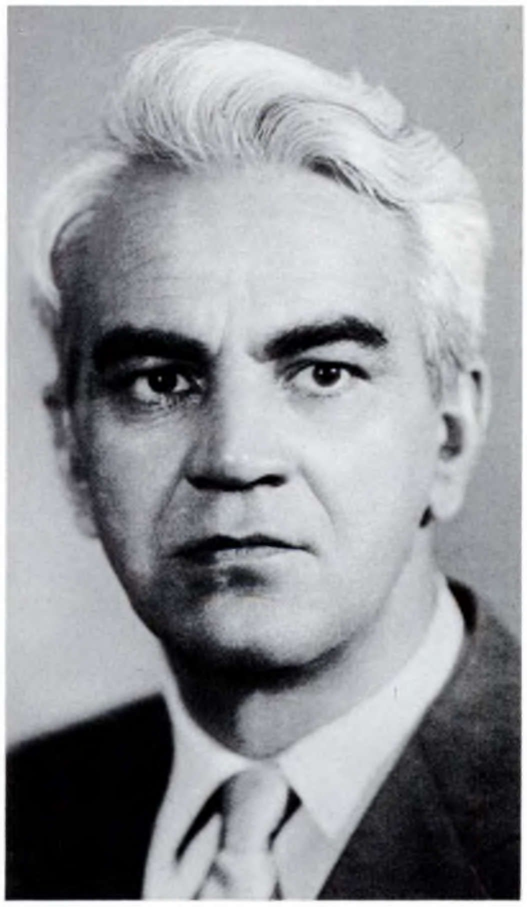
He has also done a complete analysis of various vibrations occurring in aircraft. Among other things, he elaborated a theory explaining the origin of sudden vibrations in an aircraft wing and empennage caused by aerodynamic forces and known as flutter. On the basis of his theory effective ways and means were found to control flutter, and many of them are successfully employed on modern aircraft.

Keldysh has formulated and solved a series of difficult mathematical problems. He has contributed considerably to the advancement of Soviet computing mathematics, computing techniques and certain problems of automatic control.

He has helped organize and has directed the work of major research institutes engaged in working out scientific and engineering problems of paramount state significance.

In addition to his research work Keldysh devotes much attention to the training of young specialists. In 1932 he became an assistant professor at Moscow University and was subsequently appointed to a professorship. Many of his students are now leading scientists with important discoveries to their credit.

For his work, Keldysh has been awarded a Lenin Prize and Stalin Prizes, the title of Hero of Socialist Labor, five Orders of Lenin and three Orders of the Red Banner of Labor.



ARCHITECTS CONGRESS

A MEETING of major significance—the third national Architects Congress—was held in Moscow this May. Discussion revolved about one of the most important goals of the seven-year plan—to end the housing shortage once and for all. The rate at which progress is being made may be judged from the fact that during the first two years of the plan 4.6 million apartments were built in cities and almost 1.5 million houses in rural areas.

Not only is the scope of housing construction phenomenal but Soviet architects and builders plan and build for modern comfort and convenience. Streets, districts and whole new towns are designed for maximum sunlight and green areas and for convenient access to schools and shopping.

The idea is not only to build rapidly and for health and convenience but to build economically. Economical construction and the elimination of unnecessary expenditures means money saved for more housing construction.

Soviet architects have unlimited freedom for creative initiative, original designing and the application of the newest and most forward-looking ideas in city planning.

Many of these new ideas were discussed at length at the congress. Items on the congress agenda included self-contained residential communities, assembly and large-panel construction, new designs for housing and public buildings, rural construction and the training of young architects. Speakers were sharply critical of the archaic, the florid and other trends that violate the best canons of Soviet architecture.

The architects assured the Soviet people that they would dedicate all their energies and knowledge to the development of Soviet architecture and good town planning, to the evolvement of the best possible plans for industrial construction, housing and service and farm buildings of a new type in which excellent conditions would be provided for the Soviet people to live, work and enjoy their leisure.

Fans
by Izrail Goldberg

Research Workers
by Nikolai Seluchenko

Construction in Ashkhabad
by Grant Mushkambarov

First Oil Well in the Kara-Kum Desert
by Victor Smetanin

SEVEN-YEAR PLAN IN ACTION

The Seven-year Plan in Action is the title of a traditional USSR photo exhibition in Moscow.

This year on display are some one thousand photos taken by almost four hundred amateurs and professionals in all parts of the country, showing people in the USSR at work and play, in family groups and individually, at home and in public places.

The work of well-known news photographers is shown side by side with striking camera studies by amateurs. From the photos themselves there is frequently no telling which is which. A characteristic all the pictures have in common is their evident human sympathy and feeling and their concern with peace and the fellowship of peoples.

Morris Gordon, president of the American Society of Magazine Photographers, said that a visit to the exhibition told him more about the country than a thousand books.

THE COMMUNIST PARTY–It

This is the second of a series of four articles on the Communist Party of the Soviet Union. The first appeared in the June issue. Vasili Moskovsky has participated in many national Party congresses. At the 19th Congress he was elected to the Party's Central Auditing Commission. He is Deputy Chairman of the Council of Ministers of the Russian Federative Republic.

By Vasili Moskovsky

ARCHIMEDES, the mathematician of antiquity, said, "Give me a lever long enough and a fulcrum strong enough, and I will move the world single-handed." Lenin paraphrased this statement at the turn of the century when the Party was founded: "Give us an organization of revolutionaries," he said, "and we shall overturn Russia."

What is this organization of revolutionaries that transformed the backward Russia of the czars into a mighty socialist power? It is the Communist Party, which the Soviet poet Vladimir Mayakovsky described in a phrase: "The Communist Party," he wrote, "is a million shoulders pressed closely together."

When I was getting ready to join the Party—that was 34 years ago when I was a very young man—one of my older comrades gave me a booklet with the Party Rules. "Read it closely," he said, "especially the paragraph that defines membership in the Party. Every word is important. Lenin had to fight for every single word of that paragraph before it was adopted."

Later, when I studied the history of the Party, I learned how basic this fight to define Party membership had been. The historic dispute took place at the Second Congress of the Russian Social Democratic Labor Party in 1903 (the name was subsequently changed to Communist Party). This was much more than a dispute about the wording of a paragraph; actually being debated were different concepts of the organizational principles of our Party.

The wording proposed by Lenin defined as a Party member one who accepted the Party program and supported the Party financially as well as through personal participation in one of its units.

This was Lenin's restatement of the Party's most important organizational principle, a declaration that the Party of the working class is not an accidental conglomeration of individuals but an integral organization, the vanguard of the working class, a voluntary and militant union of like-minded people. Communists, it stated, do not become members of the Party merely by declaring themselves such; they must be admitted to membership by one of the primary units of the Party organization, must be active participants, must submit to Party discipline, must carry out all Party decisions and must abide by the Party Rules and program.

An opposite view was expressed by Yuli Martov, who later became a leader and ideologist of the anti-labor Menshevik (Minority) Party. He held that it was not necessary for a Party member to belong to one of its primary units or to submit to discipline. It meant that any person who wanted to could call himself a Party member and, by the same token, drop his membership whenever he chose to, that he had no ties of duty to the organization, was not bound by its discipline nor required to submit to its decisions. It was clearly apparent to Lenin and his supporters at the Congress, the Bolsheviks (Majority), that this meant throwing the door wide open to all sorts of unstable elements and thereby liquidating the Party as the vanguard of the working class. Martov's efforts to destroy the Party failed.

In 1905, at the subsequent Third Party Congress, Lenin's phrasing was adopted.

What the Party Requires of Its Members

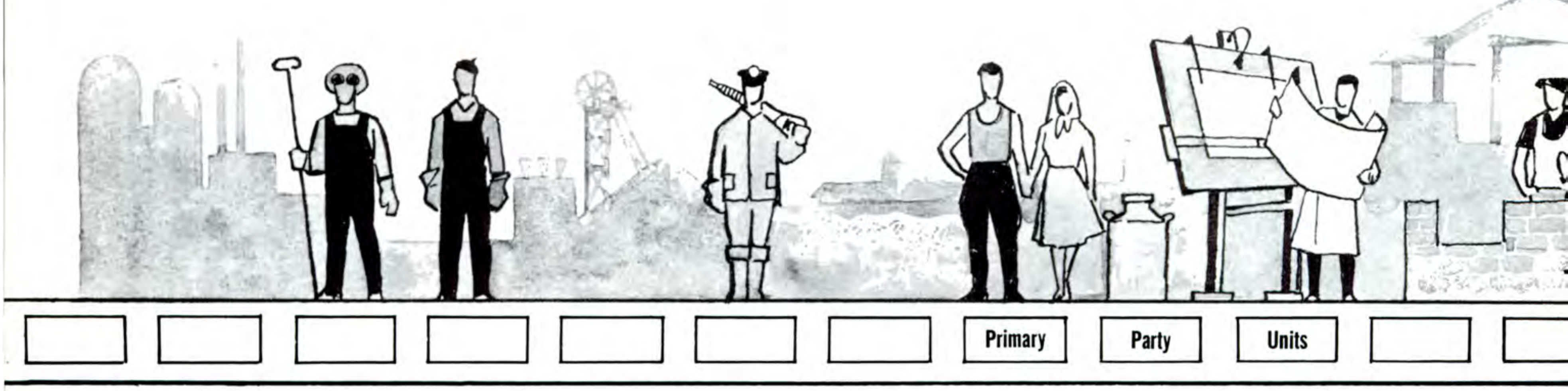
The Communist Party of the Soviet Union requires of its members strict discipline and active participation in the work of their Party unit. This does not by any means imply that the Party is a closed sect, cut off from the life of the people. Lenin kept stressing the need for constantly drawing new members from the working people of village and city to build the new socialist life. That, he insisted, was our way of meeting all difficulties, our way to victory.

In the fall of 1917, just before the Socialist Revolution broke out, Communist Party membership was no larger than 250,000. But what a powerful force it constituted! What great prestige the Party enjoyed! Under its leadership a country with a population of 120 million carried through the Revolution. The Communists led and the people followed, because the Party spoke for them, because it pointed the way to a brighter future. By its deeds in behalf of their welfare the Party won the confidence and love of the people.

Lenin's requirements for membership remain unchanged; they are fundamental to the Party's organizational structure. According to the most recent Rules, adopted at the 19th Party Congress in 1952, any working man or woman who does not exploit the labor of others, who is a citizen of the Soviet Union, who accepts the Party Rules and program, who actively works for their realization, who is active in one of the Party units and who carries out all Party decisions can be a member of the CPSU.

Our Party's primary interest is not in enlarging its membership, although a steady increase in membership attests to the Party's growing prestige among the people. The Party wants in its ranks only those workers, farmers and intellectuals who are devoted to the Communist ideals for which its stands, those prepared to give unsparingly of their energies and talents to see these ideals realized. The Party is much concerned with the quality of its membership, and purges itself of alien elements that gain entrance by oversight.

The Communist Party of the Soviet Union now has almost 9.5 million members. Nikita S. Khrushchev made this observation: "If we were to say that anyone who wishes may sign up, our Party would now have a membership of many tens of millions. But we say we have no need of that. To become a Communist one must not only understand what communism means but be one of its active soldiers. And



Organizational Principles

not everyone who supports the ideas of the Communist Party is capable of that."

Applying for Membership

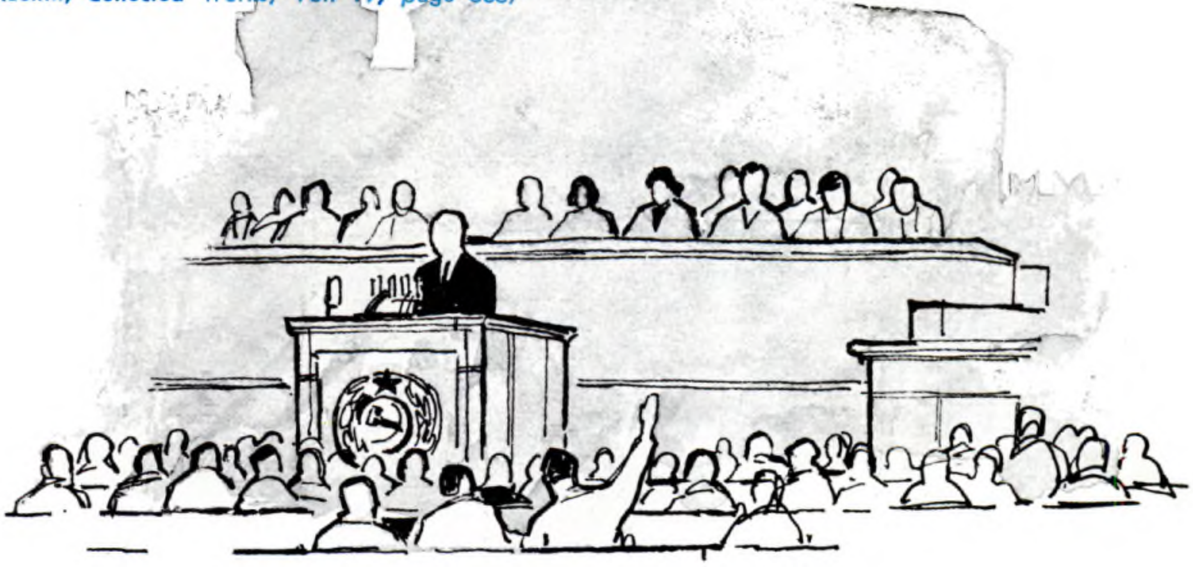
An individual's application for Party membership is acted upon by the basic Party unit in the factory, farm or office where he is employed. The vote is by show of hands. The applicant must be recommended by three Communists who have been Party members for three years and who have worked with him for at least one year. The Rules make a special point of the fact that a recommendation is no mere formality but a responsibility to be weighed seriously. There have been cases —I know of some myself—where a member was found guilty of improper conduct or some more serious offense and where the communist responsibility of the persons who recommended him was seriously questioned.

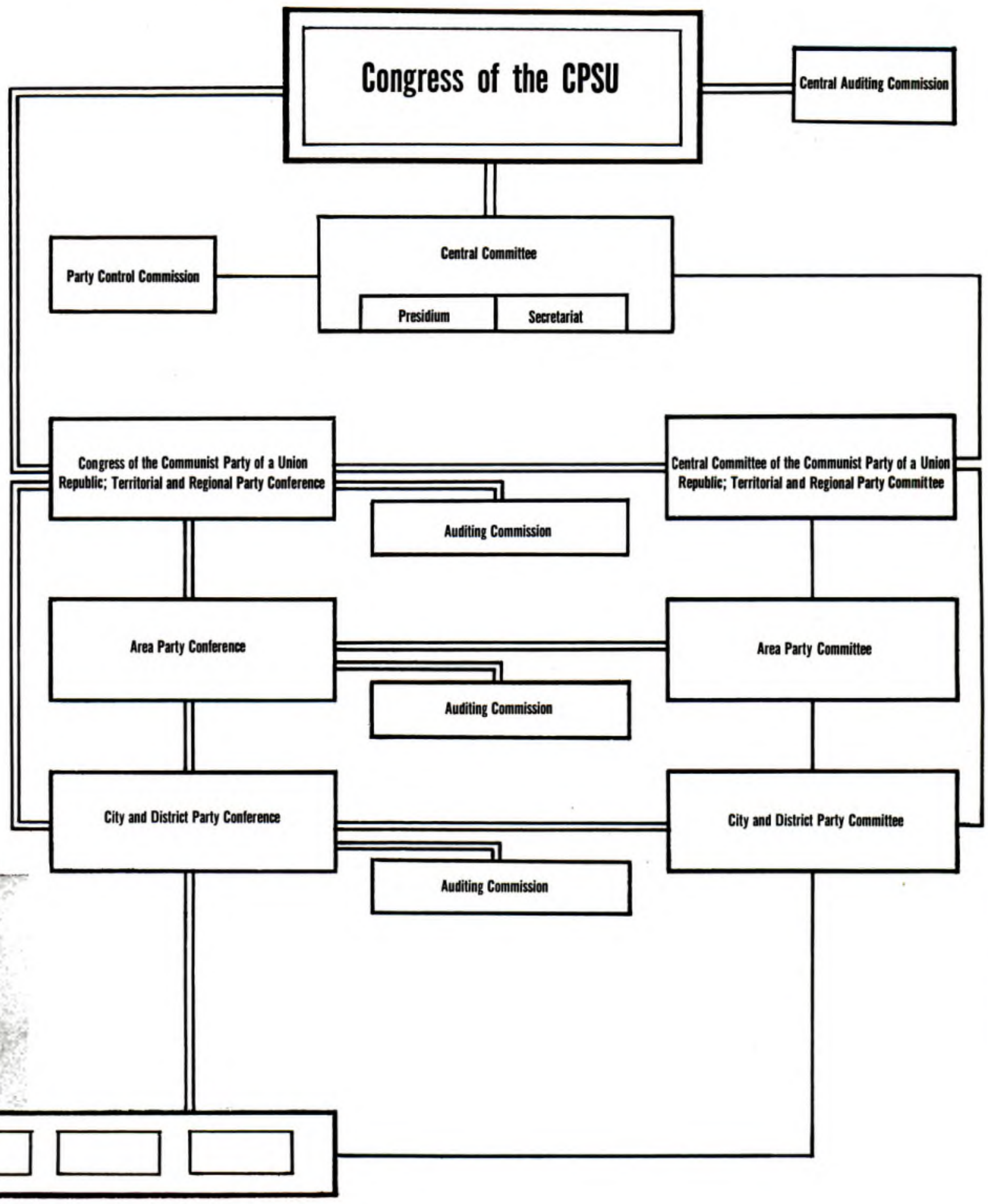
I have been present at many meetings where new members were voted on. Unfailingly, when the chairman announces that point on the agenda, the meeting takes on a greater solemnity. People listen with the closest attention, sympathetically but critically, as the applicant talks about himself or answers questions about his work and studies.

A successful applicant is admitted to candidate membership for a year, during which time he learns the program and rules and participates in Party activity. This year of probation, Lenin insisted, must seriously test the applicant. He is given various assignments to carry through to help prepare him for full-fledged membership. At the end of the year the primary organization votes on his admission to full membership. Should it turn out that the candidate does not measure up to the requirements, the unit may vote to expel him from candidate membership.

The Party's organizational structure is built around the territorial and production principle. Every member must belong to the primary Party organization at his place of work —that is the production principle in operation. The district Party organization has jurisdiction over the primary units in the enterprises located in the given district—this is the territorial principle.

The Party's strength derives not only from the high degree of consciousness of its members and their loyalty to the cause of communism, but from its good organization as well. "Can the strength of a hundred exceed the strength of a thousand?" Lenin wrote. "It can, if the hundred are organized. Organization can increase strength tenfold." (Lenin, Collected Works, Vol. 19, page 365)





The highest authority in each Party organization is the general membership meeting or the meeting of representatives elected at the general membership meetings. The leading body of the primary Party unit is, therefore, the general membership meeting. The highest authority of a district or regional Party organization is the conference of delegates elected by the general membership meetings of the primary Party units of the given district or region. The highest authorities in the Communist Parties of the Union Republics and the Communist Party of the Soviet Union are the Party congresses.

Between meetings of these representative bodies, which are equivalent to legislative bodies within the Party, authority is delegated to elected executive bodies—Party committees at farms and factories, district and regional committees, the Central Committees of the Communist Parties of the Union Republics, and the Central Committee of the Communist Party of the Soviet Union.

The Central Committee of the Communist Party of the Soviet Union has about 250 members—industrial workers, farmers, professional people, scientists, workers in the arts, statesmen and public leaders. This is the Party's general staff, and it has many responsibilities—to defend the Party's principles and keep them inviolable, to interpret the Rules and program, to guard the Party's unity, to direct its ideological and political life, to deliberate on the country's major problems.

Plenary meetings of the Central Committee of the CPSU are held approximately once in six months to discuss Party activity and government policy with respect to one or another important problem.

The members of the Central Committee of the CPSU elect a presidium, which is authorized to act between plenary meetings, and a secretariat to handle current affairs.

The Central Committee also sets up a Party Control Commission whose function it is to see that Party discipline is observed and that those guilty of an infringement of the Party program and Rules are brought to task. The Party Control Commission also hears appeals against expulsion.

Democratic Centralism

The Communist Party's organizational principle is democratic centralism. What does it mean?

All leading Party bodies, from top to bottom, are elected by the membership by secret ballot. The members of each primary Party unit elect a Party committee—an executive committee that directs all Party activity at the given enterprise. They also elect delegates to the Party conference of the district where the district Party committee is elected. The same procedure is followed at each of the higher levels—the Party committees for the regions, the Union Republics and the country are elected by the delegates representing the membership at the respective organizational level immediately below. This reflects one of the most important aspects of democratic centralism.

Democratic centralism also requires that Party committees make periodic reports to the bodies that elected them. It presumes strict Party discipline equally binding on all Communists, regardless of the office they hold, and the subordination of the minority to the majority. It issumes that decisions passed by the higher Party organs will be carried out unconditionally by all lower Party bodies.

Democratic centralism gives the Party its monolithic unity and integrity and makes purposeful and efficient leadership possible. Some critics in the West make this out to be mechanical discipline and blind obedience. It is not that at all. We have heated debates and sharp differences of opinion at Party meetings, conferences and congresses and in the Party press. This is as it should be for a Party of reasoning people who are moving boldly along roads previously untrodden.

But we do not argue for argument's sake. We Communists are, as we declare in our rules, like-minded people. We have a common world outlook and do not debate the correctness of our Party's general line based on its program. Our debates are on questions of everyday policy and practice. We argue the best and the speediest way of achieving the aims outlined in our program, and these arguments get very heated at times.

During these debates, whether carried on at meetings or in the press, each Communist is free to voice his opinion. But after the discussion is over, after all the pros and cons have been heard and the proposal voted upon, all Communists are required to abide by the decision of the majority. Should any member of the minority refuse, he will meet with a rebuff that carries the authority of the entire Party behind it.

No Party Bosses

Confirmation of the democratic structure of the Party is the fact that all Party bodies are elected and are obligated to make periodic reports to the group they represent.

Consider, for example, the secretary of a city or regional committee of the Party. He is not appointed from above, he is not a "party boss" with lifetime tenure and privileges. He is elected by fellow Party members, and should it become apparent that he is not doing his job, that he is not carrying out decisions adopted by the Party in the people's behalf, they can remove him from his post without waiting for the next election conference. Although cases like this are rare, because as a general rule Communists carefully scrutinize the merits and demerits of prospective candidates for responsible Party posts, they do occasionally occur, human nature being what it is.

I remember this happening in Chelyabinsk, a large industrial center in the Urals. Some of the local leaders went so far as to falsify official reports in order to give the impression that they were making faster progress in housing construction than was actually the case. Although the houses were still being worked on, they reported the plan fulfilled. According to official reports, the tenants should have been giving housewarming parties, while in reality the apartments still had no floors and a number of the buildings even had no roofs.

When the facts came out, there was a great deal of plain talk at the plenary meeting of the Party City Committee. Speakers demanded severe punishment for those guilty of this "kind of eye wash." The secretary of the Party City Committee, despite his past services, was removed from his post and expelled from the Party for betraying the confidence of those who had elected him to this position of leadership.

Every member has not only the right, so stated in the Party Rules, but the obligation to participate freely in the discussion of Party policy at meetings or in the press; to criticize any member or leader, irrespective of his position, if he thinks the criticism warranted; to vote at elections and to run for election to Party posts; to raise objections and speak in opposition to candidates nominated for Party posts; to insist that all discussion relating to his own work or behavior be carried on in his presence; to carry an appeal as far as the Central Committee of the Communist Party of the Soviet Union, the highest Party authority.

The Central Committee receives a great number of letters from Party members with suggestions, criticism and opinions on all sorts of matters. These communications that mirror rank-and-file Party feeling help the Central Committee make its important decisions. Many of the letters are directed personally to First Secretary of the Central Committee Khrushchev.

Not long ago Olga Zelenskaya, an elderly agronomist who had been working at a collective farm near Moscow for many years, wrote an appeal to Secretary Khrushchev. She said that she had retired on a pension some time previous, but after a good rest felt strong enough to go back to work. On various pretexts she was refused work and told that she should be "content to rest" in her declining years. But being a stubborn woman, not "content to rest" and determined to continue making her contribution to the general welfare, she wrote to the First Secretary. At the January Plenary Session of the Central Committee Nikita Khrushchev spoke of her letter and talked of the need to use specialists, whether young or old. It was impermissible, he said, to ignore the precious experience of veterans. Olga Zamenskaya, needless to say, is back at work, successfully managing a state farm in the Moscow area.

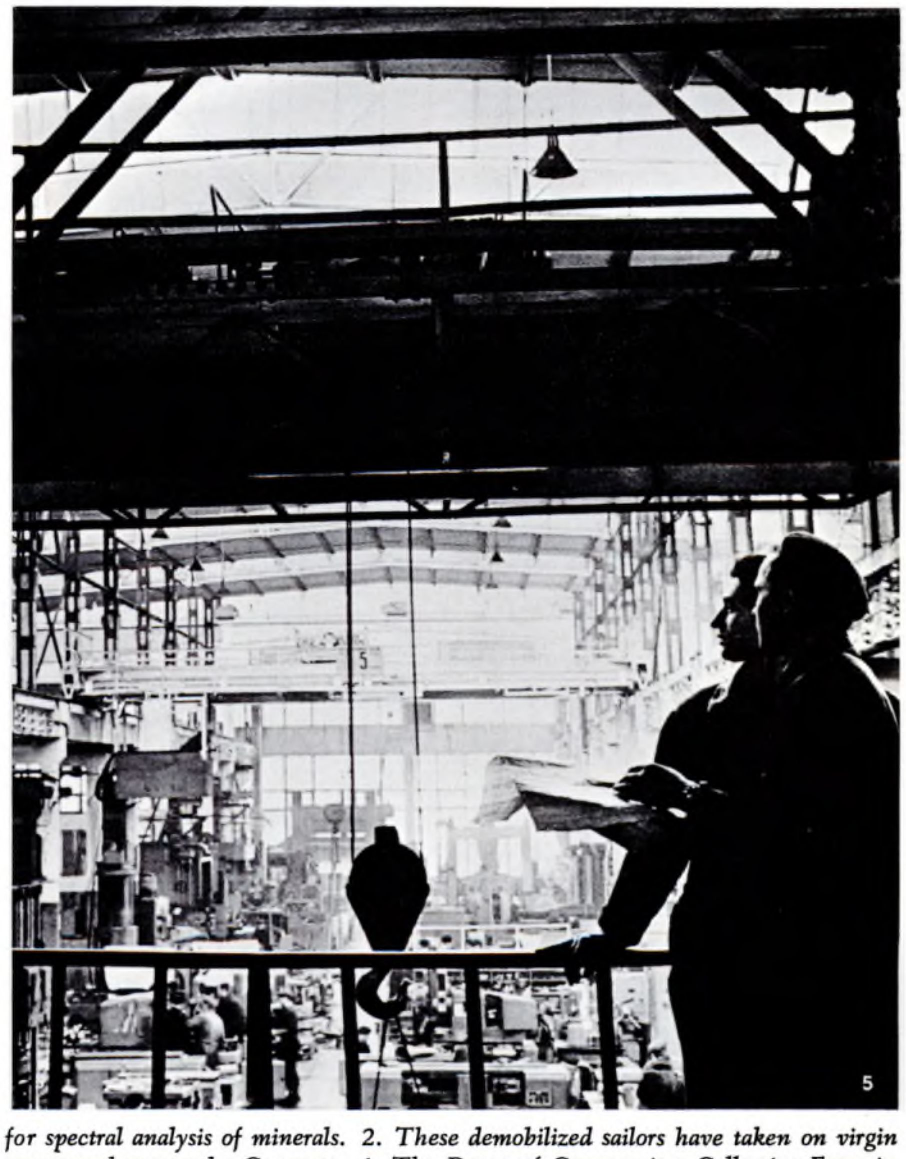
This is only one of thousands of letters. Generally, in his speeches at plenary sessions of the Central Committee or at large conferences, Khrushchev will take the opportunity to cite some of the letters sent him by Party and non-Party people. This is one of many ways in which the experience and reactions of rank-and-file people help to shape the judgment of the leaders.

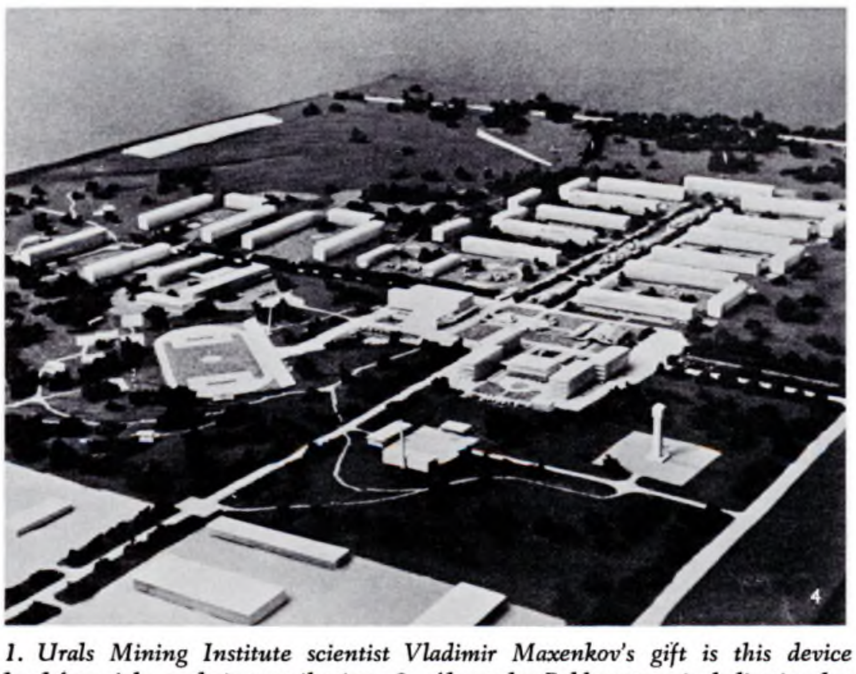
The Communist Party of the Soviet Union has behind it more than half a century of heroic struggle—of difficult trials and glorious victories. Forged and tempered by Lenin, it owes its strength, ever renewed at each stage of its history, to the scientific theory and practice of Marxism-Leninism, to its monolithic organization and discipline, and to its close ties with the people.

EVENTS AND PEOPLE

Although the 22nd Congress of the Communist Party of the Soviet Union does not open until October, people throughout the USSR are already preparing for the great event. This national gathering of elected representatives of the party that has led the country for more than four decades will convene in Moscow. Ordinary farmers and mechanics will be sitting in conference with statesmen, scientists and writers whose names and achievements are household words.

It has long been the custom for workers in every field of endeavor to commemorate the opening of Party Congresses with gifts to the country, but gifts of a very special kind. Here are some Soviet people readying their contributions.





1. Urals Mining Institute scientist Vladimir Maxenkov's gift is this device for spectral analysis of minerals. 2. These demobilized sailors have taken on virgin land farm jobs as their contribution. 3. Alexandra Pakhmutova is dedicating her new symphony to the Congress. 4. The Dawn of Communism Collective Farm in the Moscow Region is rebuilding to this model. 5. Pyotr Rubelnov and Vladimir Grudniak are sparking a drive for more production at the Moscow Machine-Tool Plant.

By Andrei Sakharov

THE SOVIET YOUTH newspaper *Komsomolskaya Pravda* recently posed a series of questions addressed to young men and women that has set the whole country talking. The paper asked, "What do you think of your generation? Do you like it? What are its most typical qualities? Its weaknesses? Do you have a purpose in life? What is it?"

Almost immediately after the questionnaire was published, letters began to pour in. They are still pouring in—from young people mostly, but with a generous sprinkling from those in their later years.

The answers are serious and thoughtful efforts to assess the merits and shortcomings of the younger generation, its concern with its own personal problems and those of the larger world around, its recognition of the great part it is called upon to play in shaping the future.

Do You Like Your Generation?

"What do you think of your generation? Do you like it?"

Say the majority of young people, "I certainly do."

Tatyana Vlasova, 29-year-old Leningrad architect, writes, "I like its strong feelings about justice, the romanticism it sees in collective working and living."

"I like it for its humanism and its unshakable confidence in the future," writes Svetlana Mimoza, a 16-year-old schoolgirl.

"I like its industriousness, its yearning for knowledge, its moral sense," says a 22-year-old clerk from Alma-Ata.

People of the older generation write in similar vein. Eugen Kapp, the Estonian composer, tells *Komsomolskaya Pravda*, "Among the better traits of our young people I would list intellectual curiosity, persistence in study and work, and the willingness to tackle obstacles that stand in the way of progress."

Nina Dumbadze, former world champion discus thrower and now a coach, writes "The strong points of our youth are intelligence and the capacity for broad thinking and collectivism."

Many of the young people answer the question in personal terms. Vladimir Alexeyev, a collective farmer from Rostov Region, says: "The answer to the question depends first of all on how the writer himself lives, what he dreams about, what his own goal is. Mine is to be a designer of farm machinery. I am 20 years old. Two years ago I graduated from a ten-year school in my village and went to work as a tractor driver. Then I became assistant team leader. Now I'm preparing to take a correspondence course at the Stalingrad Agricultural Institute. In general I want to know everything I possibly can about life, down to the smallest detail. For that I must study, study, study. There are no obstacles to the realization of my dreams and aim."

Grigori Nikiforov of Karaganda Region, a 22-year-old stonemason, writes: "I left the Urals for Kazakhstan where the big projects of the seven-year plan are going up. I wanted to have a part in it. It is my generation that is building the new mines and factories, the new cities."

Grigori Nikiforov was one of those who lived in a tent on the steppe while he helped build Tentyak, the new Kazakh city. He is an enthusiastic person himself and thinks that enthusiasm is the most outstanding trait of his generation.

Product of Their Time and Country

Soviet young people are the product of their time and country. If the times are fine and brave, if as they grow they see all round them men and women aspiring to build a better world, to be of greater service, to better themselves and others at the same time, they cannot help but be moved by these same ideals.

Soviet young people were the initiators of the shock workers' movement at the construction sites of the prewar five-year plans—plans that changed the face of the land and dotted the map with giant industrial centers, great cities in the taiga, new railroads in the desert.

During the Second World War young people performed unforgettable exploits. During a night battle, ace flyer Victor Talalikhin, a member of the Young Communist League, rammed a fascist bomber at the price of his own life. Soldier Alexander Matrosov closed the aperture of an enemy pillbox with his own body so that his comrades could carry through their battle assignment. The heroic deeds of the Young

WHAT DO YOU THINK

Communist Leaguers of Krasnodon, the courage of the 17-year-old partisan Zoya Kosmodemyanskaya, who was captured and hanged by the fascists, have all become legend.

In our time, too, young people lead the way. They are the pioneers in the virgin land territories, the trail blazers of industry in the eastern parts of the country. They form the Communist Work Teams whose members pledge themselves to greater productivity and continuous self-improvement through mutual help.

Soviet young people have no hesitation about taking on the hardest jobs that will contribute to the country's more rapid progress and the people's greater well-being. The letters sent to *Komsomolskaya Pravda* make that evident.

Otar Verulashvili, who works in the manganese mine in the Georgian town of Chiatura, tells how pleased he was when the workers in a concentrating mill he and his comrades helped build thanked them for the excellent job they had done.

Ivan Sadilov, section chief at one of the construction sites near the settlement of Mirny in Yakutia, writes about Arctic living, its hardships and compensations. "None of the five students who graduated from the institute with me and volunteered to work up here in the North has left or intends to leave," he says. Each one of the settlers does his bit to make life at Mirny more pleasant and more enjoyable. A crack basketball player, Ivan Sadilov got up a team, and his wife helps him work out game schedules. "There's a good deal of happiness," he says, "that comes from overcoming difficulties."

What's Your Purpose in Life?

To the question "Do you have a purpose in life?" there was an unqualifiedly unanimous "yes." Social purpose is a unique characteristic of Soviet life. A new romanticism—not the adventure type but the very real romanticism of collective labor, of work for the common good—is the hallmark of the Soviet younger generation. The word purposefulness recurs in many of the replies.

To the question "What is your purpose?" there are, as is to be

OF YOUR GENERATION?

expected, almost as many answers as answerers. But all have one thing in common—a certainty that the writers will be given every chance to achieve the goals they set for themselves.

Twenty-seven-year-old Nikolai Tsarev of Moscow, who believes that one of the significant characteristics of his generation is its appreciation of beauty, wants to get into art school and become a painter. "I am sure," he says, "that I shall achieve my aim. Our country offers us every opportunity."

Zinaida Kharitonova, a Leningrad truck driver, hopes "to get a university education by correspondence, become a philologist and teach the Russian language and Russian literature."

A girl who signs herself "A Student" writes, "I want to improve my character, so that I can become a better person in every way."

A young mother writes that she wants to bring up her son so that he will be a good and useful person.

We Can Stand Considerable Improvement

Not all the replies to the question "Do you like your generation?" are affirmative.

"No, I don't," writes 20-year-old Nikolai Tuz, a serviceman. "It ought to be accomplishing a lot more than it is, considering our Soviet social system and upbringing."

Others like their generation but think it can stand considerable improvement. A 25-year-old engineer from Kharkov writes, "One of our shortcomings—the most important, in my opinion—is our ignorance of the cultural treasures amassed over the centuries."

"Many of us have shortcomings, but they are of an entirely individual character," writes a 22-year-old Karaganda worker.

Another letter—no age indicated—makes the point that "besides some very good traits, our young people have a number of bad ones. They do not always stop to think how much better they would get along if they got rid of their petty, philistine, self-centered outlook."

Many letters point a short finger at the *stilyazhnichestvo.* The word is derived from *stilyaga,* "sharpie," a derogatory term applied to shallow-minded boys and girls who are oblivious to everything but "ultra-stylish" clothes, the emptiest kind of music, so long as it is the latest thing, and the cheapest kind of entertainment. These characters look down with contempt at people who work. They are, happily, quite untypical of the younger generation, say the letter writers.

The opinion of collective farmer Vladimir Alexeyev, whom we mentioned before, seems to be representative. He says, "I do not think there are any negative traits common to the majority of youth. There are merely individual negative traits that are being eradicated by our social upbringing."

Soviet young people tend to be even more intolerant of the shortcomings of their own generation than are older people. But their attitude is constructive. They are not inclined to pessimism or disillusionment. Quite the contrary, their emphasis is invariably positive. Shortcomings, they assert, will be taken care of by time and education.

The Older Generation on the Younger

Letters from older people evaluating the younger generation are by no means unanimous.

Vladimir Karpinsky, an old Communist and comrade-in-arms of Lenin, is proud of the young people. He writes, "The youth, healthy both physically and spiritually, industrious, highly principled, interested in everything in the world, provide our country with growing numbers of capable, talented people in all branches of industry, farming, science and the arts."

Other letters, not quite so laudatory, blame the parents for some of the less desirable traits they attribute to young people. They talk of spoiling children by giving them everything they ask for, of neglecting to inculcate work habits, etc. But the intent even of these rather carping letters is to advise, to help, not merely to criticize.

Nikolai Akimov, the well-known stage director, places responsibility where he thinks it belongs. He writes, "Grownups and old people must treat young people with the respect they show adults. Before passing their traditions on, they must carefully pick out the bad ones and leave them behind."

Mikhail Isakovsky, the poet, calls on the older generation to help young people improve their artistic taste. Composer Eugen Kapp wants more literature and art for young people with a content that will teach ethical values.

Running through much of the material published in *Komsomolskaya Pravda* is the idea that Soviet society is progressing at so rapid a pace, that the country's economy and culture is moving ahead so quickly that there is practically no limit to the opportunities for the rounded development of the younger generation. The growth of social consciousness, however, does not always keep pace, and young people do not always make the fullest use of their opportunities.

The letter writers we cited above are not complaining of any decline in ethical values but of the fact that young people do not draw as much as they should upon the treasure house of human knowledge and experience open to them, that they sometimes continue to think and to live in the old way.

The Man of Tomorrow

A while ago the *Komsomolskaya Pravda* editors sponsored a meeting at one of the Leningrad institutes on the psychology of the modern young man and published a verbatim report of the discussion.

The topic was purposely left broad and all of the discussion was impromptu. The subjects brought up covered the widest conceivable range—enthusiasm or skepticism, generosity or self-interest, restlessness or stability, emotion or calculation, duty or caprice—everything was grist for the thinking mill of the young people gathered in the big auditorium. They spoke freely and frankly about themselves and their friends in trying to personalize such abstractions as egotism, ambition, asceticism, intolerance, enthusiasm. There was no time limit set on discussion, except for those who tended to talk on interminably.

There were certain things everybody was for—enthusiasm, for example. Said Vladimir Shakhijanyan, Young Pioneer leader at one of the Leningrad schools: "One cannot work without enthusiasm. But even when one is carried away by his work, he must look at the job he does critically lest he become blind to his mistakes."

Somebody else said, "Granted we must look at our work soberly, there is such a thing as being too self-critical."

Vladimir Solovyov, a college student, voiced the general feeling about egotism and undue self-interest, "If a man lives only for himself, he has no valid reason for existence."

Kharlampi Apachidi, another student, spoke of everyone's duty to help man create a better world. "Mankind is marching toward its spring," he said. "It is our duty to fight for it."

Vasili Kuzmin, a worker, said that everyone had to be strong enough to get rid of his own "rubbish," his own prejudices.

Yuri Yakimenko, a student, won the support of the whole gathering when he stood up in vigorous opposition to a speaker who had declared that under communism all men would be completely rational and would not be swayed by emotion. Yuri declared himself for emotion. "I like people," he said, "who react to things with their whole hearts."

This forum started a new flood of letters to *Komsomolskaya Pravda* in which young people wrote of the traits they thought the man of tomorrow should have. They are thinking of the kind of man Maxim Gorky wrote about—Man with a capital M.

By Yuri Gagarin
Pilot-Cosmonaut of the USSR, Hero of the Soviet Union

The day the country's scientists, engineers and workers entrusted me with the ship they had built to make the world's first manned flight into outer space a Pravda *correspondent asked for my biography. I could hardly have given it to him right there when I had just landed, but I am happy to be able to tell readers now the story of my life.*

MINE IS AN ORDINARY FAMILY, not much different from millions of other families in our socialist country. My parents are plain Russians for whom the Great October Socialist Revolution opened a broad new road, as it did for all our people.

My father, Alexei Ivanovich Gagarin, was born the son of a poor peasant in Smolensk Gubernia. His formal education was limited to two terms in a parish school. But he had an inquiring mind and was self-taught.

In the village where we lived, near Gzhatsk, he was known as a Jack-of-all-trades. He could do everything in the way of farm work, but he was an especially fine carpenter. I can still remember the yellow shavings curling around Dad's big calloused hands and the different smells of the woods he used to make all sorts of useful things—the sweet smell of maple, the bitter smell of oak, the pungent smell of pine.

My mother did not get a proper education either, but she was well read and well informed and could answer any question we children put to her. There were four of us—Valentin, the eldest, who was born in 1924, the year Lenin died; my sister Zoya, three years younger; myself; and Boris, the youngest.

I was born on March 9, 1934. At the time my parents were working on a collective farm — Father as a carpenter, Mother in the dairy. Later my mother was appointed manager of the dairy for her excellent work.

Ours was a prosperous collective farm village. It was set in picturesque surroundings—nestled among big shade trees in summer and blanketed by deep snowdrifts in winter. Our house was next to the last one on the edge of the village near the Gzhatsk road. We had a small orchard with apple and cherry trees and gooseberry and currant bushes, and directly behind the house was a meadow strewn with flowers.

I remember climbing stealthily onto the roof and surveying the endless stretches of field and the waving expanses of golden rye. Looking overhead at the pure blue of the infinite, I had the feeling that I wanted to soar into this beauty and fly to the horizon where the earth and sky met.

What birch trees we had all around us! What orchards! There was the river we would run to for a dip or to fish for gudgeon. And then the boys would race to Mother's dairy where she would pour a brimming mug of warm milk and cut a chunk of fresh rye bread for each of us. There's no meal I've eaten since as tasty as that one.

Mother would look at all of us, her children and her neighbors', and say, "You're lucky, you little rascals, your life is so much better than the one your parents had."

War!

One Sunday Dad came running from the Village Soviet. We had never seen him so disturbed and worried. "War!" Mother sank to a bench, covered her face with her apron and wept quietly. Everything around seemed suddenly to have lost its color, the sky clouded over and the wind stirred the dust on the road.

The village grew unusually quiet. Nobody sang, the children didn't feel like playing. That same day the men climbed into wagons and trucks and, with the whole village gathered to see them off, left for Gzhatsk and the front.

The tide of the war rolled closer and closer to Smolensk Region, spreading like the waters in spring flood. Refugees slipped through the village like shadows. The wounded were carried through. Everything was moving toward a place way in the hinterland. The rumor was that the fascists had wiped out Minsk and that heavy fighting was going on in the vicinity of Yelnya and Smolensk. But everyone believed the enemy would get no farther.

September came round and the first day of school, a day that the other children and I had long looked forward to. We had barely started, had hardly learned to write the first letter of the alphabet and do a little addition, when we heard, "The fascists are very close, on the approaches to Vyazma."

That day two planes with red stars on their wings—the first ones I had ever seen—flew above our village. I didn't know what kind they were at the time but, so far as I can recollect now, one must have been a Yak and the other a Lagg. The Lagg had been hit in an aerial fight, and the pilot was doing his best to land on a piece of marshland overgrown with weeds and water lilies. The plane fell and broke in half, the pilot, a young chap, bailing out without a parachute right above the ground.

The Yak landed safely in a meadow next to the marsh, and the pilot ran to help his friend in trouble. We boys ran over to them, greedily breathing in the unfamiliar smell of gasoline and pointing out to one another the jagged tears on the wings of the plane. The pilots were excited and edgy.

ROAD TO OUTER SPACE

When they unfastened their leather jackets, the medals pinned to their shirts flashed in the sun. These were the first military decorations I had even seen. It was then that we kids realized the price that had to be paid for these military awards.

The pilots took off the next day, leaving behind a bright memory—each one of us wanted to fly, to be as daring and as handsome as they. Unaccustomed feelings these were, of a kind we had never before experienced.

Then things began to happen in rapid sequence. Columns of trucks drove through the village and many more wounded were carried by. Everybody talked about evacuation. Mom and Dad packed too, but we didn't manage to get away soon enough.

Guns thundered, and the sky blazed with the reflection of the fires. Suddenly German cyclists broke into the village. There was general pandemonium. The fascists began hunting out partisans, meanwhile grabbing up everything serviceable they could lay their hands on, including clothing and footwear.

Our Village Occupied

We were kicked out of our house, and it was taken over by German soldiers. We had to make a dugout for shelter. Those were terrible nights when we listened to the whine of the engines of fascist aircraft headed for Moscow. Dad and Mom were heavyhearted, worried not only about us but about the farm and all of our people.

Dad couldn't sleep, kept listening, hoping to hear the thunder of Soviet guns, hoping that our troops would switch to the offensive. In anxious whispers he talked with Mom about the partisans and worried about brother Valentin and sister Zoya. They were both well into their teens, and in the neighboring villages the fascists were already shipping the young people off to captivity in Germany.

A dyed-in-the-wool Bavarian fascist, whose name was Albert, so far as I can remember, and whose job was charging auto batteries, was quartered in our house. He hated us kids. Once my little brother Boris, curious, tiptoed over to his workshop. The fascist snatched him up and hung him on the branch of an apple tree by his scarf. Then he stood guffawing. Mom rushed toward Boris but the fascist wouldn't let her come close. I wanted to do something. I was in torment for Boris and for Mom. I wanted to call somebody but I couldn't, my breath wouldn't come. It was as though I were hanging up there, not Boris. Fortunately the Bavarian was called away and we got Boris down. We carried him into the dugout and barely managed to revive him.

We kids copied the grownups and did everything we could to give the Germans trouble. The sharp nails and crushed glass we scattered on the roads were responsible for many a German car's flat tire.

At the time our village was cut off from the world. Nobody knew what was happening at the front. Once a plane flew by and dropped a bunch of leaflets. They fluttered in the air for a while like a flock of white doves and finally settled down in a snow-covered meadow on the edge of the village.

I snatched up one of them. There was a drawing of a heap of human skulls with a vulture in Hitler's likeness perched on top. The text was in Russian. I didn't know how to read. I looked around to see if there were any fascists in sight, the penalty for reading a leaflet was severe. I hid it inside my shirt and ran to our dugout. My sister Zoya read it and laughed out loud with happiness. "Yurka," she cried, "our army has scored a great victory."

The leaflet told of the Hitlerites having been routed at Stalingrad. There was no end of rejoicing. The talk in all the dugouts was about the fascists' defeat. Soon we heard the guns booming on our front too. Our offensive had begun.

The SS man took Valentine and Zoya and other boys and girls and lined them up in columns headed for the West, for Germany. Weeping and wringing their hands, Mother and the other women followed the column for a long time until the guards drove them back with rifle butts and dogs. We were not the only ones grief-stricken. The whole village wept. Members of every family had been driven off by the fascists to slavery.

The Germans Are Driven Out

But even grief does not last forever. The time for rejoicing came. One midnight two men wearing white sheepskin coats and fur hats and armed with submachine guns stole into our dugout. They gave father a cigarette and asked him questions. They were part of a Soviet reconnaissance group.

The next day the Germans abandoned our village. Father went to meet our troops to show them where the fascists had mined the road. All night long he had spied on the German sappers at work. Our colonel, who wore a tall astrakhan hat and had khaki shoulder straps on his greatcoat, kissed father and commended him for his soldierly conduct.

Father joined the army. That left just the three of us—Mother, Boriska, and me. There were only the women and children to run the collective farm now. After a lapse of two years I was back at school again. There was only one teacher, Kseniya Fillipova, for the four classes. Two grades, the first and third, met together in the one room. After we were through, the second and fourth grades did their lessons. We had no ink, no pencils, no notebooks. We finally got hold of a blackboard, but we had no chalk. We learned to write on old newspapers. When we managed to get some wrapping paper or a piece of old wallpaper, it was cause for jubilation. For arithmetic lessons we used empty cartridges instead of sticks; we had pockets full of those.

For a long time we had no word of Zoya and Valentin. Then from neighbors who had run away from the slave train and made their way back to the village we learned that our sister and brother had escaped from the fascists and joined the Soviet Army. I was overjoyed to hear that they were alive and delighted that they were walloping the Nazis who had brought us so much suffering.

Father did not go far with the army. He had not been well ever since his youth, and because of the hunger he had had to endure under the Nazis he contracted a bad case of ulcers. He was cared for at the military hospital in Gzhatsk and served there as a noncombatant while getting treatment.

The war went on for what seemed a century. People kept eating their hearts out. Everybody had a relative at the front. The postman was both welcomed and feared when he brought mail to each dugout. Did he have good news or bad? To one family he would bring word that their loved one had been decorated; to another, that he had been killed in battle.

We had an old map of Europe in our classroom, and after lessons we would shift the red flags that marked our troops' advance. Everybody hoped for the war to end.

Kaput to Hitler

Then one day Mother came running from the Village Soviet to hug and kiss me. I remember how she smelled of plowed earth. She cried, "*Kaput* to Hitler. Our troops have captured Berlin."

I ran out into the street. It was a fine day. Spring had come, the orchards were in blossom, there was a deep blue sky overhead and the larks were singing. I felt happier than I had ever been before, dizzy with happiness. My sister and brother would be coming home soon. This was the start of a new life, never again to be clouded by grief, a life full of sunlight. From childhood I have loved the sun.

Iraida Troitskaya was one of Yuri's favorite high school teachers.

Anna Gagarina taught her son to respect man and his labor.

After the war my father was asked to remain in Gzhatsk to help rebuild the town. From that time on that was where we lived, on Leningradskaya Street, and where I went to school. I was admitted to the third grade. A young and very well-informed teacher, Anna Lebedeva, taught all the subjects, and judging by the marks she gave me, I must have been a good student.

It was a fine school and the kids were wonderful. Many of them were orphans with either a father or mother—or both—killed in the war. These were boys and girls who had seen a lot of suffering. They knew what hunger was. They had witnessed the atrocities committed by the Nazis, had seen things never to be forgotten or forgiven.

After two years I took my first exams, in Russian and arithmetic, passed them and was transferred to the fifth grade in another school. There I joined the Young Pioneers. I played in a brass band at the local Pioneer club and acted in school plays.

About this time I read Leo Tolstoy's *The Prisoner in the Caucasus*, and it left a deep impression on me. I admired Zhilin, the Russian officer, for his resoluteness and daring. Here was a man who made his way in the face of all odds. Taken prisoner, he not only escaped himself but helped Kostylin, a weak-willed man, to get away also. As I read the book, I compared its characters with people I knew. Hadn't my brother Valentin also escaped from captivity? I saw in him some of the qualities of my favorite hero Zhilin.

Olga Rayevskaya, our Russian literature and home room teacher, was as strict—and as affectionate—as our parents. She taught us to love and revere literature.

I was elected monitor of the sixth grade. The kids in that class were very chummy. I'm still friends with Valya Petrov and Zhenya Vasilyev. We helped one another with homework. They were good comrades. Petrov is now working on afforestation and land improvement in Gzhatsk. Vasilyev is somewhere in Moscow; I must look him up. Tonya Durasova, a pretty girl with clear inquiring eyes who was also in our school group, is now a salesclerk in Gzhatsk.

Our physics teacher, Lev Bespalov, was a remarkable man. He came to our school from the army and always wore his tunic, but without the shoulder straps. He served in the air force during the war, either as navigator or gunner-radioman—we weren't sure which. He was a man of about thirty with a face marked by many trying experiences.

He knew how to catch and hold our interest. He made the laws of physics as easy to understand as poetry. He always had something new and interesting to teach us. He showed us how to use a compass and explained the working principles of the most elementary electrical machines. He told us how a falling apple helped Newton discover the law of gravitation. Of course, I had no idea at the time that I would be coming to grips with nature and overcoming the force of that law to escape the earth's pull.

Lev was the center around which the Pioneers' hobby club at school functioned. We got hold of a little engine and with reeds and casein glue built a model plane. You can imagine our joy when that model soared above our heads. Zinaida Komarova, our math teacher, and Iraida Troitskaya, the head of our curriculum planning department and deputy to the USSR Supreme Soviet, were also there with us. Lev predicted, almost seriously, that we would grow up to be flyers.

To the Capital

When I finished the sixth year of secondary school at Gzhatsk I began to think about what to do next. I wanted to go on studying, but I knew that my parents would not be able to give me a higher education since they didn't earn very much and there were six of us in the family. I gave serious thought to the idea of learning a trade first and going on with my education while working in a factory. This was what the older generation had done, I mean those who built the Dnieper Hydroelectric Station, the Magnitogorsk Iron and Steel Mill, the Turkestan-Siberian Railroad and the city of Komsomolsk-on-Amur. After the last war many more people did the same thing.

I came to this decision by myself, without consulting anyone. I said nothing to my mother because I knew for certain she would never agree. In her eyes I was still a child. But I had made up my mind that Moscow would be the place I would head for if I left Gzhatsk. I had never been in our capital, but I loved what I knew of it. I had collected pictures of the Kremlin towers, the bridges spanning the Moscow River, the monuments . . . I wanted to see the Tretyakov Gallery and to walk across Red Square and pay homage to our great Lenin.

I wouldn't be going to Moscow a complete stranger, because my father's brother, Savely Ivanovich, worked there in a building contractor's office. He had two daughters living with him, Antonina and Lydia. When I asked my folks to let me go and live with Uncle Savely, my mother burst into tears. Dad thought for a few minutes and then said, "I approve of your idea, Yurka. Go to Moscow. So far I haven't heard of anyone getting lost there or fading away from neglect."

On the train to Moscow I wondered about the reception I would get. I knew my uncle's wages were modest. But I needn't have given it a thought. I was given a very warm welcome, especially by my cousins.

The first few days the girls showed me around the capital, and then Tonya took me to a vocational school in Lyubertsy where trainees for a farm machinery plant were being enrolled. Back in Gzhatsk I had decided to become a lathe operator or, if I didn't make the grade, a fitter. It was quite a shock to find out that you had to have seven years of schooling to be accepted as a turner or fitter trainee. All I had was six. I didn't hide my disappointment.

The vocational school director smiled reassuringly and said, "Don't worry, my boy. We'll put you in a foundry class. Have you seen the Pushkin Monument in Moscow? It was cast by foundrymen."

That won me over, and I agreed to become a caster. The examinations weren't too difficult. I passed them and was enrolled.

A few days later the foreman-instructor Nikolai Krivov took us on a trip through the factory. He told us that the machines the factory made were used on fields everywhere in the country. I remembered that in our own village I had seen machines with the trademark of the Lyubertsy Plant.

Krivov first showed us through the machine shops. Then he took us to the foundry where we would be working. "So you're the newcomers," the tall, bewhiskered team leader greeted us. "You'll get used to things, used to handling fire." Then with a note of pride, he added, "Fire is strong, water is stronger than fire, and earth is stronger than water, but man is stronger than the lot." Soon after, I was assigned to a machine tool that made molds.

What Is Heroism?

My classmates at the trade school were a romantically minded lot, and we used to do a good deal of talking about heroism. There were different kinds of heroic exploits, we thought. Some were the result of an instantaneous decision, a choice that had to be made between life and death.

But we were agreed that there was a greater heroism, one which constituted a man's whole life. We were thinking of people who had dedicated their entire life to one great aim and had fought to reach it in spite of all difficulty. Lenin's life is a striking example of this kind of heroism. We read everything we could find about Lenin in our library.

We also liked the biography of Mikhail Frunze, the famous revolutionary who became an illustrious statesman. Sentenced to death by a czarist court, Frunze taught himself foreign languages while in prison, hoping to use them later when he escaped. He did escape and did use them. Frunze was indeed one of those who had what is called "an all-inclusive passion."

I got to be fond of the work in the foundry and stopped envying the lathe operators. I liked getting up when the factory whistle blew and mingling with the stream of workers walking to the factory. I was proud to be one of them, and every day this pride of mine grew stronger because the grownups, the skilled workers, treated us kids from the trade school as equals.

Then I drew my first wages. I didn't get much, of course, but it was the first money I had ever earned. I sent half home to Mom in Gzhatsk to help her along. I wanted very much to help the family, to feel really grownup.

At the trade school we had classes in theory as well as in practical work. I must confess that we didn't take too well to the classroom. We were more interested in mold sand and molten metal. We had an instructor, a self-effacing little old man whose name I've unfortunately forgotten, who taught us drafting. He'd give me a certain part to draw, then follow that up with another and a third, each one increasingly difficult. I became interested and eventually learned to make a pretty good drawing. I thought it might come in handy at some future time. I wanted to learn faster than I was doing at school. I took technical books from the library and studied in my free time. I resented the fact that the day was only 24 hours long, not enough time for all the things I wanted to do. I was angry about the years wasted during the nazi occupation. I dreamed of getting through technical school, going to college and becoming an engineer.

To get into college I had to be a secondary school graduate. So together with my pals Timofei Chugunov, who also came from Smolensk Region, and Alexander Petushkov, who came from Kaluga Region, I entered the seventh grade of Evening School No. 1 in Lyubertsy. We gave each other a helping hand.

It was hard sledding. We had our jobs at the factory and, besides our classes at the trade school, our regular school studies. Fortunately, we had good teachers. I've been lucky that way, I've always had good teachers.

When they saw how much I wanted an education, they suggested that I make an application at the school for physical education teachers in Leningrad. At the factory I had the reputation for being something of an athlete because I had won several prizes in sports competitions.

I got through the selective trials in Mytishchi and passed the last examination with top marks. When I got back to Lyubersty, I found that I could get into the Saratov Technical School for additional training as a foundry molder, my trade. "As for sports," I was told, "you can go in for that any time."

That's so, of course. Any athlete, no matter how good, ought to have a trade or profession and do productive work.

At the Saratov Technical School

Chugunov, Petushkov and I asked the principal of the trade school for a recommendation to the Saratov Technical School. He did well by us. We got free train tickets and set off for the Volga.

We liked the trip to Saratov and the view of the broad Volga. The new scenes were appropriate to our mood. We were entering a new stage of life, becoming students. In our group there were 35 people from all over the Soviet Union. Several were war veterans, married men and men with families.

At first they had trouble studying. It was a long time since they had sat at school desks and their marks showed it. For the three of us—

Yuri, surrounded by friends as usual, in the students hostel of the Saratov Technical School.

Always a good athlete, Yuri's favorite sport is basketball. He played on the Labor Reserve team.

Petushkov, Chugunov and myself—it was easy going since everything was so fresh in our minds. The others came to us for help which we were glad to give. They called the three of us "the inseparable Muscovites." We all liked mathematics. We were conscious of the fact that you couldn't get along without math in our atomic age when everything is based on precise calculations.

There was an atmosphere of comradely assistance in the technicum. We younger students sought the advice of and followed the example set by the older boys. The war veterans had a word for that kind of mutual help. "Perish yourself but rescue your comrade," they used to say—like the two airmen I had seen in the early days of the war whose concern for each other had caught my imagination.

Very soon everybody had worked into the study routine, and the poor grades began to change to satisfactory and then excellent. In our spare time we went in for a good deal of athletics. We got up a basketball team. Back at the trade school I had learned to like that lively, fast game. Our team competed in city matches and took first place among the Saratov technicians. In the winter we worked out in the gym three times a week. One of my friends, Tolya Vinogradov, tried to interest me in skiing, but I preferred basketball, though I did go skiing once in a while.

The stipend we got was small, but we were able to cut down expenses enough to go to the theater and movies. Saratov has a good opera company, and I heard Dargomyzhsky's *The Mermaid*, Bizet's *Carmen* and Tchaikovsky's *Queen of Spades*. I was very much taken with Glinka's *Ivan Susanin*. When I saw it, I felt as though I were one of the Russian people on the stage struggling against the country's enemies.

Favorite Books

More often we went to the movies, generally a whole crowd of us, boys and girls, and then we'd go somewhere to talk about the picture. I especially liked Boris Polevoi's *Story of a Real Man*. I saw it several times and read the book a number of times too. To me the hero was the personification of Soviet man. I thought Alexei Maresyev, the prototype of Polevoi's hero, had more courage and fortitude than even my favorites among Jack London's characters. He was closer to me in spirit and feeling. I often wondered how I would act if I were to find myself in the same situation as Maresyev.

Another favorite book of mine, and of my friends as well, was Lillian Voynich's *The Gadfly*. I liked *The Gadfly*, but Maresyev was real. He was my contemporary, he lived in the same country as I, he was a man I could hope to meet some day and shake hands with.

Our literature teacher at the technicum was Nina Ruzanova, a very thoughtful and sympathetic woman. She made up a recommended book list for us and kept urging us to read. On the list I remember was a series edited by Maxim Gorky entitled *The History of a Young Man of the Nineteenth Century*. She guided us to the classics of Russian and world literature. I still remember how moved I was to read Leo Tolstoy's *War and Peace*. What I liked most in that extraordinary book were the battle scenes and the portraits of such men as gunner Tushin, regimental commander Prince Andrei Bolkonsky and officers Rostov, Dolokhov and Denisov, who defended the country with such heroism during Napoleon's invasion. As I read, I could see Field Marshal Kutuzov standing right there in front of me.

I went through Longfellow's *Song of Hiawatha* and the novels of Victor Hugo and Charles Dickens at the time. I read a lot, trying to make up for the time I had lost as a child. Like many other young people I was thrilled by the books of Jules Verne, A. Conan Doyle and H. G. Wells.

I read how skeptical H. G. Wells had been about Lenin's plan to electrify the country, and here, to refute him, were whole caravans of barges sailing up the Volga with building materials for the Kuibyshev hydropower project. Here before our eyes the Soviet people were realizing Lenin's prophecies.

This was an interesting time we were living in. We had to hurry up with our studies, specialists were needed everywhere. A great many things were happening at home and abroad, and they kept us on the move, especially those of us at school who were Young Communist League members, and almost all the students were.

I was elected a member of the school's YCL Committee. I had my hands full with all kinds of assignments, and besides that I was doing the work of the secretary of the local section of the Trudovye Reservy Sports Society. I had so many things to do that every minute counted.

Then came the final year at the school, when we spent less time with textbooks and more with actual work in factories. I was sent to the Voikov Plant in Moscow and then to the Vulkan Plant in Leningrad. I spent my first days in Leningrad with my friend Fyodor Petrunin, walking through the streets of this wonderful city. That was the cradle of the October Revolution. There is no city that has such a wealth of revolutionary tradition as Leningrad.

In the daytime we were busy at the factory; evenings we made the round of museums and theaters. When our turn came to work on the night shift, we spent three days at the Hermitage looking at the masterpieces of world art. We went through the Russian Museum to see the creations of our own celebrated painters. We liked everything in Leningrad, its museums, buildings, monuments. Back at school in Saratov, we regaled our classmates with a detailed account of our trip.

My favorite subject was physics, just as it had been at trade school, and the instructor, Nikolai Moskvin, was every bit as good as our old teacher, Lev Bespalov. His lectures were fascinating. He was absolutely ruthless with those who were lazy. He wouldn't give them a minute's peace until they showed signs of progress. "A technician has to know physics," he insisted. "Why, even the earth itself turns by physical laws."

Moskvin set up a physics club that I joined. The members took turns making reports. One would read a paper on Newton, another on mechanics, a third on electricity. I was asked to report on radiation pressure studies made by the Russian scientist Lebedev. My paper got a good reception, and I agreed to do another report on Konstantin Tsiolkovsky and his theory of rocket propulsion and interplanetary travel. In preparation for the paper I read a collection of Tsiolkovsky's science-fiction stories and all the related material in the library.

Tsiolkovsky made my head whirl. He was far more exciting than Jules Verne, H. G. Wells or any of the other science-fiction writers. His own experiments and the progress of science confirmed all his astonishing predictions. He said that jet aircraft would take over from propeller planes, and I could see them in the sky. He wrote about rockets, and I knew that they were already shooting through the stratosphere. Everything else that Tsiolkovsky had prophesied had come true and so would his dream of manned space flight.

I concluded my paper on Tsiolkovsky with this statement of his, "Man will not stay on earth forever. In the race for light and space he will penetrate beyond the atmosphere, at first timidly, and then to conquer all of circumsolar space."

My heart started to pound when I read this. And perhaps that was when I became infected with a new fever—one for which medicine has no name—a burning desire to fly into space.

Air Fever

I kept going to technical school classes as usual, but my mind was elsewhere. When I heard the buzz of a plane in the sky or passed an airman in the street, I would wake up. It was air fever, even though I was not altogether conscious of it as yet. The feeling I had was shared by two other students at the school—Viktor Porokhnya and Zhenya Steshin.

There was an aviation club in Saratov, one that our boys thought highly of. But to join it you had to be a secondary school graduate. One day Viktor ran in, all excited, "Say, fellows, I've got real news. The club is taking fourth year technical school students."

That same afternoon the three of us took off for the club. The news was true. We applied, went through all the interviews, and began the course. At first it was all theory, an introduction to aircraft and engine design. We were a bit disappointed by all those boring classes. We had had the notion that as soon as we got to the airfield we'd be flying, and here was the same old school desk, the blackboard, the textbook. The road to the sky was longer than we had imagined.

The first few months of 1955 were packed to the bursting point. I had enough studying to do for two—at the technical school during the day and at the club at night. To cap it all, I had to prepare my graduation thesis to show what I had learned in the four years at school.

All this called for scores of drawings. And as I toiled over them, I remembered with affection the gray-haired schoolmaster in Lyubertsy who had made drafting so interesting.

Although I was busy with my thesis, I tried not to miss any of the work at the club. There, too, we were winding up our theoretical studies in preparation for exams. I wanted to start training flights. I had never been up in the air, even as a passenger. But before we could start flight training we had to make at least one parachute jump.

Our flight commander, Dmitri Martyanov, told us with a chuckle, "We've got to see whether you're plucky enough to fly."

Martyanov had flying in his blood. Our group liked his airmindedness and the strict discipline to which he accustomed us from the very first day. We knew that a man of his caliber wouldn't be satisfied until he had made good pilots of us.

From the wonderful example set by his comrades at the Saratov Aeroclub Yuri learned modesty and courage, love of justice and devotion to country.

Parachute Jump

Finally we were ready for our parachute jump. We rode out to the airfield with some girls from another technical school in the city who were going to jump too. They looked pale and apprehensive. I wondered if I looked any better. One of the girls said to me, "You look so calm, you must have jumped before."

"No," I said, "This will be the first time."

The girls wouldn't believe me. It was only when we began to put on the parachutes that they saw I had been telling the truth. I couldn't get the straps right and was just as clumsy as they.

It was not only my first flight, but I had to bail out at the end of it, into the bargain. I have no recollection of taking off nor of how our PO-2 reached the scheduled height. I came to only when the instructor signaled for me to climb out on the wing. Somehow I crawled out, stood on the wing and hung on to the cabin door with both hands for dear life. It was too awful to have to look down. The ground was somewhere down there, far, far below. It gave me the shudders.

"Cheer up, Yuri," the instructor laughed at me, "there are girls looking up at you from down there. Ready?" he asked.

"Yes," I said.

"Well, let go."

As instructed, I pushed away from the fuselage and dived down as if into an abyss. Then I pulled at the rip cord. The parachute didn't open. I wanted to yell but I couldn't. I couldn't get a breath out. My hands searched for the rip cord of the spare. Where was it? Where? Suddenly I felt a violent jerk. And then a hush. I was floating smoothly in the sky beneath the white cupola of the main parachute. So I learned my first lesson—not to start worrying about possible technical failures when you're in the air, not to jump to hasty decisions when you're in the air.

"So You Like Flying"

When the jumps were over, Dmitri asked, "How would you like to go up in a Yak with me?"

As though I could say no!

We circled and then Martyanov brought the plane into the zone and began to stunt fly.

"This is banking," he told me through the intercom, "and this is the Nesterov loop-the-loop."

The plane went through a stunt show that made me wish I were safe on the ground. But Martyanov kept on tracing patterns in the sky. I couldn't understand the reason for the performance, but there was a method to his madness. He wanted to find out in one try whether I would make a good pilot. Apparently his decision was in my favor, judging by the pleased look on his face when we landed.

"Well," he asked, trying to read my expression, "do we fly again tomorrow?"

"All day and round the clock, so far as I'm concerned." It must have sounded like boasting, but I really felt that way.

"So you like flying?"

I said nothing. Words couldn't say what I felt. Only music could express the glorious exhilaration of flying.

Several days later we were called before the faculty committee to defend our graduation projects. I did well and was awarded a diploma "With Honors" from the Saratov Technical School. The state examining committee also certified me as a qualified foundry technician. I had jumped a big hurdle. Now I could take a job and continue my education after working hours. This was a crossroads in my life.

My friends had already gone, but I couldn't get myself to leave the Saratov airfield. Although I hadn't spent much time in the air, I didn't want to drop something I'd started and liked so well.

In spite of his youth Martyanov was a fine instructor with exacting requirements. "For a flier," he said, "there's no such thing as a little mistake. He may have to pay with his life for one slip in the air."

Carefully, step by step, he taught us the elements of aviation science, without which the modern pilot can't get along. He demanded that we carry through each assignment with the utmost precision. He took a trainee sharply to task for anything less than perfection. "One must fly neatly," he liked to say.

Martyanov had never served in the war. Another of our teachers, Sergei Safronov, had commanded a unit. We divided our respect and affection between the two.

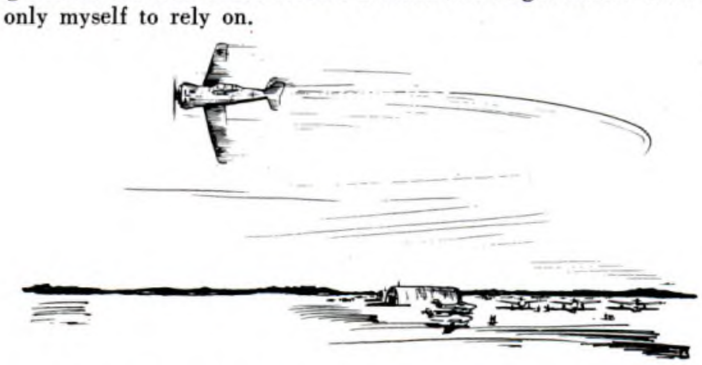
Safronov had fought at the Battle for Stalingrad and the famous air battle of the Kuban and had brought down several Junkers and Messerschmidts in the Kursk Bend. In 1943, when he held the rank of captain, he had been awarded the title Hero of the Soviet Union and the Gold Star. We listened to every word he had to say. This was a real Soviet ace who embodied the great tradition of our air force. He worked with us a great deal and, like Martyanov, stressed the importance of a clean flying style.

The chief of the aviation club, Grigori Denisenko, also a Hero of the Soviet Union, was very helpful in our training. Once, addressing a YCL meeting, he gave us his definition of will power. "Will power," he said, "is the ability to control one's actions, the ability to overcome difficulties, the ability to carry out an assignment with the least possible expenditure of energy."

Solo Flight

One July day—I remember how warm it was—Dmitri did not get into the plane with me as usual. "This time you go up alone," he said. "In the circle . . ."

Although I had been waiting for a week to hear him say that, my heart skipped a beat. I had made many independent flights during those few weeks, taking off and landing on my own. But there had always been somebody sitting behind me who could correct a mistake I might make. Now there was only myself to rely on.



"Don't lose your head," Dmitri said, "and keep your eyes open."

I taxied to the starting line, jerked the throttle, raised the tail and up we went—smoothly. The sense of exhilaration was indescribable. I was flying, flying by myself! Only a pilot can understand what that first solo flight feels like. I had managed a plane before but never without the instructor backing me. Now there was only the plane and myself, we were one. A rider must feel like that during a race—as though he and the horse were one. The machine was completely my instrument, to do exactly what I wanted it to.

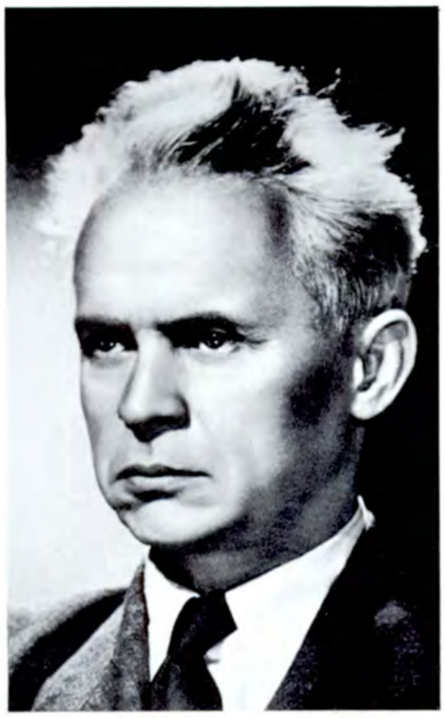
The next day friends said, "There's an article about you in the newspaper."

I couldn't get a copy at the airfield and didn't see it until a week later, in town. There were just a few lines describing the flight, with my name and picture. There I was in the cabin with my arm raised, waiting for the signal to take off.

It was *Zarya Molodezhi (The Dawn of Youth)*, a Saratov Young Communist League newspaper, that had unexpectedly singled me out for attention. It was the first time I had seen my name in print and, of course, I was very pleased, although it bothered me that I was the only one who had gotten such notice.

I sent a copy of the paper to my mother in Gzhatsk. She wrote back, "We're proud of you, son, but don't let it go to your head."

(To be continued next issue)



ALEXANDER DOVZHENKO'S FLAMING YEARS

By Gennadi Rosental, Film Director

THIS SOLDIER, his head wrapped in bandages, his face haggard, unshaven, his uniform sodden, covered with the soot and ashes of Berlin, has just come out of battle. He stands at the Brandenburg Gate, his clothes steaming in the sun. He smiles, thinks aloud:

"There go our troops—my comrades. They pass by me in review, although I'm not a general, not a marshal either. I'm simply Sergeant Ivan Orlyuk, a collective farmer from the Dnieper Valley, a plain man, the victor in the world war.

"And since so many of our men—more than the soldiers of any other country in the world—fell, never to rise again, in the battles to liberate people from fascism, and since I too shed the enemy's blood and lived through plenty of trouble, I want to introduce myself, my wife and family. I want to show my contemporaries all over the world—both friends and enemies—the well from which I used to take a drink of water, the garden and the orchard where I got the first blister on my hands. In short, I want to show them my life and destiny."

This is how Alexander Dovzhenko's film *Flaming Years* opens, on this solemn, grand and realistic note. As the story unfolds, the solemn gives way to the lyric, the grand to the matter-of-fact working day, and harsh realism is replaced by allegory. But pervading this passionate and poetic story is the philosophy of a people destined to live through the bloodiest of all wars, who neither bowed their heads nor lost faith in themselves and in humanity.

Ivan Orlyuk, the plain soldier, dies many times and in many ways. He is killed on a field, churned by tanks into a black mess. He drowns in the icy waters of the Dnieper. He takes his last breath in the arms of a doctor. But still he does not let death conquer.

The only one left who can laugh is a woman driven insane by nazi atrocities.

Ivan Orlyuk, tried for shooting deserters, says, "They had no right to live."

Ivan's mother prays that God preserve her son in the fiery tempest of war.

The hero of Dovzhenko's epic film is the Soviet soldier. Covered with the ashes of Berlin ablaze, he stands at the Brandenburg Gate, thinks aloud, "There go our troops—my comrades. They pass by me in review. I'm not a general. I'm simply Sergeant Ivan Orlyuk, a collective farmer, a plain man, the victor in the world war."

Crossing the wide Dnieper under fire was a terrifying ordeal, and the film does full justice to the feat. Leading film director and critic Grigori Roshal wrote, "The scale of the shots is amazing. It is hard to believe they were directed by a woman. Battles . . . the forcing of the Dnieper . . . such seething mass scenes."

With fields laid waste and their machines destroyed by the war, the farmers till with oxen and sow from baskets of seed as their forebears used to do.

In an interlude between battles, he gets married. He passes judgment on those who invaded his village. He sows the fields from a basket of seed as his forebears have done for a thousand years. He stands at the Brandenburg Gate. Ivan Orlyuk is the people—undying, immortal.

In the film we have that rare artistic achievement—an individual character who grows into a generalization, a symbol, and yet loses none of his individuality in the process.

Throughout the film the whirlwind of war catches people up in its tragic sweep. A young woman with a child—by whom begotten she herself does not know—returns from German captivity to her native village which has been liberated from the enemy. Where is her husband? There he is, waiting in the village square, a statue of bronze.

She clings to his bronze chest, wailing, "I don't want to live . . . I have nothing to live for now."

He tells her, "Console yourself, woman. You are young. You have reasons for living."

"What reasons?"

"Work, love, children."

"Where will I find them?"

"In the kind flow of kind times."

It was of "the kind flow of kind times" that Alexander Dovzhenko, master of Soviet cinematography, was thinking when he wrote his *Flaming Years* and other scripts. In the period of the silent movies his *Earth* ranked with such world film classics as Sergei Eisenstein's *Battleship Potemkin* and Vsevolod Pudovkin's *Mother*. In *Earth* and other very popular films—*Zvenigora, The Arsenal, Ivan, Shchors* and *Michurin*—he was first among producers for his incomparable ability to picture the complexities of life and its eternal renewal.

His films are unusual in their language and imagery and their masterful interlacing of life and death, love and struggle. In *Flaming Years* his lyricism is given full play.

Dovzhenko did not live to see the film screened. He died just as Mosfilm Studio was building the sets for his *Poem of the Sea*. It was to have been followed by *Flaming Years*, written as a film epic.

The filming of both *Poem of the Sea* and *Flaming Years* were completed by his wife, Yulia Solntseva. The Soviet press unanimously applauded her understanding of the author's intent. Grigori Roshal, well-known film critic, wrote, "The scale of the shots is amazing. It is hard to believe that they were directed by a woman. Battles, the forcing of the Dnieper . . . so many intricate war machines and seething mass scenes. Such beautiful sunsets, marvelous clouds, so exquisite an apple-blossom spring!"

The epic character of the events is reflected in the 70 mm. film used in shooting the picture; it can be projected on a huge panorama screen. The cameramen were Fyodor Provorov and Alexei Temerin. Alexander Borisov designed the sets.

The leading role of Ivan Orlyuk is played by Nikolai Vingranovsky, a former pupil of Dovzhenko's at the Directors Department of the Soviet State Institute of Cinematography. Featured players include the popular screen personalities Boris Andreyev, Sergei Lukyanov, Vasili Merkuryev and Zinaida Kirienko.

Flaming Years will not be the last of Dovzhenko's works to be filmed. He was a prolific writer, and the heroes created by his great talent will continue to come to life on the screen.

Maria returns to her native village and her husband from captivity in Germany to find that her husband died a hero's death and is enshrined in bronze.

The first spring of peacetime came, and the trees bloomed on soil pitted with shells.

Ulyana takes up her teaching again in the village school with its half-empty classes.

They knew that the hands that had gripped a rifle could also build a new and happy life.

By Vitali Moyev

Photos by Victor Ruikovich

DOCKERS

IT USED to be that stevedores in Novorossiisk on the Black Sea and those in other Soviet ports were men with enough muscle to juggle great loads. The muscle may still be there, but it's not called upon to perform; all the lifting and pushing and hauling is now done by machine.

Forty years ago this port kept seven or eight thousand stevedores busy. The volume of cargo has multiplied any number of times since, but the number of stevedores—in the old sense of the word, that is—has dropped to 450, and none of them carry loads. The actual physical labor involved in moving and storing cargo is minimal.

The port's towering cranes bow to the ships; mechanical lifters and electric trolleys dart around the dock and into warehouses and freight cars; all sorts of machines lift and carry bags of cement, great bundles of rolled metal and bulky crates, hoist clusters of wine barrels from ship to dock, and vice versa, pour oil or wheat into gaping holds.

The old-style dockers are retraining for new jobs. Some of them become qualified signalers or take the course for winch operators, others learn to drive trucks and operate mechanical lifters and cranes.

Stevedores' Union

Novorossiisk dockers are members of the Sea and River Transport Workers Union, which takes in all port workers, from stevedores to clerks. The union local is headed by a committee elected yearly at a trade union conference.

Its funds come from membership dues, allocations from the port authority, and the income from clubs and Houses of Culture run by the union.

The money goes to pay for cultural and recreational facilities for the dockers and their families, for excursions and picnics, performances by visiting theater companies, an elaborate sports program. The union rents a stadium, pays coaches and buys all sorts of athletic equipment, from boxing gloves to canoes. When union athletes travel to matches away from home, as they frequently do, they

keep getting their regular wages, and the local pays all travel expenses.

After six months of work every docker is entitled, without any contribution on his part, to sickness and disability benefits. Sick pay may come to as much as 100 per cent of the worker's average wage. Social insurance funds are contributed solely by management and administered by the unions.

The docker's health is under constant observation. He must report to a polyclinic twice a year for a thorough physical checkup. Any sign of illness is carefully followed up. If the doctor says the word, the stevedore is transferred immediately to lighter work or is sent to a sanatorium for treatment and rest. He either pays nothing for accommodations and treatment or less than a third of the cost, the remainder being paid by the union out of the social insurance fund. His job is kept for him and he continues to receive his regular wages.

Union and management both pay out large sums for these vacation and health resort stays. This is an important budget item for unskilled workers especially, because the cost of their stay in a sanatorium sometimes comes to more than a month's wages.

Vacations for the children of its members are also a union responsibility. The port has its own Young Pioneer camp at a lovely spot on the shore of the warm Black Sea that accommodates 600 youngsters every summer, either free or for a very modest charge.

An auditing commission independent of both the trade union committee and management periodically checks on the way union money is spent and reports directly to the membership at general meetings, whose decisions are final.

The trade union is concerned with every aspect of management-worker relations—from wages and working conditions to the number of showers available. Not too long ago the union insisted that the number of showers planned for a new section of the port be doubled. Construction had already begun and the management had to go to considerable trouble to modify the design.

The union influences every port activity, whether it concerns the construction of new buildings, fulfillment of the freight plan, installation of new machinery, or the reorganization and promotion of personnel. Through their trade union committee, the port workers can demand an answer to any question from the port authorities, and they do just that at their general membership meetings.

The union organizes permanent production conferences which draw the most skilled and experienced dockers into the work of managing the port. The union is also directly involved in training workers in new skills, in allocating new apartments and in many other areas.

The Ports Metronome

The metronome that sets the rhythm of the port workday is the chart of ship arrivals and departures. Its beat keeps getting faster, its swing longer. During the postwar years the Novorossiisk waterfront has undergone a transformation. Even larger changes are in the offing. Sketched out in the seven-year plan, they include a new pier to accommodate any kind of ocean-going freight vessel; a pier for steamships with every accommodation for passengers; a big new wharf for tankers which will be handling three times as much oil as they do now; a special pier for handling grain; more warehouses, workshops and apartment houses for dockers.

The metronome will be beating very much faster to set the pace for all the ships moving in and out of the harbor. And, of course, the dockers' union will have many more things and people to concern itself with.

These jazz fanciers are Novorossiisk dockers. Their orchestra is supported out of union funds.

Always something interesting on at the Dockers Club—a new play, a book discussion, a dance.

The Novorossiisk dockers' union runs a camp for the children of its members.

Busman's holiday—stevedores on a Sunday afternoon jaunt to the seashore.

THIS MUST NOT HAPPEN AGAIN

Boris Prorokov

By Yuri Nagibin

A WOMAN'S HANDS reach out, grope in emptiness. They could be the hands of Yaroslavna, wife of Prince Igor, or those of the girl in the Soviet film *Ballad of a Soldier*, or the hands of the heroine in a book by Erich Maria Remarque or in Ernest Hemingway's *For Whom the Bell Tolls*. They are the hands of a woman searching hopelessly for something, someone, lost to her forever. War is not only troops against troops, guns against guns, planes against planes, but troops, guns and planes against a woman's two empty hands.

This is war in the black-and-white drawings of Boris Prorokov:

A child's face white with sickness.

A child shielding itself with two small hands against a falling bomb.

A child's lonely face in the shadow of ruins.

The faces of three children grown wise with suffering in the three illustrations *Hiroshima, Raid* and *Among the Ruins*.

These are war's targets, says Prorokov, these children who have not yet learned to mistrust life. War has two protagonists—life and death. His children defy death for they are the beginning of life, its very essence, and must inevitably be the victor in this uneven combat.

In the tremendous effort of the woman protecting her child from hurt—the drawing titled *Alarm*—there is more of soaring strength than weakness, more of courage than fear, more of victory than defeat. The two bodies, those of mother and child, are drawn with a single powerful sweep of the brush, for they represent a single whole, a single cry for safety and peace. The mother's arm, passionately protecting the burden it holds, depicts all motherhood, all justice.

In Prorokov's powerfully moving drawings it is not the man, the soldier, who personifies struggle, stern remembrance, vengeance, but the woman. She is always beautiful, always defiant. Even though doomed—as in the drawing *At Babyi Yar*—her beautiful gray eyes show no fear. The body of the dead woman in *Atrocity* calls out for victory; it is a terrible indictment of the guilty. The face of the woman in *A Curse on the Executioners*, her head thrown back in pain and anger, is a challenge and a warning. The suffering that grips all these figures is no passive suffering; it expresses not only pain but resistance to pain.

Prorokov's art is intensely compact and dynamic. His drawing is abrupt, violent, angry—qualities that express, paradoxically perhaps, the artist's deep compassion for the earth, its sky, its children, its women—for all things that grow, for everything that lives and is therefore immortal.

Boris Prorokov is 50. His work has been appearing in magazines and newspapers since 1929. His recurring theme—an impassioned protest against war—derives from personal suffering. He was more than an eye-witness to the Second World War—he fought at the front with rifle and with pencil. The serious effects of shell shock make his work as an artist a battle he must fight and win every day. That he will not be defeated is proved once again by his newest and most eloquent series of drawings, *This Must Not Happen Again*, dedicated to the memory of a friend killed in the war, for which he won the Lenin Prize.

Alarm!

Raid

Mother

Hunger

A Curse on the Executioners

At Babyi Yar

Hiroshima

Behind Barbed Wire

CREATOR OF

This article about Rostislav Alexeyev, a pioneer in hydrofoil river craft, continues a series about the heroes of our time—people whose devoted work, persistent searchings, unquenchable thirst for new paths, personal modesty and warmth toward others are an embodiment of the best traits of the Soviet man, traits which have won them universal recognition, respect and admiration in our country.

By Yevgeni Ryabchikov
Drawing by Vladimir Debrovolsky
Photo by Alexei Gostev

THE VOLGA was quiet, but the wind beat at his face, tore through his hair and howled in his ears—a gale created by the speed of the new ship Rostislav Alexeyev had built.

This was the *Meteor* he had dreamed of for years, on its trial cruise, skimming along the river, a kaleidoscope of villages and towns flashing by downstream. Barges pulled by sturdy little tugboats, endless lines of timber rafts, pleasure boats and freighters flew by. People on the shore, fishermen and rafters, sailors and vacationers yelled and waved at the wonder boat.

When the green light signal of a lock heaved into sight, Alexeyev slowed the *Meteor* down until it settled lightly on the water and glided gracefully through the huge iron gates into the concrete chamber. Scores of people crowded together at the top of the lock. Old men and young boys, girls in bright kerchiefs and sedate workmen leaned over the side and peered down, gesticulating and edging each other to get a better view. "Like an airplane, only it flies on water." The comment runs through the crowd.

In Moscow, the running tests over, the *Meteor* berths at the River Terminal among innumerable crafts of all sizes. She is the smallest but gets VIP treatment. Curious Muscovites linger on the dock to fire questions at Alexeyev and the crew and to photograph the vessel.

The day before the *Meteor* leaves the capital, headed back to Sormovo where she was designed and built, is a memorable one for Alexeyev. A display of new river craft at the port is visited by leaders of the Communist Party and the Soviet Government headed by Nikita Khrushchev. The first ship they board, giving it priority over self-propelled barges, diesel luxury liners and new suction dredges, is the *Meteor*. The nation's leader goes up to the bridge and down to the salons and into the engine room.

Alexeyev takes the distiguished visitors for a cruise along the Moscow-Volga Canal. He acts as guide and is delighted by the questions with which Khrushchev showers him about the work he and his comrades at the Sormovo shipyard are doing—evidence of the value attached to the *Meteor*. The ship goes back to the dock. Khrushchev says good-by to Alexeyev, the *Meteor's* skipper Victor Poluektov and the others on board, shakes hands all around, and asks that they convey his greetings and congratulations to the men at the shipyard.

For Alexeyev the successful trial run of his *Meteor* means more than recognition and honors. This is a vision becoming a reality. He sees future flotillas of giant hydroplanes racing along the country's rivers. On the return trip to Sormovo these thoughts of the future mingle with recollections of the past, every sand bar and willow-covered island conjuring up memories of his boyhood and adolescence.

He Liked Speed

Alexeyev grew up on the Volga. He would often sail on the barges, sit till dawn around the bonfire on the big rafts, spend the night with lighthouse men. The river won him completely. It was then, somewhere on the threshold between boyhood and adolescence, that the idea began to grow on him that his future lay with the Volga and the hardy people who made their living on this great river.

He was always good with his hands and liked making things. He rigged up a workbench for himself, made a balalaika, then a violin. By the time he entered college he knew the ABC's of metal work and carpentry. He could make a boat, sew a sail, splice rope.

He built a yacht, the *Rebus*, with his own hands; and when he was studying at the Gorky Polytechnical Institute, the *Rebus* crew, skippered by Alexeyev, won prizes at many a Volga regatta.

He liked speed—brisk winds and fast sailing. The *Rebus* would skim by the ponderous barges, the heavy rafts and the plodding tugboats hauling strings of lighters. He was impatient with these slow-moving craft. Nature had built this swift-flowing river for speed, not for this interminably sluggish travel, steamships moving leisurely from landing to landing and loud-whistled tugboats that barely overtook hikers footing it along the shore.

Most Volga people were used to this pace. Not Alexeyev. He argued with the old skippers who wouldn't be hurried. "Take it easy boy," they told him. "The pace we travel at was fast enough for our fathers and grandfathers, and it's fast enough for us. Don't rush the Volga or it will leave you high and dry on a sand bar." That was only too true. The river was full of hidden shoals and bars. But Alexeyev thought shipping could be speeded up in spite of nature's impediments.

He majored in shipbuilding at the institute and there was taken with the idea of hydrofoils as a solution to the Volga's speed problem. He chose hydroplanes as the subject of his graduation thesis.

He defended his thesis in a hall packed with researchers, skippers, shipbuilders from the Sormovo yards and students. He showed a drawing he had made of a white, streamlined hydroplane skimming over choppy seas against the background of a stormy, cloudy sky. Its graceful lines and slanted bridge were imaginative, novel, prophetic. The audience was excited about it.

But Alexeyev soon found himself the center of a storm. The graybeards stubbornly claimed that the river was unsuitable for high-speed craft; it had too many shoals, sand bars and bends, and the traffic was too heavy anyway. Even if dams were erected to raise the river level all along its course, it would still be unsuitable.

There were, however, other shipbuilders, skippers and scientists who supported Alexeyev. They saw in him a man of bold vision and agreed that the future of river and perhaps of all marine transport lay in hydrofoils.

His dream seemed about to come true. The decision had practically been made to build an experimental hydrofoil vessel at the Sormovo shipyards when the war broke out. The plant was shifted to tank production, and Alexeyev was appointed quality control engineer in the assembly shop. He spent days and nights at the plant certifying the battle readiness of the tanks as they rolled off the conveyor in a steady stream. Back at home, in whatever spare moments there were, he continued to design and calculate, his room cluttered with countless drawings of winged ships.

Scale Model

Fortunately Alexeyev's enthusiasm was shared by Vladimir Krylov, the plant's chief designer. He, too, saw a future for hydrofoils. He sought for ways to help Alexeyev, but the demand was for more and more tanks in spite of an acute manpower shortage. It took some doing for Krylov to free Alexeyev for work on his hydroplane project, but he managed it somehow, first for two hours a day and later on, completely.

The plant's Party Committee also supported Krylov, and soon afterward the Regional Party Committee suggested that a special design bureau be set up in Sormovo to work out an experimental ship. Alexeyev was appointed design head, and two fitter apprentices and a student probationer, Leonid Popov, an old friend from *Rebus*-sailing times, were assigned as his assistants.

Space was at a premium at that time and Alexeyev was given an office in a cold, wallboard shanty on an abandoned pontoon. An iron stove did no more than take the chill off the small room and the four enthusiasts had to work out the design and draw the blueprints with gloves on their hands. In spite of all difficulties, they built a scale model of the craft.

But the war dragged on interminably and Alexeyev often felt like chucking his work and getting back to the more immediately necessary job of building tanks for the front. But his friends dissuaded him. "Your work is also part of the battle for the future," they kept saying.

The Party Secretary made a point of dropping in at Alexeyev's office at frequent intervals to ask him how the work was progressing. All this interest and encouragement made him feel that he was doing a useful job and that there were people, in the plant and elsewhere, who were looking forward to seeing the job completed.

First Experimental Ship

Having worked on his model all through the war, Alexeyev took it for granted that he would be able to start building an actual experimental ship as soon as peace came. But it did not work out that way at all. True, the fine performance of hydrofoil vessels was generally recognized, but time and again work would be blocked by some doubting Thomas.

There were times when Alexeyev questioned whether it was worth all the heartbreaking effort. He would come home from his work exhausted, his face drawn, eat in silence, help his wife with the dishes, play with his young son Zhenya, help his daughter Tanya with her arithmetic homework, but all the time thoughts of the ship would crowd his mind until there would be room for nothing else. He'd pick himself up, go back for more hours of work that might help to win over the skeptics.

The future, he kept telling himself, is not born without struggle. He needed that constant self-assurance in the fight he was waging against the dead weight of habit and accustomed routine. Revolutions—including technical ones—are made by strong and courageous people. Alexeyev showed himself to be a man of that mold—a Communist and revolutionary.

Then a mighty force came to his aid: the Communists of the plant and the Party Committee. The "Alexeyev ship" project was considered at an enlarged Party Committee meeting of the plant attended by Party and non-Party benchworkers, engineers, technicians and designers, and approved overwhelmingly.

The first experimental vessel was a small motorboat equipped with hydrofoils that made a successful test run down the Volga. It was followed by the *Raketa*, a full-scale hydroplane that astounded everyone by its speed. It is now used commercially on the Volga, Yenisei, Ob, Lena, Indigirka and other rivers.

With the *Raketa* Alexeyev made the breakthrough, convincing the most obdurate skeptics. The hydrofoil vessel excited the imagination of tens of thousands who came to the Moscow Youth Festival. Displayed at the Brussels World's Fair, it drew great crowds. Cables from all over the world poured into Sormovo with requests for licenses to manufacture and with orders for finished boats.

For Alexeyev all this was only a beginning. In his mind's eye he saw the time when huge ocean liners on hydrofoils would be traveling at hurricane speeds between continents. He pictured the Volga regenerated, deeper, with streamlined hydroplanes skimming its surface in an endless procession.

The Meteor

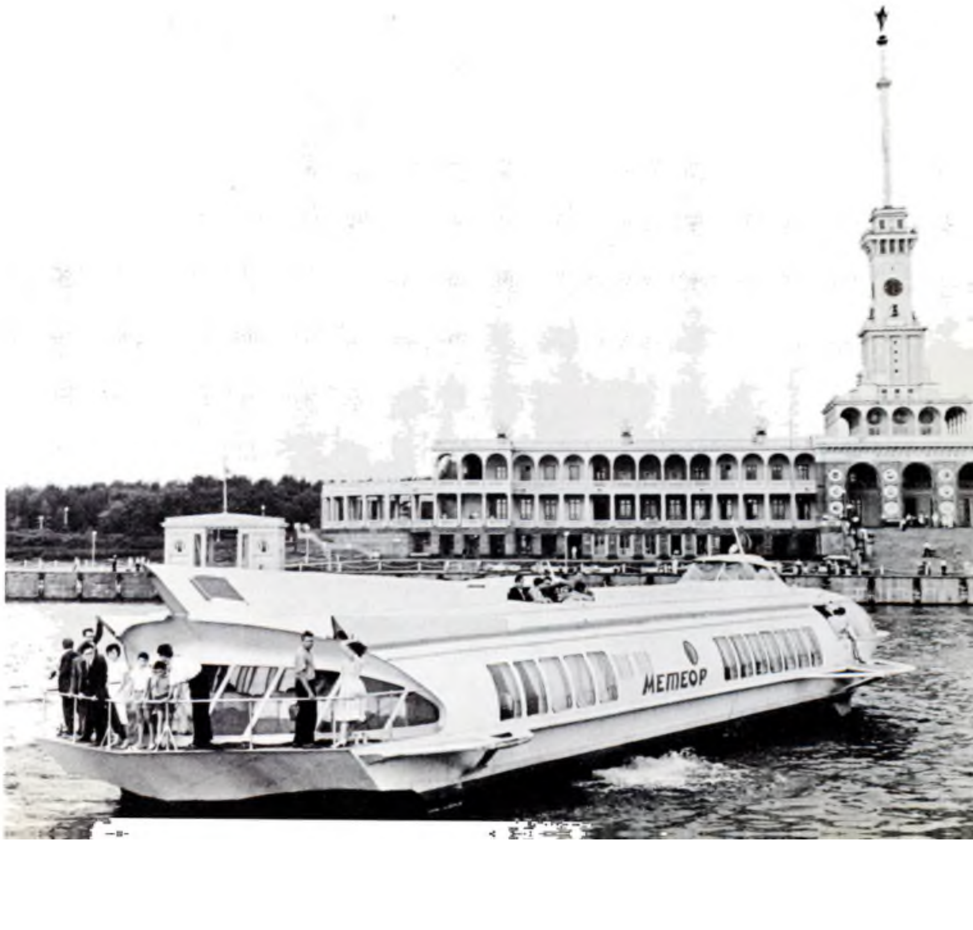
The *Raketa* was soon followed by the bigger and faster *Meteor*. But it was still only a beginning to this man with great vision who thought in terms of mass-produced hydroplanes and remodeled rivers and ports. It was a technical revolution in marine and river transport that Alexeyev was envisioning when he returned to Sormovo after that triumphal test run of his *Meteor* to the capital.

Back home the workers gathered round him. They had followed the reports of the test run in the news reports but were eager to get a first-hand account of the ship's performance and the reaction of government leaders. Alexeyev was moved by their welcome. These were more than men who had volunteered to work with him; they were tried friends who had seen him through many a bad day. He gave them Khrushchev's personal greetings.

Then he hurried to see how work was progressing on the gleaming aluminum-magnesium alloy hull of the *Sputnik*, a new and larger hydroplane. Double the size of the *Meteor*, the towering vessel will carry 300 passengers at high speed.

The excitement over, there were new problems, but they were solved rapidly and with comparative ease now that the Central Committee of the Party had decided on the mass production of hydroplanes for river and marine transport and incorporated the project into the seven-year plan.

This spring two *Sputnik*-type vessels were launched in Sormovo. These hydroplanes are designed for both river and marine transport. And bigger and faster vessels are now taking shape on the ways.



Made in USSR

NEW CAMERAS

MANUFACTURED annually in the Soviet Union are almost two million cameras of different designs. Among the recent additions to the long catalogue list are the Start, Leningrad, Moskva, Salyut, Zenit, Iskra, Droog and Yunost. New types, suitable for both amateur and professional, are added every year, including standard motion picture-film and roll-film cameras with excellent coated lenses not inferior to the best German types. Prices for most models range from 50 to 70 rubles.

These are some of the newest types:

Nartsiss is a midget camera that weighs only 340 grams, about 12 ounces, and can easily be carried in a coat pocket or a lady's purse. Its cartridge spool holds film for 25 pictures. This is an excellent reflex camera whose curtain shutter has a speed ranging from 1/2 to 1/500 seconds. A convenient lever winder is coupled with the shutter. Three interchangeable lenses are provided.

Kompakta is the same size as the Nartsiss. The flat body leaves enough room for a combined view- and range-finder coupled with the lens. Shutter speeds range from 1/8 to 1/250 seconds. It has a flash synchronizer and frame counter.

Droog

Kvarts

Zorky-4

AMERICA AND AMERICANS ON SOVIET STAMPS

By Ilya Zbarsky

IT is a long-standing tradition in the Soviet Union to issue postage stamps commemorating outstanding events promoting friendly relations among nations. The first such issue with American-Soviet relations as the theme appeared in 1935 when Sigizmund Levanevsky attempted a nonstop flight from Moscow across the North Pole to the American continent.

This stamp was one of the Chelyuskin series originally—Levanevsky helped to rescue the shipwrecked crew and passengers of the icebreaker *Chelyuskin* caught in drifting ice—and is surcharged "Moscow-San Francisco Flight Via the North Pole, 1935." The surcharge also adds one ruble to the initial denomination of 10 kopecks. This "Red Levanevsky" is considered a real rarity since only 10,000 were issued.

The nonstop Soviet Union-United States flights over the North Pole, first by the outstanding Soviet airman Valeri Chkalov and then by Mikhail Gromov, were commemorated by two special series in denominations of 10, 20, 40, 50 and 10, 20, 50 kopecks respectively. They portray the heroic flyers against a background of the Arctic and the flight routes.

The Three-Power Teheran Conference, one of the most important events in the joint struggle against Hitler Germany, is commemorated by 30-kopeck and 3-ruble stamps, both carrying the flags of the United States, Britain and the USSR and the inscription "Long Live the Victory of the Anglo-Soviet-American Military Alliance."

The founding of the United Nations in 1944 was marked by a 60-kopeck and 3-ruble stamp issue, again with the flags of the United States, Britain and the Soviet Union.

One of the stamps in a 1956 series devoted to people who contributed to the treasury of world culture carries a portrait of Benjamin Franklin. It was issued in connection with the 250th anniversary of his birth. Another stamp commemorates the sesquicentennial of the birth of Henry Wadsworth Longfellow.

The portrait of Mark Twain, whose works are very popular in the Soviet Union, appears on a 40-kopeck stamp issued in 1960, together with the house where he spent his boyhood and the monument to his two most famous characters, Tom Sawyer and Huckleberry Finn.

The historic visit of Nikita Khrushchev, head of the Soviet Government, to the United States in 1959 is commemorated in a stamp showing the Capitol in Washington and the Kremlin in Moscow, with the two continents of the Northern Hemisphere outlined between them and the inscription "Visit of N. S. Khrushchev to the U. S., September 15, 1959."

Nartsiss and Kompakta are actually handy camera notebooks for the writer, scientist and traveler.

Kristall combines the advantages of two Soviet cameras—the Zenit-C and the Zorky-6. The first is a direct-focus reflex camera. The second has a convenient lever film transfer system and a detachable back cover. The Kristall has a curtain lens with a speed range of 1/30 to 1/500. All lenses for Zenit cameras can be used in the Kristall.

Neva is a twin-lens reflex roll-film camera. Pictures are 6 x 6 cm. The camera has a 7.5 cm., f/4 lens and a high-speed focusing lens; the two are synchronized. A special device coupling the shutter with the diaphragm changes the aperture automatically when the shutter speed is changed.

Vympel is a 6 x 6 cm. roll-film camera with the same lens and shutter as the Neva, but with a built-in lens-coupled range- and view-finder for focusing.

Smena-5, a miniature plastic body camera, has a between-the-lens shutter with speeds of 1/30 to 1/250 seconds. It comes with a lens hood that can be reversed to serve as a lens cover.

Start

Yunkor

Moskva-5

BUTTONS

Drawings By T. Vyshenskaya

If something has to be fixed, or better still, if it has to be broken, just call on us. But when it comes to buttons, that's Thumbelina's job.

It would take Thumbelina all day to sew on so many torn-off buttons. "You pulled them off," she says, "suppose you sew them on. I'll show you how."

Thumbelina teaches us how to sew. Only Gurvinek doesn't want to learn. "I'll get along without buttons," he says. "I have a lot of pins."

The rest of us sew on our buttons and run off to the puppet theater. But Gurvinek can't keep up with us. Can you guess what happens to him?

SOVIET PERFUMES

By Gal

WAY BACK in antiquity perfumes were treasured for their magical powers of allure. No wonder that the Queen of Sheba brought King Solomon a "great number of perfumes as the most precious work of her land." In the Middle Ages the alchemist-perfumers created their magic aromas only for kings and queens and great nobles. In our day there are dozens of varied perfumes and perfumery products on the store counter for every woman to choose from.

Let's look into one of the many perfumery shops in Moscow, store number 107, almost always crowded. The shoppers aren't all women. One puzzled-looking male asks the salesgirl, "Can you tell me what kind of perfume to get for a friend who is going to be married?"

"How old is she? What kind of flowers does she like?" And the salesgirl puts a handsome box on the counter. It is lined with white satin inscribed "Wedding Perfume." "Just the thing," she says. "Smell it."

It smells like early spring and flowers.

There are perfumes to satisfy any and every predilection. This lovely bottle has a twig of mimosa in it. And here are perfumes with the fragrance of other flowers—White Lilac, Hyacinth, Silver Lily of the Valley, White Acacia. Young girls prefer these.

Older women are inclined to choose the perfumes with the slightly sharp, bitterish scent, like Evening, Stone Flower, Red Moscow, Queen of Spades, and Gift. But needless to say, there are no hard and fast rules about

silyeva

this. It's all a matter of the individual's taste.

Soviet perfumes are not expensive. An ordinary perfume will run two to three rubles, those of higher grade four to six rubles. The most expensive are generally sold not only in the usual bottles but also in small ones which cost from 50 kopecks to a ruble each. The various kinds of eau de cologne which correspond to the names of the perfumes are, of course, priced much lower.

The perfumery stores also carry a wide selection of lotions, powders, lipsticks and creams. Besides the very popular softening creams Almond Milk and Velvet, there are all sorts of creams for special uses. Some help to give you a sun tan. Others prevent it. There are creams to keep your hairdo in place, creams to fight off freckles, creams against wrinkles, like Satin, Moscow, Lemon—all of them designed to help women look and feel younger and prettier. Creams are very low-priced, from 20 to 50 kopecks; the most expensive is about 80 kopecks. Face powders run from 20 to 70 kopecks, and lipsticks from 20 to 50 kopecks.

Novaya Zarya (New Dawn) in Moscow is one of the country's best-known perfume factories. Its products, famous at home and abroad, were awarded a Grand Prix at the Brussels World's Fair for assortment and quality. A letter the Novaya Zarya factory received from the Canadian firm Troika Import reads, "Our clients are of the opinion that Russian perfumes have much in common with the French and, in some cases, are superior."

People the world over owe their sight to the Filatov Institute's pioneer work in eye surgery.

NEW EYES FOR THE BLIND

By Gennadi Sibirtsev
Photos by Igor Vinogradov

ON A MARBLE PLAQUE affixed to the front of a building in Odessa is a bas-relief in bronze of an old man with a beard wearing a doctor's skullcap, inscribed with: "Academician Vladimir Petrovich Filatov, Hero of Socialist Labor, founder and for many years head of the Ukrainian Research Institute of Eye Diseases and Tissue Therapy, which now bears his name, worked in this building from 1939 to 1956."

People enter the building with reverence for this healer to whom thousands of people in the Soviet Union and other thousands the world over owe the priceless gift of sight. It stands on a cliff overlooking the sea in a grove of acacia and plane trees.

Filatov contributed to every branch of ophthalmology. But his most important work was with patients suffering from leukoma, an opacity of the cornea that impedes the passage of light rays through the pupil to the retina. He restored their sight by a surgical method known as corneal transplant. A tiny section of the leukoma is removed and replaced by a fragment of transparent cornea from a healthy eye.

Before Filatov's work in the field the only transplants available were those taken from the cornea of the eye of a living person that had to be removed as the result of an accident. The number of transplants was consequently very limited.

Filatov developed a new technique that used as transplant frozen corneas taken from the eyes of dead persons. He designed his own simple but ingenious instruments and made it possible for any ophthalmologist to perform the delicate operation.

While working on corneal transplantation Filatov made another discovery that went considerably beyond the bounds of that one disease and the one organ. He noticed that a transplant taken from the eye of a cadaver and frozen prior to the operation affected the opaque cornea around it. The leukoma began to lighten. This gave Filatov the idea of using frozen tissue other than the cornea—such as skin, muscle, etc.—to cure various diseases.

He established the fact that during freezing tissue undergoes a biochemical process that

Leon Adamanis of the institute staff is a specialist in the preparation of frozen tissue used for transplants.

(Top) Staff meeting. (Right) The founder's study is now a museum. The calendar is turned to the day he died.

is accompanied by the formation of special substances — biogenic stimulators — that exerted a favorable influence on the organism.

The treatment is used for skin affections like lupus and eczema and for eye diseases. The method, known as Filatov tissue therapy, is now widely used not only in the Soviet Union but in China, France, Germany, Argentina and other countries. Japan, for example, has set up two institutes for tissue therapy.

A Window in the Eye

We spend a day—hardly sufficient time—going through this wonder-working institute in Odessa. It was founded in 1936 and has grown into the largest ophthalmological research center in the country. It has eight clinical divisions, each devoted to a different branch of medicine, numerous wards, operating theaters, out-patient clinics and research laboratories. Patients who have been given up as incurable elsewhere come to the Filatov Institute; the majority of them leave cured.

We are taken on a tour of the institute by Yevdokiya Budilova, head physician. Filatov's study has been preserved as a memorial museum exactly as it was in his lifetime. The leaf on the desk calendar is turned to October 30, 1956, the day he passed away in his 83rd year.

But this is the only place in the institute where time stands still. Filatov's pupils and followers continue the work he began. Yevdokiya Budilova cites a few of the many new developments. Dr. Nadezhda Puchkovskaya, the present director of the institute, has developed an improved corneal transplant method. These operations were known previously as partial penetrating keratoplasty because a window of only four to five millimeters was made in the leukoma-affected cornea. Frequently, however, the leukoma covers the cornea so extensively that partial keratoplasty is not effective. Dr. Puchkovskaya worked out a transplant of almost the whole cornea. The graft is now no longer inserted into a window made in the eye but sutured to the edges of the cornea that has been almost wholly removed.

Natalya Dyachenko, a village woman from Sumy Region, came back to the institute for a checkup recently. Nine years ago she had undergone an operation for almost complete transplantation of the cornea. She regained her eyesight after 13 years of blindness. There are hundreds of similar cases.

Molding an Eyelid

Doctor Puchkovskaya has also worked out a way of treating severe eye burns with a series of intricate operations performed consecutively, sometimes over a period of several years.

In the department of restorative ophthalmosurgery where these patients are treated, we meet Grigori Legeza, Dr. Puchkovskaya's assistant. He shows us photographs of patients. Some of the faces have only scars where the eyes should be.

"Now," says Dr. Legeza, "let me show you how these people look after the operation."

A young man, whose photo we have just seen, comes in. He is Valentin Shidyayev, a 19-year-old builder's apprentice from the city of Gorky. He was blinded by the careless handling of a slaked lime sprayer.

Now he can see, thus far with one eye only. But he'll soon be having the same kind of operation on his other eye. How is it done? First, the doctors separate the eyeball from the wall of the lids. But that's not all. The inside of the eyelid has to be covered with mucous membrane, as it is naturally. But both Shidyayev's eyes were burned by the slaked lime. The surgeons therefore take membrane from the patient's lip and transplant it to the inside of the eyelid. When the membrane takes root and the eye begins to move normally, the second part of the operation is done—the transplantation of the cornea—which actually restores the eyesight.

"Shidyayev's case is not the most complicated we have," explains Dr. Legeza. "Sometimes we have to not only restore the mucous membrane of the lid, but literally remold the lid itself which has been partially or wholly destroyed. For this purpose we take tissue from other parts of the patient's body,

An indescribable moment—when the bandages are finally removed and for the first time in her life she sees.

cartilage from the rim of the outer ear, for example. We use Academician Filatov's very remarkable pedicle flap method in which the transplant is only partially detached from its seat until it takes root at the new site."

This was what was done with Guran Kurashvili, a young foundryman from the city of Kutaisi, whose eye was burned by molten metal. His eyelid was so completely restored that it appears perfectly normal, except for the fact that there are no lashes. But that too will be taken care of shortly. They will be grafted on, together with a tiny fragment of skin. This does not affect Guran's eyesight in any way, but the institute people want him to leave not only normal in health but normal in appearance. These are veritable miracles performed daily at the Filatov Institute.

Sight after 24 Years

"Look at this nurse," Dr. Budilova tells us as we go through a ward where the patients wear the bandages of recent operations. The nurse was writing a letter for one of them. There seemed to be nothing at all unusual about her.

In early childhood this nurse, Klavdiya Lebedkova, developed a severe form of xerophthalmia, a disease of the lachrymal apparatus, in which the eye "dries up," the cornea is obscured and blindness results. Five years ago, after 24 years of blindness, she regained her sight at the institute. She stayed on to help others.

She was treated by Professor Vladimir Shevalyov who jointly with Academician Filatov had developed a new method of curing "dry eyes."

Doctors in many countries had tried to cure xerophthalmia. Dozens of methods of inducing artificial lachrymation had been tested, but none of the synthetic solutions could replace natural tears. Sometimes the process of drying was stopped temporarily, but not for long, and the disease invariably progressed.

Filatov and Shevalyov suggested that saliva, closest in composition to tears, be used. The duct of one of the salivary glands is moved from the oral cavity to the space below the eyelid, and the saliva moistens and feeds the eye. One more incurable disease conquered.

We meet another one of these remarkable followers of Academician Filatov—Dr. Susanna Barkhash, head of the institute's children's department. She tells us: "Corneal transplant, a common operation for adults, for a long time was thought to be problematical for children. Previously, if a child developed leukoma at an early age, he was not operated on until he was 14 or 15. By that time his eyes has lost the property of 'seeing,' so that after the operation he saw nothing except light and a lengthy period of training was needed to teach him to see. Now we do corneal transplants for children of any age, even infants."

In 1960 the Filatov Institute received 40,000 letters from every corner of the world, from people who want to come for treatment and from doctors asking for a consultative opinion on eye and tissue therapy. The institute gives treatment and consultation free, as do all other medical agencies in the Soviet Union.

The entries in the Visitors Book read like benedictions. Hassan Sabhi, who came for treatment from Cairo, spent forty days at this "Institute of Light," as he calls it, and left completely cured. He writes, "Patients of all countries, of every nationality and color, are treated with loving care and attention. I shall never forget how pleased the doctors were when, after three weeks of treatment, they found that I was beginning to make out those first gleams of light. To me this was the most wonderful thing that had ever happened. But they were almost as pleased as I was. This is real love of man."

Dr. Baklar of Kansas City made this entry, "This has been a very important day in my life as a specialist. The opportunity of seeing the excellent results achieved by Academician Filatov is a truly rare and useful experience. The sincerity, the wish to show and explain everything are a wonderful way of erecting a bridge of mutual understanding between the American and Russian people."

THE PAST
Through the Eyes of Our Contemporaries

TWO-VOLUME HISTORY OF THE UNITED STATES PUBLISHED IN THE SOVIET UNION

By Boris Mikhailov,
Doctor of Science (History)

IT WILL BE 185 years ago this month that the thirteen American colonies declared their independence of England. Commemorating the birth of the United States, the Soviet people pay homage to the traditions of freedom and democracy that have figured so prominently in the life of the Americans.

"It is precisely the revolutionary character of the War of Independence and the participation in it of the broad democratic strata that won a victory over England. The economic development of the colonies and the growing national consciousness of the American bourgeoisie undoubtedly played a part. . . . But the revolutionary spirit of the broad masses of people holds a place quite its own among the factors that determined the success of the American War of Independence."

This paragraph is taken from one of the opening chapters of the two-volume study *Essays on Modern and Current American History* published recently by the History Institute of the USSR Academy of Sciences. The new work is the first comprehensive study done by Soviet scholars of the socio-political history of the United States from the period of European colonization through the mid-twentieth century.

The essays note that "it was in the crucible of the revolutionary war of national liberation against British rule and tyranny that the first American bourgeois republic was born," and with it the first revolutionary and democratic traditions of the American people. Lenin, the founder of the Soviet state, held the traditions in high esteem. He wrote that the American people waged "one of the first and greatest genuine wars of liberation, and one of the few genuinely revolutionary wars in mankind's history." America, he stressed, set an "example of revolutionary war" for the world.

In the Soviet Union there is intense and widespread interest in both the past and the present of the United States. Numerous studies by American historians and Soviet scholars, as well as memoirs, documents and other source materials, are published regularly in the Russian language. Various problems of American domestic and foreign policy are dealt with in dissertations for advanced degrees. The most recent in a continuous stream of publications is this fundamental two-volume study.

Some twenty Soviet scholars in American history were the contributors. The editors were Doctors of Science in History Grigori Sevastyanov and Boris Mikhailov, the author of this article, and Masters of Science Irina Belyavskaya, Alexander Berezkin and Gennadi Kuropyatnik.

As editors and contributors, it was our purpose to present a broad panorama of American life in historical retrospect as a series of 24 self-contained essays. We used numerous official documents, statistics, memoirs and studies by American and foreign historians. Needless to say, Soviet historians are guided by the teachings of Marx, Engels and Lenin who discovered the objective laws of the development of human society. Probing into the past, they rely on the Marxist-Leninist method of historical analysis, which enables them to study the history of mankind thoroughly, objectively and from the materialist viewpoint.

It is dialectical materialism that constitutes the stable foundation on which Soviet historians rely for investigating the past. We proceed from the principle that history is a component part of social science, and the historian must analyze an infinite variety of social phenomena, facts and events from the standpoint of their close interconnection and interdependence. The materialist historian sees history as an integrated process shaped by an interrelated pattern of causal factors—economic, social and philosophical—and not as a series of accidents.

The point of departure for a historical study, in our opinion, is an analysis of human activity in the process of production. The production relations characteristic of each historical period correspond to the level and nature of the society's productive forces. The unity of work activities of the members of that society and their production relations constitute the economic and social basis on which the relations among people originate and take shape. It was from this viewpoint that we approached the investigation of the history of the United States.

When we studied the pre-Civil War period, for example, we were essentially interested in the structure and evolution of bourgeois production as well as the slave economy of the South at a certain stage and the production (class) relations that developed out of these two economic formations. It was important for us to disclose the reciprocal influence between the changing modes of production, the relations of the principal classes of the society and those political movements that arose as a result of the economic processes operating within the country.

A similar problem drew our attention at the subsequent stages of American history, including the twentieth century. For example, the formation of big monopolies in the USA was a major factor in the history of this country, in our opinion. They gradually penetrated not only the country's economic life but its political life as well.

We were interested in tracing such underlying factors as the growth of the revolutionary democratic tradition, the characteristics of the Industrial Revolution, the formation of the nation, of the American working class and its ideology, the influence of certain peculiarities in the development of American capitalism on the country's history, the character of economic crises and depressions and their effect on the life of the working people of the USA.

This approach led us to establish the following chronological divisions: the European colonization of America, the War of Independence and the origin of an independent state, the beginning of the development of capitalism, the aggravation of the conflict between the North and the South, the abolitionist movement, the rapid growth of capitalism as ell as its conversion into monopoly capitalism.

Soviet historians also operate on this premse—that law and politics, culture and psychology, religious concepts and art are not nerely influenced by the productive forces nd the production relations as they arise and levelop at each stage of history, but that they, n turn, have an accelerating or arresting effect on the society's economy.

Thus, our study of the socio-political history of the USA forced us to analyze it in close connection with major economic processes and the material conditions of the people generally and of individual classes. To explain the fundamental causes of crucial political events the Soviet historian looks not only to political relations but primarily to the mode of production of society. This is the factor that, more often than not, determines the attitude of classes, parties, governments and statesmen. In other words, our historians concentrate on the causes of events rather than their results.

This, in brief, was the over-all approach used by our historians in this study.

The historical treatment is complemented by brief outlines of the development of literature, art, music, cinema and history as a science at each stage of the country's development. These outlines throw light on different aspects of the American people's cultural life in historical retrospect.

The critical appraisal of the essays was generally favorable, although reviewers pointed to the weakness of some sections of the book from the research angle and the vagueness of some of the definitions. Certain important problems, they felt, were treated too generally, and some were merely posed and not solved.

The thread that runs through the essays, phrased in the introduction, is "the courage of the common people of America, the persevering struggle of the people of an enterprising and powerful nation to win the vast expanses of the New World . . . to better their conditions of life, to realize their democratic beliefs."

The first American Revolution delivered the country from British domination and created the prerequisites for rapid industrial development. The second revolution resolved the festering contradictions between the industrial North and the slave-owning South. The book devotes considerable attention to the causes of the Civil War, whose centenary is being commemorated this year. It traces the growing abolitionist movement to its rise as a major national force in the sixties and the factors that inevitably led to the armed conflict between North and South.

The book notes that the call of the patriots of the Republic to defend it against the Southern slave-owners met with great popular support, and describes the key role played by workers and farmers in the struggle against slavery. Two social forces—progress and democracy, reaction and despotism—met in "titanic combat," to use Marx's phrase.

"Slavery lay like a heavy burden on the whole life of all the people of North America. It was a blemish on their good name," so wrote Nikolai Chernyshevsky, the great Russian writer and revolutionary democrat.

Russia's progressive public opinion sympathized with the North. "Russia was the only great power favorably inclined to the North during the Civil War," write the authors of the essays. "The sympathies of Russia's progressives were with the North."

In its discussion of the role of Abraham Lincoln in the Civil War, the book gives Marx's evaluation of the great American president. "He was a man who never yielded to vicissitudes or was elated by success. He strove stubbornly for his grand goal. . . . In short, he was one of those rare people who preserve their fine qualities even after they have attained fame. And the modesty of this great and fine man was such that the world did not see the hero in him until he died a martyr."

For us it is beyond argument that in every society it is the masses—the working people, the workers in science, engineering and culture—who are the real makers of their country's history. It is only they who matter, in the final analysis. This does not, of course, deny the fact that in certain periods prominent individuals arise who influence the course of events—men like George Washington, Thomas Jefferson, Abraham Lincoln, Franklin Delano Roosevelt.

In analyzing the role of great men like these in history we start from the premise that they were also products of their time, of certain socio-economic-political conditions. These men were brought to the fore at crucial moments of history by the American people, the real makers of the history and culture of the country.

The book devotes considerable attention to the establishment of diplomatic relations between the United States and Russia in 1809. Subsequent Russian-American ties also receive extensive treatment. New archive documents found by Nikolai Bolkhovitinov testify to the understanding achieved between our two countries. During the War of Independence the Russian Government followed a policy of strict neutrality. The authors' analysis of American-Russian relations shows that they were invariably founded on cooperation in the common interest.

The essays examine the reasons for the rapid economic growth of the United States. Within two or three decades it had surpassed the European countries and by the nineties had grown into a highly developed industrial-agrarian power.

The New Deal and the domestic situation which led to that program of "bold experiments," to use the phrase of Franklin Delano Roosevelt, is treated in some detail. The historians show how the New Deal program helped to alleviate the country's critical economic and political situation.

The essays pay tribute to President Roosevelt for his efforts in recognizing the Soviet state and establishing diplomatic relations with the USSR. Normalization of American-Soviet relations has always corresponded to the aspirations of the Soviet Union and has been its major aim at all stages of its history. As early as 1919 Vladimir Lenin declared, "We are decisively for economic agreement with America—with all countries, but *especially so* with America." The Soviet Government has consistently adhered to this principle.

The outstanding role played by President Roosevelt as the head of the state which became an ally of the Soviet Union during the Second World War is developed in subsequent chapters.

Two critical events in 1941 decisively changed American attitudes—the first was Hitlerite Germany's invasion of the Soviet Union; the second was militarist Japan's attack on Pearl Harbor. They bound the United States and the Soviet Union in an antifascist coalition and cemented the friendship of the American and the Soviet peoples with a common goal. The essays note that "the working people of America looked upon the struggle of the Soviet people as a great battle against the sinister forces of reaction and fascism for the freedom and happiness of the generations to come."

Roosevelt looked on the wartime alliance of the United States and the Soviet Union not only as a decisive factor for a military victory over Hitlerite Germany but as a guarantee that the two countries would cooperate when peace was won. The essays quote the President's statement to the effect that the American people were glad and proud to be allied with the brave Russian people, not only in the struggle for a military victory but also in laying the foundation for the universal peace to follow the war and in preserving that peace.

The analysis of a wealth of factual data leads the authors to the conclusion that even before the United States entered the war, the American people demonstrated their sympathy for the democratic forces fighting against fascism by the material aid they gave to Great Britain and the Soviet Union. Eventually this sympathy led to the direct participation of the United States in the war against Hitlerite Germany. There were farsighted Americans who began the movement for opening a second front in Europe in 1942 and 1943.

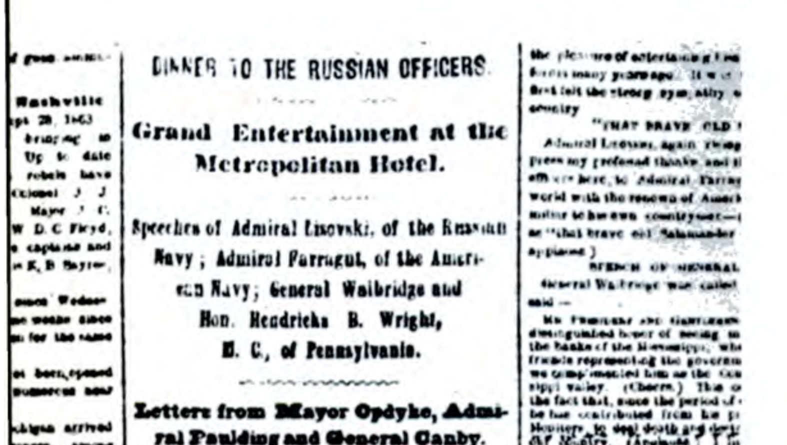
The close, friendly cooperation of the antifascist allies resulted in the victory of the forces of democracy. These facts are evidence of the strength of the American democratic tradition. The American people, the genuine producers of the nation's material and spiritual values, say the authors of this history, can and must preserve what they have created. But for this the imminent threat of war and world destruction must be lifted. Peace can be won by the united effort of all peoples, of all states, large and small, say the historians. They conclude their study with Lincoln's statement that every effort must be exerted to achieve and to preserve a stable peace within the country and with other nations.

"The past is prologue." These words from Shakespeare, if memory serves me correctly, are inscribed on the façade of the National Archives building in Washington. The new Soviet study in American history prompts me to paraphrase the statement somewhat—the past centuries of friendship between the Russian and American people must serve as a prologue to a future of peace and happiness.

RUSSIA'S FIRST AM

Bowl from a silver dinner set presented by President Thomas Jefferson to the first Russian envoy and a certificate dated May 1818 attesting to his honorary membership in the Humane Society of Philadelphia.

AN EXAMPLE OF FRIENDLY S



DINNER TO THE RUSSIAN OFFICERS.

Grand Entertainment at the Metropolitan Hotel.

Speeches of Admiral Lisovski, of the Russian Navy; Admiral Farragut, of the American Navy; General Walbridge and Hon. Hendricks B. Wright, M. C., of Pennsylvania.

Letters from Mayor Opdyke, Admiral Paulding and General Canby.

Sympathy Between Russia and the United States,

&c., &c., &c.

Admiral Lisovski and the officers of the Russian fleet now in our harbor were entertained last evening at the Metropolitan Hotel, the host being Mr. James B. Eads, of St. Louis, a gentleman who has been extensively engaged in building iron-clad gunboats for our government. There were some thirty of the Russian officers present, all resplendent in handsome uniforms, and many of them wearing the cross of St. Stanislaus and other decorations. Our own navy was represented by the gallant Admiral Farragut (in plain clothes), Commodore Bradford, Chief Engineer Stimers and Naval Constructor Delano. Brigadier General Van Vliet represented the army. The national government was represented by Mr. Collector Barney. The municipal government had no representative present, but the letter from Mayor Opdyke will explain why. The community at large was well represented by the Hon. Hendricks B. Wright, member of Congress from Pennsylvania, the Hon. Hiram Walbridge, formerly member of Congress from this city, and other citizens. Altogether there were some eighty persons present, and all seemed to enjoy the occasion.

The engineer officers of the Russian navy, distinguished by ... epaulets, were much interested before ...

IN THE FALL OF 1863 a squadron of three frigates, two corvettes and a clipper sailed without lights or sound of bell or voice through the North Atlantic, bearing southwest. Only after a thundering cannon salute in New York on September 25, 1863, did the world learn that a Russian squadron, under Rear Admiral Stepan Lesovsky, had for the first time in history dropped anchor in a port of the United States.

Almost simultaneously another squadron flying the Russian flag, commanded by Rear Admiral Alexander Popov, arrived in San Francisco. The Civil War was at its height, and the appearance of Russian ships in American waters was interpreted as a demonstration of sympathy for the North. European newspapers at once published reports of "a secret and unusual alliance between Russia and America."

The squadrons had been ordered overseas when British and French ships, equipped for transporting landing parties, appeared in American waters. At the time both England and France actively supported the Confederacy. Russian Chancellor Gorchakov had on several occasions strongly protested foreign interference in America's domestic affairs. "Our countries," he had told the United States, "seem destined for a natural community of interests and sympathies, testimony of which they have both provided."

The Russian sailors were given a warm welcome by the people of New York and San Francisco. Newspaper articles abounded in professions of friendship, and headlines called for alliance and cooperation between the United States and Russia. Three banquets were arranged at the Astor House in honor of the Russian officers. A "Diamond Ball" was given at the Academy of Music, and among the Russian officers attending was Nikolai Rimsky-Korsakov, who was to become a world-famous composer but at the time was a naval cadet on the frigate *Oslyabya.*

A crowd of soldiers, sailors and dock workers clustered around the entrance to the New York hotel where Rear Admiral Lesovsky was staying. When a procession led by a band and carrying Russian and American flags marched to the hotel, Lesovsky appeared on the balcony and warmly thanked the Americans in English for their hospitality.

The squadron also visited Alexandria, the outer harbor of Washington, where Lesovsky welcomed Secretary of State William Seward and the President's wife—Lincoln was ill at the time—aboard the flagship *Alexander Nevsky.*

The Russian squadron remained in America

ASSADOR TO THE UNITED STATES

ANDREI DASHKOV sailed from Europe to the United States in May 1809 aboard a ship flying the Stars and Stripes to take the post of Russia's Consul General in Philadelphia. Two years later he became his country's first Envoy Extraordinary and Minister Plenipotentiary to the United States.

Prior to his American appointment Dashkov had held an important post in the Russian Department of Commerce. He had been to England and acquired an excellent command of the language.

Dashkov was received at the White House by President Thomas Jefferson. Shortly afterward he wrote in this vein to John Quincy Adams, who had just been appointed America's first envoy to Russia, "I could not but be flattered by the friendliness and attention shown to me in Washington. I am sure you will be equally gratified on your arrival in St. Petersburg."

Preceding the ambassadorial appointments there had been an exchange of letters between the Russian Government and the American President. Jefferson had written in 1807, "Russia is our most cordial friend among all states on the globe and will go the farthest in supporting us." The policy of "armed neutrality" proclaimed by Russia in 1780 had played a tremendous part in the outcome of the American War of Independence.

The period after the war witnessed an expansion of trade between the two countries. In the single decade 1790-1800 more than 500 vessels flying the American flag dropped anchor at Kronstadt. The United States bought from Russia Ural pig iron, which was of better quality than the Swedish and English varieties, and flax, hemp and rope. Russia imported cotton, rice, sugar, spices, and other goods.

The Russian envoy set up consulates in American cities almost immediately upon his arrival. Only three months after he landed, Dashkov was writing the Governor of Odessa to request his patronage for the first American ship—the *Eleonore* from Baltimore under Captain Sanford—to sail for the Russian port on the Black Sea with a cargo of coffee.

Dashkov was interested in the customs and way of life of the young republic. Among other things he looked into methods of grape cultivation and sent home seeds of grapes and other plants. The American people were pleased at his interest. They considered the Russian envoy a sincere friend, one who had done much to consolidate friendly relations between the two countries. The newspapers took occasion to comment that Dashkov's house in Philadelphia was known for its hospitality.

During the Anglo-American War of 1812, the ambassador again proved his friendship for the young republic. Russia, pursuing a friendly policy toward the United States, offered to act as mediator between the belligerent countries. Dashkov, by reason of his unsparing efforts and diplomatic tact, was able to persuade the American Government to accept the offer, and subsequently plenipotentiaries were dispatched to St. Petersburg to take part in peace negotiations.

Dashkov's efforts, aimed at fostering peaceful and friendly relations between his country and the United States, were widely applauded by the American people. In their name President Jefferson presented the Russian envoy with a silver dinner set. He was elected an honorary member of a Philadelphia humanitarian society.

Dashkov spent ten years in the United States. He did more than lay the foundations for diplomatic relations; he set the cornerstone of friendship and cooperation between the two great countries.

LIDARITY

or about nine months. By then the situation ad taken a better turn for the North, and oreign intervention was no longer possible.

On the eve of the squadron's departure, the Mayor of Boston expressed the general sentiment of the North in these words, "The Russian ships brought us neither weapons nor implements of war for suppressing insurrection. We had no need of them. But it brought here a feeling of international fraternity and moral support."

On their return home the Russian sailors were invited to the American mission in St. Petersburg where the American envoy at that time, General Clay, said, among other things, that "Russia, the great Eastern power, and the United States, the great Western power, devoid of opposing interests, should be guided by the laws of rapprochement. The difference in the forms of government should not entail antagonism. We have been friends ever since our birth as nations. This has been in our common interest."

The expedition of Russian squadrons to the United States in 1863-64 was far more than the usual courtesy visit. It showed the whole world that in spite of their different social systems America and Russia could be friends. This was an example of successful friendly cooperation and solidarity.

The visit of a Russian squadron in 1863 was hailed by the press as a demonstration of sympathy for the North.

FABLES

BY SERGEI MIKHALKOV

THE BEAVER AND THE FOX

Miss Foxy spotted Mister Beaver one fine day.
The silver in his coat—it took her breath away!
To add to that, he was a first-rate builder.
His income—gee! the thought, it almost killed her.
In short, with all those virtues graced,
The gentleman appealed to Foxy's taste.
Whole nights she'd sit and piece together two and two:
"We foxes always got the better of those misters.
Who says I'm sillier than my sisters?
High time I got myself a beaver, too!"
Now watch my fox set out to trap her victim.
She rolled her eyes and nudged and pinched and licked him.
No counting all the saucy things she said
Before she tricked him.
At last the beaver lost his fat old head
And neither slept nor ate
Until he'd left his mate,
Deciding that the missus
Was far too old for hugs and kisses.
One morning, coming down to have a drink,
The Hedgehog stopped the Beaver for a chat.
"Hello, old guy, how are you getting on with that . . .
Oh, what's-'er-name, Miss Fox, I think?"
"Eh, man," the Beaver answered to his call,
"We don't seem to be getting anywhere at all.
Just chicks and ducks—that's all she dreams of, aye,
From fall to spring, from spring to fall.
From red, you know, she's changed to silver-gray!
There's nothing on her mind but frocks and frolics.
The minute I come home she quits.
Of all the chits!
Oh, it's,
It's fit to give an honest beast the colics.
I see no option but return to Mrs. Beaver.
Oh, Lor', why ever did I leave 'er?
There's just the faintest hope she wouldn't mind,
She's kind!"
"Run home," the Hedgehog readily agreed,
"Or else, I feel, your game is up indeed!"
So back he stalked to where he lived before.
"Come, chickabiddy, open up the door!"
"Oh, no," she cried, to Mr. Beaver's awe,
"Scram off to your Miss F. and touch me no more!"
So, willy-nilly, back he trudged to Foxy's house;
Bad luck—she'd got another beaver for a spouse!

The moral is, be you a man or beaver,
Stick to your wife and never leave 'er!

THE COW SALE

A man brought a cow to the market one day,
But no one the price he wanted could pay.
Though plenty of folk were in need of a cow,
It didn't appeal to their fancy, somehow.

"Say, mister, I guess you are selling the beast?"
"Aye, sonny, since five in the morning at least."

"It isn't too much you're expecting to get?"
"I'll sooner be losing than gaining, I bet."

"You'd think that she hadn't been fed for a year!"
"Oh, no, it's an illness that plagues her, I fear."

"And what about milk? Does she yield you a lot?"
"Ah, sonny, it's milk that she's never yet got."

And the man with the cow spent at market all day,
But no one the price that he wanted would pay.

At last a young fellow took pity and said,
"I see you're no trader, let me try instead.
And if we are lucky, the cow will be sold."
"All right," to the young fellow answered the old.

Soon comes a rich buyer with money galore
And higgles and haggles the precious cow for.

"Your cow is for sale?"
"If you are rich enough, yes.
Her value is more than you ever can guess."
"Not much, I should say, if you judge her by sight."
"She's not very fat, but her milk is all right!"

"And what is her yield, I would say if I may?"
"So big that she couldn't be milked in a day."

Our graybeard, the owner, looked up at his cow:
"I don't see there's reason for selling it now."

"No, Betsy, I never shall give you away!
I need such a beauty myself, I daresay!"

BUNNY IN HIS CUPS

One night, to mark his birthday, as was meet,
The Hedgehog called the Rabbit for a treat.
It went along till dawn, the celebration,
With noisy mirth and generous libation.
When parting time came on,
Our friend the Rabbit was already so far gone
That he could hardly leave the table.
"L-let's go home . . ." he said. "But are you able?"
His worthy host replied.
"Just take a nap until you've quite come to,
To be on the safe side.
They've seen a Lion somewhere round here, too!"
Much good persuading Bunny when he's drunk.
"The hell I care!" he bawled. "What's that to me?"
It won't be I—he'll be the one to funk!
Go fetch him here and just you see.
Those great big brutes—it's time they got their due.
I'll lick the Lion black and blue!
Watch out if I don't eat him, too!"
The merriment behind, our little braggart,
Bumping against the trees, staggered through the night.
With all his might:
"The Lion! Bah! Is that your notion of a giant?
I've had to deal with many a tougher client."
This drunken hubbub woke the forest lord
Who spied the culprit scrambling through the brush.
And grabbing Bunny, roared:
"Whoah, little beggar, what's the rush?

So it was you, sir, making all this din?
By gosh! You stink of gin!!
It's past my mind how folks can lap such slush!"
From Bunny's brains at once the spirit fled
And for a remedy he racked his head.
"B-but I . . . B-but we . . . B-but you . . . Oh, please let me explain!
You see, I've just been at a birthday party,
And, I'm afraid, the drinking was too hearty.
But all to you, sir, and your family—it's plain
Why I'm so drunk—you really can't complain."
Here Leo sheathed his claws and let our Bunny go,
And even squeezed his paw and thought him clever.
A strict teetotaler, the drunkard's deadly foe,
He loved a flatterer, however.

GREEDY VARTAN AND THE FURRIER

A peasant called Vartan once brought
A sheepskin to his neighbor.
"Now, could you make a cap of this,
Or is it too much labor?"

"Why not?" examining the hide,
Exclaimed the willing man.
"And what if I should order two?"
Again inquired Vartan.

"I'll make you two." "And three?" "Well, yes."
"And even four?" "All right."
"And what of five?" "Let it be five,
If you so wish, I might."

"Then surely you could sew me six!"
"If need be I shall try."
"Then let's say seven," cried Vartan.
"Good!" came the prompt reply.

When in a day the client came
To try his purchase on,
The furrier laid all seven caps
His working bench upon.

"Good gracious, did I order these?"
Vartan in fury roared.
"When sewing them you must have been
As tipsy as a lord!"

"There's nothing left for me to do
But throw them out, I swear!
I ordered seven lambskin caps,
But now have none to wear!"

"Cool down, my friend, and blame yourself,"
The furrier replied,
"How could I make you seven caps
Out of a single hide?"

Translated by Dorian Rottenberg

Rhyming WIT & SATIRE

By Vladimir Frolov

SERGEI MIKHALKOV is a writer of verse, fables and satiric plays. For thirty years he has been devoting his talent to literature.

More than one generation of Soviet children has grown up with his books. They know his "Uncle Styopa" verses about brave and sunny Daddy Longlegs who freed pigeons from a burning house, saved a drowning boy, fought courageously against the fascists and became a militiaman when the war ended.

Mikhalkov is tall and very good natured, so that his young readers identify him with the hero of his verses. When they spot him, the delighted yell is, "Here comes Uncle Styopa, kids."

Mikhalkov's verses are rhythmic and melodic with the flavor of the ditty, joke and puzzle that children are so delighted with in counting and teasing games.

He is also known as the author of subtle and bitingly sarcastic fables. Always current, they level their shafts at the double-dealers and yes-men who poison the lives of decent people. The best of his fables are complete stories and dramas, with their own plots. It is not hard to guess who their characters—birds and animals, of course—portray.

His satirical comedies for adults likewise pillory the hypocrites and red-tape worshippers with brilliant irony. He drags them "by the ear out into the sun," as the Russian saying goes, for all to see in Lobsters, Going Wild and A Monument to One's Self. His comedies for children include the very popular Zaika-Zaznaika (The Stuck-Up Rabbit), The Jolly Dream and Sombrero.

Mikhalkov, who is still under 50, lives and works in Moscow. He wants to know and see everything and does a great deal of traveling. He knows the worth of beauty in man and attacks anything and anybody that prevents his growth and development into a social and creative being.

By Academician Ivan Glushchenko

MICHURINIAN SCIENCE and AGRICULTURE

SCIENCE plays an extremely important part in Soviet agriculture. In the farm development program worked out at the January Plenary Session of the Central Committee of the Communist Party of the USSR it was given an even more prominent role.

The present farm research network comprises 800 institutes and experimental stations, supplemented by more than 1,500 state seed variety testing units that do experimental work right on the farm.

This year model experimental farms are to be set up in almost every district with a view to organizing farm work on a high scientific level. They will be staffed by researchers, agronomists and other specialists who will be field testing new growing and breeding techniques under local soil and climate conditions. The results will be immediately available to farms in the vicinity.

This unity of science and practice is typical of socialist society. They reciprocally enrich and develop each other. The materialist foundation of Soviet agrobiological theory was laid by the Russian naturalist Ivan Michurin who worked during the same period as the American horticulturists Luther Burbank and Nils Hansen.

Michurinian biology, so named in honor of its founder, drew on the best of past biological theory and practice and carried the science a long step forward. Whereas Charles Darwin gave a scientific explanation of the laws governing the development of nature. Michurin, in further developing his teachings, showed how these laws could be used as tools to transform nature.

Michurin's theory opened the way for every biologist to control the characteristics of plants and animals, to alter them for man's benefit. That is why his teachings are referred to in the Soviet Union as creative Darwinism. The cogency of his teachings derives from the fact that he based his study of plant and animal development on the principles of philosophical materialism.

Soviet biologists are consistent materialists and adherents of the Marxist-Leninist theory. They study living nature and its development in terms of its inherent characteristics and conformities and are able to alter these characteristics as practical requirements dictate.

Millions of Michurinist practical farm experimenters are helping to produce new crop varieties and animal breeds. Many working farmers have made notable contributions. Terenti Maltsev is famous throughout the country for developing a farming system for the Transurals that markedly increased crop yields. For his work he was elected an honorary member of the USSR Academy of Agricultural Sciences.

Ivan Michurin died a quarter of a century ago, a sufficiently long period to test and validate his scientific legacy. His teachings have been further developed by his pupils and followers, particularly by the leading Soviet scientist Academician Trofim Lysenko who elaborated the theory of the development of plants in phases. This theory, which maintains that plants pass through successive, qualitatively different stages as they develop, has won wide recognition among biologists and practical growers. Lysenko also formulated a theory of heredity and its variability.

Michurin's teachings are founded on the tenet that metabolism is

IVAN MICHURIN WITH HIS PUPILS (1932)

the basis of heredity, that heredity is the repetition in successive generations of the same type of metabolism.

For many years this theory was the subject of heated debate both in the Soviet Union and abroad. The adherents of the chromosome (gene) theory claimed that heredity is particulate, that it is carried by particles called genes contained in the chromosomes. Michurinists say there are no such things as genes and that the property of heredity is not confined to special particles in the organism but that any part of the organism capable of reproduction has this property.

Cogent proof of the validity of this proposition are the new forms of plants created by Michurinists through vegetative hybridization. Vegetative hybrids, which arise as a result of the coalescence of parts of different plants, bear the characters and properties of their parents, just as in sexual hybridization, and transmit these acquired properties and qualities to their offspring. The apple variety Reinette Bergamotte, bred by Michurin, is a classic example of a vegetative hybrid. Research workers at the Institute of Genetics of the USSR Academy of Sciences have produced many vegetative hybrids of tomato, eggplant, cabbage and other plants.

Michurin and his followers hold that heredity can be altered and, more than that, that it can be altered in a definite direction. This proposition is a result of numerous studies and, more particularly, of experiments that produced vegetative hybrids and transformed spring crops into winter crops, and vice versa, through proper training.

All this research could not help but influence the views of Western geneticists. After many years the opponents of Michurin's theory admit that there are no optical, physical or chemical means at present by which the gene can be studied directly. (M. Demerec, "What Is the Gene?" *American Naturalist,* Vol. 89, No. 844, 1955.)

Not so long ago the experiments and conclusions of Michurinists were rejected outright. Today, however, many Western geneticists are repeating them. There are many examples one could cite to bear this out, but one will be sufficient. At the last International Congress of Geneticists in Canada (1958), a special section was organized to discuss problems of vegetative hybridization. This is the idea that Charles Darwin put forward, that Michurin and his followers developed but that Western geneticists flatly rejected.

Nor can the fact be disregarded that adherents of the chromosome theory acknowledge the possibility of mutations—hereditary changes—induced in a definite direction. In this respect the work with yeast done by the American geneticist Carl Lindegren is of special interest. The studies are summed up in his article "The Stability of the Gene" in *Science,* 1956, and in the abstract from his report to the Tenth Genetics Congress on "The Recombination of the Complex Locus in the Yeast Saccharomyces."

These examples speak for the viability of Michurin's materialist teachings. They continue to gain more and more supporters. One of Japan's foremost cytogeneticists, Professor Hazime Matsuura, on the basis of his own experiments, acknowledged the validity of Michurin's theory and now heads the mass movement of farmer-experimenters joined in the Friends of Michurin Association in all fifty of the country's prefectures. The newspaper *Michurin Nogio (Michurin Agriculture)* has been published in Japan for many years. Within a few years four congresses of Michurin supporters were held in Tokyo.

In France the Friends of Michurin Society has been thriving for more than ten years. It disseminates the teachings of Michurin and those of the French materialist biologist Lucien Daniel. Its *Bulletin* publishes scientific studies and results achieved by practical workers.

There are adherents of Michurin's teachings in England, Belgium, Italy, Switzerland, India, China, Bulgaria and many other countries.

Michurin achieved extraordinary success in his efforts to transform the plant world. He created more than 300 new fruit varieties. But to really comprehend the magnitude of his work we must remember that he did not merely improve existing varieties but actually created, under growing conditions peculiar to the North, plant forms that normally grow in the South or are found wild in the East. To mention a few, there are the apricot, sweet cherry and Actinidia varieties and the many apple, pear and plum varieties that Michurin bred in the town of Michurinsk (formerly Kozlov) in Central Russia.

Michurin's pupil Mikhail Lysovenko continued his work of making the North horticultural country. Siberian orchard acreage keeps expanding year by year. Kiev horticulturists have bred several winter-hardy peach varieties of fine quality in places where they had never grown before. This work, begun by another noted follower of Michurin, Academician Nikolai Kashchenko, is being successfully developed by researchers of the Botanical Garden of the Ukrainian Academy of Sciences and the Ukrainian Institute of Horticulture.

Michurin's pupils and followers have enormously enriched the plant and animal world. Today 2,578 varieties of farm plants are grown in the Soviet Union. Most of the new forms were created by Soviet plant breeders; only 162 are of foreign origin.

The grand old man of Russian plant breeding is Academician Vasili Yuryev who began his work early in the century. He is the creator of 19 wheat, barley, corn and other farm crop varieties grown over an area of about five million acres.

Michurinist plant breeders Pavel Lukyanenko and Fyodor Kirichenko have created several varieties of winter wheat, that most vital of food plants. These varieties, despite their comparative youth, are already sown over millions of acres to supply Soviet consumers with additional hundreds of millions of bushels of wheat.

Academician Vasili Pustovoit has made breeding sunflowers, an important Soviet crop, his life work. Nikita Khrushchev called Pustovoit "the god of the sunflower," a characterization not too wide of the mark for this botanical wonder worker who has bred sunflower varieties with seeds having an oil content of 52-53 per cent, almost twice that of the ordinary sunflower. His colleague Academician Leonid Zhdanov was equally successful in creating varieties with high oil content.

Soviet farmers are generally acquainted with the many advanced agrotechnical methods worked out by the country's agricultural scientists. They include vernalization of spring grain crops and potatoes, summer planting of potatoes, grass sowing in summer, additional pollination of farm crops, intra- and intervarietal crossing for seed-growing purposes, hill sowing and planting, etc.

Michurinist stockmen have created more than forty new breeds of cattle, sheep, pigs, horses and poultry. Among the new high-yield milkers is the well-known Kostromskaya breed, the best of which give as much as 10,000-11,000 quarts of milk a year. Belogolovaya and Sychovskaya are among the other very productive dairy cattle breeds.

The work of Soviet biologists and animal breeders in artificial insemination has won them world renown. The methods they have devised not only rationalize propagation techniques but speed up the process of quality improvement in herd pedigree.

Studies are under way at the experimental base of the Institute of Genetics of the USSR Academy of Sciences in the Gorki Leninskie State Farm under the supervision of Academician Trofim Lysenko to increase the fat content of milk. The cows bred in these researches yield milk with a fat content of more than five per cent. Many animals of this high-yield stock have been sent to the collective and state farms.

Academician Lysenko's aim is to make the fruits of his investigations available to every collective and state farm in the Soviet Union. He hopes to increase the average fat content of the country's milk from 3.6-3.7 to 4.5 per cent within a period of five to seven years. The practical implications of these studies are apparent—an increase of only 0.1 per cent in the fat content is equivalent to an added 800 million quarts of milk yearly.

Soviet scientists follow agriculture developments abroad with great interest and make every effort to build close ties with their foreign counterparts. Exchange of findings helps to enrich farm science and make for larger crop yields and a greater abundance of food products throughout the world.

Soviet science, being in close union with practice, is actively participating in the fulfillment of the task set by the January Plenary Session of the Central Committee of the Communist Party of the Soviet Union—to create within a short period an abundance of produce for the people and thus to raise still higher the country's standard of living.

The farm development program worked out at the January Plenary Session has opened new and bold vistas for research in agricultural science. At the service of the researcher are fine modern laboratories, experimental fields, big operating farms and the great body of theoretical and practical pioneer work in agrobiology done by Ivan Michurin and his successors.

Ice Capades IN MOSCOW

MUSCOVITES were very happy for the chance to applaud the American *Ice Capades* company with its 100 wonderful dancers this summer.

Soviet audiences had previously seen the extraordinary grace of American ballet on skates when the *Holiday on Ice* company danced in 1959. It was perhaps for that reason that tickets for the very first performances of the *Ice Capades* were at a premium, even though they were held in the Moscow Sports Palace that seated 15,000 people. This huge hall had no empty seats for subsequent performances either.

The ice dancers, particularly Rick and Lucienne Boyer, Jimmy Krochan, the Emmanuels, Bobby Specht, Eric Waite and Donna Atwood, charmed their Soviet audiences. Nor was their reception off stage, in the streets of Moscow and at gatherings with young Soviet friends, any the less cordial. There were long and excited exchanges far into the early hours about ballet, music, art, theater, life —in short, about everything of interest to young and optimistic people who understand each other.

Moscow + 98°





SPORTS FOR THE JUNIORS

By Victor Kupriyanov
Photo by Victor Ruikovich

OLYMPIC performance is not merely a criterion of individual ability, it is something of an index of a country's health. Keeping a nation healthy is a big job. In the Soviet Union it is part of state policy.

We estimate that some 10.5 million of our boys and girls participate in sports. We would like to see the figure go up. One of the ways is to get more of the school generation to participate in tournaments at various levels. The innovation this year is to have school sports tournaments run on a class versus class basis to augment the school versus school arrangement. The target for 1965 is to get nine high school students out of every 10 to take part in physical activities.

Emphasis in the school sports program is on health and fitness. The physical training syllabus is designed for all-round proficiency. The children get a taste of track and field, gymnastics, skiing, ball games, etc. As an incentive, a handsome pin is awarded to boys and girls who meet the standard requirements. The pin is the prized possession of many a youngster, as coveted here as a school letter is in the United States.

Another new departure is the inclusion in the syllabus of two or three long-distance hikes, skiing, cycling and the like each term. These are held on the school and even the neighborhood level. On the hikes there are contests in tent-pitching, making a fire with the least number of matches and cooking a camp meal, with prizes for the winners. One youngster we know won a lovable little pup at one of these hikes. The pup is now full-grown—very much so—and still the family pet, but everybody is apprehensive about the ultimate size of the next prize the youngster will be bringing home.

Children's Sports Centers

Of the 10.5 million boys and girls who participate in school sports a good percentage want to go in for athletics more seriously. Some boys are trying to become strong men like Yuri Vlasov, the Olympic gold medal winner who lifted more than half a ton. Others are hoping to become top-notch ball players. Girls dream of a figure like Larissa Latynina's and the gold Olympic medals that her gymnastic skill have brought her.

For those who like more athletics than the schools provide there are some 2,000 children's sports centers all over the country with an attendance of approximately 500,000. By 1965 the number of centers will have increased to 6,000 with double the attendance.

These centers are doing an admirable job. They gave some of our leading athletes their start. About every third member of the Soviet Olympic team in Rome began his climb toward headline stature at these children's sports centers. By the time of the Tokyo Olympics we expect that every other member of the team will be a training center alumnus.

More than just playgrounds and gyms, these centers constitute research labs where physical training instructors, doctors and educators study physical endurance, physiological strains and stresses, the effect of athletics on health and growth, and a million and one other related questions. Special physical training research institutes cooperate in this work.

The centers are staffed by leading coaches, many of them trail blazers in their field. One of the headline names is Victor Alexeyev, who heads the center in Leningrad that has turned out an enviable number of champions and record holders. Alexeyev has an uncanny talent for spotting future stars and for suggesting the sport they're likely to excel in. He is the man who discovered Tamara Press at a school sports tournament in Central Asia and took her under his wing. Now a collegiate athlete, she holds the world records in both the shotput and discus. Ex-record holder Galina Zybina is another of his trainees.

Alexeyev's secret of success is simple—general physical fitness. That is the iron rule, not only for his school, but for every children's center in the country. Before Alexeyev lets a youngster specialize in a particular sport, he has him develop over-all physical fitness. Alexeyev does not rush his students. The records will come in time, he assures them.

Take Valeri Brumel, the 19-year-old freshman who has been doing some really fine high jumping. He came up from a typical junior sports center in the Ukraine where the emphasis, as everywhere else, is on physical fitness. As a result, he can hold his own in sprinting, do fairly well in the throwing events and score well generally.

Brumel is not oversized. He's shorter than John Thomas, America's top high jumper, but his springiness compensates for his height. In the gym he can jump higher than the rim of the basket! He's a fine example of what the combination of general physical fitness and good training can produce.

Scholarship Too

No question that scientific training under strict medical supervision together with ample athletic facilities and mass participation will produce champions in abundance. But parents are not sports officials—they want their children to grow up healthy, to win medals if they can, but not at the expense of scholarship. Parents won't put up with overemphasis.

The training and competition rules take care of that. School authorities will not permit a boy or girl with poor marks to report for training in extracurricular sports. At the sports centers and clubs they display big charts with names of the young athletes and their school grades. A passing mark that only gets an athlete through by the skin of his teeth or a failing mark is listed in red so that it stares the youngster in the face.

As a rule, however, good athletes are good students too. Take the broad jumper Igor Ter-Ovanesyan who appeared at Madison Square Garden in February. This 23-year-old athlete is currently writing a thesis on the physiology of athletics for his degree. Valentin Muratov, internationally famed gymnast, is also doing research in the sports field.

Tournament rules for junior performers are very strict. Not only must each contestant get medical clearance for each competition, but officials will ask to see the athlete's report card. Coaches still like to tell young trainees about the time, way back, when Lev Mikhailov, present figure-skating champion, was disqualified because of a bad math mark. It is true that in later life he did not become a professor of mathematics, but neither was he ever disqualified again for poor marks.

All the big league clubs—in soccer, hockey, etc.—have junior sports groups. Come down to the Dynamo Stadium, for instance, and you'll find teen-agers playing soccer under the tutelage of players whose names are part of athletic history. Not only that—the youngsters wear the same uniforms the big leaguers do and they're chummy with the headline players. A boy treasures all that. So that this is another way that physical fitness comes sugar-coated.

At one time the Young Pioneers Stadium, which is not only a huge junior sports center but also a training area for school athletes—the center's soccer, track-and-field and other teams rank with Moscow's best—had trouble getting the boys to do figure skating. So long as it was individual skating the boys were interested, but as soon as it came to skating in pairs and doing what the younger generation of males considers "sissy stuff," they drew the line. The coaches were stumped. Finally they worked out this lure—a summer camp stay with such unquestionably manly activities as swimming and treasure hunts. For that a boy will stand even a bit of "sissy stuff" like figure skating, the idea being—dress up the physical fitness idea so that children have fun exercising.

The combination of summer camp with training is appealing and effective. Here again the basic idea is general physical fitness. Take the Shakhtyor Table Tennis Club, junior section, of the Miners Trade Union. The parents committee established a summer camp for the youngsters with the usual varied activity program except that table tennis is one of the major sports. The results weren't long in coming. Shakhtyor trainees now rank with the best in the country.

Given facilities and incentive plus an element of competition, the younger generation will take to sports. The junior athletic program provides all three. As regards competition, there is a broad international program. Highlights are the soccer meets, so far on a European scale; tennis matches, on both a continental and an international scale; and international exchanges like the USA-USSR junior table tennis tours. On the home scene we have a very busy schedule, to be crowned by the USSR school games (Spartakiada) in 1962 that will mark the fortieth birthday of the Young Pioneers, our children's organization.

Junior sports is not only a way of developing championship teams—it is an excellent means of maintaining the good health of the nation.

Sports meets are held at 160 stadiums specially built for Soviet children in different parts of the country.

The target for 1965 is to get nine high school students out of every ten active in one sport or another.

Tennis has become very popular among children, with junior tennis sections in almost every Soviet city.

Soviet swimmers have lagged behind their rivals in recent competitions. Hence the emphasis on the small fry.

Arc Welding at the Penzkhimmash Plant in Penza by Mark Redkin
See page 16

USSR

MOSCOW TODAY and TOMORROW

See page 28

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Soviet Science

Photos by Yuri Abramochkin and Yevgeni Tikhanov

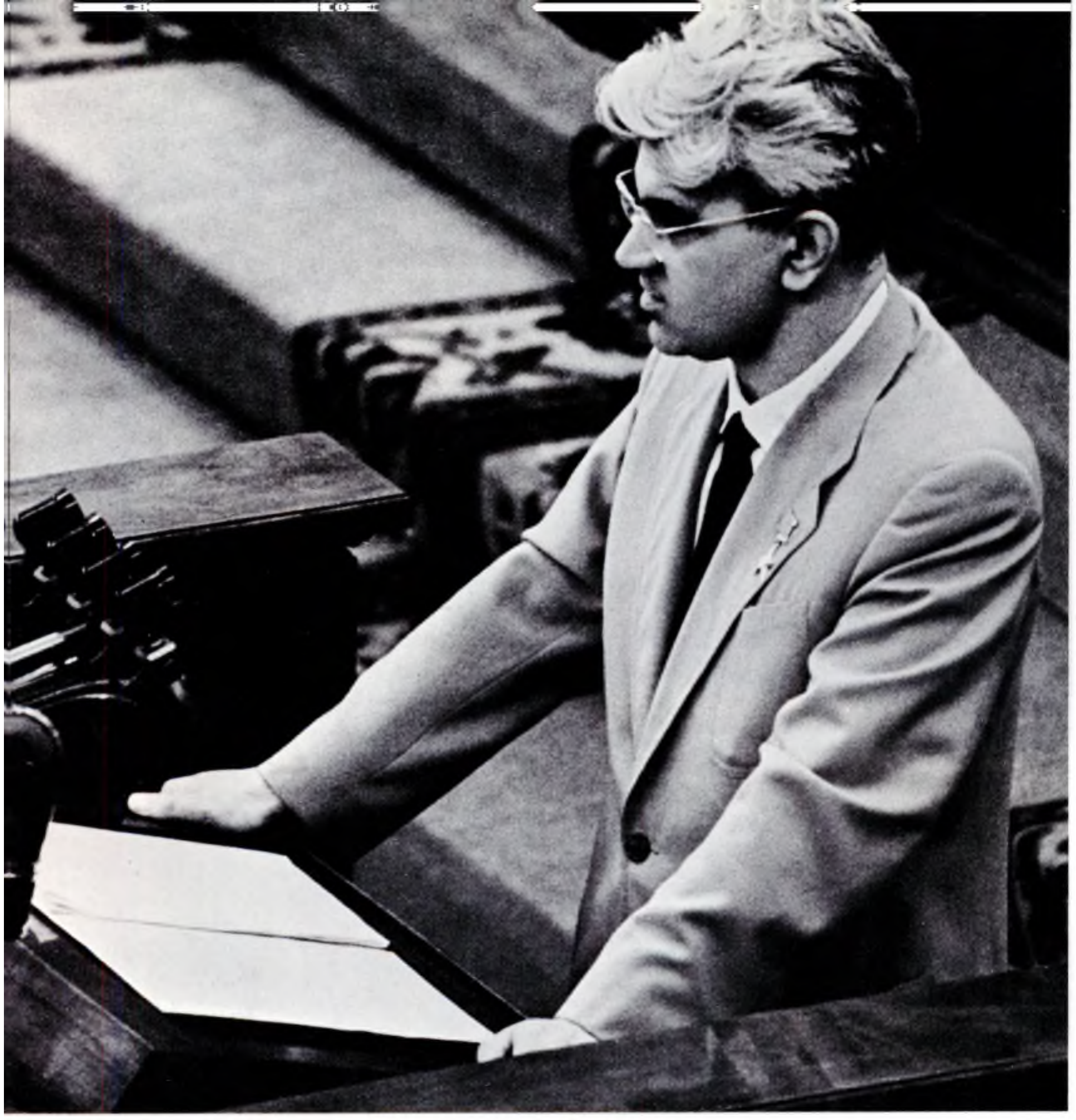
IN OUR ATOMIC AGE a country's economic progress is dependent upon its scientific progress. In the Soviet Union, a country where a socialist society has been built, science is given a primary place as an indispensable tool for building communism.

The Soviet state is generous with funds for research. In 1950 allocations to scientific bodies totaled 874 million new rubles. Ten years later they were almost four times that figure—3.2 billion—and in 1961 they came to 3.8 million rubles.

In the past decade the number of people engaged in research doubled and is now 354,000. This figure includes 11,000 investigators with a Doctor of Science degree and 98,000 with a Master of Science degree. All told, the country has 3,800 scientific establishments, 1,500 of which are research institutes.

The USSR Academy of Sciences with its very widespread network of coordinated scientific bodies is the country's research focus. Almost every Union Republic has its own Academy of Sciences which has developed from a branch of the national academy into an independent research center. There are also specialized academies for medical research, farm research, education, architecture and construction.

Branches of the national academy in various cities of the Russian



esident of the USSR Academy of Sciences Mstis- Keldysh addresses the nation's top scientists.

Axel Berg (right), an authority in the field of radio engineering, with a colleague at the Kremlin meeting.

Nikolai Mudkhelishvili, President of the Georgian Academy of Sciences, and Rafael Dvali, its Vice President.

Biochemist Vladimir Engelgardt (left) and physi- al chemist Valentin Kargin at the conference.

Looks to the Future

Federation have developed into very large research centers in their own right. The Siberian Branch of the USSR Academy of Sciences, set up late in 1957, now has its own network of 40 research institutions.

Research is also carried on by a large number of specialized institutes under the various ministries and by college laboratories that also serve as a training ground for young investigators.

New Forms for New Times

This well-ordered research setup works according to a plan. The general trend of investigation is dictated by the country's needs. With Soviet economic development so rapid, new demands are constantly being made on science, placing before researchers problems of increasing complexity and calling for improved forms of organizing research.

Recently new forms of industrial management were adopted to meet the needs of the times. Radical changes were also introduced in farm organization. For the same reason changes are to be made in the organization of research to bring science closer to the problems that grow out of communist construction.

To implement the decisions recently made by the Party and the Government a State Committee of the USSR Council of Ministers for the Coordination of Scientific Research has been set up, changes are being made in the work of the USSR Academy of Sciences, and measures are being taken to improve the system of training research personnel.

Soviet science is entering a new stage of development with a record of achievement that has won it worldwide acclaim. The stupendous feat of a Soviet man's flight into space still remains unmatched. In the field of space research Soviet scientists can also take credit for the discovery of near-earth radiation belts, for establishing the fact that there is no magnetic field on the moon, and for photographing the dark side of our lunar satellite. Successful work has been done on the nature and properties of cosmic rays, on the physics of the sun, and in developing super-long-range communication.

Soviet science has also made a vast contribution to atomic research and the peaceful utilization of atomic energy. Work on controlled thermonuclear reaction is proceeding with considerable progress. Semiconductors are now in wide use in many fields. Researchers report impressive headway being made in the chemistry of synthetic materials and polymers. Biologists have opened new areas for medicine and agri-

Academician Trofim Lysenko (right) with Deputy Minister of Agriculture Konstantin Pysin.

USSR Council of Ministers Deputy Chairman, Alexei Kosygin, talks to the gathering.

President of the Ukrainian Academy Alexander Palladin with Konstantin Skryabin.

culture. Geologists, concentrating on studies of the country's natural resources, have discovered some of the world's richest deposits of iron ore—the Kursk Magnetic Anomaly—and in Yakutia, by "theoretical methods," they have found industrial diamond deposits.

Soviet scientists keep a sharp eye on the country's practical needs. They help to produce new types of manufactured goods, to build better power plants, to devise improved instruments and automatic control systems.

The achievements of Soviet science grow out of the socialist system, a logical development of the rise in the people's cultural and technical standards and the unlimited opportunity for scientific and technical progress inherent in a socialist society. Only a socialist society is capable of the concentration of means and the large-scale training of personnel required for the integrated solution of the exceedingly complex technical problems of today. The variety of problems that arise as communist construction proceeds opens ever new horizons for creative researchers.

Scientists Meet

The scope of these problems was indicated at a forum of the country's outstanding scientists—the All-Union Conference of Scientific Workers—held in June of this year in the conference hall of the Grand Kremlin Palace.

Had the conference adopted a motto, it would have been "Forward!" This was Soviet science planning an assault on the future, reviewing its forces, soberly assessing deficiencies in its organizational structure and the changes that need to be made for the next great stride forward. The conference explored new areas of research and new practical problems that must be solved. Every branch of the country's economy has its own problems for science to solve.

In a report to the conference on "Soviet Science and the Construction of Communism" Mstislav Keldysh, President of the USSR Academy of Sciences, summed up the tasks the country has set for its scientists.

From its researchers the country expects fundamental contributions in solving the problems of controlled thermonuclear reactions, generation of super-high energy, and automation as related to mental processes.

To meet the new demands of industry, Soviet science will evolve new types of machines and instruments, work on new metals and materials with predetermined properties, find answers to problems of flow production and automatic control of production processes.

Investigators in chemistry will be producing polymers of fixed strength with heat-resistant properties and other specified chemical, electrical and magnetic qualities. Researchers in the chemistry of solids will continue to look for new materials, for extra-light and fireproof alloys. Space researchers will be investigating problems of spaceship construction and manned interplanetary stations.

With problems of this scope, it is obviously mandatory that research be planned so as to use the country's manpower and material resources to the best advantage. The facilities provided science by a socialist state must be employed economically and purposefully to achieve maximum results by concentrating on decisive areas.

That is why the Communist Party and the Soviet Government attach so much importance to the organization and coordination of research and to long-range planning.

At the conference scientists and Party and Government leaders were critical of certain organizational flaws in research. Among other things they cited instances of poor coordination, insufficient concentration of funds and personnel in the fields most promising and important for the country, and wasteful duplication of research efforts.

Planned Research

The State Committee for the Coordination of Scientific Research will be guiding the work on key scientific problems being done by research establishments. It will also coordinate the work of the USSR Academy of Sciences, the academies of the republics and the specialized academies.

Together with other state bodies the committee will tackle such problems as supplying materials for scientific research, organizing the country's scientific and technical information and coordinating scientific and technical exchanges. The committee will be based on Learned Councils which will coordinate the work in specific fields. It will set up these councils jointly with the USSR Academy of Sciences and the ministries concerned.

The function of the USSR Academy of Sciences has also been somewhat altered. Up to now it has directed the work of extremely large numbers of research institutes in its network. The structure was cumbersome and made for a scattering of effort. From now on the Academy will be the center of research for only major theoretical problems. Approximately half of all its branches are to be handed over to industry.

Its major function henceforth will be to select areas of investigation and follow through on long-range research problems. The USSR Academy of Sciences will be the leading methodological center in the fields of science in which the academies of the republics and the colleges will be engaged. It will also be responsible for the training of research personnel and for organizing the work of young researchers.

The basic problem in any such large scientific effort is the training of qualified investigators. The new government decision published in June of this year "On Measures to Improve Training of Scientific and Teaching Personnel" will do much to assure a continuous flow of new talent.

The decision establishes professional standards for scientific personnel and suggests methods for improving the quality of research done in university laboratories. It provides certain advantages for the scientist-lecturer engaged in research at colleges and for specialists who take graduate work in order to prepare themselves for research. The measure is expected to considerably augment the number of capable and highly qualified young researchers.

Soviet scientists are entering a new stage of creative effort. The country expects, as the message of greeting to the conference by the Central Committee of the Communist Party of the Soviet Union phrased it, that they will occupy in the shortest possible time the world's leading positions in all major fields.

SOVIET DIARY

AWARDS FOR SPACE RESEARCH

YURI GAGARIN's flight in the spaceship *Vostok* was much more than a personal victory; it was a victory for all Soviet people. The historic launching was made possible by the joint creative work of a large community of scientists, designers, engineers and benchworkers. Thanks to these people the *Vostok* was orbited and the world's first cosmonaut, after circling the planet, was returned safely to earth.

Honored by the Presidium of the USSR Supreme Soviet for outstanding contributions to space exploration were 7,027 people in various walks of life.

The Order of Lenin and a third Hammer and Sickle gold medal of Hero of Socialist Labor was awarded to Chairman Nikita S. Khrushchev for his signal services in the establishment and successful development of rocketry and in the successful realization of the world's first space flight of a Soviet citizen.

Seven eminent scientists and designers won the title Hero of Socialist Labor for the second time and 95 leading designers and statesmen were given the title for the first time.

The Order of Lenin, the country's highest decoration, was awarded to 478 people, the Order of the Red Banner of Labor to more than 1,200, and the Order of the Badge of Honor to 1,800.

BUMPER HARVEST

THE growing weather has been good this summer with plenty of rain. And the word from all parts of the country is, "Fine harvest." Many of the collective and state farms in the Ukraine, the Kuban, the Don and the country's other breadbaskets are taking in as much as 20, 25 and 30 centners of grain per hectare (1,785, 2,230 and 2,675 pounds per acre) on an average. The vast expanses of the virgin lands of Siberia and Kazakhstan also report a good grain crop.

There are scores of thousands of farmers like combine operator Vladimir Onopchenko of the Tavrichesky Collective Farm in the Crimea who have overfulfilled their quotas. Onopchenko topped his by some two and a half times.

The rate at which crops are being harvested in this third year of the seven-year plan promises a good start for the implementation of the farm development program worked out by the plenary meeting of the Central Committee of the Communist Party.

Farm people did a good foundation job for this year's harvest. The spring sowing was better organized and done with greater dispatch than in previous years. The sowing plan for many crops—particularly wheat, corn and cotton—has been overfulfilled. The acreage under sugar beets was much increased. This is the first time this crop is being grown for fodder over large areas—almost 3 million acres.

Besides growing larger grain crops, the country is stepping up production of fodder, especially corn. The main problem now is the development of livestock breeding and increasing the output of animal husbandry products, particularly meat. And it is common knowledge that the greater the quantity of fodder, the better the development of livestock breeding. In this respect favorable conditions are developing this year.

As usual, the peasants are not the only ones taking part in the harvesting campaign. Industrial enterprises have supplied the countryside with a great many of the latest machines for harvesting grain, corn and other crops. Fast tractors are appearing in ever growing numbers on collective farm and state farm fields along with very efficient mounted harvesting implements.

The Soviet farmers are bringing in a good crop. This, of course, makes everyone happy for it brings nearer the time when there will be an abundance of foodstuffs for all Soviet citizens.

TEACHING FOREIGN LANGUAGES

SOVIET people go in for foreign language study in a big way. Foreign tourists coming to the USSR are always surprised at the number of people in our country who know foreign languages. It's not at all unusual to hear English, French, German, Italian and Spanish spoken on a city street. You can also meet young people speaking fluently such less familiar languages as Hindi, Urdu and Pashto. Soviet people acquire their knowledge of the more common European languages in secondary schools and colleges. Asian language instruction is given at institutes for Oriental studies.

With the purpose of improving foreign language instruction and introducing it on a still wider scale, the USSR Council of Ministers had a special meeting on the question.

The Government indicated some drawbacks in this field. It pointed out, among other things, that graduates of secondary schools and colleges leave with a comparatively small vocabulary and an inadequate speaking knowledge of the language they studied, and are not always able to translate a foreign language easily without a dictionary. Pointed criticism was also leveled at the training of foreign language teachers for secondary schools and colleges.

The Government considers it necessary to provide the necessary conditions for and concentrate the main attention on giving students a practical knowledge of the foreign language he studies so that it can become a useful and practical tool.

Foreign language speech habits will be inculcated and teaching will be done with smaller groups than at present. Moreover, with the parents' consent, children will begin foreign language study not in the fifth grade as at present, but earlier, even in the kindergarten.

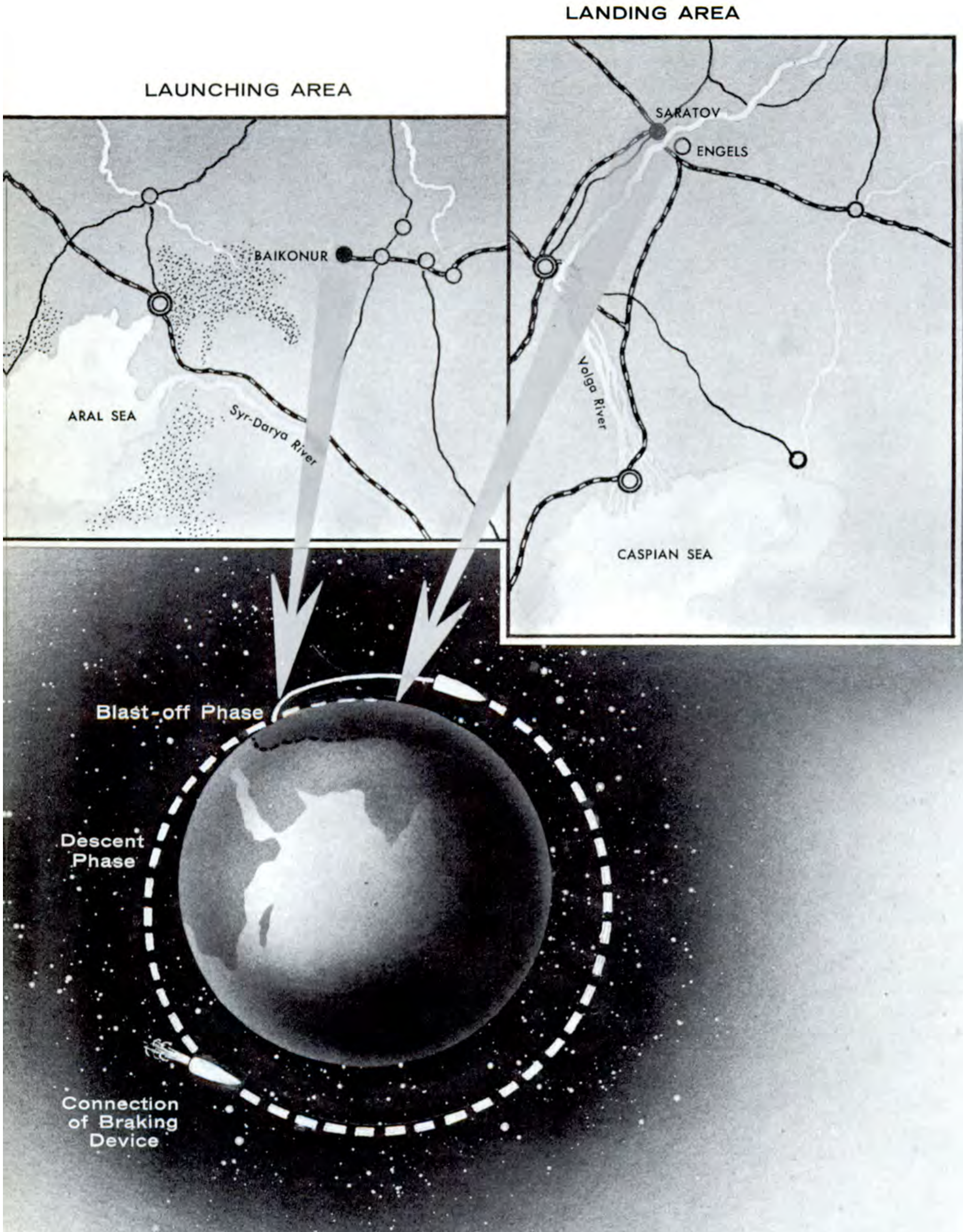
Before 1965, the country will open 700 or more general secondary schools in which some of the instruction will be in a foreign language. In preparation for this, the Ministries of Public Education of the Union Republics and the Academy of Educational Sciences of the Russian Federation have been advised to work out new foreign-language syllabuses for secondary schools.

Language study at the college level is also due for changes. The number of required study hours in foreign languages in most colleges and institutes is set at a minimum of 240. Facilities for optional language study are to be expanded. Special courses are to be offered and a wider program of extracurricular language activities introduced. Graduate students of the humanities will be required to have a good command of a foreign language.

The Council of Ministers also considered methods for training better language teachers. Suggested, among other things, was a special two-year advanced training course for qualification as a college instructor of foreign languages.

These next few years the country will be getting more foreign language instruction via radio and television, seeing more foreign language films, hearing more foreign recordings, and reading more books by foreign writers.

PREPARING MAN FOR



Cosmonaut Yuri Gagarin's history-making flight and its scientific implications were discussed at a recent general meeting of the USSR Academy of Sciences. In his introductory speech Academician Mstislav Keldysh, newly elected President of the Academy, outlined developments in physics, chemistry, electronics, mathematics and other fields of learning that paved the road to outer space.

Among the papers read at the meeting was one by Academician Anatoli Blagonravov on the problems involved in preparing for manned space flight. Below we give a digest of his report.

THE FIRST, and very modest, attempts to use rockets for space research date back to the forties. Sergei Vavilov, the late president of the USSR Academy of Sciences, was quick to foresee the potentialities of the new research tool and to foster the development of rockets suitable for a wide range of experiments.

Initially their purpose was to gather data on the density, pressure and temperature of the upper atmosphere and to continue investigation of cosmic rays. Before long, however, their use in probing outer space was considered and they were remodeled to carry animals in experimental studies to determine how flight conditions would affect the vital functioning of living creatures.

Among the unknowns were the safe limit of g-loads on take-off and descent, the response of the organism to relative weightlessness in flight, the effects of cosmic radiation and the possible meteorite hazard. While g-loads could be investigated in ground laboratories, the other factors could be studied only under actual flight conditions.

To ensure the animals' safety while they were in the space capsule meant solving a host of technical problems, such as pressure in the capsule, air conditioning and heat insulation during the descent through the denser atmosphere. In addition, reliable sensors had to be developed to pick up and record the heartbeat, body temperature and respiration rate.

It was a job to pack all the instruments into a rocket where every inch of space was at a premium, but packed they were. The first research rocket carrying an animal was fired in 1951 to a height of 101 kilometers (63 miles). The lift was unusually successful, providing data on every item of the research program.

Gradually research rockets climbed higher, to 200 and then 470 kilometers (124 and 292 miles). They added considerably to our knowledge of the ionosphere, the density of meteor showers and solar radiation in the short-wave region of the spectrum.

The payloads of Soviet rockets grew with their thrust, and the scope of research expanded proportionately. Progress was made in recovering animals in pressurized suits ejected at 90 and 40 kilometers (56 and 25 miles) and parachuted to earth. As more complex telemetry systems were devised, more data could be radioed back to earth.

But after a while vertical rocket flights no longer satisfied space explorers. These flights were too short and were, in effect, limited by the spot on earth from which they were launched. The need was for space laboratories

SPACE

By Anatoli Blagonravov

USSR Academy of Sciences

with a longer life span, and so studies were undertaken with artificial earth satellites. Improved and refined, intercontinental ballistic missiles reached orbital velocity, and the world's first man-made satellite was soon placed in orbit around the earth.

Sputniks and Space Probes

October 4, 1957, began a new era in man's conquest of nature—the era of sputniks and space rockets. A month after the first sputnik, a second carried the dog Laika into orbit. In May 1958 a third sputnik, a veritable space laboratory, took off from the launching pad. It tipped the scales at a ton and a half.

On January 2, 1959, the Soviet Union launched its first space rocket toward the moon. It flew within 6,000 kilometers (3,728 miles) of our lunar neighbor to become a man-made planet in the solar system. That same year two more moon probes were fired. One landed a pennant with the USSR coat of arms and the other circumnavigated our natural satellite and took photos of its hidden side.

For Lunik III to be able to take pictures of the moon, the answers to a number of complex technical problems had to be found. The solutions speeded our progress toward manned flight. Among other things, the tumbling motion of the probe had to be stopped, its attitude in space had to be controlled, and the TV system transmitting pictures to the ground had to be set up to operate by radio—this quite aside from the accuracy with which the probe had to be placed and guided in the trajectory.

Simultaneously, research with high-altitude rockets added to our knowledge of the ionosphere. In all, 31 rockets have carried test animals into space since 1955. Between 1957 and 1960, 26 rockets were shot to altitudes from 100 to 470 kilometers (62 to 292 miles), with 16 of them carrying animals—dogs, rabbits, rats and mice. In 1960 alone some 160 meteorological rockets were fired. These rocket firings threw a great deal of light on the medical and physiological aspects of space travel and proved that manned flight was feasible and safe. Thus, a new stage in the preparation for future manned flight into outer space was started.

In May, August and December of 1960 three superheavy orbital spaceships were launched, heavy enough and large enough to hold everything needed for safe human flight. The goal of these probes was to check for possible improvements in control and guidance systems, life-supporting equipment and deorbiting and landing systems. The first biological payload was successfully recovered when the dogs Belka and Strelka were safely landed in the nose cone of the second orbital spaceship after a trip around the globe.

Two more orbital spaceships, two tons heavier than the previous ones, were launched on February 4 and 12, 1961. The vehicle launched on February 12, 1961, served as a launching platform for the Venus probe, the fourth space probe fired by the Soviet Union.

Radiation and Its Hazards

Since the January 2, 1959, flight every space probe has carried on research on radiation at great distances from the earth. Especially detailed studies were made of the external radiation belt discovered by Soviet scientists. It was found that the external radiation belt contains electrons with energies running into a million electron volts. When captured by the skin of a space vehicle, these electrons give rise to an intense and penetrating X-ray radiation. According to the Venus probe, the average energy of X-ray radiation at a distance of 30,000 to 40,000 kilometers (18,630-24,840 miles) is in the neighborhood of 130 kev. The energy varies little with the distance. This may indicate that the energy spectrum of electrons in this region is rather constant.

The instability of the external radiation belt was obvious from the outset. Its maximum center seemed to shift with magnetic storms caused by the sun's corpuscular radiation. On the other hand, the Venus probe revealed that for all the changes in the intensity of the radiation belt nearer the earth, the outside boundary remained practically unchanged both in terms of intensity and position in space when there was no disturbance in the magnetic field.

The experimental data gathered recently have been incorporated in a model of the ionized gas envelope of the earth reproducing the ionosphere when solar activity is greatest. The ionosphere below 1,000 kilometers (621 miles) has been found to contain principally ions of atomic oxygen. Somewhere between 1,000 and 2,000 kilometers (621 and 1,242 miles) above the earth, hydrogen ions predominate.

The outside layer of the ionosphere (the hydrogen corona) extends far into outer space. The concentration of ions within it is in the neighborhood of 1,000 per cubic centimeter (.061 cubic inch) and it changes little up to about 15,000 kilometers (9,315 miles). Between 15,000 and 20,000 kilometers (9,315 and 12,420 miles) the concentration gradually drops with altitude to less than 100 ions per cubic centimeter at about 20,000 kilometers.

Somewhere between 50,000 to 75,000 kilometers (31,050 to 46,575 miles) above the earth, well beyond the external radiation belt, the Soviet space probes found streams of electrons of 10^8 per square centimeter (.154 square inch) per second, with energies in excess of 200 electron volts. That gives us reason to assume that there may be a third radiation belt around the earth, containing charged particles of high intensity but of lower energy. It may also be assumed that the boundary of the third belt runs along the lines of force of the magnetic field. The belt seems to have its origin in the sun's corpuscular radiation which may find its way into the peripheral regions of the terrestrial magnetic field.

Before space probes were sent aloft, any estimate of corpuscular radiation could be based only on secondary phenomena which usually occur when solar corpuscles pierce the upper atmosphere and the earth's magnetic field (auroral displays, magnetic storms and ionospheric disturbances). Outside the earth's magnetic field some 100,000 kilometers (62,-100 miles) from our planet, the currents induced by the positive ions contained in solar corpuscular radiation were first detected by the triple-electrode magnetic traps mounted on the Soviet space probes.

The magnetic traps on board the Venus probe were sun-oriented and one was installed to keep track of the ion component of solar corpuscular radiation. When the Venus probe was contacted by radio on February 17, 1961, it was traversing a rather heavy stream of corpuscles (with a density of about 10^9 per square centimeter per second). At the same time a magnetic storm was observed. Through this means quantitative relationships can be established between geomagnetic disturbances and the intensity of solar corpuscular radiation.

The second and third spaceships were employed also to determine quantitatively the radiation hazard resulting from cosmic radiation outside the terrestrial atmosphere. The absolute intensity of radiation was found to exceed what had been assumed for the purpose of the experiment, a very important conclusion for future manned flight. The spaceships located the area of least radiation and showed that near the equator the intensity was about one particle per square centimeter per second, while at higher geographical latitudes the figure was three times as large.

The spaceships also located more precisely the position of the radiation belts relative to the earth, discovered an area of increased radiation above the South Atlantic, congruent with a magnetic anomaly area on the ground, and showed that the lower boundary of the internal radiation belt in the magnetic anomaly area dropped to about 250 or 300 kilometers (155 or 186 miles) above the earth. With this data a map was compiled showing the distribution of radiation at this altitude all over the globe.

The other studies carried out with the second and third spaceships included an investigation into the chemical composition of primary cosmic radiation, the charge spectrum of nuclei, and the variation of the nuclear component of cosmic rays with latitude. The experiment required a good deal of work and ingenuity. Among the instruments devised specifically for this purpose was a film processor that developed nuclear emulsion blocks aboard the space vehicle after a 10-hour exposure. The data thus obtained gave an idea of the proportion of heavy and light nuclei in cosmic radiation. It was established that there were relatively few nuclei streams with a charge in excess of 34 nuclei. The findings were extremely important for determining the biological effects of cosmic radiation.

No less revealing were studies of the shortwave emission of the sun, especially in the X-ray region. They threw considerable light on the bearing chromospheric flares on the sun may have on fluctuations in X-ray emission. Incidentally, they helped in developing a more efficient shield to ensure the safety of the living organism in space.

Guidance Problems

Direct preparations for manned space flight involved a host of scientific and technical problems, one of which was to find a way to place a vehicle in orbit heavy enough to house the necessary life-supporting equipment for a cosmonaut. Soviet rocket men measured up to the task. As a matter of record, the aggregate thrust of the rocket system that lifted the spaceship *Vostok* was equivalent to 20 million horsepower.

Apart from orbital velocity, it was equally important to guide the launching vehicle with great precision. The guidance problem is closely related to that of maneuverability in orbit. The maneuver-controlling force may be supplied either by a rocket engine switched on when needed for a corrective action or by engines based on the electric propulsion principle (ion or plasma accelerators) and operating on a sustained basis.

The need for maneuvering arises when a space vehicle switches over from a low orbit to a high one, slows down and comes in for a landing in a prearranged area.

Maneuvering and some of the measurements call for attitude control, which may be defined as the attempt to constrain the attitude of the vehicle to a particular desired orientation. On board the spaceship *Vostok* the attitude control system oriented one of the ship's axes toward the sun.

Along with the "muscles" that control orientation goes some means of sensing attitude and providing signals to the input of the control system. The attitude control system on the *Vostok* employed both optical horizon scanners and gyroscopes whose signals were converted by an electronic unit into corrective action.

Return to Earth

Next comes the problem of re-entry, which involves speed reduction, heat protection in the denser atmosphere and landing in a prearranged area.

An obvious approach would be the use of reverse-thrust rockets to slow down the vehicle in space before it enters the atmosphere—a reversal of the launching process. But this technique requires rockets many times heavier than the vehicle proper and payloads consisting largely of braking-rocket fuel. The alternative is to let the air itself provide the decelerating force, thus requiring less powerful retrorockets.

Before descending, the vehicle is properly oriented in space; then the retarding power plant is fired to reduce the speed sufficiently to deflect the path slightly downward toward the atmosphere. For the spaceship *Vostok* the descent was calculated to take about 30 minutes.

If the vehicle entered the denser atmosphere with a speed close to orbital velocity, its skin would have been heated to extremely high temperatures, and the temperature of the enveloping layer of incandescent air would have been several thousand degrees centigrade. Heat protection was provided by making the recoverable nose cone as streamlined as possible and by devising a heat shield of suitable materials.

Landing also was a hard nut to crack. But the unmanned orbital spaceships proved the reliability of the landing technique. In fact they all landed at low speed without any appreciable damage. But manned flight called for the ultimate in safety. This was the reason for the ejection seat in the cabin and the parachute system that the cosmonaut could use once he had reached the lower atmosphere.

Flying safety as a whole added much to the complexity of ship design. The whole flight was to be controlled automatically. Accordingly, the automatic flight and attitude controls, landing and life-supporting systems as well as automatic temperature and oxygen pressure controllers had to operate faultlessly. Manual controls were provided for additional safety.

No Risk to the Cosmonaut

The survival and life-supporting system on board the space vehicle was a big problem in its own right. If g-loads on both take-off and descent were to be kept within the safety limits, the launching and flight had to be planned accordingly and acceleration forces limited to a transverse direction—that is, chest to back. This was achieved with a suitable seat.

The normal temperature in the cabin (15 to 22 degrees centigrade—59 to 71 degrees Fahrenheit) was maintained by a thermostat, while excess heat was drawn off by a cooling liquid passing through an air-liquid radiator. The radiator had an automatically operated system of louvres. The air in the cabin was regenerated by highly active chemicals that absorbed carbon dioxide and water vapor and gave out oxygen in the required amounts. The air regeneration system was governed by a controller which actuated the final control elements whenever its sensors registered excess oxygen or the lack of it. A similar technique was employed to maintain relative humidity anywhere between 30 and 70 per cent.

The food and water were kept in suitable containers, and wastes were removed by a special system. In the event the life-supporting equipment went wrong or the cabin lost its pressure, the cosmonaut wore a pressure space suit which had its own oxygen supply and could protect the cosmonaut against extremely low pressure and temperature in case he had to leave the cabin in an emergency. A telemetry link provided a constant watch from the earth on the operation of the life-supporting and survival equipment.

The Earth Listens In

A good deal of preparatory work had to be done to devise methods of transmitting physiological measurements to the earth. The necessary link was provided by biological telemetry, which was largely developed with the advent of space medicine. The launchings of animal-carrying space vehicles previous to the manned flight of April 12, 1961, provided vital background experience.

There are a number of stringent requirements that components for a biological telemetry system must meet, principally: small size and little weight, low power consumption, and high resistance to vibration and acceleration loads on take-off and descent. The pickups that transform the heartbeat, respiration rate and other physiological quantities into electric signals must be small, must have a long service life and must not make the cosmonaut's stay in space uncomfortable.

Physiological recordings on board the *Vostok* were taken through three electrocardiographic channels and one pneumographic channel. The records were immediately transmitted to the ground by a radio telemetry system assisted by a self-contained shipboard recording system which was switched on during the descent and by a self-contained recording system in the cosmonaut's bail-out package. The *Signal* radio system continuously transmitted messages on the heartbeat, the TV unit televized the cosmonaut for earth reception, while the radiotelephone gave him two-way contact with the ground.

The telemetered physiological records supplemented by the data given over the radiotelephone and TV links provide a wealth of information to which scientists will be turning frequently.

Then there was the training of the cosmonaut. He himself did much to carry through his unexampled assignment with honor. Thus the happy union of Yuri Gagarin's strength of will and courage combined with Soviet prowess in science and technology made the unprecedented flight of the spaceship *Vostok* around the earth a reality.

ROAD TO OUTER SPACE

By Yuri Gagarin

Pilot-Cosmonaut of the USSR, Hero of the Soviet Union

(Continued from the July issue)

AUTUMN drew nearer and with it the last few sunny days of Indian summer. It began to get cold sleeping in the tents. Exam time rolled around again. I passed with top marks in all my subjects, thanks to the patient efforts of Dmitri Martyanov and the other instructors.

Some of the trainees joined Soviet Aeroflot, the Soviet civil air service, attracted by the opportunities it offered to fly cross-country and overseas. Others joined special-purpose flying groups, like those for agriculture, public health and geological prospecting.

But I wanted to become a fighter-pilot. Why? Perhaps it was because I had never forgotten the fliers I had seen during the war in my own village. I was sent to the Orenburg Air Force School together with others who had decided to join the air force.

So I left Saratov and the Volga and my old dream of becoming a foundry engineer. It was a wrench parting with a teacher like Martyanov. As the train brought me closer to the air force school, I examined myself critically and objectively. Would I be able to reach the goals I had set for myself? I thought I would!

Air Cadet

The steppeland city of Orenburg received us kindly. It looked just the way Martyanov, who had been at the Suvorov Military Academy there, had described it—a city of straight, even streets and small cottages, with gardens and orchards strewn with fallen autumn leaves. The school stood on the high bank of the Ural River.

The corridors were hung with pictures, framed in wreaths of oak leaves interwoven with the black-and-orange Guards ribbon of the famous flyers, the Heroes of the Soviet Union who had received their wings at the Orenburg airfield.

We looked at their faces, all different but all bearing the common stamp of courage, and remembered how each of these flyers had brought his country glory. In the group were men who had made the first long-distance flights, and those who, following the air trail blazed by Valeri Chkalov, had flown across the North Pole to America.

Our job was to learn to fly jet planes, which by this time were very much part of the Soviet aviation scene. We were pleased to find that Grigori Bakhchivandzhi, the first man to go up in a jet back in early 1942, had been trained at the school. This pioneer jet pilot was the son of a mechanic and had been a factory worker himself.

His photo hung on the wall with an account of the flight beneath it. When he landed he was welcomed by the staff of the aircraft factory that had built the plane with a huge sign "Greetings to Captain Bakhchivandzhi, the first pilot to fly into the unknown." The crowd shook his hand, embraced him, tossed him up in the air.

Konstantin Tsiolkovsky had envisioned such flights. He had forecast an era of jet aircraft, and the era had been opened by a bold Soviet airman at a time when the country was still fighting a war. It was our task, as future airmen, to carry on the work he had begun.

I remember one of our fellows saying regretfully, "Everything has already been done. The war's been won and a new period in aviation opened up." It occurred to me then that in the Soviet Union there always has been and always would be opportunities for great deeds. We didn't have to go far for examples. Every day *Pravda* brought something new, exciting and thought-compelling. It was about that time that I read a newspaper interview with Academician L.I. Sedov, "About Space Flight," and clipped it, just in case.

Army Life

Since I had graduated from the technical school with honors and had an excellent recommendation from the aviation club, I did not have to take the entrance exams at Orenburg. I used the time to help the other fellows bone up on their physics and math. The requirements were pretty stiff, and more than half of the men either were turned down by the medicos or flunked the theory exams.

We were given the recruit's close haircut and issued uniforms—a khaki blouse, blue breeches, high boots and a trench coat. On our shoulders we wore the blue, wing-ornamented straps of the cadet. Like the others, I kept peeking at them, happy and proud that I was a member of the large family of the Soviet Army.

After recruit training we were introduced to military aviation. Our platoon leader at the time was Captain Boris Fyodorov, a strict and very exacting commander. He immediately set about shaking what he called the "civvy street dust" off of us. The discipline was stiff at first, especially for those who had come straight from the classroom. I found it much easier because I had spent most of my adolescence in dormitories and students' hostels where, although you didn't live by military regulations, you did have to conform to a definite daily schedule.

I had no trouble learning to be a soldier. I liked the tidiness of the platoon quarters, the order, the reports we had to make at attention, the shrill drawn-out call of the barrack-room orderly, "Everybody up!" I liked the setting-up exercises, the cold-water rubdowns, the straightening up of cots, the turnout for breakfast.

We put in a lot of time on field-training and at the rifle range. We would get back to the barracks, sometimes wet to the bone from rain and snow, so tired that our eyelids were glued together. But before we could turn in, we had to clean and grease our carbines and put all our gear in apple-pie order.

The time it took us to get all that done before we heard the sergeant major's grunt of approval! At first we didn't even have a spare minute to write home. But gradually we worked into the rhythm of army life. We learned not to waste a single minute. We acquired speed and confidence and grew physically and emotionally stronger.

Oath of Allegiance

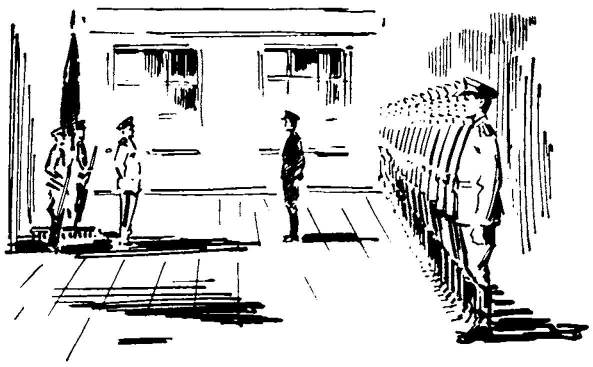
January 8, 1956, was a day I will remember all my life. There was a nippy frost outside. The trees creaked and the snow shone dazzling white in the sun. We were called to attention in the school's main hall. As his name was called, each cadet, grasping his rifle, stepped out of the ranks, faced his mates and the commander, and recited the oath of allegiance. It was with very deep emotion that I stepped forward and pledged, "I, a citizen of the Union of Soviet Socialist Republics . . ."

I wrote home. I wanted to tell my parents about the feelings that surged inside me as I recited the oath of allegiance. All of us at the

school were inspired and we enthusiastically got down to our studies.
Lieutenant Colonel Kodner of the Engineers gave us aircraft and flight theory. We liked his teaching from the very first. Captain Romanov, a man with a luxuriant shock of wavy hair much like that of the poet Pushkin, took us into the fascinating world of tactics. From him we learned aerial combat and the great importance of teamwork between the leader and cover-up. He made us understand that in modern aerial combat one pilot had to support the others with everything he had and that this collective action was the decisive factor. After each class there were lively arguments; each of us had his favorite ace.

All the instructors at the school were insistent that we use what we learned in a creative way. They taught us the established concepts and axioms but continually urged us to think critically and search for new and untried solutions to problems. We were rookies and hadn't even been up in a jet yet, but our officers and instructors talked of us as their future replacements, stressing the fact that it would be our responsibility to develop Soviet aviation. All this enhanced our self-respect, made us want to study harder and learn more quickly.

When spring drew near, the training flights began. Those cadets who had never been up before were delighted. But we "old-timers" who had been through the aviation club school were disappointed when we saw the old YAK-18's again.



Most of our flying was done in the summer, when we were in the field. Our Fifth Squadron had its tents pitched on the picturesque bank of the Ural River, and after a hard and sweltering day we went swimming in its deep, fast and icy water, not at all like the tame swimming in town, near the school. We put up a bath house and a diving board and spent what spare time we had on the river.

Our squadron was first to complete flight training, and since we had time to spare the commanding officers, approving of the Young Communist League Committee's initiative, permitted us to go to a collective farm in Sharlyk District, about 125 miles away, to help the farmers take in the potato crop.

Valya

We received no mail at the collective farm, and by the close of our harvesting stint I was very lonesome for Valya. I had met her some time back and liked everything about her—the kind of person she was, her clear brown eyes, her braids, her freckled nose.

After secondary school Valya had taken an office job with the city telegraph office. We had met at a school dance, just after we had gotten a crew cut, and the girls called us "the baldies." Valya, who was wearing a light-blue dress, was shy. I asked her for a dance, and that was the beginning of our friendship.

Valya is a year younger than I. She was born in Orenburg, and before I appeared on the scene she had never been out of the city. Her father, Ivan, works as a cook at the Krasnaya Polyana Sanatorium, and her mother, Varvara, is a housewife.

The Goryachev family is rather large—three sons and four daughters—and since Valya is the youngest, she has always been the pet. I started calling at her house soon after we met. We had a good deal in common—we both liked books, skating and the theater. Every time I got leave I would race off to the Goryachevs' on Chicherin Street. I often took my buddies along.

I felt at home with Valya's family. Ivan was a fine cook and made especially good *belyashi,* a kind of meat pie favored by the Ural Cossacks. We always fell to with a hearty appetite. Our rations at school were not bad, but *belyashi* was never on the menu.

When our potato digging ended, the squadron went back to winter quarters at school. I had no chance to see Valya because we had to get down to intensive training for the parade to commemorate the Socialist Revolution. I'm a fairly good footslogger but I never made it up front. On the holiday, when the school paraded through the streets of Orenburg, Valya spotted me in the ranks and we smiled at each other.

Furlough Home

I spent the holidays with her and then went home on furlough. Nobody at Gzhatsk had ever seen me in uniform, with stripes besides—I was now the platoon sergeant. Gzhatsk was growing and more and more new houses were being built. Dad and Mom were quietly growing old. Sis and my elder brother were doing what they could to help them out. Our little Boris had grown into a young man of 20. I was glad that I would be able to help the old folks more when I became an officer.

I dropped in at my old school to say hello to my teachers and former classmates.

I was home, but I found myself missing Orenburg. The school had become my second home and then, of course, there was Valya. Mom sensed that, and when we two were alone one evening she asked what was bothering me. We had an old childhood rule not to keep secrets from our parents, and I told Mom about Valya.

"Are you planning to marry her?" she asked.

I hadn't decided yet. I was against hasty marriages. And besides, I couldn't support a family on a cadet's pay.

"If you love her," said Mom, "marry her—but for life, like Dad and me, for better or worse. And always share everything."

After that she began to look at me differently and offered me some useful advice.

"A good millstone," she liked to say, "will grind everything; a bad one will be ground to dust itself."

I didn't spend my entire furlough at home; I went back to Orenburg. I didn't have to tell my squadron buddies and the officers why I had come back earlier; they understood. So did Valya. Our friendship gradually ripened into love. On my birthday she gave me two photographs of herself. In one she was wearing a nurse's smock, and in the other her Sunday best. On the back of the second photo she wrote, in a handwriting very much like mine, "Remember, Yuri, that we forge our own happiness. Do not bow to fate. The art of waiting is a great art. Keep this feeling in your heart until that happiest of moments when we shall be together. March 9, 1957. Valya."

Valya was right. We did indeed forge our own happiness.

Our Sputnik in the Sky

At last came the long awaited day of my first flight in a MIG. How beautiful it looked glistening in the sun, deltoid wings turned neatly back toward the fin! A harmony of proud bold lines!

"Jet working!" came the cry, and shuddering, as though in eager anticipation, the plane roared along the take-off strip. I took over and knew at once that this ship was different from those I had grown used to and that I would have to work hard to learn to fly it as well as I did the others.

First I took the back seat, then the front seat with the instructor behind, then the instructor sat back and watched me at the controls. It was only after he was certain I would do all right that he let me take a MIG up for a solo flight. It went off the same way as my first solo in the YAK-18. It was with the same thrill that I took off, described a broad circle in the cloudless sky and, pleased as Punch, returned to the airfield, convinced that higher speeds take harder flying. I did a lot of flying between then and graduation exams.

We were out on the airfield every day from morning to evening preparing for exams. It was at that time the great event took place that astonished the world—the first Soviet artificial earth satellite was launched. I remember Yuri Dergunov running up and yelling, "Sputnik! It's our sputnik in the sky!" Again what had been written about so much in the world press, what people had talked about so much, had come true.

When we got back from the airfield in the evening, we gathered around the radio for news flashes about the movement of the world's first "cosmonaut." Many of the cadets were already rattling off the main elements of the sputnik's flight—its velocity of 8,000 meters (26,400 feet) a second, a speed difficult to grasp; its apogee and perigee; the angle of its orbital tilt to the equatorial plane; the cities above which it had already passed and those it would be passing.

It was a pity, we thought, that it wouldn't be flying over Orenburg. Sputnik was the main topic of conversation, and its round-the-earth flight had the school on tenterhooks. Everybody—cadets, instructors, officers—kept asking, "What next?"

Man for Space

My pal Valentin Zlobin assured us excitedly, "In 15 years from now, fellows, we'll be sending a man into space."

Kolya Repin said, "Well, that's as sure as eggs are eggs. But who? It won't be us. By that time we'll be too old. When you get older, your reactions slow down, your vision is dimmed and you don't think so fast."

We argued about who it would be. Some thought it would certainly be a scientist, an academician; others thought it would be an engineer. There were those who favored a doctor, a biologist, a deep-sea diver. I hoped it would be a test pilot. If it were an airman, he would have to know a great deal about science and engineering. A space vehicle, we thought—our ideas at the time were very hazy—would naturally be much more intricate and trickier to handle than any of the known types of aircraft.

We tried to visualize the future spaceship. A rocket perhaps? A sphere, a disc, a rhombus? Everyone had his own idea, mostly borrowed from science fiction.

Thousands of young men and women wrote to the newspapers offering to fly in a man-carrying sputnik. It was Soviet patriotism speaking through these young people who were willing to risk their lives for the advancement of knowledge and in their country's behalf. I shared that heartfelt wish and realized, as they must have, that very few would be chosen. It would take encyclopedic knowledge and perfect health. I knew then why Mom used to say that health was priceless.

Graduation and Marriage

The surge of enthusiasm that the sputnik brought everyone in the country carried us through the graduation exams. Every cadet worked to measure up to this historic development, to demonstrate to the Board of Examiners that he was a true son of his time preparing himself to make a contribution to his country's progress.

To a young airman graduation is one of the great events in his life. I still have the certificate that reads:

"Citation of Cadet Yuri Alexeyevich Gagarin for promotion to the rank of lieutenant. At school showed himself a disciplined and politically well-grounded cadet. Knows and abides by the Soviet Army Regulations and Manuals. Physically sound. Theoretical training excellent. Flight training successful. Likes flying and flies with confidence. Passed state examinations in piloting and combat techniques with top marks. Has good knowledge of aircraft. Completed school with first-category rating. Devoted to the Communist Party of the Soviet Union and his socialist homeland."

It was this precious slip of paper that really gave me my wings.

While we were waiting for the Defense Ministry in Moscow to certify our papers, we were in what airmen call "blue quarantine," looking forward impatiently to the day we would receive our appointment.

One of the photos Valya gave Yuri for his birthday before they were married.

But I was in seventh heaven, too, because I had proposed to Valya and she had accepted. Together with my school buddies and her girl friends, we went to the registrar's, signed the Book of Newlyweds and plighted our troth. We decided to have two wedding receptions—one in Orenburg, to coincide with the fortieth anniversary of the Great October Socialist Revolution, and the other in Gzhatsk when I got my leave. We were showered with kind advice, as are all couples when they start on their own.

At the Goryachevs' everything was in a whirl. Valya's sisters were busy with preparations to welcome the guests, and Ivan was planning a spectacular exhibition of good cooking. Everybody was pleased that we were finally getting married after two years of courtship.

Valya and I thought it two years well spent. We had learned to know each other well and to look at things the same way. We knew that we would work together to overcome the difficulties that were bound to crop up on the long and none-too-easy voyage through life. At the registrar's, in the presence of our friends, I reminded Valya of what Mom had said, "Marry her for life, for better or worse, and always share everything."

"Yes," Valya replied, "always together," and her words rang out like a vow.

Dog in Space!

On November 3, just before our wedding, another sputnik, the second, was hurtled into space. It was bigger and heavier and carried the dog Laika in an airtight capsule.

As I read the accounts of the flight I thought: Now that a living creature has been shot into space, why can't a man be? And, for the first time, I consciously asked myself, Why couldn't I be that man?

It was asking too much. There were probably thousands of people around much better prepared than I. And besides, was it worth agitating myself about something that wasn't likely to happen soon, especially with my graduation, wedding, leave and appointment so much closer. They were my life today. But once the idea flashed into my mind, it burned a trace before it faded away.

On the eve of the holiday, the celebration of the 40th anniversary of the October Revolution, all the graduates—in natty officer's uniform but still with the shoulder straps of the cadet—lined up in the main hall. There was a solemn hush as General Makarov, the school's head, came in. In the crisp tones of a commander he read the order that certified us as air force pilots with the rank of lieutenant. As he handed us our gold-braid shoulder straps he congratulated us and shook each of us by the hand.

With my friends I went straight from school to the Goryachevs' roomy apartment. Valya came out to meet me in her white wedding dress. I took off my greatcoat and there I was in all my new splendor. Valya hadn't yet seen me in officer's uniform. I kissed her, the first time we had kissed each other in front of her parents. Now we were really and truly husband and wife. We were very happy and wanted to share a bit of our happiness with everyone else.

The wedding celebration went off beautifully. The bride, of course, was the prettiest girl there. And Ivan had lived up to his word—the table groaned with the good things he had set out. Our friends congratulated us with the traditional "*gorko!*" ("it's bitter"—shouted to newlyweds, suggesting that they sweeten things with a kiss). To make a long story short, it was like any other Russian wedding party.

We switched on the radio as the announcer was saying, "Two envoys of the Soviet Union, two stars of peace, are circling the earth. On the 40th anniversary of the October Revolution our scientists, designers, engineers, technicians and factory workers have given the Soviet people a grand present, they have made one of man's most ambitious dreams a reality."

Why North?

So I had finally become an officer, a fighter pilot. I had a wife I loved and, for the first time in my life, a room of my own. Since I had finished school with a first-category rating, I had the choice of an appointment. If I wanted to, I could go South to the Ukraine with its fine and well-appointed air force garrisons. I also had an offer to stay on at the school as a flying instructor.

But I had already made up my mind to volunteer for the hardest assignment. My membership in the Young Communist League obliged me to do that. League members had always taken the lead in socialist construction and still did. They were pioneering in the virgin lands, turning millions of acres of unused land to the plow, building open-hearth and blast furnaces, stemming rivers with the dams of hydro-power stations, and cutting new roads through the Siberian taiga. What it amounted to was that as a Komsomol member I could not let myself drop anchor in a quiet harbor.

My friends—Valentin Zlobin, Yuri Dergunov and Kolya Repin—shared my feelings. We all volunteered for the North.

"Why the North?" Valya asked me. It was hard for her to understand my choice.

"Because that's where the going is hardest," I answered. But that wasn't an adequate answer. Perhaps it could do for a brother airman, but not for a young girl who had spent all her life in a modern city provided with everything by a loving family. For her it meant leaving school, parting from her family, saying farewell to her accustomed way of life. Valya had never been anywhere except Orenburg, and I could understand why she would be fearful of all the unknowns of the North.

When she learned that I was planning to go with my buddies, she bristled. "Are your pals more precious to you than I?" she wanted to know.

What could I say? I kissed her long and hard. We decided that I would start off alone, write her how things were, and when she finished her nurse's training, she would join me. She liked that arrangement, especially after she realized that there was a much greater need for nurses in the North than in Orenburg.

There was a little time before I had to leave for my new job, so Valya and I went off to Gzhatsk to visit my folks. The family liked my wife. When Dad complained that we'd had our wedding in Orenburg and not in Gzhatsk, I let Valya answer for me. "But we wanted a Komsomol wedding, Daddy dear," she said, "and we couldn't have had all of my girl friends and Yuri's buddies come here to Gzhatsk, could we?"

I don't know whether the argument convinced Dad, but the fact that we were to have a second wedding celebration in Gzhatsk did. The party was just as gay as the one in Orenburg.

Valya couldn't stay in Gzhatsk long since she was due back at school.

We traveled back to Moscow together. I showed her the sights and we said good-by at the Kazan railroad station. She cried a little, and I didn't feel any too happy either. When the train pulled out, I kept looking at the blinking red taillights of the train until it vanished in the distance.

Farewell to Moscow

The following day, with Valentin Zlobin and Yuri Dergunov, I also said good-by to Moscow. We spent the time en route North playing chess and admiring the frost-spangled woods of Karelia. We cut across a land of needle-pointed firs. Then we left the Arctic Circle behind for a region whose scenery, seen through the train window, grew more austere by the hour. Outside it was cruelly cold and misty. Although the hands of the clock indicated it was midday, we were enveloped in the diaphanous blue mist of night.

We arrived in the wee hours of the morning, but a fire had been kept going for us at the garrison guest house. Some of our friends from Orenburg—Venya Kiselev, Kolya Repin, Alyosha Ilyin and Vanya Doronin—were already there. As soon as they hugged us, our tiredness vanished and we forgot we were sleepy. We talked on endlessly about everything, everybody chiming in at the same time. I was able, though, to gather the important fact that our chief was a flyer with a very good record and that he was very demanding but fair.

We were put up in a room with three cots. Valya Zlobin plunked himself down on the best one near the window; Salikjan Baibekov, a Tartar from Ufa, got the next best one; and I managed with what was left. By the time we got under our blankets it was getting on toward dawn.

After breakfast we reported to the commander, a lieutenant colonel. Our first impression coincided with what our buddies had told us the night before. The commander said he hoped we would be worthy of the unit's tradition. In past years the unit had been among the best. It had suffered no mishaps and had captured many trophies for achievement both in the air and on the ground.

He pointed to a portrait framed in black crepe. "That was Sergei Negulayev, a Soviet Danko. He rammed a fascist plane in a dog fight, giving up his own life to save his buddies." He didn't have to say any more.

We were a happy family, like a good ship's crew. When one of the men got a letter, he read it aloud to the rest, just as the men had done in the trenches during the last war.

Valya wrote short letters, but often. She didn't say much about her progress at school, but I could see that she was doing well and liked nursing. Between the lines I sensed her loneliness, her hope that we would soon be together. But she never complained. These same feelings were evident in the letters that my buddies got from their friends and loved ones.

All Kinds of Weather

This was a new and interesting world we had come to. The experienced older pilots flew in all kinds of weather. The unit did interception duty, went up for long-distance flights, fought mock battles, did gunnery practice. Our flight commander Vasilyev, who was used to any weather, had the reputation for being one of the best interceptors in the squadron.

One time, when I was officer of the day and Vasilyev was in the air, the sea was blanketed by a thick fog. The cedar-clad hillocks around the airfield were hidden by a murky veil. The situation was critical. It seemed impossible to land. Nevertheless the flight commander and his pair reached the airfield and cut through the fog to make a perfect landing, to our great relief.

I rushed toward the commander. He acted as though nothing unusual had happened. Later on, talking about it, he made the comment, "You must be very exact with your navigation and have implicit faith in your instruments. And, naturally, you must keep not only your plane but your nerves under perfect control. In a fighter you're the whole crew—pilot, navigator and gunner all wrapped up in one."

This flight of Vasilyev's dramatically illustrated to us young pilots the need of keeping cool in a difficult situation. As for our flight commander, he had earned our unmeasured admiration.

We spent the tail end of winter on theory and on learning more about aircraft in general. Then we took the test for certification as arctic flyers. To get through we had to know the many special kinks involved in this kind of flying and know them very well.

We started flying in late March, when the long arctic night was beginning to give way to the just as long arctic day. You could feel the breath of spring everywhere.

The flight commander went up with me. As I climbed into the cockpit, there was that before-flight thrill again; I hadn't been in the air for several months. We took off when night was ending and the ground was bathed in the bluish half-dark of daybreak.

As I gained altitude, I seemed to merge, as I always did in flight, with the plane. When the needle of the altimeter reached the designated mark, I looked down and saw the sun. It has just risen above the horizon, and both sky and earth had the golden glow of dawn. Below were the hillocks covered with rose-tinted snow, the ground dotted with blue droplets of lakes, and the bleak dark-blue sea dashing against the granite cliffs.

"How beautiful!" I exclaimed involuntarily.

Vasilyev's sober voice cut in, "Get your eye back on the board."

So real arctic flying began.

Northern Blizzard

Soon after, I had a hair-raising experience. I was flying blind at the time. The weatherman had given us a good forecast for the whole day, with no expectation of bad weather. But as I was doing the last exercise, the sky darkened and the islands and gulfs below disappeared.

It meant a blizzard was coming up, not only in the sky but on the ground as well, the nastiest kind of arctic weather. I radioed back to the airfield. It wasn't too bad yet, they told me, but visibility was getting poorer every minute and the auxiliary landing strip was already snowed under.

"Well," I told myself, "it looks like a bout with a blizzard." I checked the instruments—the fuel was running low. I had to keep a clear head, to keep cool, I thought; that's the main thing. I reminded myself of Vasilyev's experience.

The flight supervisor called, "Return immediately." I could hear the anxiety in his voice.

I hurriedly figured the shortest route to the airfield, taking all factors into consideration—the strong headwind, altitude, time and fuel. As I cut through the blinding mass of snow, I listened to the flight supervisor and followed his orders exactly. I knew that the plane's life and my own depended on how accurately I carried out the quiet orders of this experienced airman. His calm was contagious.

After graduation Yuri volunteered for duty in the Far North. The life was rugged, but as a YCL'er he felt that he should take the hardest assignment.

This self-possessed officer had once told me, "A real flyer must have these four attributes—a warm heart, a cool head, a strong hand and a clear conscience."

The instruments showed me that I was near the airfield, but since I couldn't see the ground I had no way of figuring out how to land. Though my nerves were stretched taut, I had to make one more circle, get on the guiding beam and glide down. I finally spotted the gray ribbon of landing strip and came down. The flight supervisor shook my hand and said, "Success favors the bold."

An Automatic Cosmic Laboratory

In mid-May the even tenor of our life with its classes in theory, flying, Komsomol meetings and routine duty as officer of the day was interrupted by a new piece of space news. Sputnik III had been launched as part of the IGY program. Only a while ago we had been discussing the articles published in *Pravda* before May Day on the research done with the first two sputniks, and now this third one, much heavier and carrying improved equipment, was in space.

Sputnik I had girdled the earth 1,400 times, and Sputnik II had done nearly a thousand revolutions better on its journey of nearly 100 million kilometers (62 million miles). We read and discussed once again the scientific information the first two sputniks had gathered through radio and optical observation on atmospheric density, the ionosphere, cosmic radiation and biological data of various kinds. We were thrilled to read that living organisms had borne up well in this flight research program whose ultimate aim was to put a man in space.

The government was apparently sparing no funds for anything that had to do with the breakthrough into space. There were thousands, perhaps tens of thousands, of specialists and technicians in scores of fields working for a solution to the greatest task man has ever undertaken.

The news we got from the radio about the new sputnik was rather scanty. It took time for the Moscow papers and for mail, generally, to reach our remote outpost. We kept asking at the post office, as though that would hurry the postman, and finally received the issue of *Pravda* devoted almost entirely to Sputnik III. It gave us fresh information on the flight and the orbit and, most important, details on the design. To all intents and purposes Sputnik III was an automatic space laboratory. We marked up the whole paper with colored pencil and marginal notes.

A while later the regimental engineer lectured us on the cosmic breakthrough. Practically all the officers were present, many with their wives and children.

The teen-agers were fascinated when the lecturer said that people would soon be traveling to our neighboring planets. They were used to planes, these kids, they saw them every day, but a spaceship was something else again.

The Northern Lights

Soon afterward Valya completed her schooling and was certified as a doctor's assistant and laboratory technician. She joined me in early August. But we had no place to live; the house in which I had been promised an apartment wasn't finished. The problem solved itself when a schoolteacher friend of ours who was going on vacation offered us her room for the time. We accepted her kindness with thanks.

Autumn passed quickly, and the long arctic winter night set in. Valya and I would often stop to admire the shimmering northern lights that filled up half the heaven. It was a majestic sight. I flew through these silvery bluish streaks that flashed between earth and sky. Thousands of feet up they were even more beautiful.

Evenings we read aloud. Generally I would be sprawled on the cot reading, with Valya listening and doing the household chores. We borrowed books about pilots from the library. We liked *The People Below* by Antoine de St. Exupéry, the French flyer and writer who died a hero's death only three weeks before his country was liberated. He wrote of war flyers and of those who flew the mail in peacetime. His books were full of the romance and poetry of flight and of love for people.

We liked the way he wrote: "All he had to do, the pilot, was to let go, and their lives would immediately crumble into a handful of useless dust. Fabian held two live, pulsing hearts in his hands—his comrade's and his own."

Unfortunately, we did not have too many evenings free for that kind of reading. Valya had her community activities, and I took classes in the evening at the Marxism-Leninism University where I studied the works of Marx, Engels and Lenin. I filled whole notebooks preparing for the seminars.

In Lenin's writings I found many of today's questions dealt with. I copied this quote that made me think of the sputniks, "The human mind has discovered much in nature that is marvelous; it will discover still more as it extends its power over nature."

Moonshot

Sputnik III was still girdling the planet when the world had reason to marvel again. On January 2, 1959, the Soviet Union fired a multistage rocket at the moon, an event of epochal significance that carried man deeper into outer space.

Three weeks after the moonshot N. S. Khrushchev, in his report to the 21st Communist Party Congress, said to stormy applause, "The world's first earth satellite was the Soviet sputnik. The first artificial planet of the solar system was made in the Soviet Union."

When the 21st Congress mapped out the seven-year plan, it set the country great tasks in all fields of work and thought. We made a close study of the congress proceedings, well realizing that the seven-year plan was a new decisive milestone along the road of our country's progress.

Although winter was still very much here, the congress introduced a spring note. Everything awakened and stirred. The seeds of the new seemed to be sprouting all over.

In my personal life, too, the congress played an important role. It was then that I decided to apply for candidate membership in the Party —a perfectly natural step since everyone on whom I tried to pattern myself, everyone from whom I had learned how to live and work, was a Party member. When I told Captain Anatoli Pavlovich Roslyakov, our Party Secretary, he said, "Fine, Yuri, the Party will make a real fighter out of you."

That very same day I filled out an application, spoiling any number of sheets before I could frame the few sentences that would express what I wanted to say. The Komsomol organization gave me the necessary recommendations and I was accepted as a candidate member. To earn the right to membership I had to work and study even more than I had previously.

It's a Girl!

One big event followed another. In mid-April I took Valya to the maternity hospital in the nearby town. I hoped for a baby girl and kept phoning the hospital for developments. Finally I got this question, "Were you hoping for a boy?"

"No, a girl," I stuttered.

"Well, you have one. Congratulations."

A week later Valya left the hospital. I came with a jeep, and all the way home I held the baby, afraid that I might break the delicate and precious object if I as much as moved.

The road was as straight as an arrow and bathed in sunshine. White sea gulls circled overhead. A fresh April breeze blew in our faces. I was so happy I wanted to sing. I thought it would be wonderful if our daughter had such a radiant spring road to walk all her life. We named her Yelena.

The baby brought new and delightful household chores. Only young fathers can understand how I felt bathing my fine daughter, diapering her, holding her, whispering improvised lullabies in her ear. I rushed back home from the airfield every day to busy myself with the baby or help Valya with the household duties.

Mock Air Battle

The flying we did kept getting more and more involved. We flew over the turbulent and stormy seas of spring; we flew in formation, an important element in aerial combat; we did blind flying and studied radio navigation. In the mock of dog-fighting we did over water my opponent was Boris Vdovin, a top-notch fighter, whom everyone thought invulnerable.

One day I was ordered to intercept Vdovin. To intercept and attack an enemy plane you have to overtake it and "sit on its tail." I gathered height and made for the target area. Vdovin didn't see me when I crept up to attack him from above and behind. But before I could come within range to record a bull's-eye on my film gun, Vdovin threw his MIG into a spin.

I raced after him and we went into a mad merry-go-round, but neither of us was able to get on the other's tail. We could have gone on like that until our tanks ran dry. But Vdovin gave me a signal to join him, and, very pleased with each other, we flew back to the airfield wing to wing.

"You're getting to be pretty good, young man," Vdovin told me with an approving chuckle when we had relaxed a bit down on the ground. "You're even flooring your teachers. Keep it up."

I kept up with my sports. The regular training helped me to fly better. In winter it was mostly skiing and skating; in summer, track and field and basketball. I like basketball for its emphasis on team work. To hurl the ball into the basket takes a sure eye and coordination. There are probably other games as good, but for an old basketball fan like me it's the world's best game.

In September 1959, three days before Khrushchev took off for Washington, two more historic firsts took place. The atomic icebreaker *Lenin* steamed up the Neva River, and a rocket with our Soviet coat of arms was launched to land on the moon. It was as though two red five-pointed stars had lighted up simultaneously—the first on the prow of the atomic icebreaker, the second on the far-off road between the planets.

Through radio and press reports we followed N. S. Khrushchev on his American tour. We hung a map in our squadron recreation room and ticked off the cities on his itinerary—Washington, New York, Los Angeles, San Francisco, Des Moines, Pittsburgh, and back to Washington again. It was one round of greetings and speeches.

At the National Press Club in Washington newsman asked him, "When are you planning to launch a man to the moon?"

Khrushchev replied, "We shall send a man into space when we have the necessary technical conditions. So far we haven't got them."

This answer excited and calmed me down at the same time. It meant that serious preparations were under way for manned flight, but it also meant that I still had time to put in my bid as a prospective cosmonaut.

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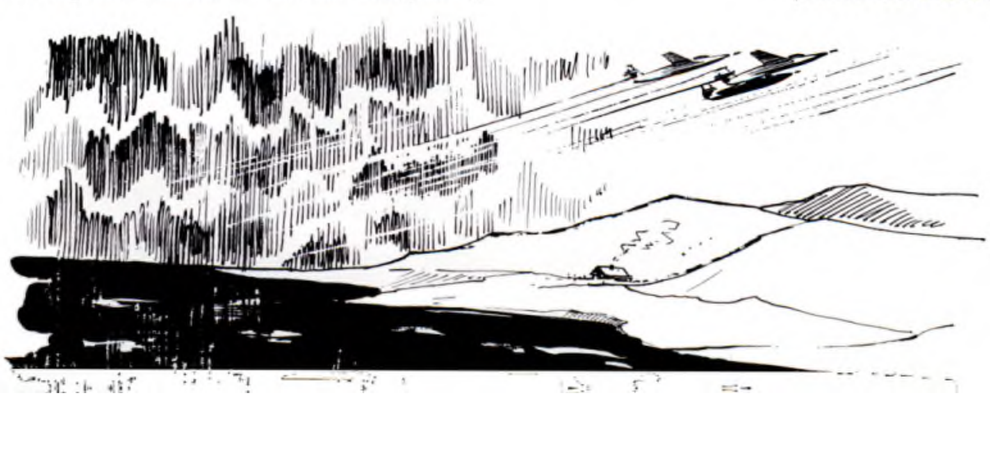


Communist Party Congresses

This is the third in a series of articles on the Communist Party of the Soviet Union. The author, a prominent statesman and journalist, is Deputy Chairman of the Council of Ministers of the Russian Federative Republic and has participated in many Party congresses. At the Nineteenth Congress he was elected to the Party's Central Auditing Commission.

IN A TALK on the *History of the Communist Party of the Soviet Union* I had recently with a visitor from abroad, a historian, he asked a question frequently put to me. "In your contemporary historical literature you relate major events, as a rule, to congresses of the Communist Party. Why is that?"

"Party congresses," I answered him, "and the resolutions they adopt are landmarks in Soviet history. Every new stage in our progress toward communism is always linked with a particular congress. The congresses play so important a role because of the great prestige the Party enjoys among the people and the fact that it is the ruling Party, the leading and guiding force of the Soviet people."

A congress is the highest organ of the Communist Party of the Soviet Union. Regular congresses are held at least once every four years. Special congresses may be called either by the Party's Central Committee on its own initiative or on the demand of at least one-third of the total membership of the Party represented at the previous congress. The decision to call the congress and the questions to be discussed must be published in the press at least a month and a half before it convenes.

The congress decides major questions facing the Party and the country. It hears and approves the reports of the Party's Central Committee and Central Auditing Commission, re-examines and revises the Party program and Rules, and elects the new Central Committee and Central Auditing Commission. It maps out the country's general line in domestic and foreign policy and outlines the program of its economic and cultural development.

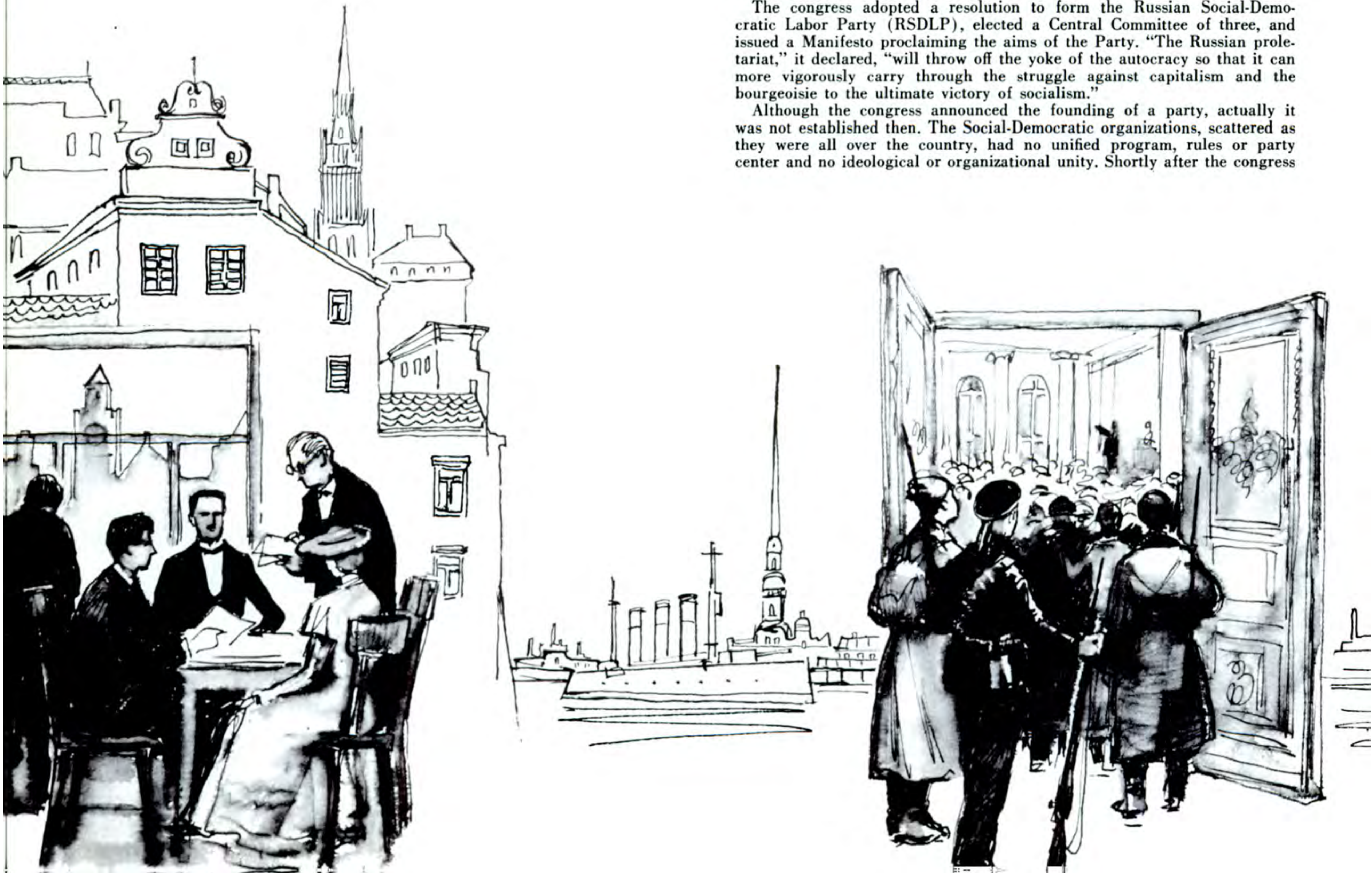
The basis of representation is fixed by the Central Committee. For the Twenty-second Congress, to be held in October, one voting delegate is to be elected for every 2,000 members, and one delegate with a voice but no vote for every 2,000 candidate members. The delegates are elected at regional Party conferences and congresses of the Union Republics.

The First Party Congress

In Minsk there is an out-of-the-way building, now a museum, where the first congress of Russia's Social-Democrats met secretly in March 1898. The nine persons who constituted the congress represented the branches of the League of Struggle for the Emancipation of the Working Class in St. Petersburg, Moscow, Kiev and Yekaterinoslav. Lenin called these organizations the first significant beginnings of a revolutionary party. The history of our Party dates from this congress.

The congress adopted a resolution to form the Russian Social-Democratic Labor Party (RSDLP), elected a Central Committee of three, and issued a Manifesto proclaiming the aims of the Party. "The Russian proletariat," it declared, "will throw off the yoke of the autocracy so that it can more vigorously carry through the struggle against capitalism and the bourgeoisie to the ultimate victory of socialism."

Although the congress announced the founding of a party, actually it was not established then. The Social-Democratic organizations, scattered as they were all over the country, had no unified program, rules or party center and no ideological or organizational unity. Shortly after the congress



met the czarist police arrested two of the three Central Committee members, among other leading Social-Democrats, and that complicated the problem even more.

A Time of Great Changes

The times demanded a well-organized party. By the beginning of the twentieth century the political situation had grown tense. The labor movement was developing and needed mature political leadership that could organize and lead the workers in the struggle for their emancipation. Only a party armed with Marxist theory could become such a leader.

In 1903 the Second Congress of the Russian Social-Democratic Labor Party met secretly, first in Brussels and then in London. The congress could not be held in Russia because of the persecution of revolutionaries by the czarist officialdom. It was attended by 43 delegates representing 26 organizations.

Before the congress could convene, the various local groups and committees had to be united in a single body and the aims and tasks of the new party had to be propagated. *Iskra (The Spark)*, the all-Russian political newspaper founded on Lenin's initiative, played an outstanding part in this effort. The paper's first issue appeared in December 1900.

The principle result of the Second Congress of the RSDLP was the founding of a revolutionary Marxist party, the Bolshevik Party. The ideological and organizational principles on which it was founded had been worked out by Lenin and his comrades-in-arms, who were already beginning to be called Leninists, even then. The Party members in the main were professional revolutionaries tempered in class battles.

The congress adopted a program and the Party Rules and outlined the principal tactical questions facing the Party. The program consisted of

The Provisional Government did its best to prevent the revolutionary movement from developing to the point where it furthered the interests of the workers, both urban and rural, the interests of all the people.

The Bolshevik Party called on the people to demand that the composition of the government be changed and that its policy be altered in behalf of the people, thus pursuing its openly declared aim of peacefully transforming the bourgeois democratic revolution into a socialist revolution. But the counterrevolutionary bourgeoisie retaliated with bloody attacks against the workers and their revolutionary organizations and forced the Bolsheviks to change tactics.

In July 1917 the Sixth Congress of the Party, representing a membership of 240,000, met secretly in Petrograd. The bourgeois press had been viciously baiting the Bolsheviks, and Lenin had to hide in a hut in Razliv, not far from Petrograd. From there he guided the work of the congress, which proclaimed the policy of an armed uprising and the establishment of a true people's power. It addressed a manifesto to all workers, soldiers and peasants, calling on them to prepare for the decisive battles, for the struggle for a new life. The Revolution broke out in the early morning hours of October 25 (November 7 by the new calendar) in Petrograd (now Leningrad). The Provisional Government was overthrown, and the first Soviet Government was proclaimed with Lenin at its head.

The Party Calls for Peace

Following the victory of the October Revolution our Party became the ruling party, and it was immediately faced with complex problems. On the solutions hinged the fate of the country and the people.

On the very first day of Soviet power, the Party energetically began to wage a struggle for peace, for an immediate end to the war. The Decree

-LANDMARKS in Our Progress

By Vasili Moskovsky

two parts—a minimum program and a maximum program. The minimum program defined the immediate tasks for the Party's guidance of the revolutionary struggle of the working class: to overthrow czarism and establish a democratic republic, introduce an eight-hour workday, and achieve full equality for all nations. The maximum program indicated the long-term objective of the Party: namely, the building of a socialist society.

The appearance of a revolutionary party of the working class was of great importance for the country's future. Besides carrying on strikes to improve working and living conditions, the working-class movement advanced political demands for democratic freedoms.

It was a time of great change. The working class, a powerful revolutionary force, had appeared on the scene. Revolution in Russia was maturing. It broke out in 1905 in an armed uprising of the workers against the czarist autocracy. The uprising was also marked by vigorous peasant action.

During the period of revolution and the years of reaction that followed, the Party worked tirelessly among the people. Arrest, exile and execution served only to make it stronger.

The Third, Fourth and Fifth Congresses of the Party mapped out the tactics and strategy for leading the working class in a decisive assault on czarism.

The Autocracy Overthrown

At last the storm broke. In February 1917 the autocracy was overthrown by a people in rebellion. But the power remained in the hands of the Provisional Government, representing the interests of the propertied classes.

on Peace was among the earliest issued by the government. It invited all belligerent countries to conclude a general democratic peace, one without annexations and indemnities.

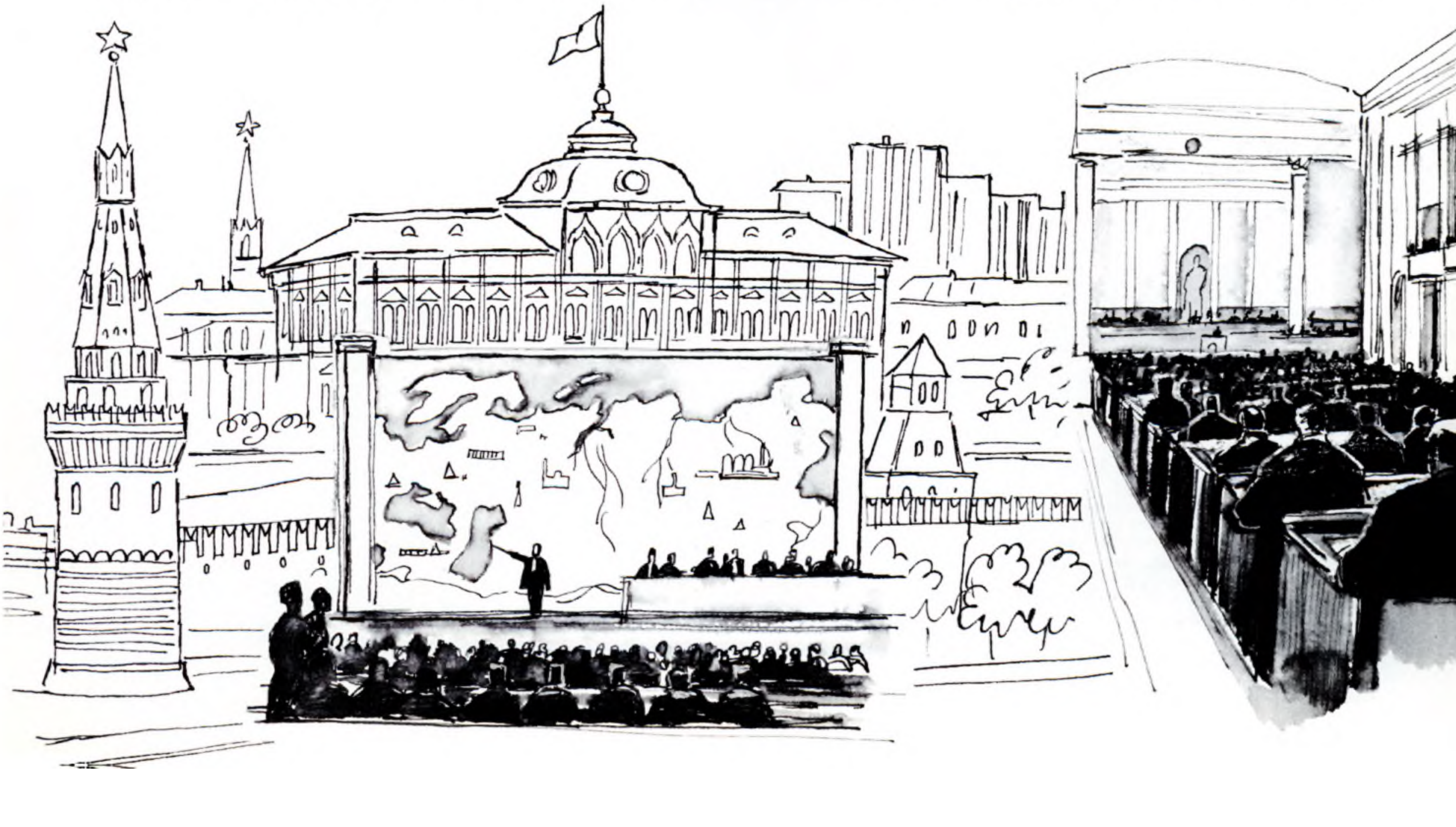
But Britain, France, the United States and the other Entente countries did not accept the proposal, and the Soviet Government was therefore compelled to negotiate alone for peace with Germany and her allies.

As negotiations proceeded, it became evident that the German imperialists intended to impose a humiliating peace. Considering the domestic and international situation, the country's devastation and the fact that the army, worn out by the war, would not survive an offensive, the Party decided, on Lenin's recommendation, to accept the onerous peace terms. It was the only way to save the young Soviet Republic. A breathing space was imperative to gather strength, to create new armed forces—the Red Army—that would be able to defend the gains of the Revolution.

Not everybody agreed. There was no unity in the Party on the issue of a peace treaty with Germany even after it was signed on March 3, 1918. The so-called "Left Communists," led by Trotsky and Bukharin, called openly for repudiation of the treaty.

To settle the question the Seventh Congress of the Party was convened the same month. It affirmed the correctness of Lenin's line and its support of the government in signing the treaty. Thus the respite needed to stabilize the country's economy and build up a new army was won. But the peace treaty was short-lived, soon broken by interventionist foreign powers.

The Party until then had been called the Russian Social-Democratic Labor Party. On Lenin's recommendation the Seventh Congress changed the name to the Russian Communist Party. Speaking on the motion for a change of



name, Lenin said, "In starting on socialist changes, we must clearly set before ourselves the goal toward which they are directed in the final analysis —namely, the creation of a communist society. . . ."

Building Socialism

It was under the most difficult condition of foreign military intervention and civil war that the young Soviet Republic took its first steps along an unbeaten path of history. And it was the Communist Party that guided its steps.

With the October Socialist Revolution an accomplished fact and the old program largely effected, the Party had to work out a new one to suit the changed situation. The new program for the all-out socialist construction of the country was adopted by the Eighth Congress of the Party in 1919.

Life had demonstrated the vitality of the principles on which the Party's program was based, principles that had grown out of the country's historical development. The first program, adopted in 1903, declared that a revolution was inevitable in Russia, and the revolution took place. The program adopted in 1919 proclaimed the construction of a socialist society in Russia, and that society was built.

"We can declare with pride," Nikita S. Khrushchev said recently, "that the program worked out by Lenin has been put into practice by our Party. Socialism in the Soviet Union has triumphed completely and for all time. Today the Soviet people are successfully building communism."

The goal of all Communist Party activity has been to build the new society. That is manifest in all major decisions made by Party congresses since the October Revolution.

Industrializing a Backward Russia

With the Civil War still under way, Lenin advanced the idea of electrifying the country within a 20-year period. In March 1920 the Party's Ninth Congress adopted a resolution "On the Immediate Tasks of Economic Development." The chief point in the Lenin plan was Russia's electrification as the most important condition for the rehabilitation of the national economy and its subsequent reconstruction on the basis of advanced techniques.

There were innumerable skeptics who called the plan for electrification fantastic. Not the delegates to the congress, however. They were men who could see into the future. Many of them had come to Moscow directly from the fighting fronts, but war was not their calling. They were Communists, and Communists are by nature profound lovers of peace. Their element is creative work and their goal is communism, the acme of human creative work and happiness.

When the thunder of the Civil War battles subsided and the long awaited peace came, industrial and agricultural reconstruction began in earnest and made unbelievably rapid headway. The Party's Tenth Congress and those that followed kept the country's eyes centered on the major problem—economic development. The general line of the Party, worked out by Lenin, was to transform backward peasant Russia in a short span of time into an advanced industrial country with a modern agriculture. The Party regarded the country's industrialization as a paramount condition for building socialism.

The plans for socialist construction worked out by the Party were fought with violence by those classes hostile to the people. Although they had been defeated on the battlefield, they did not lay down their weapons. The ideology of those classes could not but influence the unstable and vacillating elements in the Party. And this led to the appearance within the Party of opposition groups which resisted the Party's line on the building of socialism. What the arguments of the opposition amounted to in the final analysis was that socialism could not be built in the Soviet Union so long as it was the only socialist country in the world. This was the argument of people who had no faith in the power of the working class allied with the peasantry, people who were frightened by the difficulties they foresaw. Time and events proved their arguments invalid. Led by the Party, the Soviet people went on to build socialism.

When the Fourteenth Congress of the Party met in 1925, the country, ravaged by the First World War and foreign intervention, was nearing complete rehabilitation. The congress proclaimed in its resolutions the Leninist course of rapid development of large-scale heavy industry, one that could supply the new machines needed by industry, transport and agriculture.

The Fifteenth Congress of the Party, in 1927, held that the country's development could not successfully proceed with a large-scale socialist industry on the one hand and a multitude of small peasant holdings farmed with primitive hand implements on the other. The congress adopted a resolution calling for the launching of the all-out collectivization of agriculture and for large-scale socialist farm production based on new techniques. The resolution cautioned against forcing the peasants into collective farms. It declared that participation must be strictly voluntary.

It was the Fifteenth Congress that proposed the first five-year plan for national economic development. This plan, sponsored by the Communists and approved by all the people, marked an important stage in the country's progress toward an unparalleled flourishing of our country's economy and culture and a higher standard of living. The first five-year plan was completed ahead of schedule—in four years and three months. Subsequent Party congresses initiated the second five-year plan for the years 1933-37 and the third five-year plan for the years 1938-42. This last plan was interrupted by Nazi Germany's attack on the Soviet Union.

After Germany was defeated, the country resumed its peaceful labors. The fourth five-year plan was begun in 1946. The first postwar congress, the Ninteenth, mapped out the fifth five-year plan.

The Twentieth Congress—Building Communism

The Twentieth Congress of the Party met in February 1956. The Central Committee's report, delivered by Nikita S. Khrushchev, presented a profound and comprehensive analysis of the international and domestic situation, a review of the Party's work after the Nineteenth Congress and a formulation of the major theses which were an important contribution to the theory and practice of building communism. The entire world followed the deliberations of the congress, which was natural. The country had entered a period when the building of a communist society was no longer a point in the Party program but had become an immediate and practical task of the Party and the people. Industry was developing apace, agriculture was advancing rapidly, science was making monumental strides, and living standards were rising—all this was a solid foundation for creating the abundance of material and cultural values required for building a communist society, under which the principle "from each according to his ability, to each according to his needs" would prevail.

Since in its movement toward communism the Soviet Union has to attain the world's highest productive level, one of the cardinal tasks the Twentieth Congress set the Party and the people was to catch up with and surpass in the briefest possible time the most developed capitalist countries in per capita output.

The congress underscored the fact that in our present epoch socialism was no longer confined to one country but had developed into a world system and thereby created new conditions for the solution of domestic and international problems. At the congress Nikita S. Khrushchev developed the Leninist principle of peaceful coexistence of countries with different social systems as it applies to the present epoch, when there are two world camps.

Marxism teaches that socialism will inevitably be victorious in all countries. Answering the question of how this will happen, the congress resolutions emphasized that the victory would not come as a result of the "export" of revolution. Revolution by "export" is alien to the Marxist concept of the historical process. Marxists hold that the victory of socialism will come as a natural and inevitable result of the development of and the struggle between internal contradictions, from which no capitalist country is free.

Of great importance are the theses formulated by the congress: that the forms through which different countries will pass toward socialism are varied, that the socialist revolution may develop peacefully, and that the possibility of the latter is becoming greater in our time.

The Twentieth Congress arrived at the important conclusion that under present world conditions war is not inevitable, that it can be averted and peace preserved by the concerted effort of all peaceloving people.

The congress discussed overcoming the personality cult, which is alien to Marxism-Leninism. It boldly and in a principled manner criticized the errors relating to Stalin's cult of personality and outlined measures to completely eliminate its consequences.

The Party was thoroughly aware of the fact that this open discussion would be grist for the mill of the Soviet Union's enemies, but it was moved by considerations of Marxist principle and the interests of communist construction. In coming out against the personality cult it was necessary, above all, to make certain that no such thing would happen in the future, that guidance of the Party would be based on the Leninist principle of collective leadership with the active participation of millions of working people.

The Seven-Year Plan

Once the program of the Twentieth Congress had been carried through. the country entered a new period in its development, the period of communist construction. At this historic juncture the Party convened its Extraordinary Twenty-first Congress on January 27, 1959.

The major report, given by Nikita S. Khrushchev, bore the title "Target Figures for the Economic Development of the Soviet Union, 1959-1965." It was a draft for a seven-year plan that had been discussed throughout the country for months before the congress met. It was a great day for our big Soviet family, particularly for those of us who belonged to the older generation and remembered the difficulties and achievements of building socialism. The seven-year plan became a component part of the program for communist construction, and, as a result, the country has stepped up its pace toward the communist future.

The Soviet people have been meeting these seven-year plan target figures much ahead of schedule. The decisions of the last Party congress are being translated into spaceships, bumper crops, huge housing projects, new towns built on waste steppes.

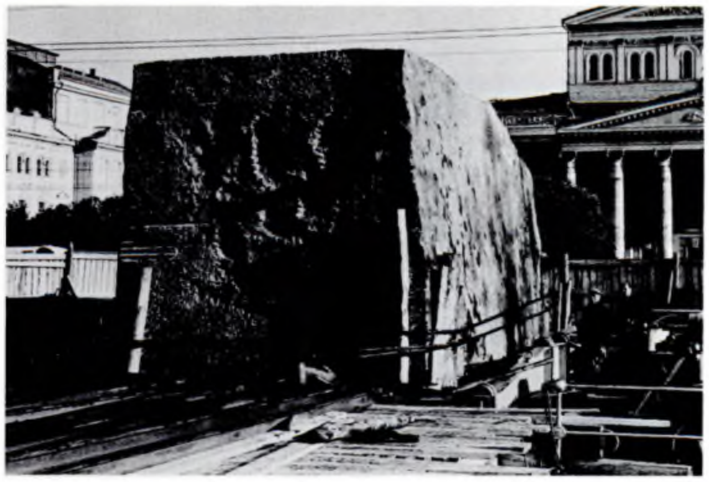
And now, once again, the Soviet people are preparing for a Party Congress, the Twenty-second, to convene in Moscow in October. It will review the Party's work for the past two years, discuss urgent tasks facing the Party and the country, and consider major problems of theory and practice of communist construction.

Nikita S. Khrushchev will deliver the Central Committee's report and speak on the draft of the new Party program; Frol Kozlov will present the changes proposed in the Party Rules. The congress will also elect the Party's central bodies.

The agenda item relating to the Party program is of more than immediate significance. The present program was adopted more than forty years ago. In the period since, the country has made giant strides forward. The new program will sum up the progress made and scientifically define the ways of building a communist society.

Traditionally, the Soviet people greet their Party congresses with new creative projects, with higher production levels, with some added contribution to the national effort. Greetings to this Twenty-second Congress bid fair to outdo all tributes to previous Party congresses.

EVENTS AND PEOPLE



A 220-Ton Monolith

A 220-ton slab of granite for a sculptured memorial to Karl Marx arrived at its destination, Sverdlov Square, at the center of Moscow, after an extraordinary journey. It needed ten "demobilized" tanks, long since stripped of their guns and now used solely for peaceful purposes, to haul the enormous rock from the Kudashev quarry in Dniepropetrovsk Region to the nearest railroad station. The rail trip was made on a unique 16-axle carrier.

At the Riga Terminal in Moscow, the monolith was shifted to a 48-wheel motor train that sagged under the terrific load. Powerful Yaroslavl tow cars traveling at three to six miles an hour hauled it to Prospect Mira.

The trickiest part of the trip was from Sretenka to Dzerzhinsky Street, where the road goes downhill. Two additional tow cars had to be hooked on behind to act as brakes. The three-mile trip from the station to Sverdlov Square took a little more than an hour. The enormous chunk of stone was bedded on 62 re-enforced concrete piles driven 27 feet into the ground.

Doctor Operates on Himself

What is probably one of the rarest operations in medical history was performed by Leonid Rogozov, the only doctor at remote Novolazarevskaya Station in the Antarctic. He was stricken with acute appendicitis at a time when it was snowing too heavily for a plane from the main Soviet polar base at Mirny to make a landing.

Immediate surgery was mandatory, and since there was no one else to do it, he decided to operate on himself. His friends, workers at the station, assisted him. Using a mirror to locate the site, Dr. Rogozov cut open his own abdominal cavity. The assistants handed him the instruments he needed and followed his instructions to the letter.

The operation took two hours. Several times Dr. Rogozov weakened and shut his eyes for periods of several seconds' duration. And each time, by sheer strength of will, he forced himself to resume operating. Finally the appendix was removed, the opening sutured, and the patient, exhausted beyond belief, let his head fall back on the pillow. Toward morning he fell asleep.

The latest word from Novolazarevskaya Station is that both patient and doctor are doing fine.

Diamond Wedding Anniversary

THE USUALLY quiet community of the Stalin Collective Farm in Mirzachul District, Turkmenia, was festively transformed. National songs could be heard on the cotton plantation, in gardens and vineyards. The collective farmers were celebrating the 75th anniversary of Sangil-ata and Narbubi Bazarbayev, the farm's oldest married couple.

Sangil-ata is three years this side of the century mark. His wife is seven years younger—she's only 90. Many are the things these two people have seen and experienced in their lifetime. Formerly hired farm hands, they became equal members of society, highly respected at their collective farm.

"Everybody in our family," says Sangil-ata, is a member of the collective farm." Their four daughters, grandchildren and great-grandchildren live and work together. Sangil-ata and Narbubi are enjoying an honorable old age. Both of them receive pensions from the collective farm.

The guests wished the Bazarbayevs many more happy years and expressed the hope that they would be able to celebrate their 100th anniversary.

Half-Century of Song

The Pyatnitsky Folk Chorus celebrates its fiftieth birthday this year. The founder, Mitrofan Pyatnitsky, wrote, "Russia's songs are wonderful and charming—their melodies heartfelt, their words expressive." To make his chorus truly Russian and truly a people's group, he invited singers from the villages to join, a tradition the group has followed ever since.

Since its opening concert in 1911 the chorus has given thousands of performances in large cities and small, in towns and villages. It sang for the soldiers at the front during the Second World War.

The Pyatnitsky repertoire includes both the old and well-beloved melodies and many of today's popular songs.

By Boris Grigoryev
Photos by Semyon Fridlyand

EXPLORING THE LIVING CELL

IN THE MODEST six-story gray building on Maklin Avenue in Leningrad that houses the Institute of Cytology of the USSR Academy of Sciences, physiologists and biochemists, morphologists, geneticists and biophysicists, opticians and radio engineers are working together to probe the microscopic secrets of the living cell.

The institute was founded by Dmitri Nasonov, a gifted researcher, dedicated teacher and courageous fighter, who left his laboratory in the grim July days of 1941, when German boots were trampling Soviet soil, to join the army as a volunteer and fight at the front in the defense of Leningrad. Nasonov's portrait hangs on a wall above the desk of Afanasi Troshin, Corresponding Member of the Academy of Sciences, who became the institute's director when Nasonov died in 1957. It is the portrait of a scientist and a fighter, the image retained by all who knew him and embodied in the work of the institute he created.

Nasonov conceived the idea of "synthetic" cytology, the integrated exploration of the cell. The study of the living cell is so complex that when cytology began to develop as an independent research area it soon subdivided. Each of the separate divisions investigated a narrow aspect—structure or chemistry or morphology. But the cell is a self-contained entity, and researchers found that not only must all these biological subdivisions be linked but that other sciences—chemistry and physics—must be called on for their contributions.

In the institute's ten laboratories scientists in many disciplines are engaged in an integrated study of the cell. In one laboratory it is subjected to extremes of cold and heat, in another to ultraviolet rays. In the basement, behind thick concrete walls, it is exposed to powerful X-rays. It is stimulated with electric current, whirled in high-speed centrifuges, poisoned, dismembered. And at batteries of instruments are researchers examining self-recorded graphs, checking dial readings, studying oscillograph curves and peering into microscopes.

Alexei Yudin is one of the institute's younger researchers. He specializes in transplanting the nuclei of amoebae. This must be done to determine the relative importance of the nucleus and the cytoplasm in the life of the cell.

His microscope, with its formidable array of screws and knobs, is a far cry from the conventional laboratory instrument. Yudin places two amoebae under the microscope. He is going to "operate" on them—to transplant the nucleus of one amoeba to another.

To the naked eye an amoeba would appear as a tiny gray-white speck about a quarter the size of the period at the end of this sentence. Imagine transplanting something about one-hundredth the size of this speck—that is the nucleus.

Yudin does the transfer with a micromanipulator attached to the microscope. At the operating end of the manipulator are a minute loop and a glass pin. He drives the amoeba into the loop and then with the pin carefully transfers the nucleus of one amoeba to the other. The operation requires the utmost delicacy. It took Yudin a year to perfect the technique. He had to make the glass instruments himself and learn how to aim the pin at the nucleus. All that preliminary work is happily in the past and now he is doing the actual research.

Living Light Signals

At the turn of the century researchers noticed that a cell subjected to the light of a mercury lamp radiates a barely perceptible violet glow. This phosphorescence was so weak and varied so little from living to dead matter that scientists did not see the possibilities it offered for peering into the cell until 1956 when Leningrad optician Yefim Brumberg, a Doctor of Science in Engineering, suggested that the faint violet glow was actually part of a much stronger radiation in the invisible ultraviolet spectrum, readily detectable on a photographic plate.

He designed and built a special microscope to check his idea. By then biologists knew that many of the cell substances displayed phosphorescent properties under light. Brumberg's discovery made it possible to study these substances in the living cell.

With a group of biologists Brumberg conducted a series of experiments in the institute's laboratory of microscopic research and made an important discovery—that the brilliance of the phosphorescence is determined by the condition of the cell. It is the cell signaling, so to speak, how it feels.

Now comes the problem of reading these signals, a job that presents even more difficulty than deciphering the Mayan inscriptions, recently accomplished with the help of an electronic computer. It has been found that the phosphorescence of blood corpuscles differs in a healthy and an ailing body. The blood cells of an irradiated animal emit a specific phosphorescence.

Thus, "synthetic" cytology, in which biologists cooperate with physicists, is beginning to uncover another secret of the cell.

Frozen Sleep

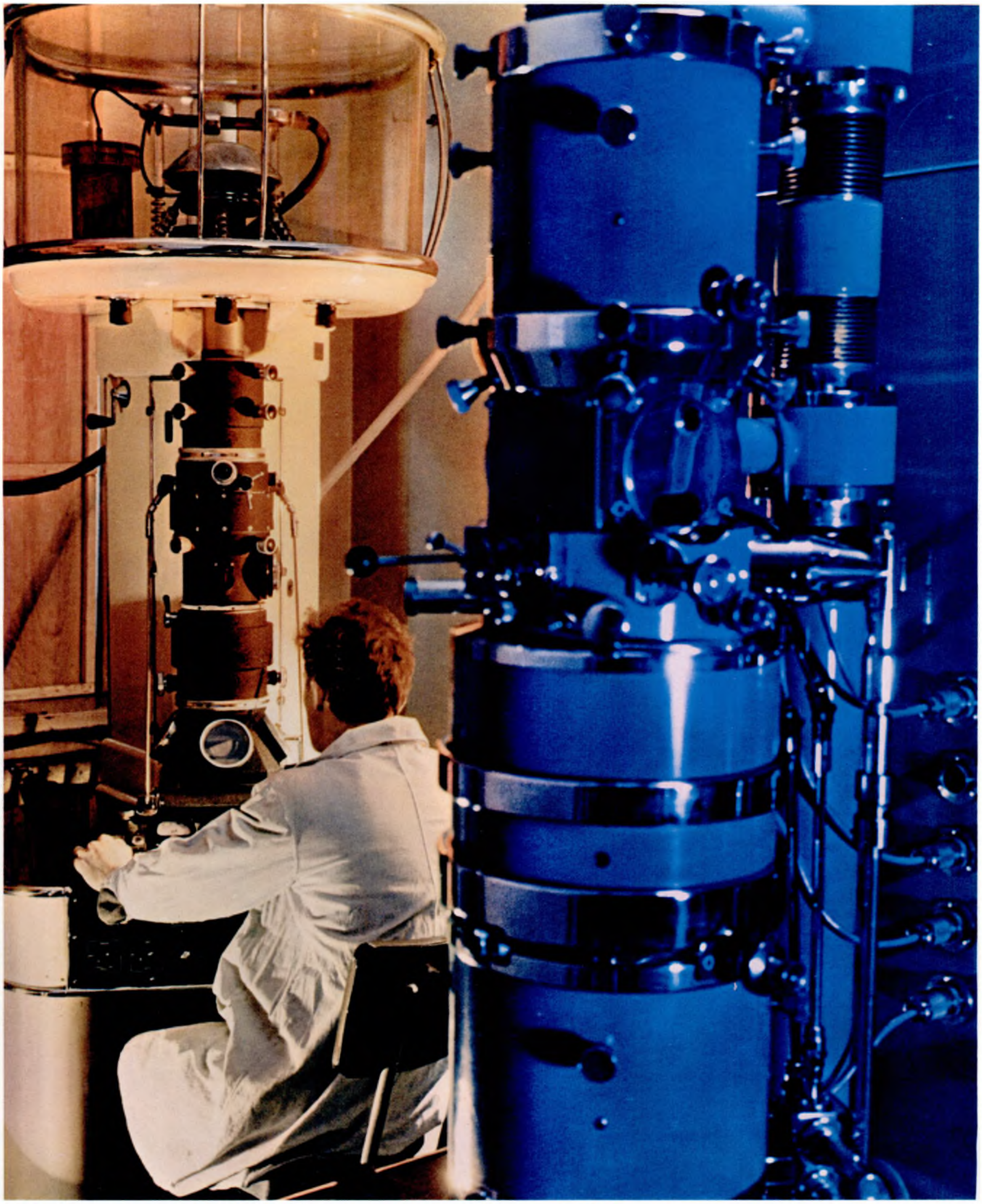
Can you imagine the thermometer —183°C. (—297°F.)? We have no normal parallel for cold that intense. It was long taken for granted that no living organism could stand temperature that low.

This is a misconception, declares Professor Lev Lozina-Lozinsky, Doctor of Science in Biology, who heads the institute's laboratory that studies how cells and more complex living organisms adjust to changed environments. Professor Lozina-Lozinsky has demonstrated that a European corn borer caterpillar adapts itself so that it can stay alive for many days in liquid oxygen at —297°F.

Place a flower in liquid oxygen, take it out, tap it with a hammer—it breaks with a silvery tinkle. Drop a live frog into liquid oxygen, take it out after a few minutes, drop it on the ground—it cracks like a piece of thick glass.

Experiments like these can be carried on indefinitely, and always with the same conclusion—that living tissue freezes at these low temperatures. The normally constituted cell is 70-80 per cent water, and this water turns into ice crystals that tear the cell and structures.

But let us return to the corn borer we spoke of earlier. We put the caterpillar in a test tube and place the tube in a Dewar flask containing



This electron microscope, with its formidable array of controls, is a far cry from conventional laboratory instruments. It is a basic tool for cell research.

At the Institute of Cytology biochemists, geneticists, physicists, and radio engineers collaborate to probe the secrets of cell life.

liquid oxygen. The light-blue liquid boils until the temperature of the test tube drops to —297°F.

We take the caterpillar out of the liquid oxygen and we find it as cold and brittle as an icicle. We break it open and find white crystals of ice inside the chitin shell. It is lifeless. It pounds to dust in a mortar like sugar or salt.

But let the frozen caterpillar thaw and a miracle takes place—it gradually comes to life. So Professor Lozina-Lozinsky proved that the complete crystallization of water in the cell of a complex organism in conditions of deep cooling does not kill the cell if it has undergone preliminary adaptation. The caterpillar he used in his experiment had been trained to withstand cold.

Aside from its philosophical interest this study is important for theoretical biology, for medicine and for practical agriculture. Yuri Gagarin's flight gives Professor Lozina-Lozinsky's work special relevance. One might call his a space laboratory because the studies have so direct a bearing on the enormously exciting question man has long asked himself—is there life on other planets?

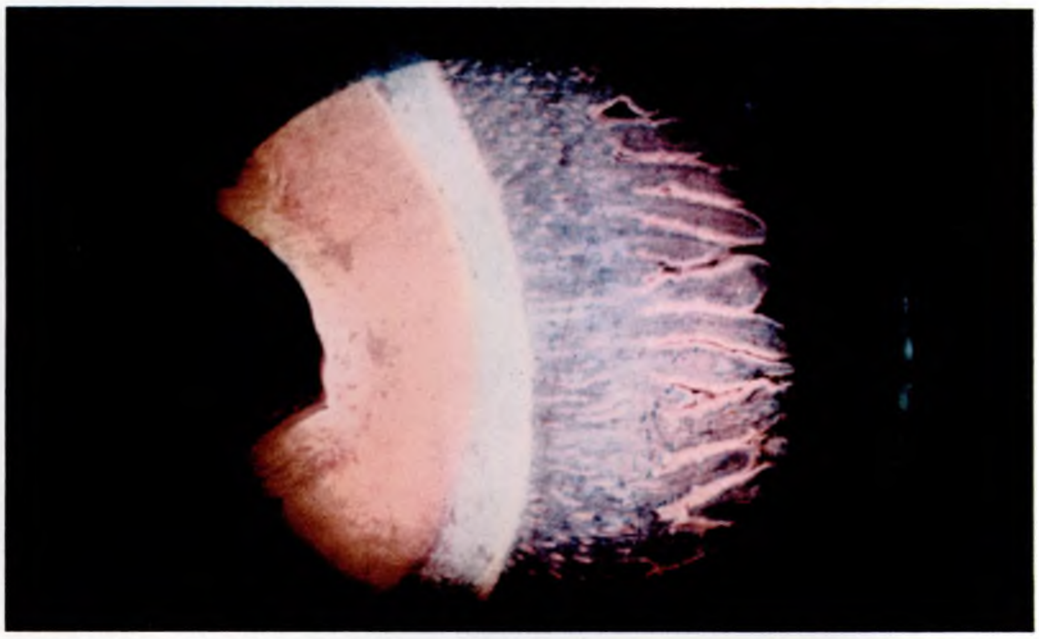
Our earth is fortunate because it receives neither too much nor too little heat from the sun but just enough to create and maintain life. Conditions on the more distant planets are much more severe. Jupiter's temperature is 138°C. below zero (—216°F.). On Mars, the planet that science fiction writers have populated with intelligent beings, the daytime temperature does climb to 25°C. (77°F.); at night, however, it drops to —40°C. (—40°F.) even in the warmest zones.

But the adaptability of the living cell is evidently greater than we had thought. It may be that even the coldest spots on Mars have strange inhabitants who live actively during the day and fall into a state of anabiosis in the bitter cold of the planet's night. Sooner or later a living cell from outer space will be studied through a researcher's microscope for the answer.

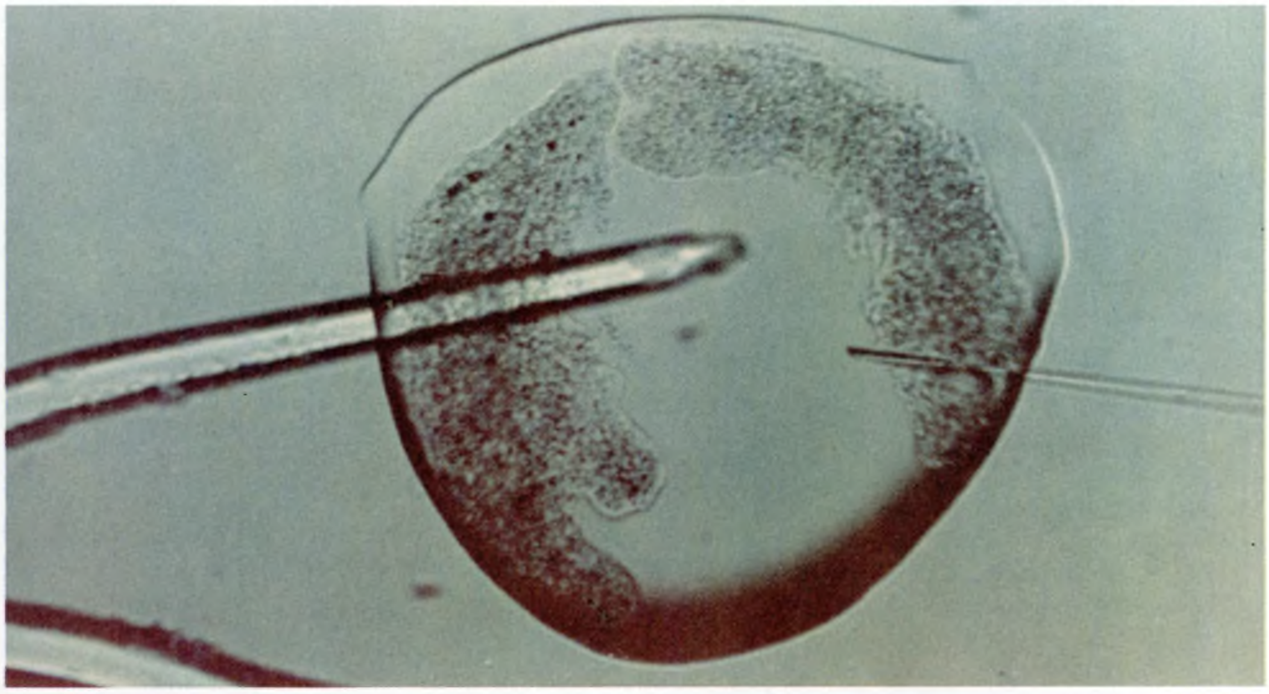
—From the magazine Ogonyok

Studying adaptation to cold at 297° F. below zero.

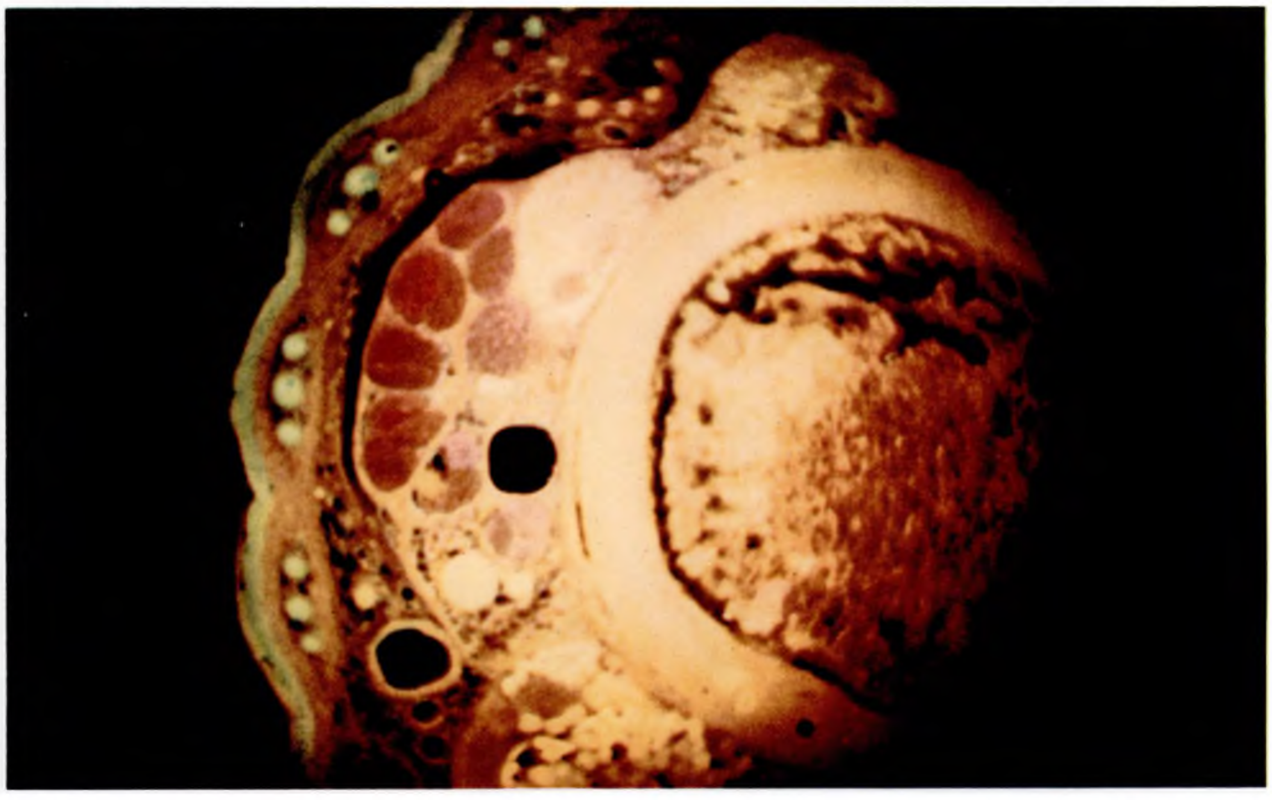
Under light, different cells glow with different colors.



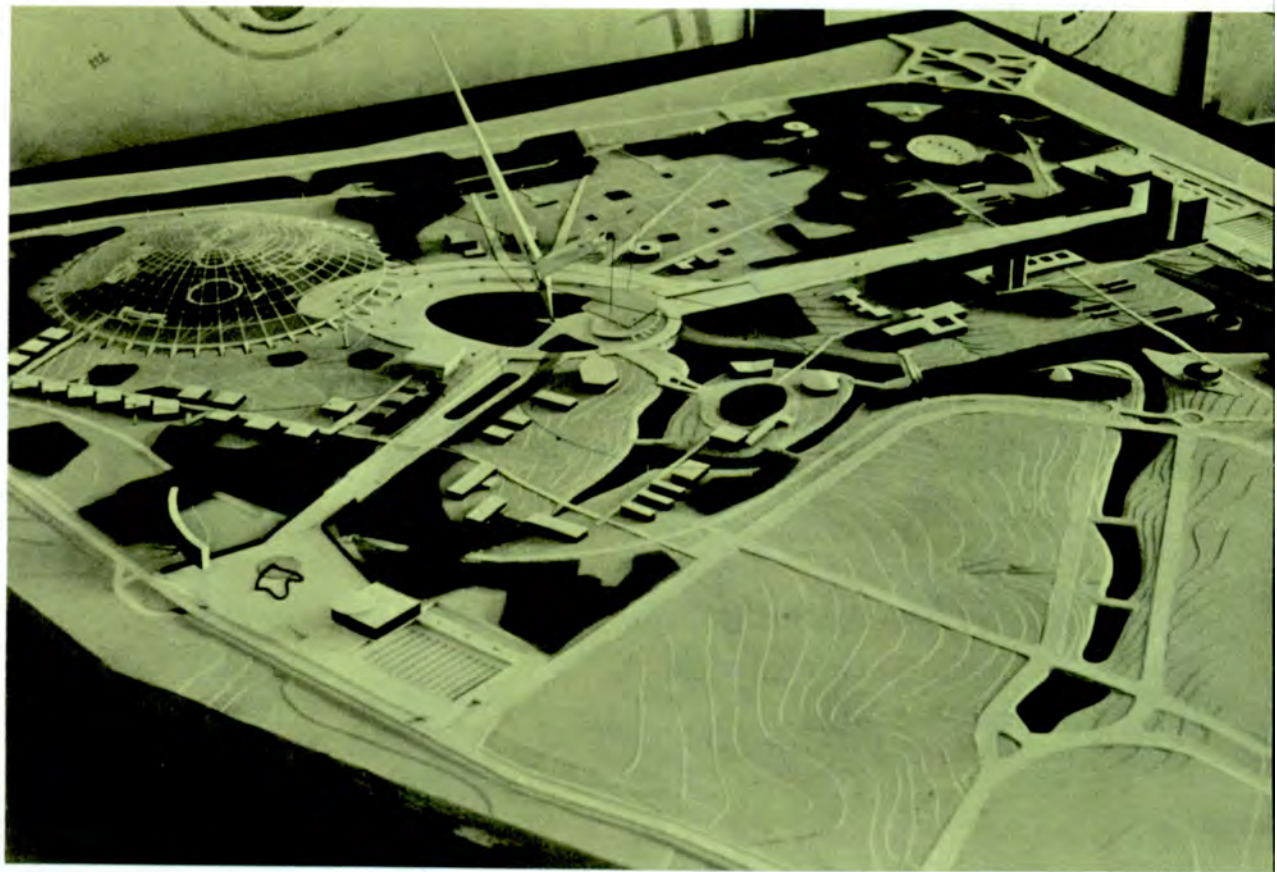
Institute scientists found that the brilliance of the glow indicates the health of the cell.



Transplanting the nucleus of an amoeba, a single-celled animal—a delicate operation perfected by Alexei Yudin.



Tissue studied microscopically by the method of color transformation developed at the Institute of Cytology.



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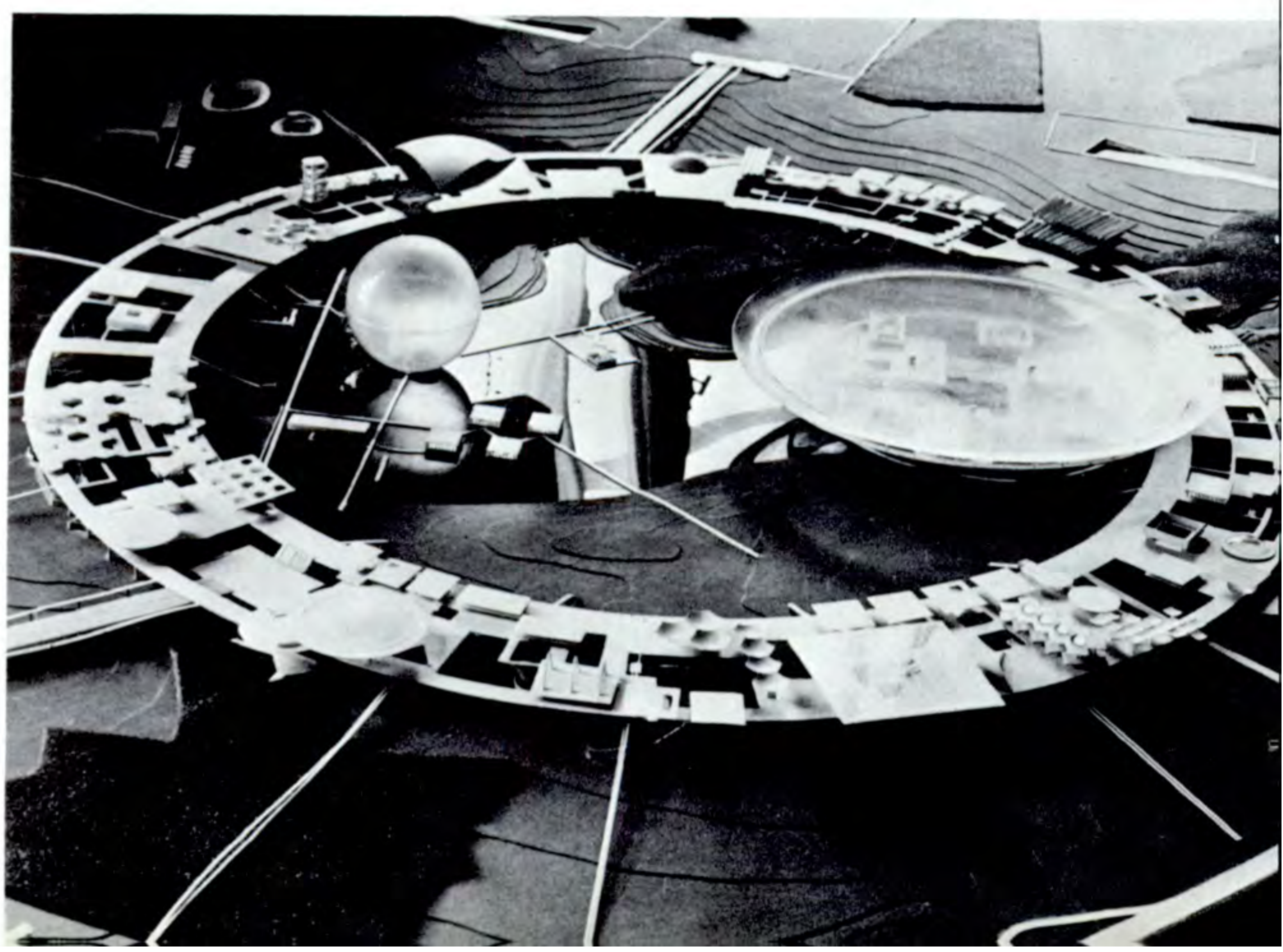


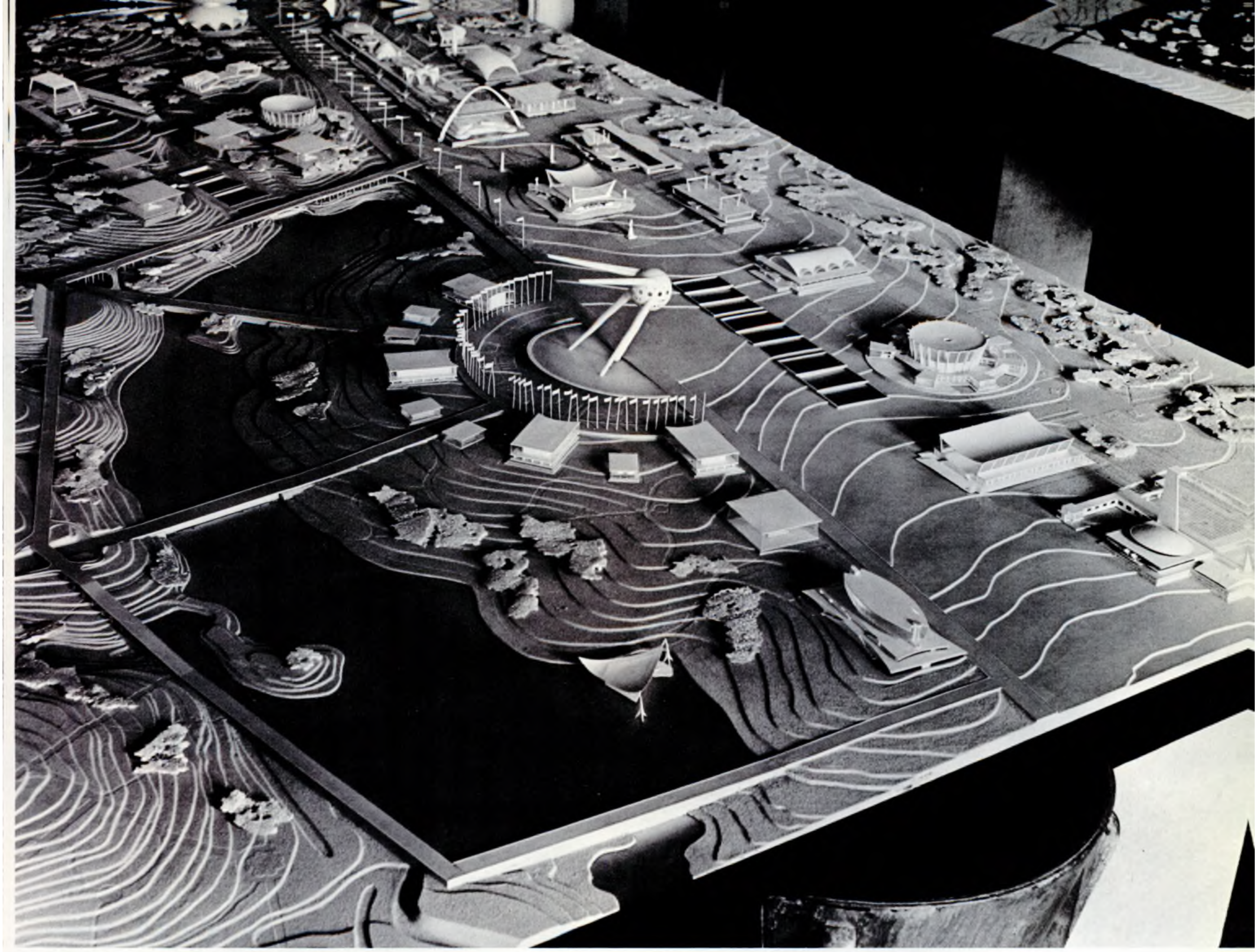
THE WORLD'S FAIR will be held in Moscow in May-November 1967, the year of the fiftieth anniversary of the Great October Socialist Revolution.

The fair's outline is beginning to take shape in the designs submitted by Soviet architects working individually and in groups. Not long ago exhibition designs were entered in a contest display in the capital and evoked a miscellany of critical comments and suggestions from the public.

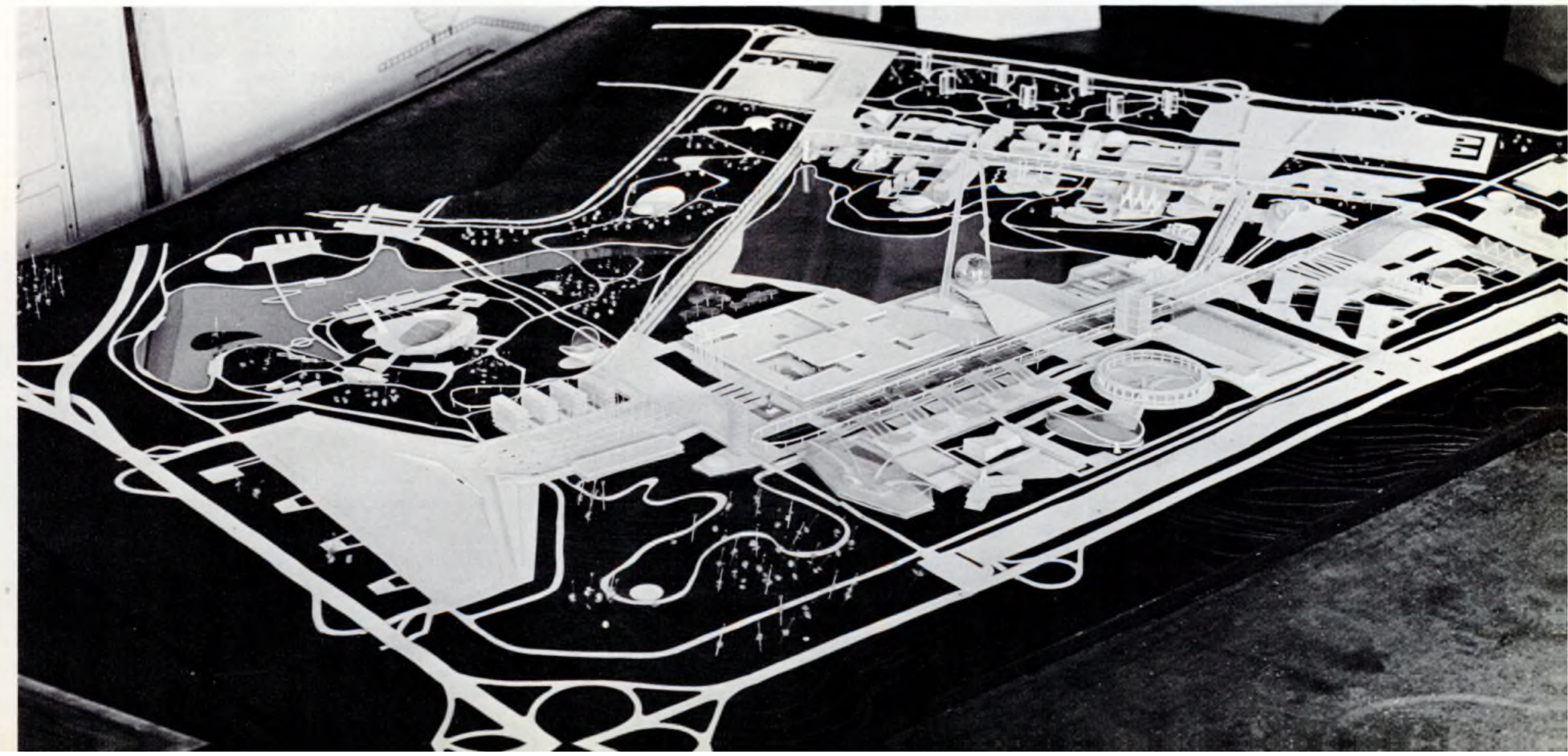
Many of the leading Soviet architects and builders are working on the over-all layout of the fair. Not only specialists but large numbers of lay people are interested in the preliminary planning. There were some 3,000 participants, professional and amateur, in a recent contest for the best design for an emblem for the exhibition.

The artists' concepts of the total projected panorama and its separate elements shown here give some idea of the plans of the layout and landscaping. The fair will cover 1,300 acres of pavilions, parks and pools bordered by shops, hotels and camp sites.

Each exhibiting country will have its own pavilion, and there will be pavilions for such international organizations as the UN, UNESCO, the Red Cross, societies for friendship and cultural relations with foreign countries, and sports federations. International pavilions will be devoted to science, technology and the arts, social problems and world peace. A symbolic structure in the center of the grounds will dramatize the fair's theme, "Progress and Peace."



ORLD'S FAIR takes shape



SECRETARY of the DISTRICT PARTY COMMITTEE

By Mikola Nagnibeda
Ukrainian Writer

ON THE SEVERAL occasions Grigori Tkachenko and I met, we talked of many things. But whatever the subject discussed, this Communist Party leader was always talking about people. Whether he was giving me figures for livestock growth in his region or telling me about a tree-planting project he had in mind to beautify a village street, the underlying theme was always people.

He is Secretary of the Belaya Tserkov District Committee of the Communist Party of the Ukraine, and we first met when he and a group of farmers from the district paid a visit a year ago last spring to the Union of Ukranian Writers.

When I asked what was doing in his district, he spoke briefly about the fine new farm machinery and lengthily about their operators, peppering his talk with names and thumbnail character sketches of tractor drivers, harvester combine operators, collective farm mechanics and milkmaids.

Later on, when I came to know him better, he permitted me a look at entries in his rather unique diary. This was not nearly so much the usual compilation of events and personal reactions as it was a running conversation he was having with himself on his function as a Party leader.

One of the entries, as nearly as I can recollect, ran something like this: "How swiftly life moves. One has to keep wide awake, and the District Committee of the Party must be able to look ahead and foresee events in the district if it is not to dwindle from a guiding political body to a miserable sinecure—the worst possible thing that could happen."

And another entry. "When I read Academician Pogrebnyak's article, 'Forests—the National Wealth,' I was struck with how shortsighted we are. We squeeze all we can from nature and give her nothing in return. How much thought do we give to those who will be coming after us?

"A few years ago I got the idea of planting a large park in the neighborhood of the District Committee building on the bank of the Ros River. A lot of people pitched in for the fun of it, contributing their time and work, so there was no expense involved. The trees are tall now and everybody comments on the beauty of the park on the river bank. But that was as far as we went.

"Why, I ask myself, didn't I think of suggesting that we do the same in every one of the villages? How much that would have added to the beauty of the district. But better late than never. We must plan a district program—to plant groves of trees not only in the villages but wherever cultivation is ruled out by gullies and ravines."

They Were Planting Traditions

Late that fall I took a trip to Belaya Tserkov. I expected nippy weather and was pleased to find the days still warm. The leaves still flaunted their lovely golds and reds, and the deep blue sky—too blue for the time of year—made a cornflower-blue frame way off at the horizon for the waving green sea of winter crops.

You no longer heard the cranes, they had long since left the shores of the meandering Ros and Kamenka Rivers. But the roads through the steppes were as lively and as noisy as ever, with trucks pounding along—singly, in pairs and in whole columns—piled high with beets for the sugar refineries or with golden ears of corn.

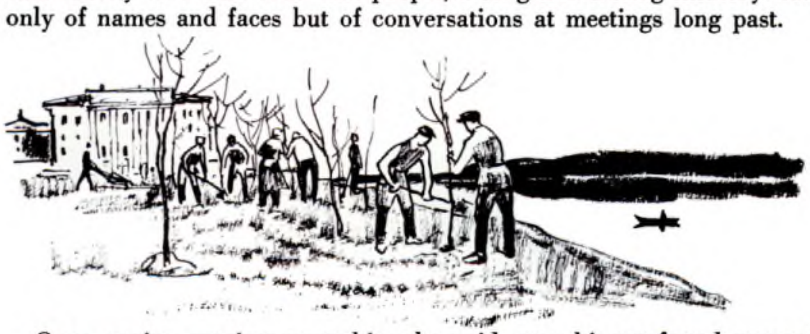
At the edge of the road young people were planting fruit trees. The long strips of orchard on both sides of the road already stretched a long way off. Looking at these young men and women digging away, I was reminded of Grigori Tkachenko saying, "We want to adorn Belaya Tserkov District with blossoming fruit trees. We want to make this a tradition for our school children—that they plant saplings and, when they leave school, turn them over to be cared for by the younger children. That will help instill in them love for their native soil."

Since our last meeting I had learned something of Tkachenko's background. He had been a farm worker, then an agronomist and, during the war, an officer in the Soviet Army. From defeated Berlin he returned to his native Belaya Tserkov, was elected secretary of the District Party Committee and has been re-elected to the post at every election since.

In the fifteen years he has held the job, during the rough period of postwar reconstruction and the more recent period of fast-paced farm development, the people of Belaya Tserkov have had reason to be grateful for the experience, knowledge and organizational talents of the Party head in their district. He wears the star of the Hero of Socialist Labor awarded him by the Government.

Such Wonderful People

When he showed me around, it was evident that everyone knew him and—something which no longer surprised me—that he knew everyone. And "everyone" constituted a great many people indeed. He had that faculty of a man who likes people, a long and lasting memory not only of names and faces but of conversations at meetings long past.

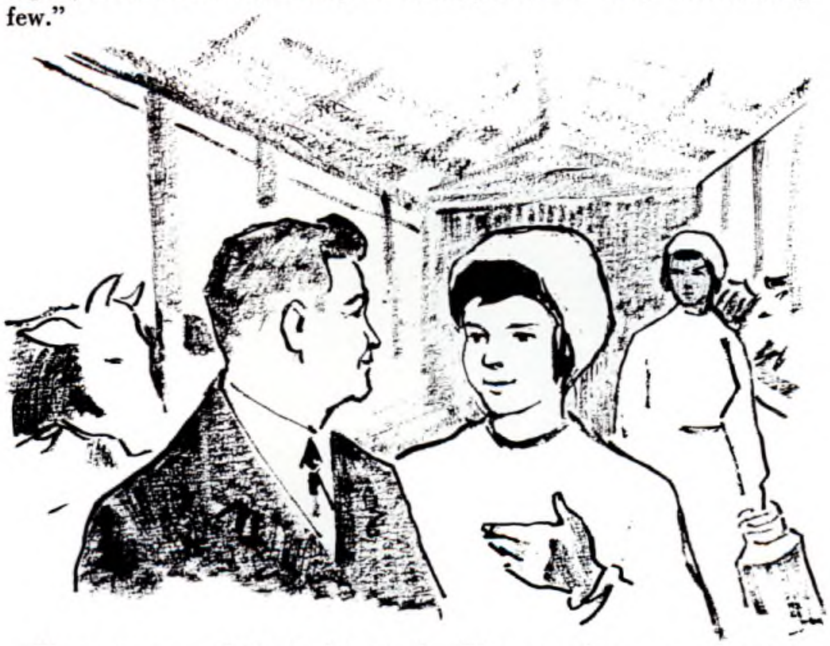


Once again, gracing everything he said, was his profound respect for people, for the work they did and the work they were capable of doing.

"Such wonderful people," he said, after bringing me up to date on local affairs. "Poems and songs ought to be written about them."

His enthusiasm made him seem almost a young man, seemed for the moment to darken the gray in his hair, smooth the lines etched on his face by a lifetime of labor for other people's benefit. There is so much pleasure, I said to myself, that this man derives from the happiness of others; he makes the joy of other people his own.

"Yes," he repeated in a quieter, more thoughtful tone, "poems and songs should be written about them. They are modest, unassuming—these people of ours. But take a closer look at them, work with them for a while, and you come to understand their great strength and dignity. The books that really do them justice are few, unfortunately few."



There was no rebuke in his words. They merely expressed regret. This is a man who is fond of books and does a great deal of reading. No matter how hard a working day he has had, Tkachenko finds an hour or two for a book. When he visits a village, he usually drops into the library. He is interested in the number of readers, what books they favor, what the librarian has been doing to get more books around. He looks in at the local bookshop to find out what the best sellers are.

A Commercial "Transaction"

"Party work," says Grigori, "means working with people. Stay close to the people and it's amazing what you can get done. We see it proved time and time again. Here are two of our collective farm villages that were plundered by the fascists. When the war ended Kozhaniki was left with one pig. Now both villages are prosperous. For that matter, so is the whole district."

He told of some difficulty they had had with one of the collective farm chairmen who decided the farm wasn't getting rich fast enough and tried to speed up the process through some questionable commercial transactions. He was tempted by the markets of distant Leningrad. When he returned, Tkachenko asked him about his trip. The chairman was elated at the bit of business he had done—sold a crop of tomatoes for several times the price they fetched locally.

"And do you think the people of Leningrad enjoyed paying those prices?" Tkachenko asked him.

The chairman confessed that he had been embarrassed when Leningrad buyers asked him where he came from.

There was some extremely frank talk with the chairmen of the collective farms in the district as well as with the secretaries of their respective Party organizations. A good look was had at this "advantageous trade" from the communist point of view. It was examined not with just the one farm in mind but in terms of the general interest. The discussion undoubtedly helped the collective farm heads to avoid any future temptation to enrich their farms at other people's expense.

Then there was the case of the collective farm chairman whose success went to his head—the farm's success, that is, which he began to attribute entirely to his own merits. He paid less and less attention to other people's counsel until the Party group at the farm and the District Committee stepped into the picture and called a general meeting of the collective farm members.

After the chairman had reluctantly given his report, a number of farmers spoke up. While they paid tribute to the chairman's ability, they were quite caustic about his failings. The chairman listened without a word, but from his face it was apparent that he was taking the criticism very much to heart.

Tkachenko ended the story on the happy note: "And now Chairman Yefim Kostyuchenko stands with both feet solidly on the ground. So much so that he was awarded the Order of Lenin for exceptional work."

Of Young People

We talked of the young people in the village, their upbringing, their future. The Party secretary said: "There is an infinite capacity and power in these young people. They can accomplish wonders if they enjoy their work."

Young people's problems, he told me, are the responsibility not only of the Young Communist League but of the Party organization on the farm and the District Committee as well.

At all schools in the district the youngsters get practical farm training in field work, livestock breeding and mechanization.

"You've probably heard of our leading collective farm—the Kalinin farm at Bykovaya Grebyla," Grigori Tkachenko said. "It was mostly young people who got that farm back on its feet. They turn up in whole classes to help out. And what workers, what Communists they are growing up to be. Polina Skripka, one of the schoolgirls who used to come regularly, is now an outstanding dairy worker. She was awarded the Order of Lenin. Young people work in every section of the farm. Last year when things weren't going too well, we really learned how much of a contribution they were making."

It was some months after our talk that I met Grigori Tkachenko again, still very much his old, ebullient self, still full of talk about people and progress. He had just come back from a trip around his district. "Our farmers," he said, "have new ideas and projects going by the score. I tell you, those people are astonishing, the way they keep forging ahead. Nothing can beat them."

—Abridged from the newspaper Pravda

FRANK TALK

THE SHORTEST WAY TO BETTER UNDERSTANDING

By Oleg Feofanov

Photos by Alexander Mokletsov

LAST FALL a group of American and Soviet people, leaders in their various fields of effort, met at Dartmouth College to discuss disarmament, peaceful coexistence, ways of improving Soviet-American relations and other problems upon which the world's future depends. Though the conference was unofficial, the discussion was serious and searching. The intent was not to gloss over differences but to examine them frankly and to probe for possible solutions. The participants were pleased with the forthright exchange of ideas and agreed to maintain contact. They met again in May of this year, this time on Soviet soil, in the Crimea.

The Crimea is beautiful country at any time of the year, but it is especially so in the spring. The air is fragrant with acacia and jasmine, white candlelike flowers transform each chestnut tree into a giant girandole, and a bright sun rides lazily across the blue sky. This is the most peaceful country one can possibly imagine. Perhaps the very thought of the contrast of cities bombed, people mutilated and air poisoned by fallout gave this conference its sense of urgency.

The Discussion

A news statement issued by the participants summarized the discussion. It said in part: "The conference delegates devoted special attention to peace and international security and to methods for achieving and maintaining them. Discussed at length were ways of speeding up agreement on comprehensive disarmament with adequate inspection and control and on ending nuclear weapon tests. The conference expressed the hope that agreement on ending nuclear weapons tests would be reached in the very near future.

"The conference also examined in considerable detail the part played by world rule of law and the United Nations in maintaining and strengthening peace. Also considered were the role of public opinion and the individual citizen in his country's foreign policy; the cooperation of industrialized nations in aiding underdeveloped countries; the contribution which education can make to strengthening peace and improving Soviet-American relations; and the possibilities of promoting understanding by expanding economic, scientific and cultural relations."

Among the Soviet participants were Academician Alexander Korneichuk, noted playwright and chairman of the Supreme Soviet of the Ukrainian Republic; Academicians Ivan Artobolevsky, Yevgeni Fyodorov, and Mark Mitin; film director Sergei Gerasimov; Nikolai Goncharov, Doctor of Science (Pedagogy); Alexander Karev, Secretary-General of the All-Union Council of Evangelical Christian Baptists; Fyodor Kozhevnikov, Doctor of Science (Law); Modest Rubinstein, Doctor of Science (Economics); writer Boris Polevoi; Nina Popova, Chairman of the Board of the Union of Soviet Societies for Friendship and Cultural Relations with Foreign Countries and a deputy to the USSR Supreme Soviet.

This big TU-104 airliner that travels at an average speed of 500 miles an hour landed the party at the Simferopol airport in the Crimea. The conference was held in the lovely Black Sea resort town of Nizhnyaya Oreanda. Among the well-known Americans participating were Norman Cousins, editor of the *Saturday Review*; Dr. Philip Mosely, director of studies at the Council on Foreign Relations; former Senator William Benton, publisher of the Encyclopedia Britannica; Professor Robert R. Bowie, director of the Harvard Center for International Affairs; Professor Lloyd Reynolds, Yale University economist; Dean Erwin N. Griswold and Professor Louis B. Sohn of the Harvard Law School; Dr. Arthur Larson of Duke University's World Rule of Law Center; anthropologist Margaret Mead; singer Marian Anderson; Shepard Stone of the Ford Foundation.

Cochairmen of the American delegation were Norman Cousins (left) and Philip Mosely. Simferopol women presented flowers to the visitors.

At the airport, the American delegation was welcomed by representatives of civic organizations and a swarm of reporters and cameramen. Alexander Korneichuk, greeting the visitors on behalf of the Soviet people, said, "We come to this second meeting with our American colleagues with open hearts and good intentions. We sincerely wish to cement our friendship with the American people and to see good relations established between the governments of the USSR and the USA."

Dr. Philip Mosely, in fluent Russian, thanked his hosts for the cordial reception. "We are accustomed," he said, "to telling our Russian friends straightforwardly at the conference table what we agree and disagree to. At this meeting, just as at Dartmouth, we want to discuss many problems, the settlement of which will lead to an organized world where it will be possible to get along without armaments and war. If we can bring the positions of our people closer by even a tenth, it will be a step forward. We hope to do that."

Since the conference was unofficial and the participants looked forward to the freest possible exchange of opinions, they had agreed to bar newsmen and to hold the meetings behind closed doors. The same procedure had been followed at Dartmouth. This was taken before the opening session.

Mrs. Cousins, surrounded by juvenile autograph hunters, on a visit to Artek, the famed children's camp in the Crimea. At a flag-raising ceremony in honor of the visitors, the campers and their guests stood at attention while the American flag was raised. Norman Cousins, conveying the best wishes of his young countrymen, told the children, "The people of my country, like yours, want peace and friendship. To stretch out the hand of friendship and to appeal for peace is not enough. Real peace is a work of art that cannot be created only with enthusiasm. It needs work, persevering effort. We have come here for that purpose, to discuss with our Soviet colleagues ways of building Soviet-American friendship and ways of saving the world." Alexander Korneichuk remarked later in the evening: "It was a moving sight looking at the American flag flying alongside the flag of my country. I hope to see the day when the flags of all the countries on earth will be flying alongside each other and not one of them ever lowered." After the ceremony the youngsters crowded round the visitors. One of the girls pinned a Pioneer badge on William Benton's lapel. "The Soviet Union is a wonderful country," Mr. Benton told a Soviet newspaperman present. "I'm really amazed by your warm hospitality."

On a sightseeing trip by bus to Sevastopol the Americans stopped at Baidar Gates, a halfway point, to take pictures of the beautiful Crimean landscape from a cliff overlooking the sea. There they met a group of sixth-grade youngsters from the nearby village of Orlinoye out for a mountain hike. Mr. Cousins is behind the camera. The children asked innumerable questions, and so did the grownups, who were very much interested in the attitudes and ways of thinking of the Soviet younger generation. When the hikers told the visitors that they carried on a correspondence with school children in many countries and would like to strike up a pen-friendship with boys and girls in the United States, Mr. Cousins promised to help.

The conference participants sailed to Yalta in the *Alushta*, a new Bulgarian-built steamer, along a coastline dotted with holiday resorts, hotels and sanatoriums. It was a pleasant interlude, with Soviet and American newspapermen and cameramen chatting together on deck. Some of the tourists watched the sea gulls wheeling crazily in the wake of the ship, but Mr. Cousins found rooks and bishops more entertaining.

Professor Robert R. Bowie of the Harvard Center for International Affairs spoke of the changes he found in the Soviet Union since an earlier visit in 1934. He talked of Gagarin and Shepard, of opera, recordings, the virtues of stereo, world trade and the need for ending the arms race. "We've been able to get along without a war for the past ten years," he said. "I hope we'll live without one for the next ten. Right now, of course, atomic bomb tests must be banned and a way found to carry out effective control over disarmament."

They made another brief stop at Sapun-Gora (Mt. Sapun), outside of Sevastopol, where Soviet soldiers put up a heroic defense against advancing German fascist forces in the last World War. A museum commemorates the defense. Then the buses resumed their journey to the site of one of the most stirring battles of the war. Looking at Sevastopol today, it is hard to believe that this city with its modern houses and wide boulevards was a pile of smashed brick and concrete and fire-twisted steel only a few short years ago. There is nothing to remind one of that unbelievable battle except the sculptured monuments to those who gave their lives to defend the world from Nazi barbarism. The visitors also saw the famous panorama of the city's defense in 1854-1855.

Professor Lloyd Reynolds, Yale economist, liked the Crimea but preferred the Caucasus because the mountains there are higher. This was his third trip to the Soviet Union. "I was here in March," he explained, "to prepare for a conference of economists of the United States, the USSR and India to be held in Geneva." Asked to comment on peaceful economic competition between the two countries, the professor noted that Americans up to a while ago had an incomplete picture of the Soviet economy. "The picture is changing now. Your economy is highly productive, no question about it. I hope that more and more Americans will inform themselves about it. I'm for broader personal contacts. When people get to know one another, there's much less chance of their quarreling."

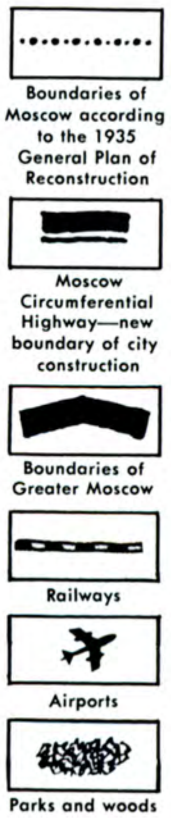
Dr. A. William Loos, director of the Church Peace Union, said, "I like the Russian people. They are most hospitable, outspoken and sociable. I studied the language ten years ago and was able to read, but I've forgotten it. I'm going to begin again when I get home so that I'll be able to talk Russian the next time I come." He underscored the need for a livelier exchange of information, and of students and teachers. "This is a vital step in the direction of lasting peace. Such steps, even little ones, must be made all the time. Some people say that this is useless and that problems have to have radical solutions. I don't agree with them. Big distances on this road to a durable peace are covered by small steps."

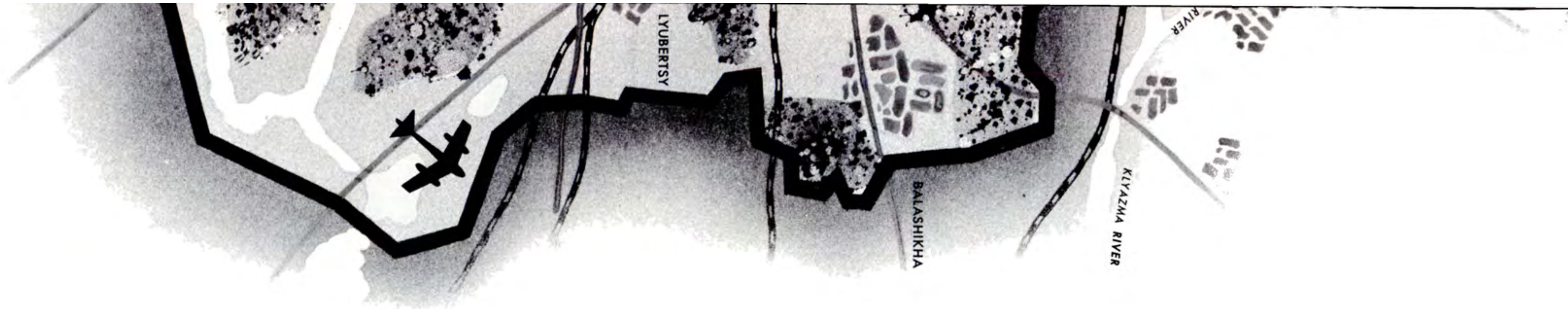
At the conclusion of the conference, the participants met with the press in Moscow's Sovietskay Hotel. Spokesmen were the cochairmen of the American group, Dr. Philip Mosely (standing in th photo) and Norman Cousins, and the leader of the Soviet group, Alexander Korneichuk. Mr. Cousins note that he had been impressed with the frankness and sincerity of the discussion. Mr. Mosely thanked Korne chuk and the other Soviet participants for their work in making the conference a success. Replying t questions, both Americans emphasized the fact that they spoke as private individuals, but they declare that they would do everything they could to promote a practical solution of all urgent problems

Marian Anderson, chatting with Alexander Korneichuk, said, "I've been in your country twice before, first to sing at your opera and then on a concert tour. And now I'm back again. I love your artists. I saw the Moiseyev dancers and thought they were wonderful. I also attended one of the concerts given by your pianist Svyatoslav Rikhter and went backstage to congratulate him. I believe that cultural exchange is very essential in building better understanding."

Thumbs up in Russian is the same as okay in American. Dr. Philip Mosely and Soviet writer Boris Polevoi are both saying that they think the conference made a valuable contribution to better understanding between their respective countries. The theme of the final session was "The World We Want in 1970." There was a proposal to hold a third conference in the USA in the near future to explore problems of mutual concern.

There are really three Moscows shown on this **map. The first is Moscow** as of August 1960, **before the city limits were extended to the highway that circles the capital.** Within the new **boundaries (the smaller ring)** live 5 million **people. The larger ring marks t**he boundaries of **Greater Moscow with its populat**ion of 7.2 million.





MOSCOW

TODAY AND TOMORROW

A City for Man; Not Man for the City

MUSCOVITES like to say, "If you want to know Moscow, live in it; the longer you live in it, the more you'll love it."

You need time to know Moscow. It does not overwhelm you on first acquaintance, as some cities do. Neither does it begin to oppress you after a lengthy stay, as some cities do.

Moscow, with its eight centuries of history, seems to be saying, "Look, think, feel, and as for the rest—later."

Soviet people often compare their capital to a great spreading oak. Confident in its strength and beauty, Moscow does not hustle and bustle; it moves calmly, with dignity, its head high.

There is an almost physical lack of constraint, a freedom from the usual conglomeration of buildings and streets one finds in an old city and the frozen conventionalities one finds in a capital.

Many of the city's foreign visitors leave with the parting comment that although there may be capitals elsewhere in the world more spectacular than Moscow, there is none whose people are so friendly and unaffected.

Very likely this is due to the social attitudes that govern life in this big Soviet city—collectivism and concern for the individual. "A city is made to serve man, not man to serve the city," is the guiding motto for Moscow's population.

The city grew up around the Kremlin, the medieval fortress of the Moscow princes. The main streets were once roads leading from the fortress to other cities. They were intersected by ring shaped roads that originated later at the sites of other strongholds. A network of narrow, crooked lanes and alleys grew up between these radial and annular streets.

This general configuration is still preserved, but with decided changes. The main thoroughfares are now wide and spacious. The crowded, cobblestoned alleys have been opened to air and sunlight. And the many new districts have been built to a modern plan, with boulevards and park areas.

Moscow is a city of architectural contrasts. Here are buildings and ensembles whose classic style and solid brickwork stem from the seventeenth and eighteen centuries standing beside reinforced concrete structures, lace-like bridges, handsome subway stations.

Ancient Moscow is one of the most modern industrial Soviet cities. It is a treasure house of art, a world center of science. Here the old and the new merge in a harmony that gives Moscow its altogether special air of ancient wisdom and open-hearted youthfulness.

From whichever bird's-eye view you look at present-day Moscow you see new structures—new bridges, public buildings, housing projects—competing for attention with those decades, and centuries, older. In the foreground is the renovated Borodin Bridge; in the background the newly built Novo-Arbat.

Progressive City of a Progressive Society

THOSE who have not visited Moscow in the past 10 to 15 years find themselves in a completely unfamiliar city—the changes have been so sweeping. From whichever bird's-eye view you look at present-day Moscow you see two dominant colors, white and green. The white represents blocks and entire districts of new 5-, 10-, and 12-story apartment houses, and the green—the trees and shrubbery of parks and gardens.

There is an occasion gray or red spot, the last vestiges of the old brick houses on narrow streets and the little yards that Anton Chekhov wrote about with such affection. They have had to give way to the new Moscow.

Mikhail Posokhin, the city's chief architect, says, "We do not have special districts for the rich and for the poor. The word 'outskirts' has been eliminated from our town-building vocabulary. Under Soviet conditions we reconstruct a city for modern and convenient living, for the pleasure and comfort of people."

Moscow has no desolate outskirts but it does have a very animated center—the Kremlin and the streets adjoining the four squares near it where most of the government offices, theaters, museums, art galleries, hotels and large stores are concentrated. Activity slows down when the offices and stores close, then starts up again as the theater crowds fill the squares and boulevards.

The avenues to the new districts radiate from the center. Here we find block after block of recently-built apartment houses, broad streets, moving-picture theaters, restaurants and cafés, and stores of all types. Not so long ago all this was a chaotic jumble of small wooden houses with tiny windows.

Since 1935, when the first plan for the reconstruction of Moscow was adopted, almost 205 million square feet of public housing have been built. This is the equivalent of two prerevolutionary Moscows. And the territory of the city has been doubled. The plan for its reconstruction was suggested by Lenin during the Civil War days. He had a vision of socialist Moscow as one of the most beautiful and most modern cities in the world.

Red Square—the heart of Moscow—with the ancient Kremlin and the Lenin-Stalin Mausoleum (left); the History Museum (center); and GUM, the city's biggest department store (right).

The City Hall in Sovietskaya Square houses the Moscow Soviet of Working People's Deputies. Its 857 elected members administer the municipality's housing, health, education, utilities, commerce and finance.

The Grand Kremlin Palace, seat of the Soviet parliament. Sessions of the USSR Supreme Soviet are held in this former palace of the czars.

The world-famous Bolshoi, one of the capital's thirty professional theaters. Bolshoi artists have made three triumphant American tours in recent years.

The Khimki river port. From here one can travel by steamer through a system of rivers and canals to reach the Baltic, White, Azov, Black and Caspian Seas.

Everything for Muscovites

THERE IS a vast difference between a city built for living and a collection of stone, steel and glass structures. The difference lies in modern housing, plenty of fresh air and greenery, convenient transportation, good schools and places for quiet recreation. Moscow city planners work to these specifications.

Mayor Nikolai Bobrovnikov says: "Our primary goal is to provide the best possible living conditions for Moscow's population." Moscow is a city with the most intensive housing construction and the lowest rental rates in the world—from three to five per cent of the family income. Moscow's budget for the seven years between 1959 and 1965 for building housing and utilities is 50 billion rubles.

In the past eight years more housing has been built in Moscow than during the previous eight centuries. Last year Muscovites moved into 100,000 new apartments. They also had available 55 new schools, 9 new polyclinics, 300 new stores and a new, mammoth-sized swimming pool, the Moskva.

Major construction is going on now in what used to be outlying areas. Whole districts have been built from scratch, each the size of a big town. The Southwest District, where construction began only six years ago, now has a population of several hundred thousand.

A characteristic of the housing developments built during the postwar years is the large central courtyard that lets in an abundance of light and air. Plenty of room, too, for flower beds and poplar, linden and apple trees; for playgrounds and wading pools; and for quiet spots where adults can play chess or read.

The street floors of these projects are occupied by shops. There is a kindergarten and nursery every few blocks of houses, and schools and moving-picture theaters nearby.

Moscow has nine large concerts halls, 30 theaters, about 80 movie houses, 81 museums and 18 permanent exhibition halls.

Available to Muscovites and visitors to the capital are several large recreation parks; two huge stadiums accommodating 75,000 and 100,000 people respectively; smaller stadiums that seat 10,000 to 15,000 people; 15 aquatic sports stations, besides boating basins and swimming pools.

There are eight large beaches along the banks of the Moscow River and scores of boating areas. The winter sports fan has at his disposal 25 open-air skating rinks, two ski jumps and 20 ski centers. The Palace of Sports, a unique athletic facility, is the largest of its kind in Europe, accommodating 20,000 spectators.

The building with the classic façade is the Tchaikovsky Concert Hall, one of the largest of the capital's music and dance auditoriums.

Moscow has the usual traffic problem of the busy metropolis. Below: The Palace of Sports at the Lenin Stadium seats nearly 20,000 spectators.

The campus of Moscow University on Lenin Hills. It has an enrollment of 24,100 students.

A concert in Sokolniki Park. This is where the American Exhibition was held two years ago.

GUM, the largest department store in the country, stocks 40,000 foreign and domestic items.

Find the Muscovite who doesn't end a festive evening at one of the city's 350 open-air cafés.

One of Moscow's younger citizens wanted to grab hold of the camera.

Most housing projects have all sorts of recreational facilities at hand. Lower left: It's the rare balcony without flowers.

Gorky Central Park on the Moscow River. Last year Muscovites planted 133,000 trees, 933,000 bushes and 50 million flowers.

A view of the Southwest District, one of the newest of the capital's huge housing developments. Eventually, it will cover an area of 40,000 acres. This section, incidentally, is the site for Moscow's 1967 World's Fair.

Model of a new hotel to be built near the Kremlin for 5,890 guests. It will have a concert hall and two movie theaters.

The Future Moscow

THE ARCHITECTS at Mosproyekt, the city planning agency, are sketching the capital's near and more distant future on their drafting boards. They see Greater Moscow completely rebuilt and pushing out far beyond its present limits, with an increase in area from 86,500 to almost 661,000 acres.

Their near future is 1965, their more distant one—1980. The near future is already taking shape in new housing projects, public buildings, roads, tunnels and bridges.

Housing occupies the central position in these plans. Muscovites will be getting about 130,000 new apartments every year. An expansion of the southwest residential district is projected to cover a total of 40,000 acres. Incidentally, this is the site of the 1967 World's Fair, for which the basic construction is already under way.

Sadovaya Circle, one of the busiest annular thoroughfares in the city, is scheduled for a face-lifting of sizable proportions. Transport and pedestrian tunnels and overhead walks are to be built at various levels.

Planned for the woods and park zone of Moscow is a recreation district covering an area of 450,000 acres with tourist accommodations, camps, resort hotels and marinas.

A circumferential highway now under construction will mark the limits of the city proper. It is to be an up-to-the-minute 68-mile thruway without crossroads or traffic lights. It will intersect 12 radial highways leading out of Moscow. The highway will be ready in 1962.

Nikita Khrushchev and other members of the Presidium of the Central Committee of the Communist Party look at a model of a future Moscow already taking shape in new residential and factory districts.

Expanding Moscow's subway system. It now carries 2,700,000 passengers daily on its six lines. Several new lines are being built in different sections of the fast growing metropolis, bringing the total length to 217 miles.

Model of one of the buildings presently under construction at the new airport in Sheremetyevo.

Construction at Kryukovo, one of the "sputnik towns," self-contained residential districts going up in the city environs.

SOCIALISM AND

LAST SUMMER two large groups of New York University history students and their professors came to the Soviet Union to see for themselves "the great social experiment of your country," as they phrased it. They asked whether a discussion on problems of communism could be arranged. The answer, of course, was in the affirmative. I was one of those who participated in this verbal exchange.

They were genuinely interested in learning about the social structure of our country and the communist society we are building, as indeed are practically all our foreign visitors.

They wanted to know: What is the difference between the material and technical basis of communist society and the basis of the most developed capitalist countries? What happens to private property under communism? How will the communist principle of distribution "to each according to his needs" operate? Can a society exist without state rule?

What they were asking, in effect, was the difference between socialism and communism, a very pertinent question now that the Soviet people have already built socialism and have begun to build communism.

Stages in the Development of Society

Man's history is made up of a number of consecutive socio-economic stages—primitive-communal, slave-owning, feudal, capitalist and communist—that follow each other in that progressively higher sequence.

The general law of development also operates within each of the stages. The capitalist stage, for example, has two phases—industrial capitalism followed by monopoly capitalism.

The communist stage also has two basic phases. The first, or lower phase, is socialism; the second or higher—communism. "The scientific difference between socialism and communism," said Lenin, "is only that the first word means the lower stage of a new society emerging from capitalism; the second word—its higher, succeeding stage." Socialism and communism are two phases of one and the same communist stage. They have many features in common, but there are also substantial differences. Under both socialism and communism the method of production is based on public ownership of the means of production. The process of production is characterized by the mutual assistance and cooperation of workers freed from exploitation. These relations become more developed and are perfected in the higher phase. Under both socialism and communism the aim of production is the maximum satisfaction of the growing material and cultural needs of society through the steady growth and improvement of production on the basis of the highest technique.

The guiding principle of socialism is: "From each according to his ability, to each according to his work." The guiding principle of communism, the more advanced phase, is: "From each according to his ability, to each according to his needs."

In both phases the economy develops according to the law of the planned (proportional) development of the national economy. With the transition to communism, the integrated planning of the economy, based on this economic law, is more comprehensive and more complete.

Under both socialism and communism everyone is required to work. Public ownership by its very nature excludes parasitism. It makes people take an equally responsible attitude toward labor when everyone is obliged to work. The attitude toward work as the primary requirement of life, when people, in Lenin's words, "will work voluntarily according to their abilities," is characteristic of communist society. In both phases the dominating ideology is the communist one, the scientific, Marxist-Leninist world outlook. It should be noted that during the first phase, which as the result of the Socialist Revolution arises directly from capitalism, society is not yet free from the survivals of capitalism. Soviet society, for example, still has to fight against manifestations of greed and narrow self-interest opposed to the public interest. We have cases of antisocial behavior, of parasitism, of abuse of public trust.

But in a socialist society these are abnormal phenomena, a legacy of the dog-eat-dog capitalist past. They are fought not only with legal weapons but with the more fundamental and more certain correctives of public pressure and education.

Under socialism are laid the economic, social and moral foundations of the new social system. These foundations are comprehensively developed during the higher phase, which in turn leads to the appearance of features inherent only in communism.

Communism is the end product of the progressive development of all previous history; it is the beginning of a new stage in social evolution. Communism preserves and multiplies all man's store of material and spiritual values. It brings an era of unprecedented creativity in technology, science, the arts; it permits the full flowering of the human personality.

Under communism, with its unified and comprehensive economic plan for the whole country, a tremendous all-round development of social production takes place. Planning under socialism and communism opens up horizons for economic development impossible for any previous social system.

Communism, having arisen on the basis of the achievements of socialism, ensures the most complete and most integrated development of every branch of the national economy. It permits production on a scale large enough to meet all the needs of society as a whole and of each individual. Thus, under communism, a sufficient amount of material wealth is created to realize the ultimate goal of this society: "From each according to his ability, to each according to his needs."

Everything hitherto achieved during all of man's previous development will pale by comparison with the unmeasurable progress of technology, science and the production of material and cultural values possible under a developed communism. This will be the most highly organized, the most healthy, harmonious, active and viable society, one without war, unemployment, hunger and all the other misfortunes that plague our world today.

A high standard of living, advances in medicine, mass participation in body-building sports will make for a much lower death rate and a higher birth rate. In the course of one generation the average span of life in our country has increased by approximately 20 years. In the near future mankind will wipe out cancer, heart disease, arthritis and other such disabling and killing ailments. Medical progress and living conditions far superior to those known now will increase longevity to 100-150 years or more.

During the past century the population of our planet increased by about a billion. Under communism the population will grow many times that, but there will be no "problem" of overpopulation. Each member of society will be able to find worthy application for his abilities and talents and will receive sufficient remuneration for his work to enable him to fully satisfy all his needs.

"From Each According to His Ability, to Each According to His Needs"

It would be a mistake to limit this basic principle of communist society to consumption. It actually expresses the two inseparable and most important aspects of life in communist society—the highest stage in the development of production and consumption.

The principle of communism demands that every member of society work for society according to his abilities. This is a necessary condition for the production of enough material and cultural values to satisfy everyone's needs. The all-round development of the abilities of the working people in communist society will make it possible to achieve an abundance of consumer goods, without which distribution according to requirements is unattainable. Once society is able to operate by this principle, it will mean that full social equality has been achieved.

Here again there is a difference between the two phases of communism. Under socialism equality is achieved with reference to the ownership of the means of production; that is to say, society is not divided, as is the case under capitalism, into a minority owning the means of production and living by the work of others, and a majority deprived of the means of production and forced to sell its manpower to earn a living. Under socialism all members of society are equal and collective owners of the means of production. But there still remains certain inequalities in people's living standards, since a worker under socialism is paid according to the work he does and not according to his needs, as is true under communism.

Since people vary in ability and live differently—one is married, another single, one has a big family, another a small one—it is apparent

COMMUNISM

By Tsolak Stepanyan
Doctor of Philosophy

that distribution according to work cannot result in equal living standards for all.

Karl Marx wrote that special abilities are gifts granted by nature to individuals. In a society where payment is in terms of work done, these gifts will necessarily make for inequalities. Only the transition from the socialist principle of distribution according to work to the communist principle of distribution according to needs will guarantee full equality, regardless of the privileges granted by nature.

Work Will Become a Joy and Prime Necessity

There are those who think this principle of communism utopian. They declare that society can never reach a level of labor productivity high enough to provide an abundance of commodities and services, that the most society can aspire to is a more or less equal distribution of incomes. They also say, "Why should people want to work hard when all their requirements are met anyway? Only fools like work for its own sake."

Throughout man's history work has been necessary for subsistence. But under conditions where socialism has been achieved and communism is being built, work takes on new meaning. What we call the communist attitude toward work already begins to appear under socialism. Its unique characteristic is civic consciousness. A person does his best work not merely for himself and his family but for society as a whole.

These characteristic features will be even more universal under communism. Work will be the prime spiritual and physical necessity for people. They will not be able to live without creativity which will be a source of inspiration to them, the meaning of their life and activity. The mental and physical abilities of every man will develop to the utmost in the process of work.

The material and technical base and the production relations of communist society will make it possible to transform work from an arduous chore into enjoyment. It will become pleasant and creative, light and enobling, attractive and a source of great satisfaction. Children will learn to look upon work as their primary duty to the society in which they live. This conscious and voluntary work discipline will be a part of man's character. And if certain individuals break the rules of communist society by refusing to contribute their labor for the general good, the force of public opinion will set them right.

The seed of this communist attitude toward work has been growing since the Socialist Revolution. Lenin pointed out that communism begins when selflessness is shown in coping with difficult work, when rank-and-file workers are anxious to boost labor productivity and to preserve every pood of wheat, coal, iron and other products not alone because it will profit those "near and dear" to them, but also "those far away"—society as a whole, tens and hundreds of millions of people. Expanding on this idea, he said that communism is work people do for society, work which is not paid for, work for which no quotas are set by the authorities or the state.

The shoots of communism in work can already be seen. Soviet people cannot conceive of a life without conscientious and valiant labor. This is the juncture at which work ceases to be merely a means of making a livelihood and begins to be a vital necessity. The first signs of a process that Lenin termed the transition "from the shoots of communism to complete communism" are already evident.

Personal Property Under Communism

Public ownership of the means of production does not preclude ownership of personal property. People will have for their personal use everything that satisfies their tastes and requirements. Communism means the elimination of class inequality, the inequality between those with property and those without. It does not propose a leveling of the needs and wants of people; people's wants and needs differ. Quite the contrary, communism envisages the widest possible development of the individual tastes and requirements of all members of society.

One still hears the silly and altogether groundless canard that communists are against personal property and that they want to reduce all individual requirements to a common denominator. As long ago as 1848 Marx and Engels wrote in the *Communist Manifesto*, "We Communists have been reproached with the desire of abolishing the right of personally acquiring property as the fruit of a man's own labor, which property is alleged to be the groundwork of all personal freedom, activity and independence. . . . We by no means intend to abolish this personal appropriation of the products of labor, an appropriation that is made for the maintenance and reproduction of human life, and that leaves no surplus wherewith to command the labor of others. . . . Communism deprives no man of the power to appropriate the products of society; all it does is to deprive him of the power to subjugate the labor of others by means of such appropriation." Later, in 1875, in his *Critique of the Gotha Program*, Marx developed this idea and wrote that in a communist society "nothing can become man's property except personal consumer goods."

With the transition from socialism to communism will come a change in man's psychology. He will want to own individually only those things that are needed to make his life happy and his work creative. The selfishness and egoism that feeds on hoarded wealth will be entirely alien to people in a communist society.

The Freedoms Under Communism

Communism, even in its first phase, does away with all class contradictions and the other manifestations of a society divided into classes. Communism, by Marx's definition, is a free association of working people. Even in its socialist phase, all its people have—in fact and not only in word—such inalienable and guaranteed rights and freedoms as the right to a job, to rest and leisure, to free education, to free medical service, to maintenance in old age and disability.

Even in its socialist phase the level of individual freedom is extremely high. Under communism these rights and freedoms are further buttressed by these two greatest of values—the freedom of creative labor and the complete satisfaction of the material and spiritual requirements of working people and their families.

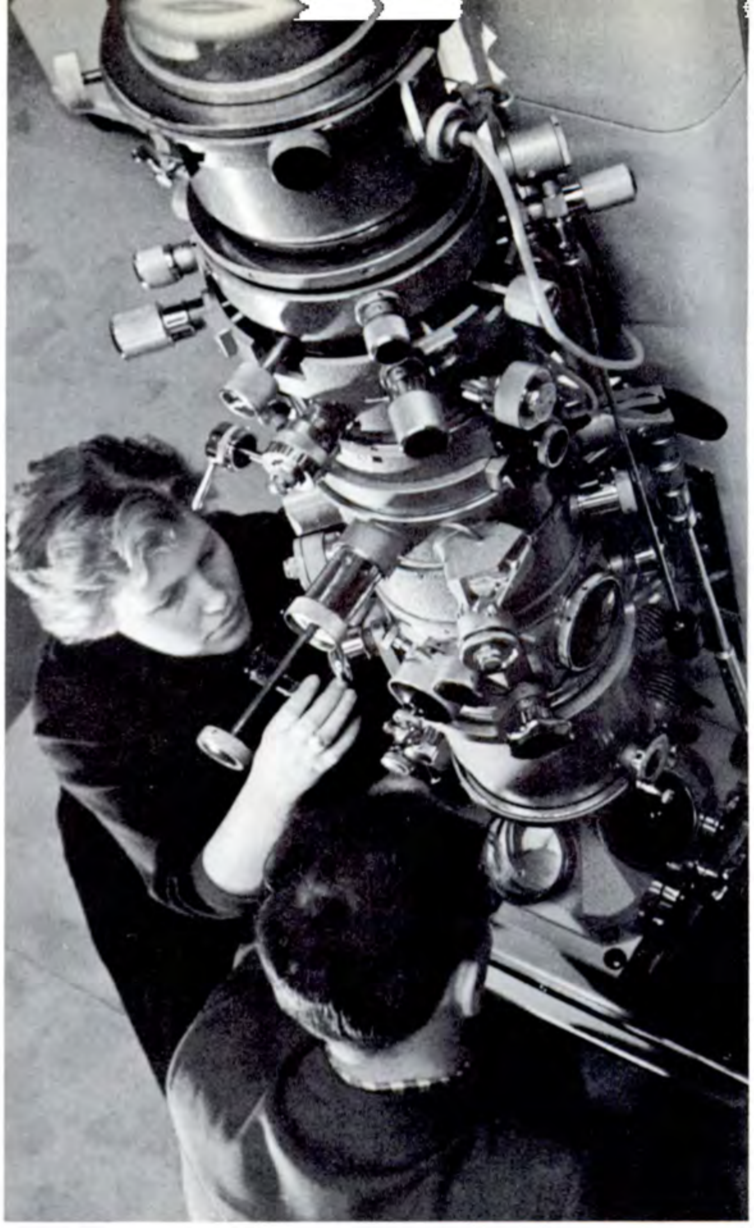
A major indication of the gradual maturation of communism in our country is the manifold development of democracy. The further development of democracy will cause a great upsurge in the social activities of the members of society and will ensure the participation of all the members of society in a conscientious and well-ordered administration of the economic and cultural life of society. Consequently, under communism there will be no need for the state, *i.e.*, no need for a special apparatus whose function is the administration of society.

Complete and well developed democracy means the versatile, conscientious participation of the citizenry in social production and distribution to a point where the special administrative apparatus we call the state is superfluous. "The society," wrote Engels, "that organizes production anew on the basis of the free and equal association of producers will put the whole state machine where it will then belong: in the museum of antiquities, side by side with the spinning wheel and the bronze ax."

Only one function of the state will not wither away, the administration of the processes of social production and distribution. The forms of this administration will take shape as socialist society develops. In the first years after Soviet power was established, Lenin sketched the outlines of the future communist apparatus of economic administration. With communism he foresaw the disappearance of all the organs of the socialist state except the Supreme Council of National Economy, the prototype of the present regional economic councils, which he predicted would grow, develop and become stronger.

Organs of that type enlisting large sections of the population in managing the various sectors of the country's life will be called upon to perform the main functions of a developed communist society. The socialist apparatus of economic and cultural administration, emphasized Lenin, is the only one of all the state establishments destined to retain its place.

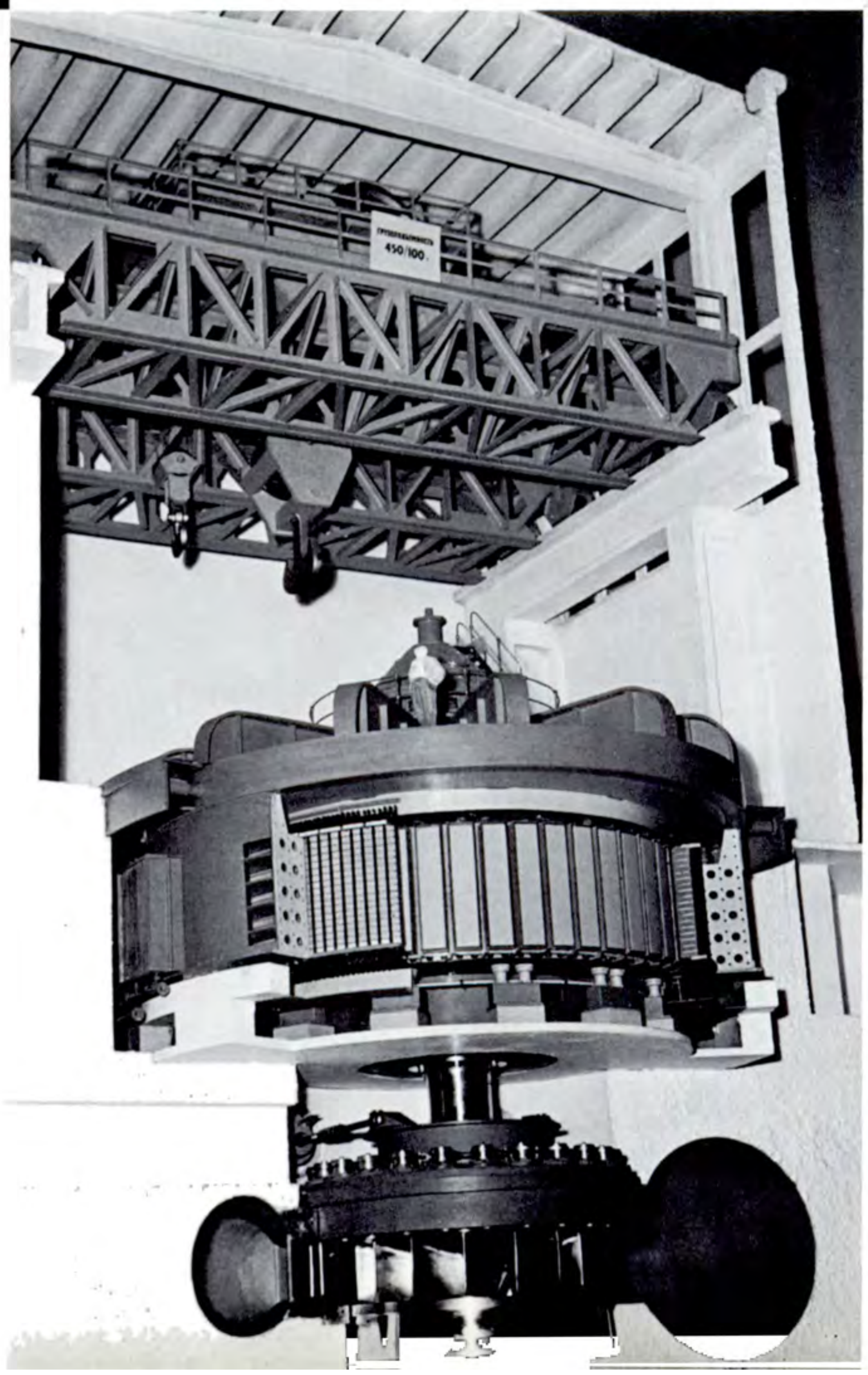
Thus, with the complete elimination of class distinctions and the withering away of the state will come a communist association in which the free development of each member is a *sine qua non* for the free development of all.



(Right) Leningrad makes this new electron microscope with a magnifying power of 200,000x, or 1,200,000x if used with an optical attachment.

This turret lathe machines very small parts and performs a number of operations automatically. The operator is a control command device.

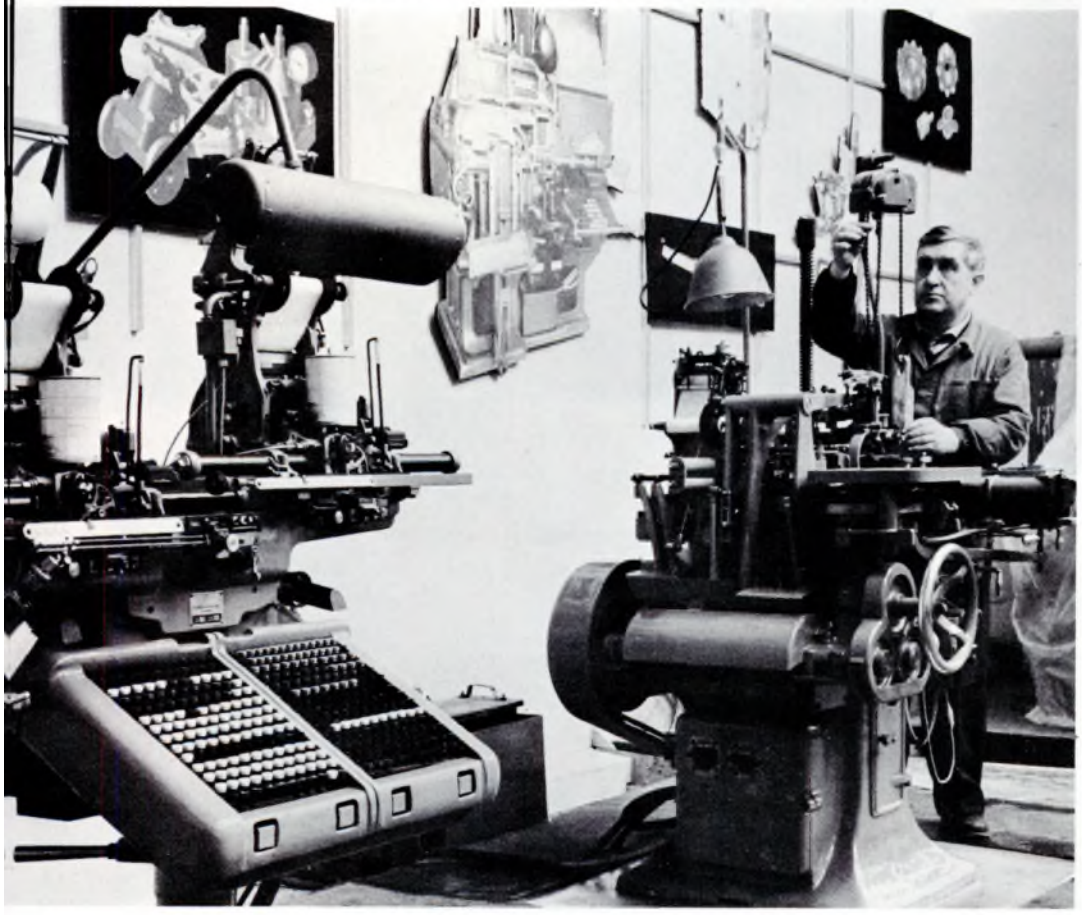
(Right)Scale model of a 230,000-kilowatt turbine made in Leningrad. The city's designers are now working on a 500,000-kilowatt turbine.



Made in USSR

NEW PRODUCTS FROM LENINGRAD

This machine, equipped with a programming device, sets type for books and periodicals in some 70 languages, including those with Arabic characters.



Leningraders have dubbed this tape recorder the Singing Astra. It has two amplifiers to guarantee faithful tone quality and comes in a leather case.

Leningrad, the Soviet Union's second largest city and one of its big industrial centers, manufactures just about everything from giant turbines to finely crafted tape recorders. They are on display at the USSR Exhibition of Economic Achievements in the capital among many other items stamped "Made in USSR."

AN EXHIBIT of curiously shaped pieces of bright aluminum attracts visitors by the hundreds. These are the end-products of research by Alexander Stepanov and are likely to revolutionize—the word is no exaggeration—the metallurgy industry.

Normally, before metal can be rolled it must go through several processes. The ore is first smelted into molten metal, then allowed to solidify into ingots. Then the ingots are heated again before they are sent to the rolling mill.

Professor Stepanov's process is based on the surface tension phenomenon. A drop of water maintains its spherical shape because of the surface tension in the liquid. The denser the liquid, the greater the tension.

A strip of foil is dipped into a bath of molten aluminum. Surface tension makes the molten metal adhere to the foil. So that the strip will not rupture under its own weight, it is immediately cooled in a stream of cold air. The metal hardens, retaining the shape it assumes at the moment it is drawn from the bath. By this ingenious use of surface tension effect, aluminum may be given any shape.

Experimental work with other nonferrous metals, and with steel, too, will be following in due course.

Singing Astra

Poetically-inclined Leningraders dubbed a tape recorder with extraordinary sound quality the "Singing Astra." It has two amplifiers, and its 350-meter tape spools with speeds of 4.75 cm. and 9.5 cm. per second are good for two to four hours of continuous playback.

Program-Controlled Machine Tools

Last year Leningrad engineering plants designed 100 new types of program-controlled machine tools. The aim this year is to double that.

At the exhibition one can see a boring mill in operation designed to machine parts with a precision as high as 2-3 microns. Also on display are drilling, milling and planing machines and numerous lathes.

One of the most interesting is a turret lathe that machines tiny parts up to 25 mm. in diameter and 140 mm. in length. It has an automatic timer and performs a variety of operations—rough-, finish- and shape-turning; drilling; countersinking; reaming; facing; grooving and knurling. And it can do all of this without anyone having to lift a finger.

TV Sets

The Kozitsky Plant shows some of the different types of TV sets it manufactures, among them the Rainbow for color viewing and the black and white Signal, Salute, Friendship, Volga and Symphony. The 625-line standard coupled with the picture rate of 50 frames per second makes for an excellent image. An automatic horizontal hold gives a stable image even with interference. Provision is made for image stabilization regardless of fluctuation in voltage supply.

Turbines

Exhibited is a scale model of a 230,000-kilowatt turbine built by the city's Stalin Metal Plant. Turbines of this kind are already being installed at the Bratsk Hydroelectric Station in Siberia. Leningrad designers are presently working on a 500,000-kilowatt turbine.

HOME SERVICE KITCHEN

THE HOME SERVICE KITCHEN, now operating in many cities, is a very popular institution with the Soviet housewife. In ten minutes flat she can have a full-course meal on the table—say, jellied fish, hot borsch, and roast beef with all the trimmings.

The one recently opened on Second Stroitelei Street is typical—a spacious white-tiled store with a smiling woman in a white smock behind the counter. Several people are waiting to be served. From the conversation it is evident they are regular customers.

The menu varies with the time of year. In the spring and summer, for example, vegetable soups are listed; in fall and winter, meat and fish soups. Special dietetic dishes are available—chicken puree, steamed meat balls, vegetable cutlets, cottage cheese pudding.

A home service kitchen dinner is about ten per cent cheaper than one in a restaurant. A tasty three-course meal—soup, entree and desert—costs about 50-60 kopecks. These prices are representative: kharcho soup—28 kopecks, shchi soup with pork and sour cream —20 kopecks, milk noodle soup—17 kopecks; meat stew with vegetables—25 kopecks, beefsteak—28 kopecks, minced schnitzel—22 kopecks, liver—22 kopecks, cottage cheese cakes with sour cream—18 kopecks, rice or semolina—12-15 kopecks; stewed fruit—6-7 kopecks, jelly—4 kopecks; milk—6-7 kopecks.

Some housewives prefer partially-prepared items that they can season and garnish to their own taste. The home service kitchen has a large selection of ready-to-cook fish, meats, poultry and vegetables. Meats generally available include shashlik, steak, different kinds of croquettes and cutlets, as well as chicken and duck. The menu also lists cold dishes—salads, jellied fish and meats, cold veal, etc. Potato chips come packed in cellophane bags. Pies, cakes and doughnuts are always stocked, as are fruit and vegetable juices and ice cream.

The home service kitchen caters for home parties. Customers often call up and ask the kitchen to prepare and send dinner for 20 people with a birthday cake for dessert.

The kitchen on Second Stroitelei Street is one of 60 opened in Moscow last year.

WHAT DO SOVIET PEOPLE THINK ABOUT JAZZ?

By Leonid Utyosov

Our readers have frequently asked this question. Leonid Utyosov, the best-known band leader in our country, gives the answer in this abridged version of an article that appeared in the newspaper *Soviet Culture*.

JAZZ IS MUSIC with a particular kind of rhythm, harmony and timbre. And if it is sometimes distorted and perverted into what Maxim Gorky aptly described as "music for the fat-bellied," the blame must be laid at the doorstep of the "fat bellies."

Jazz music has been around a long time. The New Orleans style was not a discovery but simply a stage in its development. I am talking about improvisation, which some music historians consider the backbone of jazz.

Improvisation is far older than jazz; it is thousands of years old, older than musical literacy. Always and everywhere, before music was written down, and later, after musical notation had been invented and used, gifted amateurs got together and improvised, giving expression to their natural impulse to make music. I might say, in passing, that a mediocre musician cannot improvise, no matter how well he knows the laws of harmony.

Long before I was born—and that was a long time ago—musicians in Odessa improvised tunes at weddings, a fact that could give me grounds for asserting that so-called Dixieland existed in Odessa before New Orleans.

Of course, some wits will say: "There they go again—Russia's the birthplace of the elephant!" But I really have no intention of establishing Odessa's priority. All I want to say to those who might not know it is that improvisation was a fact long before American jazz.

By the way, as paradoxical as it may seem, highly trained musicians rarely go in for improvisation.

The art, unfortunately, is hardly practiced in our country, even though we have some gifted musicians who are very adept at improvising. The Negro people have gone a long way toward developing it. Their musical talent is simply staggering. I am convinced that once liberated, black Africa will be producing music of so consummate a quality that white composers will have to move over to make room on the Olympus of Music.

This applies to Dixieland jazz. What about so-called "commercial" jazz? That is the term customarily used for orchestras that play jazz in its "processed," refined form. These are the larger combinations, with well-organized groups of instruments and specially arranged scores.

I have no idea where, when and why the term "commercial" was first used in this connection, or what it is supposed to mean—"profitable," perhaps. It could have been that when the small bands of the New Orleans restaurants and cafés gave way to the larger orchestras of world variety stages, jazz became profitable and was tagged "commercial."

Now I haven't the least intention of running down "commercial" jazz. On the contrary, I am all for it. I am for all good music, and I cannot understand people who limit their liking to one kind of music.

What do they mean by saying "I love only symphonies," or "I like nothing but opera," or "I'll only take jazz"? As for myself, I love symphonies and operas and jazz—if they are good. And I hate symphonies, operas and jazz—if they are bad.

Some commercial jazz is wonderful. Highly gifted composers like George Gershwin, Jerome Kern and other have written and are writing "commercial" jazz, very popular not only in their own country but abroad as well.

It is true that jazz is often given ugly forms and degenerates into formalism and other such "isms." But doesn't that happen to other art forms as well? However, jazz is often unjustly condemned for that reason alone, without any attempt at analysis and understanding.

Art can only be good. There is no such thing as bad art. A paradox? Not at all. If it's bad, it's not art.

It is wrong to consider jazz a "secret vice." It isn't anything of the kind. And to give it that character is to make hypocrites of young people who like to listen to it. There is no denying the demand for jazz. But what kind?

And this is where I get to the heart of the matter. All the arts are good except those that bore you. This will be true just as long as people have hearts and brains.

What kind of jazz do we need, and have we got it? We have, and it has a style of its own—not beep, nor bop, nor hop. Soviet variety music is alive and kicking and keeps on searching and blazing its own trail, a trail marked with advances and setbacks.

What has Soviet jazz achieved? A great deal, I believe. Haven't many fine Soviet songs that have become very popular both at home and abroad been based on jazz? Hasn't our jazz given us a host of talented song writers?

I owe Soviet jazz a personal debt. It put me in touch with Isaac Dunayevsky and gave me the pleasure of working with that brilliant song writer.

Must we throw out the better samples of Western jazz with the bad ones? Of course not. Our bands have a good deal to learn from their foreign counterparts when it comes to performing jazz.

We ought to do more thinking about the wishes and tastes of our young people. I feel strongly that music can and must play an essential role in their aesthetic education.

HEALTH RESORTS OF TRADE UNIONS

One of the cottages belonging to the Arkhitektor vacation resort on the Gulf of Finland, not far from Leningrad.

A sanatorium high in the mountains of North Ossetia where chronic respiratory diseases are treated.

KEEPING people physically fit is a highly developed industry in the Soviet Union. There are 350 resort areas, more than 3,000 sanatoriums and rest homes, and hundreds of health resort clinics, hotels and camps in every part of the country.

Until very recently these establishments were administered by the Ministries of Public Health of the Union Republics. Now they are run by the trade unions. This is part of the growing trend to transfer to public organizations the functions of state management so that the millions of members of these public organizations may themselves resolve the problems concerning their welfare. It is this tendency that testifies to the remarkable features of Soviet democracy.

The tens of millions of members of the Soviet trade unions are now the collective operators of the country's health resort setup. They are responsible for the maintenance of the spas and sanatoriums, for the choice of medical and service personnel, for financing, for the quality of accommodations, and a thousand and one other items.

The resorts, sanatoriums and rest homes situated throughout the country take advantage of the great variety in climate, locale and natural medicinal resources. Every health resort is designed to offer the patient or vacationer its own particular health-building facilities.

The southernmost of the Black Sea spas is Gulripshi, the Valley of Roses, not far from Sukhumi. This is lush country, almost smothered in white and pink camelias, narcissus, palms, magnolias. The new Lenin Sanatorium was built there, its white buildings magnificently framed by the green hills. The sanatorium wards are comfortable and pleasant, and the therapy facilities are the best that modern medicine has to offer.

Along the Black Sea coast, for hundreds of miles, all the way from Sukhumi to Odessa, there are rest homes, sanatoriums and resort areas—at Gagra, Sochi, Anapa, Miskhor, Simeiz, Feodosia, Yalta and other places.

The Black Sea coast is only one of many health resort areas. There are fine resorts in Central Russia, in the Urals, Siberia, Central Asia, the Baltic region, the Transcaucasus and the Far East. Their bracing climates and pine and birch groves form ideal settings for resorts of every kind and description—seaside or country, mountain or lowland, medicinal mud or spring.

Some offer treatment for cardiac ailments, others for liver and kidney diseases, still others for stomach trouble. There are many sanatoriums of a general type for people who need a good rest under medical observation.

Murmashi Sanatorium, one of the country's northernmost spas, is situated in a birch and fir grove on the Tuloma River. Winters in this part of the Soviet Union are six months long. The sanatorium specializes in silt mud and pine needle baths.

There is almost no district in the country without its first-class spa famous throughout the republic, if not throughout the country, for its curative muds or waters. The quality of the mineral waters at the Far Eastern spa Darasun, for example, can just about match those of Kislovodsk in the Caucasus.

The trade unions are now busy expanding this big industry with which they have been entrusted. A Central Resort Board has been set up at the USSR Council of Trade Unions, and each Union Republic has its own health resort board. The Russian Federation, the largest of the republics, has a board in each of its regions and territories. The trade union council of the republic, region or territory directs the work of the board under its jurisdiction, supervises local health resort activities and distributes accommodations in sanatoriums and rest homes among the local trade union committees.

When a Soviet factory or office worker wants to spend his month's vacation at one of the sanatoriums or rest homes, he goes to the trade union committee at his place of employment. If his health is not up to par, the committee will have him examined by a special medical board to determine the type of treatment he needs. Then he is given an admission slip to present to the sanatorium or spa, and all he has to do is pack his clothes and go.

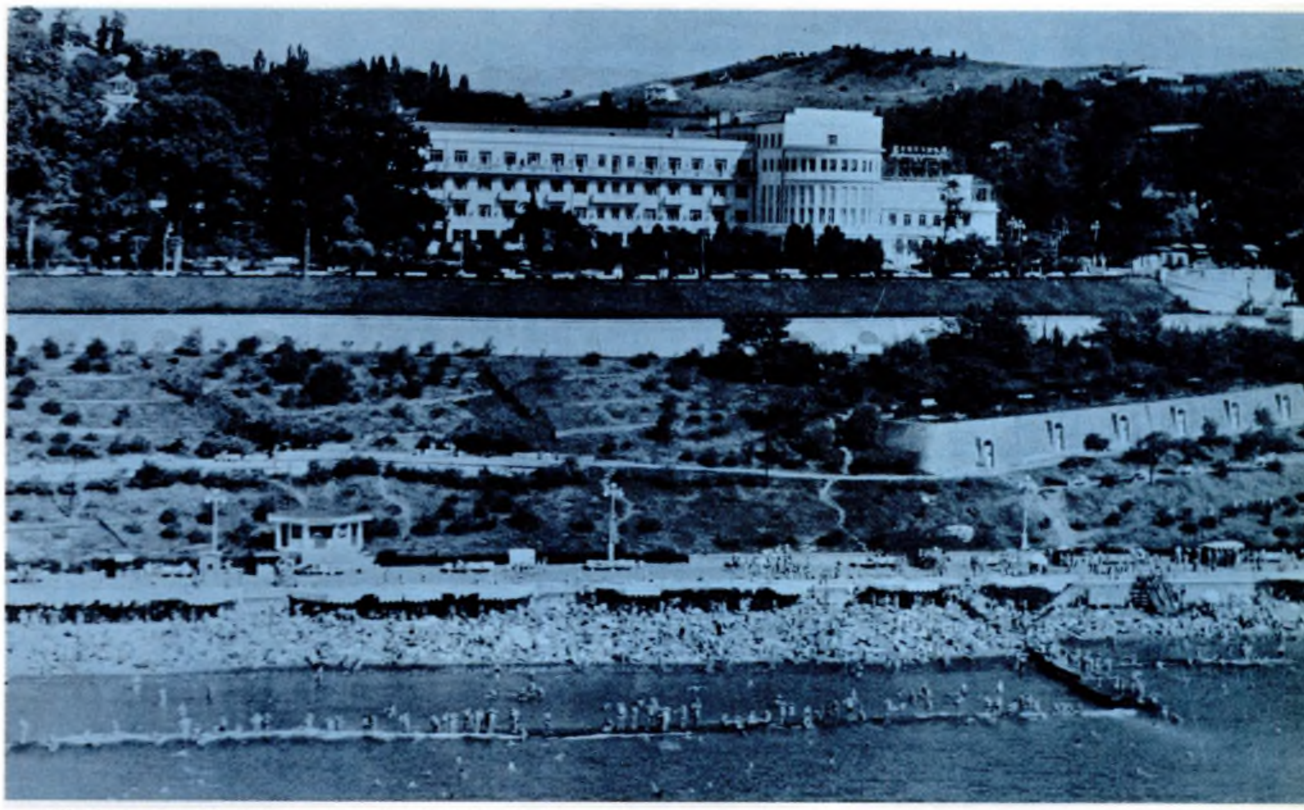
Upward of five million people each year are accommodated at health and vacation resorts run by trade unions. About a fifth of the vacationers get their accommodations free. The rest pay either 30 per cent of the cost or the full rate, depending upon their wages. Last year the trade unions allocated 237 million new rubles for health and recreational facilities for their members.

The trade unions also pay for the added vacation time a doctor may prescribe for a patient. Workers in the lower wage brackets

By Ivan Smirnov

Editor in Chief, Trade Union Publishers

The Far Eastern Talaya sanatorium was built around hot sulphur springs found on the site.



All along the Black Sea coast, for hundreds of miles, there are beaches and resorts like this one.

and those with large families in addition to getting their accommodations without cost also get free transportation.

The trade unions finance the building of rest homes and sanatoriums from the social insurance fund which the unions administer. This fund—which in 1960 topped 7 billion rubles, a sum equal to a tenth of the national budget—is made up solely of contributions from industrial, commercial and other enterprises. No deductions are made from the wages of employees.

The unions are presently engaged in developing new health resort areas. Recently a large new resort area was opened in Karelia, near Leningrad, where there are some 50 sanatoriums and rest homes already. During these past two years alone 30 million rubles were invested in developing health resorts in the southern Crimea.

The practice now is to build a spa around a mineral spring or medicinal mud deposit almost as soon as it is discovered. Ust-Kachka, a fine resort in the Urals, which was opened a short while ago, is bound to become as famous as Matsesta at Sochi for its curative properties. The hydrogen sulphide springs around which it is built were discovered by geologists only last June.

In the mountains of the Minor Caucasus the Isti-Su resort is being developed around a large number of hot mineral springs with temperatures of up to 60° centigrade. This spa is of the same type as the world-famous Karlovy-Vary in Czechoslovakia. New sanatoriums and rest homes are being built on the shores of crystal-clear Kisegach Lake in the Urals. Even distant Sakhalin will soon have a balneological sanatorium in Sinegorsk. New spas are also opening in the Volga region, in Central Asia and Siberia. By 1965 the country's sanatoriums will have 50,000 additional accommodations.

The trade unions are developing new types of health facilities, sanatoriums at the enterprises themselves. The one at the Kalibr Plant in Moscow is representative. Situated a little way from the factory buildings, in a shady garden, it has treatment rooms, a lounge, bedrooms and a dining room. Workers who need rest, treatment or special diet come to the sanatorium each evening after work and stay overnight for periods as long as the doctor prescribes.

There are now more than 800 of these factory sanatoriums, with a good many more in the building stage. Patients either pay nothing or 30 per cent of the cost, depending upon their wages.

There are also summer camps for adults which provide rest and recreation. Like the factory sanatoriums, they are run and maintained by various large industrial plants.

The trade unions also maintain the 5,500 Young Pioneer summer and winter vacation camps for children located in various parts of the country. Last year 80 million rubles were budgeted by the unions for children's vacation facilities.

The aim of this multimillion organization of Soviet workers that now operates the nation's health resorts is to make available to every one of its members facilities for rest, recuperation and recreation.

A TB sanatorium in the Crimea where sun, sea air, rest and expert medical attention restore health.

WE SPENT 12 long-to-be-remembered days climbing in the Ala-Tau Mountain country. There were 26 in our group, people of diverse nationalities—Ukrainians, Byelorussians, Georgians, Jews, Kazakhs, Russians—of diverse vocations and of diverse tastes and talents, making our trip that much more interesting and our talks around the campfire that much more lively. We took turns cooking our national dishes and made the hills ring with the folk songs of many nationalities.

Our gay company included teacher Vsevolod Kochnev from Tbilisi, an old hiker who astonished us with his agility and delighted us with his endless repertoire of songs; another songster, locomotive engineer Vasili Pechenkin from Cherepovets who would not be parted from his guitar and regaled us at dawn with lyrics of his own manufacture; and engineer Mikhail Zaidel from Chelyabinsk, our group leader, whose contribution was an elegant beard especially grown for the occasion.

Other vocations and regions were represented by Dr. Xenie Gulkevich from Minsk, fitter Pyotr Shirokov from Omsk and student Raisa Atanova from Novosibirsk.

A Mile-High Base Camp

Our group got together at Gorelnik, one of thousands of hiking centers maintained by the Soviet trade unions in all parts of the country. The Gorelnik base camp is situated 5,520 feet high in the Trans-Illii Ala-Tau range of the Tien Shan Mountains, about 12 miles from Alma-Ata, capital of Kazakhstan. An accommodation card for a 12-day stay at Gorelnik may be obtained at any factory trade union committee office. The charge is 40 rubles. Trade union members—practically everyone in our party—get a big discount. They pay only 7 rubles 20 kopecks for meals, use of equipment and the services of an experienced guide and instructor in mountain climbing.

Driving from Alma-Ata to the base camp, you feel as though you are being transported to a different world. The Ala-Tau Mountains keep changing color. Seen through the thin veil of early-morning fog, they are gray, in the midday sun they are a glittering white, and in the fading twilight they shade from lilac to purple to a dark blue.

The auto road climbs the steep side of the Malaya Almaatinka River gorge, thick with poplar trees, sweetbrier and raspberry bushes, to the higher levels where the silver firs and junipers grow. The 165-foot Tien Shan spruces command the terrain. The Gorelnik waterfall drops with a roar from a height of 100 feet.

Practice-Climbing

The first three days at the base camp we spent practice-climbing, topped off with movies and dancing in the evening. On the fourth day, loaded down with food and climbing gear, we set out for the Talgar Pass.

From a height of 10,500 feet we could make out the tiny figures of slalom contestants zigzagging down the Talgar slope, and the mile-long ski lift below.

We came back to the base camp from that first expedition with a fine assortment of scratches and bruises, but the aches and pains were all forgotten when we got to talking of the wonderful views on either side of the Talgar Pass, of the streams racing down from the snow-capped peaks, of the trout we had caught in those streams and how delicious it tasted when cooked over a campfire.

After a rest at the camp we unpacked our lumberjack shirts, shorts and wide-brimmed hats, stuffed woolen sweaters, fur-lined gloves and spiked climbing shoes into our knapsacks and set off for the Tyuk-Su Glacier. We made the one-mile climb with safety ropes along one route and returned via the Titov Pass and the Gorelnik River gorge, the wind-up of twelve memorable vacation days.

Rock-climbing, we found, takes a tightrope walker's agility, a hunter's courage and a saint's patience.

The first three days we spent practice-climbing and collected a fine assortment of aches in the process.

Then, loaded down with provisions and gear, we started our mile-high climb.

Ala-Tau's peaks shade from glittering white at noon to deep blue at twilight.

A stop to check the route and to get a breather. We needed more before we reached the top.

TWELVE DAYS IN THE ALA-TAU MOUNTAINS

Text and Photos by Alexander Gerinas

Funny Toys

Artist Nelli Okropiridze of Tbilisi makes these very charming toys out of acorns, walnut shells and pine cones. It's easy, she says. Try it.

By Ilya Zbarsky

MOSCOW PICTURED IN POSTAGE STAMPS

THE SOVIET CAPITAL—its history, architecture, world-famous museums and ancient cathedrals—has been pictured on hundreds of postage stamps. The first Moscow series, devoted to buildings and architectural ensembles, was issued in 1937.

The city's 800th anniversary in 1947 was commemorated with a series of 15 large-sized stamps. *Old Moscow*, a painting by Apolinari Vasnetsov, is reproduced on a one-ruble stamp. Another of the same denomination shows the sixteenth-century church of St. Basil in color. The 60-kopeck stamp depicts the Moskvoretsky Bridge.

Other stamps in this series show views of the city remodeled during the socialist era—the Krimsky Bridge, one of Moscow's finest, and the main thoroughfare, Gorky Street. The new Lenin Avenue that cuts through Moscow's Southwest District is on the 30-kopeck stamp.

A commemorative series was issued for the tenth anniversary of the Moscow Canal. The 50-kopeck stamp shows the Soviet capital as the port of five seas and pictures the Khimki pier on its outskirts.

The 40-kopeck stamp of the Capitals of the Union Republics series, issued in 1959, is a view of Red Square. On the right is the Lenin-Stalin Mausoleum against a background of the Kremlin wall, and in the distance is the Spassky Tower with its colossal 20-foot-diameter clock.

The first Metro series appeared in 1935 in denominations of 5, 10, 15 and 20 kopecks and depicts construction and tunneling operations. Three years later another series in denominations of 10, 15, 20, 30, 40 and 50 kopecks was issued to commemorate the building of the second Metro line. The first stamp in this series shows Mayakovskaya Station.

A third Metro series, showing stations of the Ring line built in the postwar years to link all the radial tracks, was issued in 1952.

Periodically stamps are issued depicting the many aspects of the capital's cultural life. Two multicolored stamps, of 40-kopeck and one-ruble denominations, commemorated the 175th anniversary of the Bolshoi Theater in 1951.

A series of nine varicolored stamps, each of 40-kopeck denomination, issued two years earlier, depicts Moscow museums, including the Pushkin Fine Arts Museum, one of the world's largest collections of ancient, West European and Eastern art.

The statue of Tchaikovsky in front of the Conservatory in Moscow, the one of Maxim Gorky, and others the city has erected to honor famous men are shown in a Moscow Monuments series issued in 1959.

MAN'S BEAUTY

By Konstantin Taradankin

ONE LOVELY FALL SUNDAY I was driving up and down the steep grades of the Izhevsk-Sarapul highway in the foothills of the Urals when I came upon two parked trucks and a large group of boys and girls busy digging holes on both sides of the road. I asked one of them, a red-cheeked lad, what they were doing and where they were from.

"We're decorating our planet," was his gay answer. "We want to see fruit trees lining the highway. We're from the village on the other side of the woods."

When I asked them who had gotten the idea, they laughed and replied that all of them had—as though to say what did that matter. The Village Soviet contributed the saplings and the collective farm lent them two of its trucks. The farm agronomist also pitched in.

Standing there watching them, I thought how lovely that stretch of road would look when the young apple and cherry trees bloomed white and pink in the spring. People like me passing by would probably wonder who had decorated this bit of our planet. There wouldn't be anyone here to tell them. And it really wouldn't matter. They'd know that people had done it for other people.

There was a man who loved dahlias—his name was Gennadi Putrusevich, a railroad engineer who had done a great deal of traveling laying rails for our locomotives. Subsequently he worked in the Ministry of Railways. What little free time he had he spent with his family and his dahlias. He and his wife grew some superb varieties of that lovely flower in the garden of their country home near Moscow. From a distance the dahlias looked like bits of the rainbow come down from the sky. "Dreams," "Queen of the Gardens," "Madrid," "Fantasy No. 2," were the names he gave them.

He loved to recite this verse of Alexander Blok's:

I dream of autumn's roses,
Beautifully aglow,
Through mists and flames and blizzards,
Growing in the snow . . .

Gennadi Petrusevich died the second postwar summer. He left behind him a book on the care of dahlias, and the flowers themselves spread all through the country, all the way to the Pacfic coast. There is a building in Vladivostok—a children's home—with a lovely garden around it. Summer lingers in that garden. Late into the fall the dahlias glow against the yellowed leaves of the bushes and trees. The children know that somebody from the Moscow countryside sent them.

Lotta Petrusevich continues her husband's work. She wants to ship one of her new varieties to America. "That's the home of the dahlia," she explains. "They were brought to Russia long ago, completely unlike the ones we now grow. Wouldn't it be nice to send them back home after such a long absence, lovelier than ever?"

Man's beauty lies in what he does, and his deeds are beautiful if they are done for other men. The good man does not try to buy esteem or fine repute with his deeds. No, he goes where his heart and his conscience lead him; he cannot do otherwise.

The good man is not necessarily the poet who has given men the gift of his talent, or the eminent scientist who has blessed humanity with a great discovery, or the philanthropist who has donated his money for a worthy cause. He may be the ordinary man you see every day of the week, the man who lives next door and works beside you.

Blacksmith Shaakhmad Shamakhmudov of Tashkent and his wife Bakhri adopted 14 war orphans. What remarkable people they must be! They were not looking for applause, this modest blacksmith and his wife. But in our country such kindness does not go unacknowledged. Should you happen to visit Tashkent, look for the fine new street named Shamakhmudov.

Every day in the year our newspapers and radio report the wonderful things people do for others. Take the case of Olena Gliba, a collective farm woman who lives in the Transcarpathian village of Bilki. She and her husband had hoped to build a new home when he fell critically ill and died. She was left with a small daughter to support and no possibility of financing a house. But the village people, at the urging of the farm's building team leader Nikolai Kizlyak, decided to put up the house for Olena. Everybody lent a helping hand and it was finished in short order.

Of course, we can easily enough estimate the cost of that house in rubles and kopecks, but in what currency do you figure one man's feeling of responsibility for another? Therein is the very essence of socialist morality.

I remember an article in *Izvestia* by Paltsev, an engineer at the Leninsky State Farm in the virgin land territory. He wrote about a gift the farm had received from a man by the name of Vasili Vershinin who lived in Moscow. The Muscovite had presented his personal library with many rare items that had taken him 40 years to collect to the people who were doing pioneer farming in Kazakhstan.

Who is Vasili Vershinin? He is a veteran of the Civil War, a worker now on pension, a reticent man who was not looking for praise. But the people on that distant farm insisted he visit them as their honored guest.

This kind of quiet altruism is by no means the rare thing in our country. One meets it everywhere. The mark of the Soviet man is his readiness to help his fellows, his willingness to make sacrifices for the general good. This is a quality that derives from the socialist way of life, it is intrinsic in the society in which he is reared.

There are thousands upon thousands of Soviet men and women in every branch of industry and agriculture, in every sphere of endeavor, who seek out the most difficult jobs, those that most need doing. The Soviet citizen knows that it is his industry, his farm, his country he is working for.

"Work and Live in the Communist Way"—this is the slogan of a movement that has spread like wildfire throughout the land. Membership in a Communist Labor Team is an honor not easily come by, it must be earned. Team members are obligated not only to work better than their fellows but to serve as models of personal conduct. They pledge to expand their store of knowledge, to broaden their cultural horizon. They pledge to help each other grow as workers and as human beings and to struggle against the remnants of the old way of life.

It is in this struggle that the character of the new man is formed, the kind of individual Anton Chekhov envisioned when he said that everything in man must be clean—his body, his clothes, his speech and his soul.

Here is Valentin Otochkin, a fitter, who works at a porcelain factory near Novborod. Otochkin is a man upon whom everyone looks with respect and admiration for the quantity and the quality of the work he turns out. His fellow workers say that he "puts brains into his machine."

Now why does a man like Otochkin work after hours to figure out methods that will get more out of the machines he handles? Because he takes pride in his work and knows that although his may be a small addition to the country's general progress, it is the aggregate of such creative efforts that keeps the living standard rising. Offer to reimburse Otochkin for the extra hours he spends studying his machine and you embarrass him. This is his contribution to the general welfare.

The merchant psychology, the urge to make a fast ruble, is alien to the socialist man. The end products of this psychology are greed and stinginess. You can grow flowers in your own garden to sell for a profit. But you can also grow a new species of rose and donate it to a school garden or a park as thousands of Soviet gardeners are doing.

The people in a certain Turkmenian village decided to open a local museum on their own. When the news reached Ashkhabad, the capital of the republic, a group of well-known painters sent the village several fine paintings that would have sold for a considerable sum. The artists refused payment.

You would think that our elderly people retired on pension after working a lifetime would be glad to enjoy a well-earned rest. But the heart of the matter is that the Soviet citizen does not want to live for himself alone. He feels the need to do things for others. He refuses to narrow his life down to the satisfaction of his own needs. That, he feels, is to deprive life of all its meaning, all its grace and beauty.

That is what pensioner Vladimir Sobolevsky writes to one of our newspapers. His letter could have been written by thousands of others like him. "At first I felt very lonesome without my comrades at the shop and bored without my work. Then I began to help out at the district library. Now I work there five days a week, without pay, of course—my pension is enough to live on. I'm needed there and, believe me, the fact that I am has taken years off my age."

At the Lenin Works in Saratov 120 veterans of labor are helping young workers perfect their skills. In Magnitogorsk a group of pensioners working at the Museum of Local Lore wrote a history of the Civil War in the Urals. Orenburg pensioners make regular visits to the state farms in their district to help with cultural activities. In the Russian Federation there are some 4,000 Pensioners Councils. The contribution of these elderly citizens take all sorts of forms. No matter the age of our people, they want to be counted among those who are building the future.

I recently visited volunteer design groups at the auto plant and the shipyard in the city of Gorky. These groups are made up of workers and engineers who meet evenings and weekends—on their own time, that is—to work out mechanization problems that will increase their plants' production. Do they have to? Not at all. They do it because they want to. These are socially minded men, not self-seekers. There are groups like these at many factories in the Urals, Siberia and Central Russia.

"Volunteer work" and "public undertaking" are among the most commonly used expressions in the Soviet vocabulary today. The point is not that the state saves by work done gratis—that is inconsequential. It is the underlying psychology that is important, the fact that man's character under the influence of collectivism, of common interest, is changing.

The new way of life is fighting successfully against the old. True, we still have the dishonest and unscrupulous, the loafer and the money-grubber. But one must remember that the higher the morality of Soviet society as a whole, the more sharply will the dirt stand out against its clean white surface. The stronger its ethical consciousness, the less willing will the public be to put up with those who are corrupt. The more actively the people purge life of its ugliness, the more they will learn to recognize its beauty. The main thing is the general trend, the direction which society takes.

Police patroling the streets—that is a common enough sight in any city in any country. But people's squads patroling the streets—that is a new phenomenon, one of the more recent manifestations of Soviet democracy. The reason for these volunteer groups is not that our police are unable to cope with their job or that crime is rampant, but that the people are gradually taking over powers previously exercised by official agencies. In this case factory and office workers and students are taking over the functions of the police.

Foreman Ivan Chuvivovsky's team in the machine shop of the Kuznetsk Metallurgy Plant in Stalinsk patrols the streets of the town evenings after work and does as good a job of keeping law and order as the police. The squad can call on the police for help, if necessary, but it seldom has to. The function of squads like foreman Chuvivovsky's is not primarily to catch lawbreakers. They serve as moral rather than physical deterrents. Their weapons are example and persuasion.

How many examples we could cite of this collective consciousness—man making himself responsible for the well being and happiness of his neighbors and workmates. Here is Dr. Maria Petukhova, who lives in the remote Yakutian village of Konkudera, too small a place to be on any map. Village life seems to center around her. She organizes the village club activities, helps the teachers at the school, works with others to set up a radio relay station—and all this with a busy practice. There are many Petukhovas in the Soviet Union.

Everyone in the country was thrilled by the news of the first manned space flight. The pride the people felt in Soviet science and engineering, in the heroic flight of Yuri Gagarin, was a very personal pride, a collective pride. It was the realization of a common hope, the success of a common effort.

And Yuri Gagarin himself. He is not the hero who stands alone and lonely, isolated from the people. His personal heroism is the aggregate, so to speak, of the work and talent and strength of all the people who built the spaceship and did the vast amount of groundwork that made the flight possible.

In our country everything is done to help people develop their potentialities, to find an application for their talents. They do not remain narrow specialists. The collective farmer Terentii Maltsev lectures at the Academy of Agriculture on his original method of crop cultivation, the miner Nikolai Likhachev sings Radamas in an amateur production of *Aida*.

There are millions of Soviet people working in mines, factories, laboratories and on farms who spend their free time at creative activities—painting, music, dramatics—at the numerous clubs and people's theaters.

Thus, spiritual values of permanent worth are created to enrich the new man and the new world he is building—a world of reason and truth, of friendship and happiness.

THE ROSSIYA COLLECTIVE FARM

By Andrei Gribkov

THERE SEEMS to be no end to the fields of the Rossiya Collective Farm that stretch interminably across the North Caucasus steepeland. Only the distant forest belts that shield the wheat fields mark the boundaries.

This is a 55,000-acre farm, of which more than 44,000 acres are arable. The rest is pasture, truck gardens, orchards, vineyards, and livestock and poultry areas for pigs, sheep, poultry and thousands of head of cattle.

The farm owns fleets of tractors and self-propelled harvester combines that work without letup during sowing and harvesting periods. Chemical spraying to kill weeds and harmful insects is done by plane.

The village of Grigoripolisskaya, the collective farm's residential and administrative center, is situated on the right bank of the Kuban River. From a distance it looks like a shady garden dotted with cottages. The village has eight general schools, an agricultural school, a library, a wide-screen movie house, a House of Culture, a hospital and various stores.

In the administration building we meet Yakov Bichevoi, the farm chairman. He is discussing the farm's development plan with a group of agricultural scientists who have come from Moscow for the purpose. Among them are Nikolai Komarov, professor at the National Institute for Experimental Veterinary Medicine, and Isaak Dubinsky, assistant professor at the National Research Institute for the Electrification of Agriculture.

The scientists had studied Rossiya's potentials and were making suggestions along various lines. Together with the farm's own specialists they had compiled a soil map and worked out cultivation and fertilization procedures for each section.

Rossiya's tie-in with these and other scientific bodies such as the Krasnodar Farm Research Institute and the Institute for Sugar Beet and Plant Protection is of a permanent nature.

"These days," says Yakov Bichevoi, "it's impossible to run a big farm without the help of science. Both scientific research and practical experience are needed to operate profitably, to keep raising crop and livestock productivity and, with it, the living conditions of our members."

Plenty of engrossing work and diverting recreation for the young people on this 55,000-acre collective farm.

Besides their general secondary school subjects the farm children receive technical training.

Vasili Menshin, one of the older hands on the farm, teaches tractor driving and maintenance.

Bichevoi, we gathered from the comments of the farmers, was an excellent manager, knew farm problems, and was a very cultured person. His parents had been farmers too. He got his training at an institute for mechanization of agriculture from which he was graduated in 1937. Although he has been working at Rossiya only since 1959, he has been such a good manager that the farmers have elected him chairman twice.

Income Tripled

The farm is situated in a region where the amount of rainfall is uncertain. But with scientific farming methods and extensive mechanization it grows fine crops year after year. In 1960 the over-all grain crop averaged 3,200 pounds per acre, while wheat averaged 3,230 pounds per acre, with a high of 3,750 pounds in some sections. This is four times as much as in 1950. In the past seven years the number of head of cattle tripled—it now exceeds 4,500—and the milk yield more than doubled.

The farm's profits grew accordingly. Its cash income has more than tripled in the past seven years, reaching a high of 3,996,000 new rubles in 1960.

Increased production is not the only factor responsible for the rise in income. Of great importance in this connection are the higher prices paid by the state for agricultural products and the drop in state prices of farm machinery and fuel. This year Rossiya will be saving 140,000 rubles from the price cut in machinery, spare parts and fuel alone.

But the most important single factor accounting for the rise is personal material incentive. As the commonly-owned wealth of the collective farm grows, the living standard of each of the farm members grows correspondingly. For instance, in 1953 when the farm's income came to 1,280,000 new rubles, the collective farmers received 640,000 for their work. Since 1958, when the farm's income rose to more than 3 million rubles, the farmers' personal share has been 1.5 million rubles a year.

Rossiya operates by a plan and a budget first drafted by the farm's specialists and then discussed by its administrative board. But the final authority on these matters and all others is the general meeting of the farm membership. The plan takes into account the demand of state procurement agencies, cooperative purchasing organizations and the collective farm markets for specific products.

The general meeting usually suggests changes in the draft plan submitted by the administrative board. Additional allocations, for example, were made in the 1960-61 plan for financing the building of an irrigation system proposed by Yakov Furmanov, one of the farmers, and approved by the general membership.

Big Seed Grower

Rossiya tends, of course, to concentrate on those crops it finds most profitable. The farm has become a big supplier of high-quality seed. In 1960 it produced and sold to the state about 7,000 tons. Of the farm's total cash income of 3,996,000 rubles for the year, 870,000 rubles came from seed production.

An idea of Rossiya's cost of production and sales prices may be gathered from these comparative figures. A centner (220.46 pounds) of wheat that costs the farm 1 ruble 4 kopecks to grow is sold to the state for 5 rubles 60 kopecks.

Within recent years, besides seed production, the farm has been expanding its orchard, vineyard and poultry operations at considerable profit. Its poultry division alone, set up in 1957 with 36,000 laying

A bright, new kindergarten building for the younger citizens of the farm.

The Kuznetsovs—he is one of the farm shepherds—do a good deal of mail-order buying.

Field work at Rossiya was mechanized a long time ago; the poultry section, about three years ago.

hens and an incubator for 250,000 eggs, now brings an annual return of more than 2 million rubles.

Production costs have been cut as a result of mechanization. A little more than a year ago, at the suggestion of livestock breeders, a special animal section was set up for the loose housing of 300 head of cattle. All the working processes at this new farm were mechanized—preparing and distributing fodder, cleaning up, milking, etc. The result was that the production costs were cut in half and the milk yield increased. This year another such section for 400 head of cattle was set up.

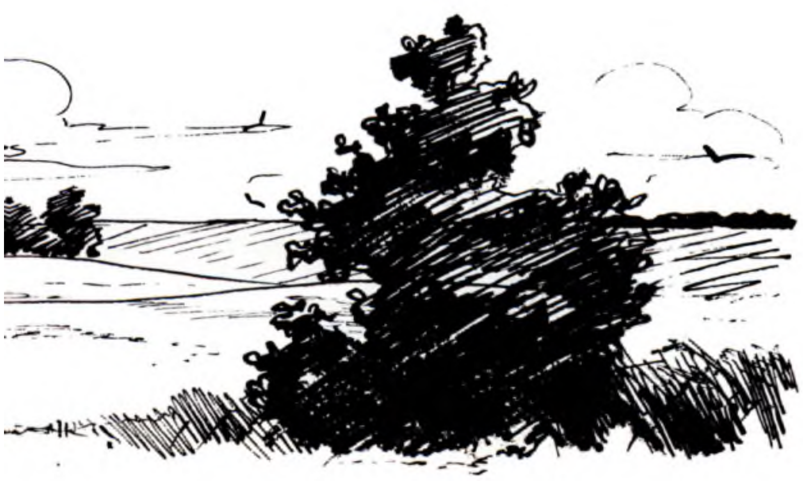
Rossiya manager Bichevoi says, "Every one of our members wants to see the farm producing more for sale to the state. Our members say: 'What's for the state is for ourselves'—for they realize that the increase in the public wealth of the country means a higher standard of living for every Soviet citizen."

With its growing income Rossiya has been able to do a great deal of building these past few years—new cattle barns, a feeding area for the pigs, units for processing milk and grapes, and another for the manufacture of cinder blocks.

The theater, wide-screen movie house, village hospital and eight kindergartens are also fairly new structures. The farm has its own sanatorium in Kislovodsk, one of the finest of the Caucasus resort areas. In 1960 Rossiya spent 551,000 new rubles for public health, a home for the aged, sanatorium treatment, pensions and other social services for its members.

New Housing

Grigoripolisskaya reflects the farm's rising income level. Most of the houses are new or have been completely modernized. About a hundred new cottages have been built in each of the past five years. The farm administration provides materials, transport and skilled help for those members who build new homes. The considerable number of TV antennas reflect the farm's growing prosperity.



We stopped to visit Ivan Kuznetsov, a shepherd, who lives in a new, four-room cottage surrounded by greenery. Behind the house are sheds for his own poultry and pigs. Ivan does not keep a cow because the cost of the milk he gets from the farm is very low.

We met his wife, Maria, who works as a milkmaid; their son Nikolai, a fourth-grader, their daughter Tanya, a first-grader; Alexei, their elder son; and his wife Zinaida. Alexei recently graduated from a school for the mechanization of agriculture and now works at the farm's machine repair shop.

Last year Ivan Kuznetsov and his wife earned a total of 2,700 rubles. They supplemented that income with the two pigs, 30 chickens and several geese they raised themselves.

We also met their neighbor Ilya Bukin. There are a larger number of working adults in his family—his three sons are tractor drivers and his daughter is a milkmaid. The family's total annual income is more than 4,000 new rubles, with added income from the sale of the surplus products they raise themselves.

Everything the collective farmers receive for their work is for their personal needs. They pay no income tax; machinery, tools, livestock, seed, fertilizer, etc., are paid for out of the farm's common fund; and, like all Soviet citizens, collective farmers do not have to pay for medical care or education.

The general feeling of everyone at Rossiya is that things are going well, with more good things on the way. According to the most conservative figuring, they say, the farm's cash income will increase by more than a million rubles by 1965, the end of the seven-year plan, to reach a total of at least 5 million rubles. This will come from expanding fruit orchards and vineyards by 1,500 acres, increasing the head of cattle by several thousand and raising productivity generally. As a result, the farm will be producing much more meat and milk than it does now.

"This year," explains Yakov Bichevoi, "we took a long step toward that goal. We raised an extra-large crop, which made everyone happy; for in our collective economy a good crop means good living for each of our members.

GRIGORI CHUKHRAI'S CLEAR SKIES

GRIGORI CHUKHRAI, the brilliant young producer-director of *Ballad of a Soldier*, which won him a Lenin Prize at home and the plaudits of moviegoers in most countries, including the United States, has achieved a new triumph in his latest film.

In *Clear Skies* Chukhrai once again shows the extraordinary feeling for character and mood that he conveyed through his two young lovers in *Ballad of a Soldier*, this time in the framework of a more complex theme.

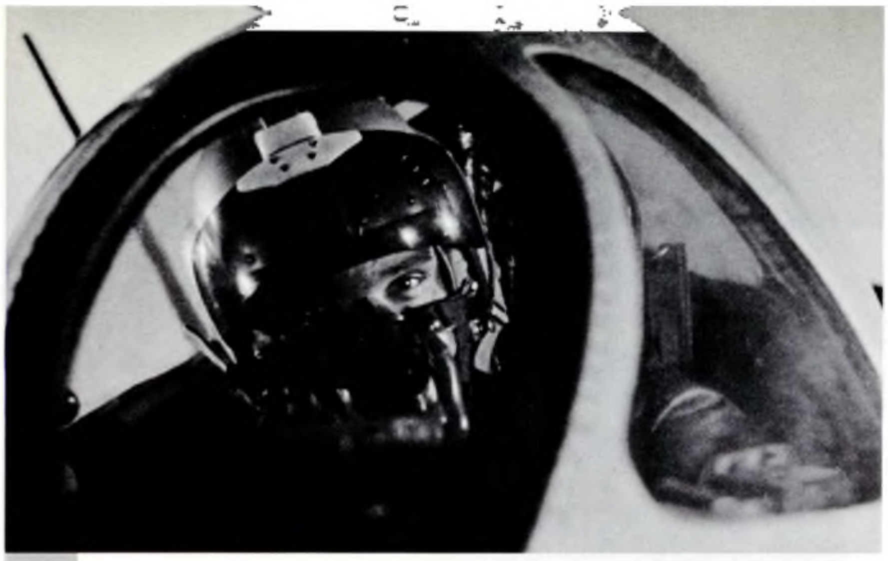
The action begins with the war but develops during the postwar years. The protagonist is a flier returned from a German prison camp whom rumor accuses of collaborating with the enemy.

One of the grim consequences of the Stalin cult of personality was unjust recrimination of those who had been taken captive by the Nazis. At its Twentieth Congress in February 1956 the Communist Party publicly and unequivocally condemned this injustice, and the country highly rewarded the courage and fortitude of many former war prisoners.

Chukhrai says: "In *Clear Skies* we wanted to show great love and fidelity, the integrity of human beings, the grim tests the Soviet people had to undergo in connection with the war. We wanted to show that happiness can be achieved in many ways and stress that happiness is not possible without truth and justice. We wanted to tell about the great role of the Twentieth Congress of the Communist Party, which restored the Leninist standards of Party life and socialist justice. Our hero did not break under the most terrible trials, and the same strength of character that sustained him in times of stress made it possible for him to perform such an exploit as flight into space."

This is Chukhrai's third picture. His earliest, *The Forty-First*, brought the young director to public notice. His fan mail is likely to take on monumental proportions with *Clear Skies*.

The casting, say Soviet critics of *Clear Skies*, is inspired. Young stage actress Nina Drobysheva makes her first film appearance as Sasha Lvova, the flier's wife. Yevgeni Urbansky, of *Ballad of a Soldier* fame, gives a matchless performance as the flier Alexei Astakhov.



1

It's a clear sky and an unlimited ceiling once again for flier Alexei Astakhov, but only after he had made his way through a thick and ugly fog of suspicion. He fought bravely against the fascists, spent years in a German prison camp, and came home to meet charges of cowardice instead of the hero's welcome.

2

His wife Sasha follows the plane as it goes winging into the blue. They had lived through almost endless years of heartbreak and despair to clear his name, sustained only by her unfaltering love and unshakable belief that justice would finally triumph.

3

For her, it was love at first sight when they met. The handsome young flier had rung her apartment bell by accident one New Year's Eve. Sasha, then in her teens, had begged the unexpected visitor to see the New Year in with them, but her older sister Lusya, cold and unfriendly, scolded her and showed him the door.

4

When next they met, the war had come. Alexei did not recognize the little girl with pigtails who had wanted so much for him to stay that holiday evening two years ago. And Sasha felt like a scarecrow in her ungainly felt boots and worn coat. But she was able to gather enough courage to remind him of their meeting.

5

The flier, just back from the front, envisioned a brief and uncomplicated interlude. But in the five days they spent together while his bullet-riddled plane was being repaired at a front-line airdrome, Alexei found that he had fallen in love with Sasha.

6

She woke up by his side in the room that had once served as her nursery. They were alone in the apartment. The rest of her family had been evacuated to the East. Her father was at the front and in a few hours this man she loved would be at the front too.

7

At the factory where she worked Sasha heard a news announcement that fighter-pilot Alexei Astakhov had met an enemy squadron, rammed one of the planes and been killed. Her friends tried to comfort her, "Sasha dear, what's the use of crying, tears won't bring him back." But, lost in sorrow, she didn't hear them.

10

Then the rumor got around that Alexei Astakhov had voluntarily surrendered to the enemy. During the early postwar years there were occasional cases of soldiers returned from prison camps who were suspected of collaborating with the enemy.

11

The evidence that was presented seemed to support the accusation and Astakhov was no longer permitted to fly. When Alexei lost his plane, he felt as though he had lost the trust and faith of his people and his country, the faith that had carried him through the war. He was almost crushed by the monstrous injustice.

14

Time and truth, she told him, would root out the remnants of evil and corruption carried over from the past. It had to be so in this socialist land they lived in. But justice would not come of itself; it was something they would have to fight for.

15

And eventually the long winter of their trial did come to an end and the spring sun once again shone and melted away the scarred and ugly ice. New buds appeared, the promise of a happier season for these two young people who had fought so valiantly with only their love as shield and weapon.

8

She had a child—Alexei's son. At the end of the war, when Petya, an old school friend, came to visit, the boy thought his dad had returned and rushed into his arms. Petya had always been in love with her, still was. She knew that she could build a good life with him, but she wanted no man except her beloved Alexei.

9

But Alexei was alive. He had been badly wounded and had been found by German soldiers. Patched up, he had managed to survive the horrors of a concentration camp and, freed by the victorious Soviet Army, he'd come back home. Sasha fell into his arms.

12

They lived with her sister Lusya, who had given up the man she loved to marry a hidebound, self-seeking official for the comforts he could provide her. Fearful of being pointed at as the brother-in-law of a questionable character, he browbeat Sasha, insisted that she break off completely with Alexei. She refused.

13

Wracked by misery, Alexei took to drink. Staggering blindly across a railroad track, he wandered into the path of an oncoming train and would have been killed had it not been for Sasha. Her devotion and tenderness kept him fighting for vindication.

16

Justice could not but triumph— and it did triumph. The good name of Guards Captain Alexei Astakhov was cleared and his unblemished war record and bravery were brought to public notice. For his courage during the war he was honored with the Gold Star of the Hero of the Soviet Union.

17

And now once again he takes a plane aloft and Sasha follows its course from the ground with eyes brimming over with love, a love that had endured the tragedy of a war and its bitter aftermath and was strong enough to sustain them the rest of their lives.

By Vladimir Orlov
Head Librarian, Lenin Library, Moscow
Photos by Nikolai Granov

BOOKS MAKE US FRIENDS

American Librarians Spend a Month in the Soviet Union

From the busy exchange they observed in libraries all over the country the American guests could see that the Soviet people are very fond of books.

SOVIET librarians recently played host to a group of librarians from the United States led by David H. Clift, Executive Director of the American Library Association. The Americans were welcomed as old friends on their arrival by Irina Bagrova of the Lenin Library in Moscow, Victor Barashenkov of the Saltykov-Shchedrin Library in Leningrad and Nikandr Gavrilov of the USSR Ministry of Culture who had been members of the Soviet delegation of librarians that had visited the U.S.A. Soon after their arrival, the American delegation was received by Yekaterina Furtseva, USSR Minister of Culture.

During their month's stay the Americans covered some 6,500 miles of Soviet territory, visiting some of the country's 400,000 libraries in Moscow, Leningrad, Kiev, Tashkent, Samarkand and Kalinin. All told, they saw at firsthand 45 representative libraries, library schools and related institutions—from the Lenin Library in the capital, the largest book repository in the country, to a small village library.

The Americans asked many questions, as many, probably, as had been asked by the delegation of Soviet librarians on their visit to the United States. The exchange on both sides was most cordial and, everyone agreed, most profitable.

The Americans were as much interested in getting the feel of Soviet life generally as they were in talking shop. They met with a good many people of different occupations and made a number of visits which were not in the tour schedule worked out by the USSR Ministry of Culture.

In Leningrad, for example, a taxi driver by mistake took one of the librarians, Mrs. Spain, to the Pushkin Library for adults instead of to the children's library with the same name. Mrs. Spain was extremely pleased by this. The people at the library were delighted by the unexpected visit, showed Mrs. Spain around, loaded her with mementoes and helped her find her colleagues at the children's library afterward.

Emerson Greenway of Philadelphia had a story to tell about another taxi driver who drove him to Lake Komsomolskoye near Tashkent in Uzbekistan and refused to take payment when he learned that his fare was a guest from the United States. Mr. Greenway was also very much taken with a group of youngsters he met on a boat trip who told him what Soviet school children were interested in.

At the Leningrad Institute for Library Training.

Delegation head David Clift at the Foreign Literature Library.

A chat with Lenin Library Director Ivan Kondakov.

In the rare book division of the Lenin Library.

The photographer is Library Association director R. C. Swank.

Uzbekistan was something of a revelation to the Americans, as it is to all visitors when they see the cultural flowering of these once backward nationalities. In Uzbekistan, where before the Revolution only two per cent of the population could read and write, they found the library reading rooms crowded. The group visited two universities and met with the faculty of a library school.

Although they were working on a tight schedule, the visitors made time to see Maya Plisetskaya dance in the Bolshoi Theater production of *Swan Lake,* visit Leo Tolstoy's birthplace in Yasnaya Polyana, and tour some of the eighth to twelfth century monuments in Uzbekistan.

Mr. Clift summed up the general feeling when he said that the delegation members were very pleased with the schedule worked out by the Ministry of Culture and the opportunity given them to see every type of Soviet library at work. They were greatly impressed, said Mr. Clift, with the important function of the library in the Soviet Union and with the well organized program of library services.

The Americans spoke admiringly of Soviet library people, their spirit of cooperation and their enthusiasm, professional interest and competence. They thought highly of Soviet book exhibitions and readers' conferences, of the numerous aids for readers and the fact that the fundamentals of library science and bibliography have been introduced as required courses in many colleges.

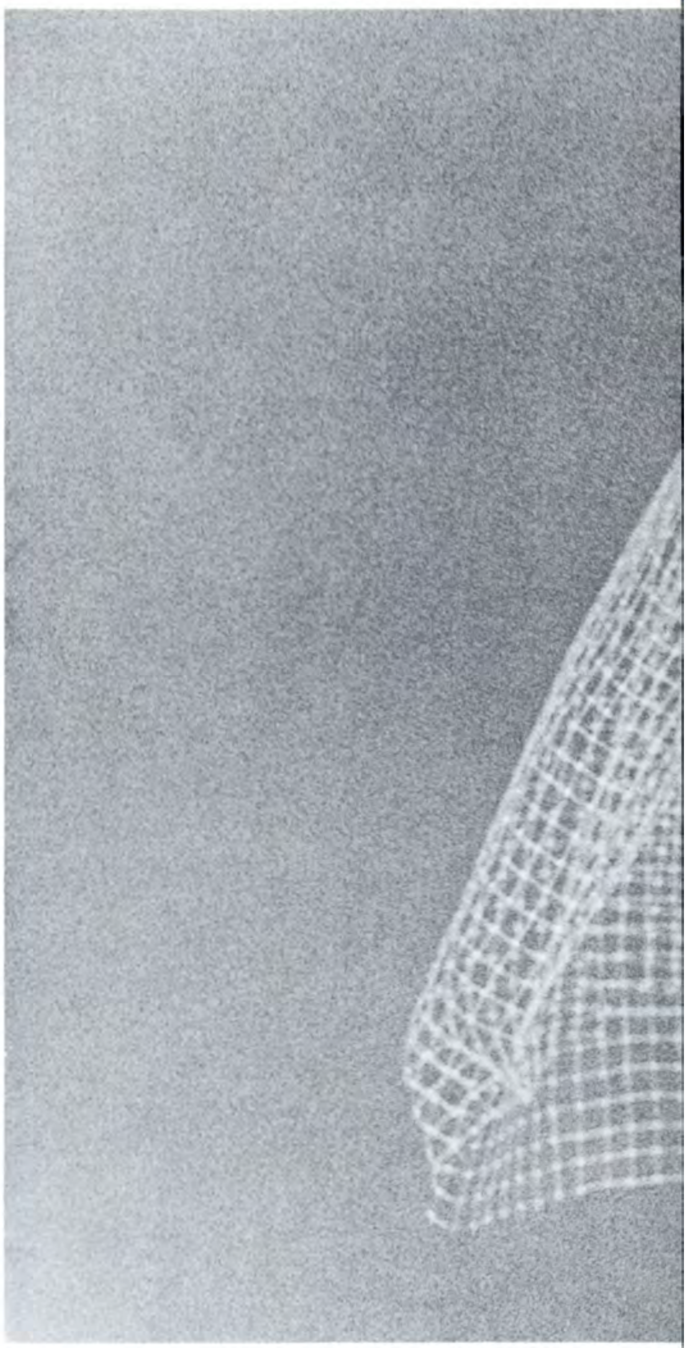
The Americans liked the "legal deposit copy" requiring publishing houses to send a copy of every book they publish to the largest libraries. They were also impressed by the generally excellent shape in which books are kept. Melville J. Ruggles of Washington commented on the fine condition of the 1936 *Pravda* file he saw at Samarkand University. The librarians noted the large numbers of people who buy books, and they thought book prices quite reasonable.

But they also made some critical comments. For example, they did not like the division into children's and adults libraries. They thought that some of the library routine took up too much time and that more of the mechanical devices used in other countries ought to be introduced.

Most gratifying was the enthusiastic feeling of all concerned that books make friends and that this first exchange of visits should be followed by many others.

MARRIAGE PALACE

By Galina Vasilyeva



While the bride preens before the mirror . . . *the groom bids bachelorhood a nervous farewell.*

(Left to right) They sign the marriage certificate, and drink their first toast as staid married folk. Then come congratulations and the inevitable advice. Smiles from the onlookers clustered outside . . . and the newlyweds take off for their honeymoon.

THE MARRIAGE PALACE in Moscow is an elegant mansion on one of the quieter streets of the capital. There's no mistaking its function—from the cars lined up at the curb, the beaming faces of the brides in white gowns and the bouquets of flowers everyone is holding. There are Palaces like it in many other Soviet cities. Leningrad opened the first one, and Kiev, Kharkov and Moscow followed. The managers of these Palaces do everything possible to make each wedding a festive affair.

Sunday is the most popular day for weddings, and the big reception room is generally full of people. The young couples hand in the application for the registration of their marriage. "Why do we have to wait a whole week? It's much too long!" a young couple complains. But the Registrar explains with the patient smile of a person who has to repeat himself very often, "Well, we want to give you time to prepare for the wedding, and . . ." he stresses this ". . . we want you to have time to think it over. It's an important step you young people are taking; it deserves a second thought."

Application formalities disposed of, bride and groom are met at the top of the staircase by the representatives of the Palace and led to separate rooms to make last-minute preparations for the ceremony. Friends and relatives mill about in the waiting room.

The couple finally reappears and, to the sound of the wedding march, the whole company follows them into a flower-bedecked hall. As the couple approaches the registration desk, the music stops and Alexander Pakhomov, Assistant Director of the Marriage Palace, greets them with these words:

"My young friends, today you are entering on a lifelong union. From now on you will be walking together hand in hand. Let your marriage be happy and meaningful, and may the mutual respect, friendship and love that brought you here stay with you both the rest of your lives."

He asks each of them before they sign the marriage certificate, "Have you given careful thought to your decision to marry?"

They answer, "Yes," and seal the marriage with their signatures. Their wedding rings and the blue bound marriage certificate are offered to them on a silver tray. They give each other the traditional kiss and the company proceeds to the banquet hall where the newlyweds are toasted with champagne and wished a long and happy wedded life.

Irina Morsuyeva, postgraduate of the Moscow Teachers Training Institute of Foreign Languages, was one of the first brides to get married in the new palace.

By Alexander Vit

OUR FAVORITE SUMMER

SPORTS are a year-round avocation in the Soviet Union. The kind, of course, varies with the season. In winter it's skiing, ice skating and ice hockey; in summer it's ball playing of one kind or another.

Volleyball and soccer stand at the top of the summer popularity list. Soviet athletes—and they are legion—are grateful to William C. Morgan for what was a serene and placid game when he invented it for the members of the Holyoke, Massachusetts, YMCA at the end of the last century. It's not likely that Morgan would recognize the modern version.

Volleyball has opened the way to sports fame for many Soviet youngsters. Most of the 40 million young men and women who took part in the last USSR People's Games have played volleyball at one time or other. The sport has some three million active participants, that is to say, people who participate in official competitions. Volleyball is played everywhere—in schoolyards, gyms and parks, at resorts and beaches, and on board steamers.

Soccer is more than a game; it's a passion. According to the USSR Soccer Federation we have 1,600,00 players, but this, I think, is a vast understatement. The Federation has omitted the millions of sandlot participants.

The interest in soccer is positively fantastic, so much so that the number of teams in Division A, the senior league, has doubled and the Division B, the junior league, teams have increased to 150. Practically all the larger cities are represented in both divisions.

This is how soccer players are made. Say you work in a factory—or farm or office, for that matter—and you take a fancy to soccer. Long before the warm spring days arrive, the captain of your shop team will invite you to join the squad for gym practice. You'll get calisthenics, weightlifting, acrobatics, cross-country running, basketball, volleyball, and the elements of soccer.

As soon as the factory soccer field grows a decent grass cover, your shop team will begin to work outdoors and participate in factory league and cup tournaments. If you make the grade you'll get on the factory team to play in the city or sports society championships. If you're very good, you'll probably take part in cup tournaments which are held regularly

SPORTS

on a regional, republic and national scale.

If you travel with the team for away-from-home games, you'll get your full pay just as though you were in the shop. You have a chance to qualify for a third-, second- or first-category sports rating, depending on how good your team is. More than 32,000 factory teams took part in last year's USSR cup ties.

Qualifying standards are high—for soccer and all other sports. In order to make a Master of Sports in track, for instance, a high-jumper must clear two meters, and a long-distance runner must do 10,000 meters in 14 mins. 5 secs. The standard for a heavyweight barbell performer in the press is 132.5 kg., while a speed skater has to sprint 500 meters in 42.5 secs.

Standards keep rising. Years ago slogans trying to shift emphasis from individual to mass-scale sports participation called, as I remember, not for one athlete to clear two meters, but for a million athletes to clear one meter. The "million and one meter" mark has already been reached and standards have risen another notch. Take Valeri Brumel who set a new world record with his 7′4″ jump on July 16. Chances are that without the campaign for a "million and one meter" there wouldn't have been a Brumel to stun the sports world with that phenomenal jump.

Soviet coaches and physical education instructors have long drawn attention to the fact that all-round development paves the way for an athlete to achieve excellent results in his particular sport. That explains why our athletes, especially the younger ones, are so versatile. Their practice work at several sports, seems to pay off.

There are a good many athletes who go in for both gymnastics and basketball. These are basic sports in the school physical education program. Basketball will have an important place at the USSR School Spartakiad this summer and will probably produce a crop of budding stars.

The game is a growing favorite. In some places it has crowded out volleyball. There are well over a million young people who play regularly in official tournaments. This goes a long way toward explaining why Soviet players have done so well in international

contests. They've been following close on the heels of the top-ranking Americans.

Table Tennis Makes a Comeback

Table tennis is making a remarkable comeback. Thirty years ago it was the national rage, with ping-pong tables installed even in the corridors of state buildings and staff workers smacking away at the celluloid balls late into the night.

Suddenly, and for no reason anybody can explain, interest waned. About ten years ago it got a new lease on life; tournaments began to be staged regularly and a national table tennis federation was organized. Last year the federation registered 620,000 players. This year the figure has already topped a million. Table tennis bids fair to rival volleyball, basketball and soccer in popularity before long. This year our players participated in the world matches and did quite well. The game has been included in the schedule of the annual School Spartakiad; the majority of our top-flight players are 14 to 20 years old.

Our young people demonstrate a growing liking for Rugby football, badminton and handball, especially the last. A try was made to work up interest in field hockey, but it didn't catch on.

A good many athletes go in for water polo and tennis, but not on any mass scale as yet. Although our racket wielders have won recognition abroad and have begun to play in the Wimbledon tournaments, there aren't more than 50,000 all told.

Old Russian Games

Not many foreigners are familiar with *gorodki,* the Russian form of skittles. It is played with cylindrical wooden blocks 20 cm. long and 3 cm. in diameter—five of them to a team—laid out on a 2-meter concrete square in various patterns with such fanciful names as "Grandma in the Window," "Snake," etc. The blocks must be knocked out of the square with bats thrown from a distance. The team that knocks 10 figures out of the square with the least number of throws is the winner. The accuracy with which the really good players throw is something to see. There are *gorodki* tournaments all the way up to national championships.

Another old and very popular native game is *lapta,* a Russian version of baseball. We use a rubber ball, but the basic rules are somewhat the same as for the popular American game. *Lapta* used to be a rural sport fairly exclusively, but it has been finding its way to the cities and there are now official *lapta* tournaments.

Besides the games played nationally, there are local pastimes, some of them resembling one or another of the more familiar sports. The Georgians, for example, play a kind of soccer on horseback. Up north, beyond the Arctic Circle, the native population goes in for reindeer-sleigh racing. Wrestling with sashes is a never-failing drawing card in Uzbekistan, and in Buryat-Mongolia one of the highlights of regional festivities is the competition in shooting at earthenware pots with bows and arrows.

Prizes named for Cosmonaut Yuri Gagarin will be awarded at many of this year's sports contests. The famous cosmonaut, incidentally, is a fine example of today's Soviet sportsmen. He is a good skier; plays soccer, badminton and volleyball; and has a first-category rating in basketball. Skiing and soccer practice helped to give him the stamina he needed for his round-the-earth flight. Millions of Soviet young people—some of them future cosmonauts, very probably—are getting the same sports training as Yuri Gagarin.


MORNING IN MOSCOW

USSR

COMMUNIST PARTY PROGRAM

See page 1

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Front Cover: Anatoli Subbotin, steelman at the Moscow Hammer and Sickle Plant. *See story page 25.*

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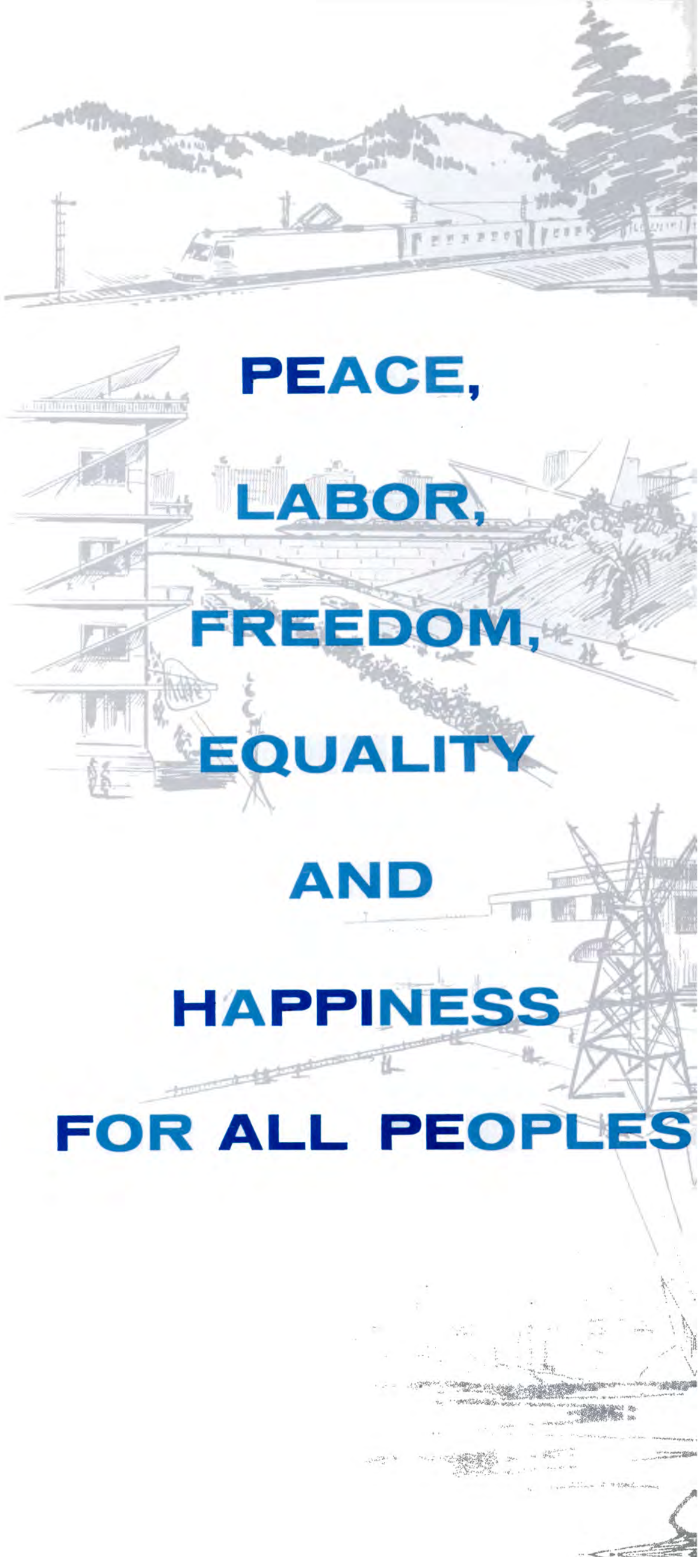


PROGRAM OF THE COMMUNIST PARTY OF THE SOVIET UNION

(A Summary of the Draft)

The draft of the new Party Program was approved unanimously at the Plenary Meeting of the Central Committee of the Communist Party in June. Then, in accordance with the decision of the Plenary Meeting, it was published for discussion by Communists and by all the working people of the Soviet Union. The judgments made in this wide public discussion will be carefully considered before the draft Program is submitted for final consideration and approval by the 22nd Congress of the Communist Party of the Soviet Union.

The draft, summarized below, is composed of an introduction and two parts.

THE Great October Socialist Revolution ushered in a new era in human history, an era of the collapse of capitalism and the establishment of communism. Socialism has triumphed in the Soviet Union, has won decisive victories in the People's Democracies, has become a cause of practical significance for hundreds of millions of people and the banner of the revolutionary movement of the working class throughout the world.

More than a hundred years ago the great teachers of the proletariat Karl Marx and Frederick Engles wrote in the *Manifesto of the Communist Party:* "A specter is haunting Europe—the specter of communism." The draft points out that an enormously long road, a road drenched with the blood of those who fought for the happiness of the people, a road of glorious victories and temporary setbacks, had to be traversed before communism, which had once seemed a mere specter, became the greatest force of our time, a society that is being built up over vast stretches of the globe.

In adopting its first Program at its Second Congress in 1903, the Bolshevik Party called on the working class and all the working people of Russia to struggle for the overthrow of the czarist autocracy and then of the bourgeois system, and for the establishment of the dictatorship of the proletariat. That was done. The second Program of the Party, adopted at the Eighth Congress in 1919, set the task of building a socialist society. That too was done, and socialism triumphed in the Soviet Union completely and decisively.

Now the Communist Party of the Soviet Union is adopting its third Program, the program for the building of a communist society in the USSR. The highest goal of the Party is to build a communist society, which will have inscribed on its banner "From each according to his ability, to each according to his needs," and realize the Party's motto: "Everything in the name of man, for the good of man."

Communism accomplishes the historic mission of freeing all people from social inequality, from every form of oppression and exploitation, from the horrors of war, and proclaims Peace, Labor, Freedom, Equality and Happiness for all peoples on earth.

"Under the tried and tested leadership of the Communist Party, under the banner of Marxism-Leninism, the Soviet people have built socialism.

"Under the leadership of the Party, under the banner of Marxism-Leninism, the Soviet people will build communist society.

"The Party solemnly proclaims: The present generation of Soviet people shall live under communism!"

From the draft of the Program of the Communist Party of the Soviet Union

PART ONE

Transition from Capitalism to Communism Is the Road of Human Progress

The epoch-making turn of mankind from capitalism to socialism initiated by the October Revolution is a natural result of the development of society. Marxism-Leninism discovered the objective laws of social development and revealed the contradictions inherent in capitalism, the inevitability of revolutionary upheaval and the transition of society to communism.

The development of world capitalism and of the revolutionary struggle of the working class has fully confirmed the correctness of the Marxist-Leninist analysis of capitalism and its highest stage, imperialism, given in the first and second Programs of the Party.

The draft traces the epochal significance of the October Revolution and the path traversed by the Soviet people that led to the victory of socialism in the USSR and draws the main conclusions from the lessons of this path. It lays stress on the fact that the Soviet Union is solving the tasks of communist construction not alone but in the fraternal camp of socialism.

A world system of socialism has been established—a social, economic and political community of free, sovereign peoples following the path of socialism and communism, united by common interests and goals and the close bonds of international socialist solidarity.

The world socialist system is confidently advancing toward decisive victory in its economic competition with capitalism. In the near future it will surpass the world capitalist system in volume of industrial and agricultural production. Its influence on the course of social development in the interests of peace, democracy and socialism keeps growing.

The draft devotes considerable space to an analysis of the crisis of world capitalism.

The First World War and the October Revolution ushered in the general crisis of capitalism. In the course of the Second World War and the socialist revolutions in a number of European and Asian countries, the second stage of the general crisis of capitalism developed. Now world capitalism has entered a new, third stage of this crisis. The most important distinguishing feature of this new stage is that it was not the result of war.

The section following deals with the international revolutionary movement of the working class. The world socialist system is the chief result of this movement. The example of victorious socialism has a revolutionizing effect on the minds of the working people of the capitalist world, inspiring them to fight against imperialism and greatly facilitating their struggle.

The social forces that are to ensure the victory of socialism are taking shape, multiplying and growing stronger within the womb of capitalist society. A new contingent of the world proletariat—the young working-class movement of the newly free, the dependent and the colonial countries of Asia, Africa and Latin America—has entered the world arena.

The capitalist countries are shaken continuously by class battles. The militant acts of the working class in defense of its economic and political interests are growing in number. The working class and all working people have frequently endangered the class rule of the bourgeoisie.

A section of the draft on the national liberation movement takes note of the fact that a powerful wave of national liberation revolutions is sweeping away the colonial system and undermining the foundations of imperialism. Young sovereign states have arisen and are arising, replacing former colonies and semicolonies.

But the struggle is not yet over. The peoples who are casting off the chains of colonialism have won different degrees of freedom.

Having established national states, many of them are striving for economic independence and the consolidation of their political independence. The peoples of countries that are formally independent, but actually politically and economically dependent on foreign monopolies, are rising in struggle against imperialism and reactionary pro-imperialist regimes. The peoples who have not yet thrown off the chains of colonial slavery are waging a heroic fight against their foreign enslavers.

Wide prospects open up for the peoples of underdeveloped countries when they set up and develop national democratic states. The political basis for a national democracy is a bloc of all progressive and patriotic forces fighting for complete independence, for full democracy, fighting to consummate an anti-imperialist, anti-feudal, democratic revolution.

The Communist Party of the Soviet Union considers fraternal alliance with nations that have cast off the colonial and semicolonial yoke as a cornerstone of its international policy.

In the next section the draft notes that a grim struggle is going on in the world today between two ideologies—communist and bourgeois—and that this struggle mirrors, in mankind's spiritual life, the historic process of transition from capitalism to socialism.

Imperialist reaction mobilizes every possible ideological influence to discredit communism and its great ideas and to defend capitalism. Its chief ideological and political weapon is anticommunism, which consists mainly in slandering the socialist system and falsifyng the policy and objectives of the Communist Parties and of Marxist-Leninist theory.

The Program goes on to well-formed criticism of the various "theories" that capitalism uses to disguise and prettify its exploitive nature.

The first part of the draft concludes with a consideration of peaceful coexistence and the struggle for world peace.

The Communist Party of the Soviet Union considers that its major objectives in the field of foreign policy are to secure peaceful conditions for the construction of a communist society in the Soviet Union and the development of a world system of socialism, and, together with all peace-loving peoples, to rid humanity of the threat of a world war of annihilation.

"What is communism?

"Communism is a classless social system with one form of public ownership of the means of production and full social equality of all members of society; under it the all-round development of people will be accompanied by the growth of the productive forces through continuous progress in science and technology; all sources of public wealth will flow in abundance, and the great principle 'From each according to his ability, to each according to his needs' will be carried out. Communism is a highly organized society of free, socially conscious working people in which public self-government will be established, a society in which labor for the good of society will become the prime vital requirement of everyone, a necessity recognized by one and all, and the ability of each person will be employed for the greatest benefit of the people."

From the draft of the Program of the Communist Party of the Soviet Union

The Party maintains that forces capable of preserving universal peace have taken shape and are growing in the world. Possibilities are arising for essentially new relations between states.

The most effective way of securing a lasting peace is through general and complete disarmament under strict international control.

Socialism has proposed to mankind the only rational principle for relations between states at a time when the world is divided into two systems —the principle, advanced by Lenin, of peaceful coexistence of states with different social systems.

Peaceful coexistence of socialist and capitalist states is an objective necessity for the development of human society. War cannot and must not serve as a means of settling international disputes.

The Soviet Union has consistently pursued and will continue to pursue the policy of peaceful coexistence of states with different social systems.

PART TWO

The Tasks of the Party in Building a Communist Society

The building of a communist society has become an immediate practical task for the Soviet people. The gradual development of socialism into communism is an objective law; it has been prepared by the development of Soviet socialist society throughout the preceding period.

Communism is a classless social system with one form of public ownership of the means of production and full social equality of all members of society; under it the all-round development of people will be accompanied by the growth of the productive forces through continuous progress in science and technology; all sources of public wealth will flow in abundance, and the great principle "From each according to his ability, to each according to his needs" will be carried out.

Communism is a highly organized society of free, socially conscious working people in which public self-government will be established, a society in which labor for the good of society will become the prime vital requirement of everyone, a necessity recognized by one and all, and the ability of each person will be employed for the greatest benefit of the people. A high level of communist consciousness, industry, discipline and devotion to the public interest—these are the qualities of the man of a communist society.

Under communism, classes and the socio-economic and cultural distinctions and differences in living conditions between town and countryside disappear completely; the countryside rises to the level of the town in development of productive forces and nature of work, forms of production relations, living conditions and well-being of the population. With the victory of communism mental and physical labor will merge organically in the production activity of people. The intelligentsia will no longer be a distinct social stratum, since manual workers will have risen in cultural and technological standards to the level of intellectuals.

Communist society, based on highly organized production and advanced technology, alters the character of work, but it does not release the members of society from work. It will not be a society of anarchy, idleness and inactivity. Everyone will participate in social labor and thereby ensure the steady growth of the material and spiritual wealth of society.

Labor and discipline will not be a burden to people; labor will no longer be a mere source of livelihood—it will be a genuinely creative process and a source of joy.

Communism represents the highest form of organization of social life. All production units and self-governing associations will be harmoniously interlinked by a common planned economy and a uniform rhythm of social labor.

Under communism the nations will draw closer and closer together in all spheres on the basis of a complete identity of economic, political and spiritual interests, of fraternal friendship and cooperation.

Communism is the system under which the abilities and talents of free man, his best moral qualities, blossom forth and reveal themselves in full. Family relations will be freed from material considerations and will be built solely on mutual love and friendship.

The Communist Party of the Soviet Union, as the Party of scientific communism, projects and completes the tasks of communist construction step by step as the material and spiritual prerequisites are prepared and mature. The Party considers that it would be wrong to skip necessary stages of development and that it would be equally wrong to halt at an achieved level and thus check progress. The building of communism must be carried out in successive stages.

In the current decade (1961-70) the Soviet Union, by creating the material and technical basis of communism, will surpass the strongest and richest capitalist country, the USA, in production per head of population; the people's standard of living and their cultural and technical standards will rise substantially; everyone will live in easy circumstances; all collective and state farms will be highly productive and profitable enterprises; the demand of Soviet people for well-appointed housing will, for the most part, be satisfied; hard physical work will disappear; the USSR will have the shortest working day.

In the next decade (1971-80) the material and technical basis of communism will be created and there will be an abundance of material and cultural benefits for the whole population; Soviet society will come close to the stage where it can introduce the principle of distribution according to need, and there will be a gradual transition to one form of ownership—public ownership. Thus, a communist society will, in the main, have been built in the USSR. The construction of a communist society will be completed in the subsequent period.

The draft Program notes that the main economic task of the Party and the Soviet people is to create the material and technical basis of communism within two decades. As a result, the USSR will possess productive forces of unparalleled capacity; it will surpass the technical level of the most developed countries and be first in the world in per capita production. This will serve as the basis for the gradual transformation of socialist social relations into communist social relations and for a development of industry and agriculture that will make it possible to supply in abundance the requirements of society and all its members.

The Community Party plans the following increases in total industrial output:

within the current 10 years, by approximately 2.5 times, exceeding the present level of U. S. industrial output;

within 20 years, by not less than 500 per cent, leaving the present over-all volume of U. S. industrial output far behind.

To achieve this, it will be necessary to raise the productivity of labor in industry by more than 100 per cent within 10 years, and by 300-350 per cent within 20 years. In 20 years' time labor productivity in Soviet industry will exceed the present level of labor productivity in the USA by roughly 100 per cent, and considerably more in terms of per-hour output, considering the reduction of the working day in the USSR.

The electrification of the country will for the most part be completed in the second decade.

The annual output of electricity will be brought up to 900 billion-1 trillion kilowatt-hours by the end of the first decade, and to 2.7-3 trillion kilowatt-hours by the end of the second decade.

The further rapid expansion of the output of metals and fuels, the foundation of modern industry, remains one of the major economic tasks. Within 20 years metallurgy will reach a level high enough to produce about 250 million tons of steel a year. A consistent effort will be made to ensure priority output of oil and gas, which will be used increasingly as raw materials for the chemical industry. Oil output must meet the requirements of the national economy completely. One of the most important tasks is the all-round development of the chemical industry and the full use in all economic areas of the achievements of modern chemistry.

The development of mechanical engineering is of primary importance for comprehensive mechanization in industry, agriculture, building, transport, loading and unloading operations, and in the municipal economy. Within the 20-year period the comprehensive automation of production will be carried out on a large scale, with more and more shops and plants being fully automated.

The Communist Party will concentrate its efforts on securing a rapid increase in the output of consumer goods. The growing resources of industry must be used more and more to fully meet all the requirements of the Soviet people and to build and equip facilities for the household and cultural needs of the population.

Full-scale communist construction calls for a more rational geographic distribution of industry in order to save social labor and ensure the comprehensive development of areas and the specialization of their industries, do away with overpopulation in large cities, help to eliminate the essential distinctions between town and countryside, and further even out the economic levels of different parts of the country.

To gain time, priority will be given to the development of easily exploited natural resources that produce the most effective economic results.

The Party will do everything to enhance the role of science in the building of communist society; it will encourage research and the rapid and extensive application of the latest scientific and technical achievements.

The Party will work toward a highly accelerated development of the productive forces in agriculture in order to accomplish two fundamental and closely related tasks: 1) to build up an abundance of high quality food for the consumer and raw material for industry; and 2) to effect the gradual change-over of social relations in the Soviet countryside to communist relations and eliminate, in the main, the distinction between town and country.

The further advance of the countryside to communism will proceed through the development and improvement of the two forms of socialist farming—the collective and state farms.

The economic progress of the collective farm system creates the conditions for the gradual rapprochement and, in the long run, for the merging of collective farm property and the property of the whole people into one communist property.

In order to fully satisfy the requirements of the entire population and of the national economy the task being set is to increase the aggregate volume of agricultural production in 10 years by about 150 per cent, and in 20 years by 250 per cent. Agricultural output must stay ahead of growing demand. In the first decade the Soviet Union will outstrip the United States in per capita output of key agricultural products.

The draft Program devotes considerable attention to improvements in economic management and planning.

Communist construction presupposes the maximum development of democratic principles of management coupled with a strengthening and improvement of centralized economic management by the state. The economic independence and the rights of local organs and enterprises will continue to expand within the framework of the single national economic plan. Plans and recommendations coming from below, beginning with local enterprises, must play an increasing role in planning.

The Communist Party has set the historic task of achieving in the Soviet Union a living standard higher than that of any of the capitalist countries. The Party acts upon Lenin's thesis that communist construction must be based upon the principle of material incentive. In the coming 20 years payment according to one's work will remain the principal source for satisfying the material and cultural needs of the working people.

At the same time, as the country advances toward communism, personal needs will be met increasingly out of public consumption funds, whose rate of growth will exceed the rate of growth of payment for labor. The transition to communist distribution will be completed after the principle of distribution according to one's work will have outlived itself, that is, when there will be an abundance of material and cultural wealth and labor will have become a prime necessity for all members of society.

The national income of the USSR in the next 10 years will increase nearly 150 per cent, and about 400 per cent in 20 years. The real income per head of population will increase by more than 250 per cent in 20 years.

In the next 10 years the real incomes of factory and office workers (public funds taken into account) per employed person will increase by almost 150 per cent, and in 20 years will increase by approximately 200-250 per cent. The rise in the real incomes of factory, office and professional workers paid relatively lower wages will be brought to a level at which low-paid

"The main economic task of the Party and the Soviet people is to create *the material and technical basis of communism* within two decades. This means complete electrification of the country and perfection on this basis of the techniques, technologies and organization of social production in industry and agriculture; comprehensive mechanization of production operations and a growing degree of their automation; widespread use of chemistry in the national economy; vigorous development of new, economically effective branches of production, new types of power and new materials; all-round and rational utilization of natural resources; organic fusion of science and production and rapid scientific and technical progress; a high cultural and technical level for the working people; and substantial superiority over the more developed capitalist countries in productivity of labor, which constitutes a most important prerequisite for the victory of the communist system."

From the draft of the Program of the Communist Party of the Soviet Union

brackets throughout the country will be eliminated altogether within 10 years.

By virtue of the higher rates of growth of the collective farmers' labor productivity, their real income will grow more rapidly than that of factory workers, and will, on an average per employed person, more than double in the next 10 years and increase more than fourfold in 20 years.

As incomes grow, the general level of popular consumption will rise rapidly. The entire population will be able to satisfy all its requirements for varied and high-quality foodstuffs and manufactured goods.

The second decade will see an abundance of material and cultural benefits for the whole population, and the material prerequisites will be created to complete the transition to the communist principle of distribution according to need in the period to follow.

The Communist Party sets the task of solving the most vital problem relating to the well-being of the Soviet people—the housing problem. By the end of the second decade, every family, including newlyweds, will have been provided with a comfortable apartment that conforms to the best standards of hygienic and cultural living. Rural dwellings of the old type will, for the most part, be replaced by new housing or, wherever possible, will be rebuilt with modern improvements. During the second decade, rents will gradually be abolished.

Streetcar, bus, trolley-bus and subway fares will also be abolished during the period, and at the end of the decade public utilities—water, gas, heating—will also be free.

In the coming 10 years the country will go over to a six-hour workday with one day off a week, or a 34-36 hour workweek with two days off; and in underground and hazardous jobs, to a five-hour workday or a 30-hour, five-day workweek.

With a corresponding rise in labor productivity, the transition to a still shorter workweek will be begun in the second decade. The Soviet Union will thus have the world's shortest and, at the same time, most productive and highest-paid workday. The length of the annual paid holidays of working people will be increased along with the reduction of the workday.

By fulfilling the tasks set by the Party for the improvement of the well-being of the people, the Soviet Union will considerably advance toward the practical realization of the communist principle of distribution according to need.

At the end of the 20 years public consumption funds will total about half of the aggregate real income of the population. This will make it possible to provide, at public expense, for:

Free maintenance of children at children's institutions and boarding schools, should parents so desire; maintenance of disabled people; free tuition at all educational establishments; free medical services for all citizens, including supply of medicines and treatment at sanatoriums; rent-free housing and, later, free public utilities; free public transport facilities; free use of some types of communal services; steady reduction of charges for, and, partially, free use of vacation resorts, boarding houses, and tourist camps; more benefits, privileges and scholarships (grants to unmarried mothers, scholarships for students); gradual introduction of free public catering (midday meals) at enterprises and institutions, and for collective farmers at work.

The Program set can be carried through with success under conditions of peace. Complications in the international situation and the consequent need to increase defense expenditures may delay the fulfillment of plans for raising the living standards of the people. A lasting normalization of international relations, reduction of military expenditures and, in particular, general and complete disarmament under an appropriate agreement between countries would make it possible to go far beyond those plans for raising living standards.

The section of the draft defining the further development of socialist democracy says that the dictatorship of the proletariat, born of the Socialist Revolution, has played a historic role in ensuring the victory of socialism in the USSR. In the course of socialist construction, however, it has undergone changes itself. After the exploiting classes had been abolished, the state function of suppressing their resistance ended and the other chief functions of the socialist state—organization of the economy, culture and education—were developed. The socialist state has entered a new phase. It has begun to transform itself into a nationwide organization of the working people. Proletarian democracy is becoming more and more a socialist democracy of the people as a whole.

The working class is the only class in history that does not aim to perpetuate its power. Having brought about the complete and final victory of socialism—the first phase of communism—and the transition of society to the comprehensive construction of communism, the dictatorship of the proletariat has fulfilled its historic mission and has ceased to be indispensable in the USSR from the point of view of internal development. The state, which arose as a dictatorship of the proletariat, has developed into a state of the entire people, an organ for expressing the interests and will of the people as a whole.

The Party holds that the dictatorship of the working class will cease to be necessary before the state withers away. The state as an organization embracing the entire people will survive until the complete victory of communism.

The extension and perfection of socialist democracy, the active participation of all citizens in the administration of the state, in the management of economic and cultural life, improvement in the work of the government apparatus and increased control by the people over its activity —these are the main directions in which socialist statehood develops in the period of the building of communism. As socialist democracy develops, the organs of state power are gradually transformed into organs of public self-government.

The role of the Soviets, which have become an all-inclusive organization of the people, an embodiment of their unity, will grow as communist construction progresses. The Soviets, which combine the features of a government body and a public organization, operate more and more like public organizations, with the masses participating in their work more extensively and directly.

To improve the work of the Soviets and bring fresh forces into them, it is desirable that at least one-third of the total number of deputies to a Soviet be elected anew each time so that more hundreds of thousands and millions of working people may learn to govern the state.

The Party considers systematic renewal of the leading bodies necessary to bring in a wider range of able persons and to exclude the possibility of abuses of authority by individual government officials. It is advisable to introduce the principle that the leading officials of Union, republican and local bodies be elected to office, as a rule, for no more than three consecutive terms.

Discussion by the people of draft laws and other decisions of both national and local significance must become the rule. The most important draft laws should be put to a nationwide referendum.

The role of the public organizations grows in the period of the full-scale construction of communism. The trade unions acquire particular importance as schools of administration and economic management, as schools of communism.

The Young Communist League, a voluntary public organization of the youth which helps the Party to educate young people in the spirit of communism, will play a greater role. So will the cooperatives—collective farms and consumers', housing and other cooperative organizations—as a means of drawing the masses into communist construction, as communist educators and schools of public self-government. Other public associations of the working people will likewise be developed.

To extend the independent activities of members of public organizations, the Party considers it necessary to reduce their salaried staffs from top to bottom, to renew each public body by approximately half of its members at the regular election and to establish the rule that leading functionaries of public organizations not be elected, as a general rule, for more than two consecutive terms.

As socialist statehood develops, it will gradually become public communist self-government which will embrace the Soviets, trade unions, cooperatives and other mass organizations of the people. This process will represent a still greater development of democracy, ensuring the active participation of all members of society in the management of public affairs.

Historical development inevitably leads to the withering away of the state. To guarantee that the state withers away completely, it is necessary to create the proper internal conditions—the building of a developed communist society—and the proper external conditions—the final settlement of the contradictions between capitalism and communism in the world arena in favor of communism.

The Party maintains that as long as imperialism exists, the threat of aggressive wars will remain. The Party regards the defense of the socialist motherland and the strengthening of the defense potential of the USSR, of the might of the Soviet Armed Forces, as a sacred duty of the Party and the Soviet people as a whole, as a most important function of the socialist state. The Soviet Union considers that its internationalist duty is to guarantee, together with the other socialist countries, the reliable defense and security of the entire socialist camp.

As far as internal conditions are concerned 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 Communist Party feels 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 who dares to encroach upon the Soviet Union.

On the question of national relations in the USSR the draft states that with the victory of communism, the nations that live united in the USSR will draw still closer together, their economic and ideological unity will grow and the communist characteristics they have in common will develop.

"Socialism has offered mankind the only reasonable principle of maintaining relations between states at a time when the world is divided into two systems—the principle of peaceful coexistence of states with different social systems, put forward by Lenin.

"*Peaceful coexistence* of the socialist and capitalist countries is an *objective necessity* for the development of human society. *War cannot and must not serve as a means of settling international disputes.*"

From the draft of the Program of the Communist Party of the Soviet Union

However, the obliteration of national distinctions, and especially of language distinctions, is a much longer process than the obliteration of class distinctions.

The draft further defines the tasks of the Party in the fields of ideology, upbringing, education, science and culture.

The Party considers that the paramount educational task in the present period is to give all working people a sense of ideological integrity and devotion to communism, and a communist attitude toward labor and the social economy; to eliminate completely the survivals of bourgeois attitudes and morals; to ensure the all-round, harmonious development of the individual; to create a truly rich spiritual culture. Special importance is attached by the Party to the education of the younger generation.

The Party calls for the education of the population as a whole in the spirit of scientific communism and strives to ensure that all working people master the ideas of Marxism-Leninism, that they fully understand the course and perspectives of world development, take a correct view of international and domestic events and consciously build their lives on communist principles. Communist ideas and communist deeds should blend organically in the conduct of every person and in the activities of all collectives and organizations.

The system of public education must make certain that the training of the younger generation is closely linked with life and productive labor, and that adults are able to combine work with further training and education in keeping with their vocations and the requirements of society. Public education on these principles will help to mold harmoniously developed members of communist society and solve a cardinal social problem, namely, the elimination of substantial distinctions between mental and physical labor.

In the next decade compulsory general secondary and polytechnical eleven-year education is to be introduced for all children of school age, and an eight-year education for young people employed in the national economy who have had insufficient schooling. In the subsequent decade everyone is to have a complete secondary education.

In step with scientific and technical progress specialized secondary and higher education, which must train highly-skilled specialists with a broad theoretical and political background, will be expanded.

Shorter working hours and a considerable rise in the standard of living of the entire population will provide everyone with an opportunity to receive a specialized secondary or higher education if he so desires.

Application of science to production is a decisive factor for the rapid growth of the productive forces of society. Scientific progress and its application will continue to be matters of special concern to the Party.

In the period of transition to communism, creative activity in all fields of culture becomes particularly fruitful and accessible to all members of society. Soviet literature, music, painting, cinema and theater, and all the other arts will reach new heights of ideological content and artistry.

The draft Program emphasizes that the Party regards communist construction in the Soviet Union as a component part of the construction of a communist society by the peoples of the entire world socialist system.

Due to the fact that socialist revolutions take place at different times and to the uneven levels of economic and cultural development of individual countries, the completion of socialist construction and the beginning of full-scale communist construction will occur at different times in different countries. Nevertheless, the fact that the socialist countries are developing as members of a single world socialist system and utilizing the objective laws and advantages of this system enables them to reduce the time necessary for the construction of socialism and offers them the prospect of effecting the transition to communism more or less simultaneously, within one and the same historical epoch.

The first country to advance to communism facilitates and accelerates the advance of the entire world socialist system to communism. In building communism, the peoples of the Soviet Union are blazing new trails for mankind, testing by their own experience, revealing difficulties, finding ways and means of overcoming them, and selecting the best forms and methods of communist construction.

The Communist Party maintains that the existing forms of economic relations between the socialist countries—foreign trade, coordination of economic plans, and specialization and combination of production—will be developed and perfected more and more as time goes on. All-round fraternal cooperation benefits every socialist country and the world socialist system as a whole.

It is in the best interest of socialist and communist construction that each socialist country combines the effort to strengthen and develop its own national economy with the effort to expand economic cooperation of the socialist camp as a whole.

The objective laws of the world socialist system, the growth of the productive forces of socialist society, and the vital interests of the peoples of the socialist countries lead toward an increasing affinity of the various national economies. As Lenin foresaw, the tendency is toward the future creation of a world communist economy regulated by the victorious working people according to one single plan.

The Party and the Soviet people are doing everything in their power to help all the peoples of the socialist community to build socialism and communism.

The period of full-scale communist construction is characterized by a further enhancement of the role and importance of the Communist Party as the leading and guiding force of Soviet society.

Strictest adherence to the Leninist standards of Party life and the principle of collective leadership, increasing the responsibility of Party bodies and their personnel to the rank and file, fostering the initiative of all Communists and their participation in making and carrying out Party policy, and the widest practice of criticism and self-criticsm is a law of Party life.

This is an imperative condition for the ideological and organizational strength of the Party itself, for the greater unity and solidarity of the Party ranks, for the all-round development of inner-Party democracy, for activizing all Party forces and for strengthening the Party's ties with the masses.

The cult of the individual and the violations of collective leadership, of inner-Party democracy and socialist legality, are incompatible with the Leninist principles of Party life. The cult of the individual belittles the role of the Party and the masses and hampers the development of the ideological life of the Party and the creative activity of the working people.

In order to apply the Leninist principle of collective leadership consistently, to ensure a greater influx of fresh Party forces into the leading Party organs, to get the proper combination of old and young leading personnel, and to rule out the possibility of excessive concentration of power in the hands of individual officials and prevent their getting out of the control of the collective, the Party considers it necessary to carry out a number of measures.

These include the introduction in practice of a regular renewal, in certain proportions, of members of all elected Party bodies—from primary organizations to the Central Committee, at the same time preserving continuity of leadership.

At all regular elections at least one-fourth of the membership in the Central Committee of the Communist Party and its Presidium shall be renewed. Presidium members shall, as a rule, be elected for no more than three successive terms. Particular Party workers may, by virtue of their generally recognized authority and great political, organizational and other abilities, be successively elected to leading bodies for a longer period. In that case, the respective candidate is considered elected only in the event that three-quarters of the votes are cast for him by secret ballot.

The membership of the Central Committees of the Communist Parties of Union Republics, of territorial and regional committees shall be renewed by not less than one-third at each regular election, and those of area, city and district committees, and the committees and bureaus of primary Party organizations shall be renewed by one-half. Furthermore, members of these leading Party bodies may be elected consecutively for not more than three terms, and secretaries of the primary Party organizations for not more than two consecutive terms.

A Party organization may, in consideration of the political and professional qualities of a person, elect him to its leading body for a longer period. In that case a candidate is considered elected if no less than three-quarters of the Communists attending vote for him.

The people are the decisive force in the building of communism. The Party exists for the people, and it is in serving the people that it sees the purpose of its activity. A further extension and strengthening of the ties between the Party and the people is an imperative condition for success in the struggle for communism.

The Communist Party of the Soviet Union is an integral part of the international communist and working-class movement. The tried and tested Marxist-Leninist principles of proletarian internationalism will continue to be inviolable principles which the Party will follow undeviatingly.

The Communist Party of the Soviet Union will continue to strengthen the unity of the international communist movement, to develop fraternal ties with all the Communist and Workers' Parties and to coordinate its actions with the efforts of all the contingents of the world communist movement in the joint struggle against the danger of a new world war, for the interests of the working people, for peace, democracy and socialism.

The building of communism in the Soviet Union, it is pointed out in the conclusion of the draft Program, will be the greatest victory mankind has ever won in its entire history.

Under the tried and tested leadership of the Communist Party, under the banner of Marxism-Leninism, the Soviet people have built socialism.

Under the leadership of the Party, under the banner of Marxism-Leninism, the Soviet people will build communist society.

The Party solemnly proclaims: The present generation of Soviet people shall live under communism!

THE PRESENT GENERATION OF SOVIET PEOPLE SHALL LIVE UNDER COMMUNISM!

"In adopting its first Program at its Second Congress in 1903, the Bolshevik Party called on the working class and all the working people of Russia to struggle for the overthrow of the czarist autocracy and then of the bourgeois system, and for the establishment of the dictatorship of the proletariat. In February 1917 the czarist regime was swept away. In October 1917 the proletarian revolution abolished the capitalist system so hated by the people. A socialist country came into being for the first time in history. The creation of a new world began.

"The first Program of the Party had been carried out."

From the draft of the Program of the Communist Party of the Soviet Union

THE 1919 COMMUNIST PARTY PROGRAM HAS BECOME A REALITY

THE WHOLE COUNTRY is now preparing for the 22nd Congress of the Communist Party. These congresses at which Communists discuss the major problems that face the nation are always events of historic significance. The resolutions adopted at Party congresses chart the country's course of development for years to come.

The 22nd Congress will adopt a new Party Program outlining the tasks in building a communist society. The draft of this Program was published in the Soviet press for nationwide discussion.

The former Program, the Party's second, was adopted in 1919 at the Eighth Congress. The first Program, which goes back to the early years of the century, set down the steps by which the proletariat would achieve power under the Party's leadership. The second Program, a guide to action for more than forty years, mapped the road to socialism in the Soviet Union.

Four decades is only a short period in mankind's long history, but these were four of history's most memorable decades, for in these 40 years the Soviet people carried through the social transformation envisioned by the 1919 Program and built a socialist society.

Consider the state of the country when the Party formulated its 1919 Program. A civil war was raging and foreign interventionist armies overran the land. Most of the factories had been reduced to heaps of rubble; in those that were not production was a standstill. Vast stretches of farmland lay waste, and hunger was the daily condition. Everything was short—bread, machines, skilled specialists and just literate people.

It was then that the Eighth Congress of the Communist Party met. When Lenin, the founder of the Soviet state, addressed the congress, he spoke of socialism, of fully developing the country's productive forces, of the new type of man, born of the Socialist Revolution, to whom the future belonged.

The Party adopted a program for the building of socialism, and impoverished, hungry, illiterate Russia began to build a new social order. And so great was the Party's influence, so strong its belief in the future that the Soviet people never for a moment doubted that the great goals set forth in the program were achievable. With the Party leading them, the people set out to overcome all hardships.

The dream of millions of people of a new life based on socialist principles, the dream Lenin had given scientific validity, became the reality. The tasks set forth by the 1919 Party Program were carried out with honor, socialism has triumphed completely and decisively.

The Soviet Union has gone through monumental changes. They are evidenced in every phase of life and activity—in the flowering of the people's socialist democracy, in the development of science, in the growth of the nation's productive forces. They are mirrored in a single state plan, in the radical reorganization of farming based on progressive principles, in the release of the people's creative energy. This is a movement of grand and unprecedented scope that grows out of the people's complete responsibility for the country's well-being and prosperity.

All this derives from the enormous power of the Party and the people merged, power generated by ideas which have become a vital matter for all the people.

The Soviet Union is now entering a new stage—the construction of a communist society, expounded in the new Party Program. This is not a theoretical thesis alone. The program outlines concrete tasks to be completed within definite time limits. Though of astonishing magnitude, the prospects will be realized, for the Soviet people are fortified with the experience of carrying out the tasks which were advanced by the 1919 Party Program. Simple facts tell of this experience, as we shall see in the following pages.

DEMOCRACY FOR ALL

In the Program adopted in 1919, the Communist Party defined the concrete ways of democratizing state power:

"Instead of formally proclaiming rights and liberties, proletarian democracy actually guarantees them . . . to the workers and the peasants."

Political equality of people, irrespective of sex, race, nationality, religion, property status and education, has not only been proclaimed in the USSR but is being carried out in practice. The Constitution of the USSR grants citizens freedom of speech, press, assembly; freedom to form street processions and demonstrations and to unite in public organizations; freedom of conscience. These rights are guaranteed by making printing presses, stocks of paper, public buildings, the streets and means of communication available to the working people and their organizations.

Every Soviet citizen is guaranteed the right to a job, to rest and leisure, to education, to maintenance in old age and in case of sickness or disability. Upon reaching the age of 18 every citizen has the right to vote. The age requirements for election to public office are: 23 for the USSR Supreme Soviet, 21 for the Supreme Soviets of the republics, and 18 for the local Soviets. All organs of state power—from the village and city Soviets of Working People's Deputies to the USSR Supreme Soviet—are elected on the basis of direct suffrage by secret ballot cast by *all* men and women.

Of the 1,378 deputies in the USSR Supreme Soviet more than a thousand are industrial workers, collective farmers, engineers and agronomists. The remainder are statesmen and public figures, teachers, doctors, scientists and people in literature and the arts.

Each of the 15 sovereign Union Republics that make up the USSR has its own higher organ of power—the Supreme Soviet. The entire power in the localities is exercised by the territorial, regional, city, district, village and rural Soviets of Working People's Deputies. A total of 1,822,000 deputies have been elected to them, including 741,000 women. There are 433,000 workers and 691,000 collective farmers in the local Soviets. The rest of the deputies are in the professions and the Soviet Army.

As a rule, deputies continue to work at their regular trades or professions. They are required to report back to their constituents at regular periods. Electors may at any time recall a deputy who has lost their confidence.

". . . The gradual involvement of the entire working population in the activities of administering the state."

The participation of the citizens of the USSR in administering the state is not confined to the election of deputies to the Soviets. Tens of millions of men and women participate actively and directly in the activities of all organs of state power in their spare time. More than three million industrial workers, collective farmers and professional people are members of the various permanent and temporary committees of the Soviets and public organizations.

The Soviets carry on their manifold activities in conjunction with such public organizations uniting the overwhelming majority of citizens as the trade unions, the Young Communist League, collective farms, the rural consumer cooperatives and scientific societies, and benefit from their direct assistance and support in solving all state matters. Not a single important law, not a single major political or economic measure is carried out by the Soviet Government without nation-wide discussion. Such people's referendums took place—to cite only a few instances—in 1957, when the Party and the Government proposed a draft law for reorganizing industrial management and construction; in 1958, when the law on school reorganization to strengthen ties between school and production was proposed; and again in 1958, in connection with legislation to reorganize the machine and tractor stations and sell their equipment to the collective farms.

Tens of millions of working people discussed these draft laws. This type of general participation in law making is an important element in socialist democracy, one of the steps leading to the universal participation of the citizenry in the management of their state.

"For the full equality of nations, it is necessary to wipe out any and every special privilege of any national group whatsoever."

National strife and inequality have been ended permanently. The peoples of Russia, freed of social and national oppression by the October Revolution, formed 15 sovereign socialist republics. Each has its own constitution and can enter into direct diplomatic relations with foreign countries. These sovereign national republics are voluntarily united in the Union of Soviet Socialist Republics and have the right to secede from the Union.

The USSR Supreme Soviet consists of two chambers—the Soviet of the Union and the Soviet of Nationalities. Both chambers have equal rights. Election to the Soviet of the Union is on the basis of proportional representation—one deputy for every 300,000 of the population. Election to the Soviet of Nationalities is based on equal representation from each republic. Every Union Republic, regardless of size or population, sends 25 deputies to the Soviet of Nationalities; every autonomous republic, 10; every autonomous region, 5; and every national area, one.

Alongside the 15 national sovereign republics, diverse forms of state autonomy exist for smaller nationalities and national groups, such as autonomous republics, autonomous regions and national areas. As has already been mentioned, they all have their representation in the Soviet of Nationalities of the USSR Supreme Soviet.

During the Soviet period the Union and autonomous republics have developed their own economy with large industrial centers. Many entirely new industries have been developed. The Union Republics have made remarkable progress in other spheres as well—in science, education and the development of their national culture.

Each of the 15 republics has its own Academy of Sciences. Teaching in the schools of each Union and autonomous republic, autonomous region and national area is in the native language.

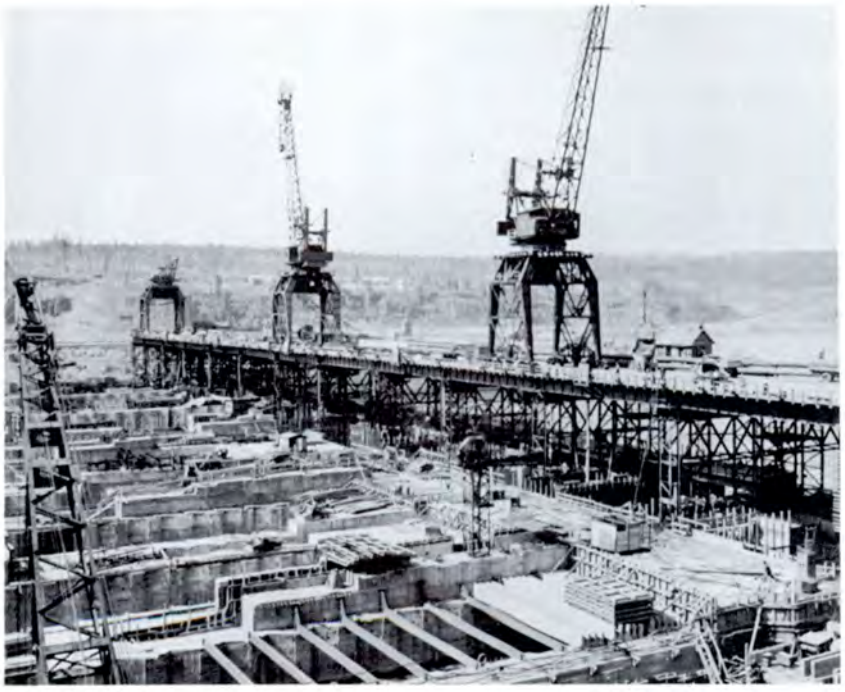
The 1919 Party Program formulated a number of demands which determined the entire economic policy of the Soviet state.

". . . All-round rise in the country's productive forces."

In the very first months of Soviet power all plants and factories, railroads and power stations, banks and trade establishments were nationalized by the workers' and farmers' state and became the property of the people. Private ownership of the means of production was abolished. This put an end, once and for all, to the opportunity for the exploitation of man by man. The foundation was built for the planned development of the national economy in accordance with a single state plan, making possible rates of growth never before reached.

The Soviet Union, despite the colossal damage of two wars which were thrust upon it, has become a mighty industrial power. In volume of industrial production it has surpassed all the European countries. Its industrial output has multiplied 45 times since 1913, and its share of world output has grown from 1.7 per cent in 1913 to 22 in 1960.

Like the means of production, the profits of socialist enterprises remain the property of the people and are distributed in their behalf by planning bodies. A quarter of the national income is used for the further development of the economy; the other three-quarters, for education, public health, housing construction and the wages of the country's factory and office workers.



"The maximum utilization of all the country's manpower . . . should be the immediate task of the Soviet Government's economic policy."

Prerevolutionary Russia could not use the labor of all its able-bodied workers. Joblessness, a permanent and immutable condition of the country's economy, became more acute in the frequent periods of economic crisis.

Unemployment has been done away with forever in the Soviet Union. The last employment agency was closed down in 1930; it was no longer needed.

Joblessness was ended as a result of the rapid and steady growth of the socialist economy, which is developing according to plan, thereby eliminating overproduction crises. Every Soviet person, regardless of sex, nationality or color, is guaranteed the right to a job, as well as the right to equal pay for equal work.

The number of employed persons, exclusive of collective farmers, increased almost fivefold from 1913 to 1960. The present total is 62 million.

In the Soviet Union a worker does not have to look for a job, the job looks for him. That is one of the greatest achievements of Soviet power.

"It is necessary to show concern for expanding economic cooperation and political ties with other countries . . ."

This point in the program was an expression of the principle of peaceful coexistence which has been the country's policy from the first day of the October Revolution.

The Soviet Union is constantly strengthening economic trade and cultural ties with all countries that wish to cooperate. Especially close economic relations have been established with the socialist countries of Europe and Asia. Scientific-technical cooperation projects and concentration areas of production have been worked out, with each country devoting special attention to its specific and traditional areas of production. This division of labor is mutually profitable and helps to build up the economy of the whole socialist part of the world.

Trade ties with the non-socialist countries of the West also keep growing. The Soviet Union presently trades with 80 countries.

With its great industrial potential the Soviet Union is able to assist the economically underdeveloped countries of Asia, Africa and Latin America. The economic and technical aid rendered to 20 of these underdeveloped countries—without strings attached—involves credits totaling more than two billion rubles. The USSR, with its economic resources and technical personnel, is promoting the strengthening of the national economies of underdeveloped countries.

THE SOVIET UNION'S SHARE IN WORLD OUTPUT
(in per cent)

DEVELOPMENT OF PRODUCTIVE FORCES

"Soviet power, having completely abolished private ownership of the land, has begun to carry out a number of measures aimed at organizing large-scale socialist farming."

These words written into the Party Program more than 40 years ago expressed a desire to extricate the Russian countryside from economic and cultural backwardness and advance it along the wide road of progress. Instead of 20 million small peasant holdings, the majority of them barely scraping a living out of the soil, large and mechanized collective and state farms now use the most modern techniques to grow bumper crops.

During the Soviet period agriculture's power capacity has been multiplied by six. In 1960 it exceeded 141 million horsepower. The farm worker today uses an average of almost five horsepower as compared with 0.5 horsepower before the Revolution.

Mass production of farm machinery made it possible to add some 210 million acres to the country's sown area by comparison with prerevolutionary times, bringing the present sown acreage to 500 million. In the past six years more than 100 million acres of virgin and long-fallow lands were turned to the plow and the number of productive head of cattle increased by almost 80 million.

With more than 530,000 specialists equipped with a secondary and higher education working in agriculture, and a network of farm research institutions spread across the country, efficiency is high. Although only half as many people are engaged in agriculture as before the Revolution, production has more than doubled.

In its 1919 Program the Party declared that *one of the basic reasons for the economic and cultural backwardness of rural life* is the opposing interests between town and country. The Party therefore *"considers the elimination of this opposition one of the basic tasks of communist construction."*

During these 40-odd years the socialist town has helped the village overcome its economic and cultural backwardness. The poor peasant has completely disappeared in the countryside. The bankruptcy of the marginal peasant household ended with the organization of collective farms. The real income of the country's collective farmer is almost seven times that of the prerevolutionary peasant.

Economic achievements were the basis for the unprecedented flourishing of education and culture in the country's rural areas. Before the Revolution there were only 104 secondary schools in rural districts; today there are more than 16,000.

The colleges and universities in the cities are open to young men and women from the villages. Agricultural institutes have been set up in rural districts, as well as branches of leading colleges and universities.

The number of books in village libraries during the Soviet period has multiplied 90 times, with 400 million volumes on the shelves today.

The very appearance of the village is being gradually altered. There are schools, libraries, stadiums and other public buildings in today's collective farm village. Village construction follows a unified architectural plan incorporating all city facilities.

The growing efficiency and productivity of collective farm labor has eliminated the opposition between town and country.

"In adopting its second Program at its Eighth Congress in 1919, the Party promulgated the task of building a socialist society. Treading on unexplored ground and overcoming difficulties and hardships, the Soviet people, under the leadership of the Communist Party, put into practice the plan for socialist construction drawn up by Lenin. Socialism triumphed in the Soviet Union completely and decisively.

"The second Program of the Party had likewise been carried out."

From the draft of the Program of the Communist Party of the Soviet Union

THE CULTURAL REVOLUTION

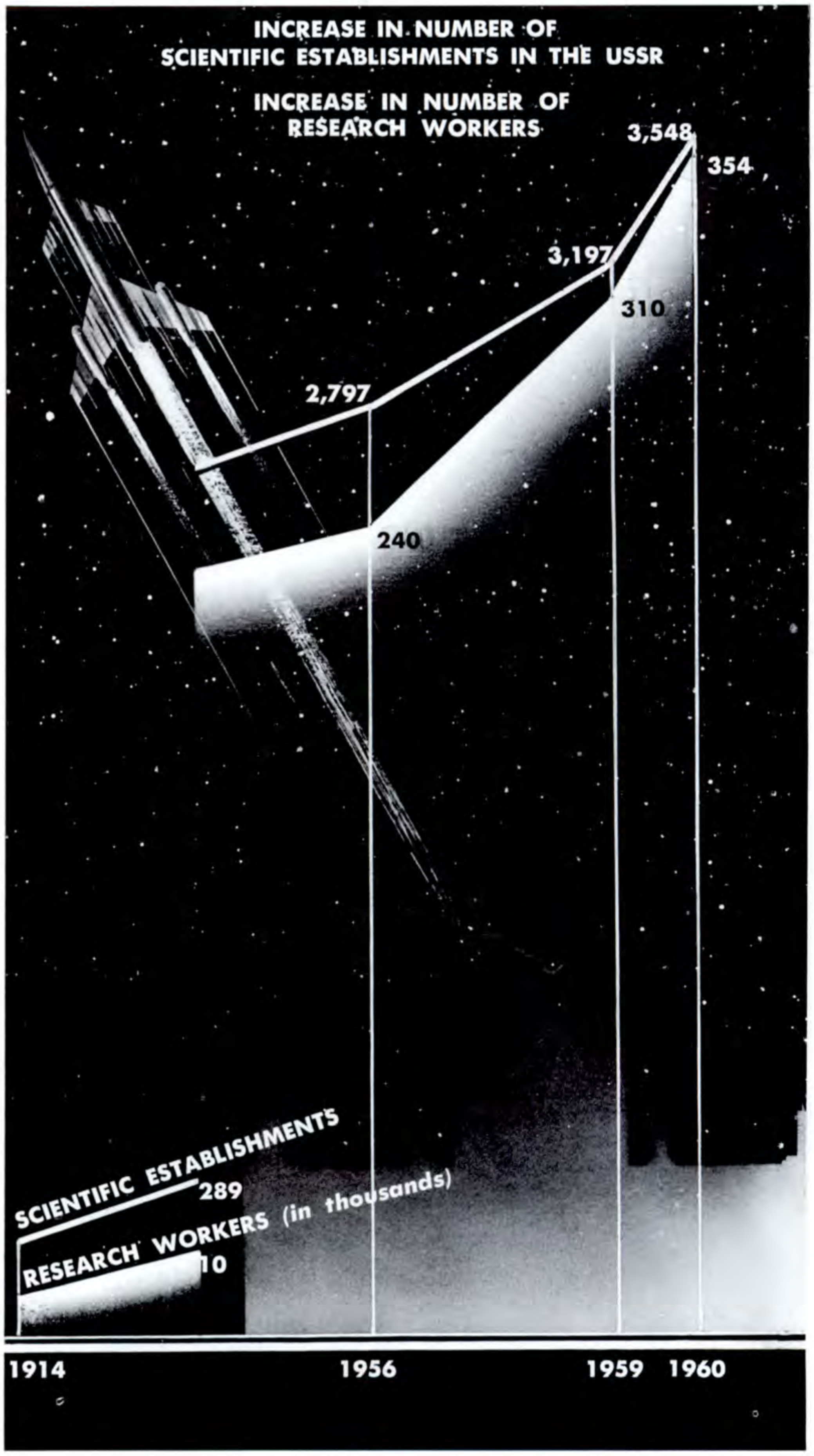
The Communist Party in its 1919 Program advanced concrete measures for developing culture and bringing it within the reach of the masses.

"Soviet power has already adopted a number of measures to develop science and link it more closely with production. By supporting these measures the Communist Party is striving for their further development and for creating the most favorable conditions for scientific activities."

In these four decades the Soviet Union has won a leading position among nations for its scientific and technological achievements. The world's first sputniks and space rockets were launched from Soviet soil. The first man to penetrate outer space, Major Yuri Gagarin, was a Soviet citizen in a Soviet-built ship.

A large atomic industry has been organized in the USSR. Soviet scientists have made many outstanding discoveries in solid-state physics, in the creation of synthetic and polymer materials, in the utilization of the atom for peaceful purposes, in designing new machines and instruments. Soviet geologists have opened up and continue to discover for the country's use great stores of coal, iron, gas, oil and other minerals.

Research in the country is purposeful and is organized under the aegis of the USSR Academy of Sciences and its many associated bodies. The Academy determines the major trends of research and directs long-range research projects in the natural sciences and the humanities. In addition to the USSR Academy of Sciences, the branch academies specializing in various spheres of agriculture, medical science, architecture and the arts are conducting large-scale research. All the Union Republics have their own academies with associated experimental stations, observatories and branch institutes. The state is generous with research funds. In the past ten years expenditures on science have tripled, from 900 million to 2.8 billion rubles.



"Today the Communist Party of the Soviet Union (CPSU) is adopting its third Program, a program for the building of communist society. The new Program is a constructive generalization of the experience of socialist development; it takes account of the experience of the revolutionary movement throughout the world and, giving expression to the collective opinion of the Party, defines the main tasks and principal stages of communist construction.

"The highest goal of the Party is to build a communist society which will have inscribed on its banner: 'From each according to his ability, to each according to his needs.' The Party's motto, 'Everything in the name of man, for the good of man,' will be put into effect in full."

From the draft of the Program of the Communist Party of the Soviet Union

"The introduction of free and compulsory general and polytechnical education for all children."

In this country where, on the eve of the 1917 Revolution, three out of every four people between the ages of 9 and 49 could neither read nor write, this point in the Party Program was, to put it mildly, a piece of historical impudence.

Today eight years of schooling is universal and compulsory. The child begins his formal schooling at the age of seven. From there on free education is open to him all the way through college and professional school.

In 1960 the Soviet Union had more than 224,000 schools, with 4,000 to 5,000 being added annually. The student body has been growing by approximately 3 million a year. The present total is better than 36 million. The budget for education keeps rising. For 1950 it was 6.5 billion rubles; for 1960, it was more than 11.5 billion.

A recent law reorganizing the school system, adopted by the USSR Supreme Soviet on the recommendation of the Central Committee of the Communist Party, brings the classroom in closer touch with life. Together with their academic studies—literature, native and foreign languages, natural science, mathematics, etc.—children get manual training in shops and factories. As a result, school graduates have a good background in science fundamentals and are better prepared for socially useful work.

"To give all those who wish to study, and especially workers, free access to higher education; . . . to give material assistance to students so that proletarians and peasants can actully make use of the opportunity to get a higher education."

Once within the reach of only the well-to-do sections of the Russian nobility and bourgeoisie, higher education became accessible to the people from the very first days of Soviet power. Any citizen between the ages of 18 and 35 with a secondary education who passes the entrance examinations in his specialty may pursue a course of higher education. The Soviet Union today has more college students than all the West European countries combined.

The number of people receiving a higher education while working is on the increase. Fifteen years ago there were only 254,000; now there are 1,240,000, better than half of the country's total college student body.

Higher education is free of charge, with some 80 per cent of the students receiving maintenance stipends. Students are paid wages for the labor-training periods.

Higher education is financed by the state. Budget allocations from 1950 to 1959 increased from 720 million to 1.1 billion rubles.

The number of specialists graduated from Soviet higher schools is growing yearly. Today there are better than a million certified engineers in the Soviet Union, more than in any other country in the world.

". . . It is necessary to open and make accessible to the working people all the treasures of art."

The Communist Party has fulfilled this pledge, as it has the others in the 1919 Program. All the theaters, concert halls, art galleries and museums were nationalized and declared the property of the entire people. Theaters (their number has tripled) and museums (their number has quadrupled) are being built everywhere. The number of movie projectors in the country has increased almost 100-fold since 1913.

Amateur art is being developed on an enormous scale. The number of participants in amateur art, dramatic, dance, music and literary circles runs into the millions. There are groups at every large plant, office and collective farm, whose activities are financed by the management of the enterprise. Amateur dramatic, instrumental and choral groups are developing into people's theaters whose level of art and skill is close to professional.

The printed word has become a mighty source of mass culture. Between 1918 and 1959 there were 1,519,000 books published in an aggregate printing of more than 22 billion copies. Annually an average of about six books are printed per Soviet citizen. More books are published in the Soviet Union than in any other country in the world. The collections of public libraries now exceed 800 million copies and keep growing, as do their book purchase budgets.

The 1919 Program of the Communist Party spoke of the new relations between the people who became the masters of their country and took upon themselves responsibility for the fate of production, for the building of a new life.

". . . The socialist mode of production can be consolidated only on the basis of the comradely discipline of the working people, their maximum initiative . . ."

Soviet society is a society of working people. The exploitation of man by man has been eliminated forever. No one person owns the implements with which he can extract profit from the labor of others. The means of production, as well as the fruits of labor, belong to the whole society, to all the working people. Every person receives his share not according to capital invested—there are no capitalists in the Soviet Union—but in accordance with the quantity and quality of labor he contributes.

Soviet people, conscious of the fact that they work for themselves, for their society, are interested in increasing labor productivity. They strive to supply the country with the maximum amount of goods, to utilize fully all the opportunities made available by modern techniques. It is precisely on this basis that the socialist emulation movements of workers, engineers and collective farmers were started in the Soviet Union.

They are competing with each other in order to produce the greatest quantity and the highest quality of goods, to create an abundance of material and cultural wealth for everyone in the country. This is competition that benefits all. It strengthens the spirit of comradeship and mutual assistance which reigns in Soviet society. People generously share their experience, making no secret of their achievements.

One of the first manifestations of the initiative of the working people in the economic sphere were the communist subbotniks in 1919. Workers in large numbers volunteered their free time to restore the country's economy, shattered by war and intervention. Later, in 1929, emulation movements acquired a mass character, with millions of working people participating. The forms of the emulation movements were constantly perfected, reflecting the changing economic and cultural picture.

Today socialist emulation has entered a new stage. Toward the end of 1958 the communist work team and shock workers' movement spread across the country. Soviet people started an emulation drive not only to work better and faster but also to live in a communist way. The participants of the communist work movement are striving to know more, to receive a secondary and higher education. They are always ready to come to the assistance of their fellow workers.

". . . . The trade unions must draw the largest possible numbers of working people into activity in the management of the economy."

The trade unions are the largest mass organizations of the Soviet working people. When the Party Program was adopted in 1919, there were some 5 million factory and office workers in the unions; today there are almost 55 million.

The role of the trade unions in the economic and political life of the country has grown enormously. Together with the planning and economic organs of the Soviet state they set wage scales and production quotas and elaborate measures for systematically raising the real earnings of those working in the national economy. The trade unions actively participate in drawing up national economic plans. They check on production and advance able and gifted representatives of the working class to leading state, economic and public positions.

The trade unions administer the social insurance fund, which is made up of contributions from the enterprises. They keep a sharp lookout to see that legislation is enforced. Trade union labor inspectors have the authority to resort to sanctions against any management that violates the labor laws. The trade unions have the final say in settling disputes between workers and management.

The unions run the country's 3,000-odd vacation resorts and spas and own thousands of Palaces of Culture, clubs, libraries and people's theaters.

"To exert every effort in improving the housing conditions of the working people . . ."

The Soviet state inherited a grave housing problem from the old regime. The housing was not only insufficient but primitive. Radical measures were needed and were taken. In the years between 1918 and 1959 almost 30 million apartments were built, 4.5 times more than all housing in prerevolutionary Russia.

But even building on this gigantic scale could not end the housing shortage. The country's rapid industrialization sharply increased the urban population. Today 50 per cent of the Soviet Union's people live in cities. The comparable figure in old Russia was 16 per cent.

The scale on which housing is built grows year by year, as does the housing budget. In the past five-year period alone 2,200,000 more new apartments were built than in the preceding ten years. In the remaining years of the seven-year plan, from 1961 to 1965, 5.2 to 5.3 billion additional square feet will be constructed, the equivalent of the housing in 30 cities the size of San Francisco.

"The setting up of a network of nurseries, kindergartens and other preschool institutions with the aim of improving public education and emancipating women. . . .

. . . Working women to be given maternity leave for eight weeks prior to and eight weeks after childbirth with full pay, free medical care and medicines."

That is how the 1919 Program of the Communist Party defined the obligations of the Soviet state to its women citizens.

To assist mothers in rearing their children, nurseries and kindergartens were established for those parents who wished their children to attend.

In 1960 some 1.3 million children were taken care of in nurseries and more than 3 million attended kindergartens. Almost 3 million children spent their vacations in summer camps. For these services parents paid only 20 per cent of the cost, the remainder being paid by the state.

The law gives expectant mothers who hold jobs 16 weeks of paid maternity leave—eight weeks prior to delivery and another eight weeks after delivery. In addition, working mothers are entitled to a leave of absence of up to 12 months without pay. They cannot be dismissed from their jobs in the interim.

A comprehensive system of maternal and child care has been set up. In each city and rural district there are consultation centers for women and children, maternity hospitals, children's hospitals and polyclinics. All services are free of charge.

". . . Full social maintenance for all working people . . . in case of sickness or disability . . ."

This point in the program has been embodied in one of the articles of the USSR Constitution as an achievement of Soviet power.

In case of sickness or injury on the job factory and office workers are paid benefits from the first day of disability until they go back at work. These payments, made from the social insurance fund, may run as high as 90 per cent of average earnings.

The social insurance fund also covers most of the bill for accommodations at sanatoriums and rest homes. Workers either get their accommodations free or pay only 30 per cent of the actual cost.

All working people without exception are covered by social insurance. There are no deductions made for the purpose from the worker's wages.

Old age and disability pensions are paid out of the social maintenance fund, allocated in the national budget. The retirement age for men is 60, after 25 years of employment; for women it is 55 after 20 years of employment. People who work underground or at jobs that may be detrimental to health get special pension privileges. The average old age pension is about 60 per cent of a worker's earnings.

The state presently pays 10 billion rubles a year for pensions and related items. This is more than double the amount paid ten years ago.

"The Communist Party bases its activities in public health primarily on large-scale prophylaxis and sanitation measures intended to prevent the spread of disease and provide free and skilled medical services to the general public."

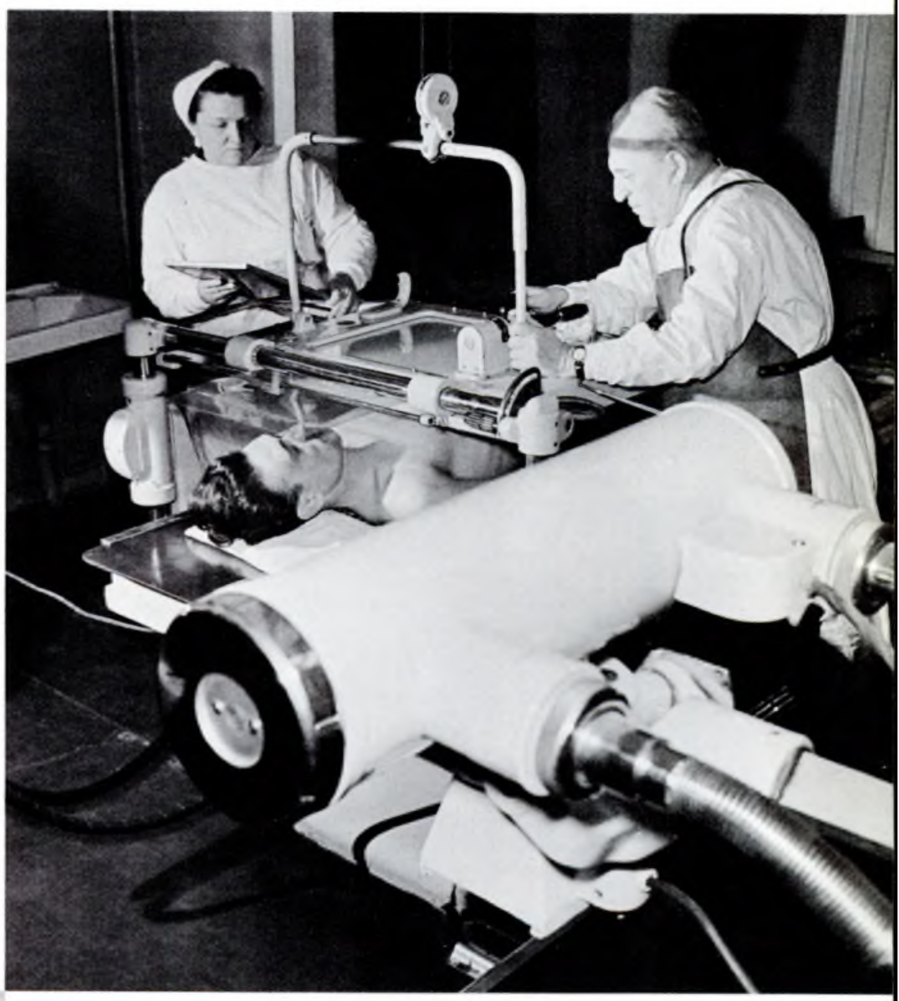
These health measures have yielded remarkable results. The Soviet Union leads the world in natural population growth. Sixty years ago the average life span was 32 years; today it is 68.

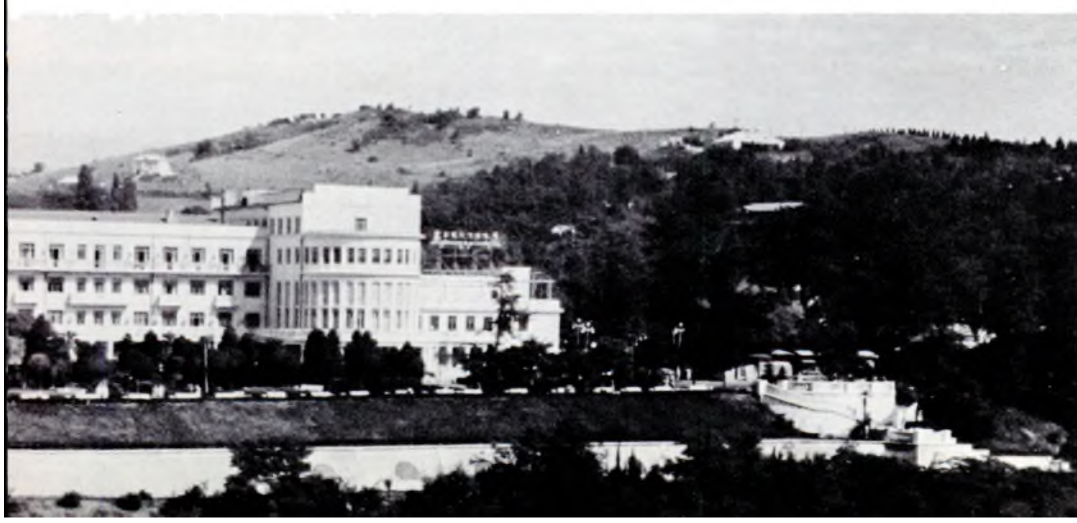
Free medical services are provided by hospitals, polyclinics and dispensaries in every urban and rural district. Specialists in every field of medicine treat people at these various institutions and make home calls, at no cost to the patient.

Factory and office workers also receive medical care at the polyclinics and medical centers set up at Soviet enterprises. Free consultation with any specialist, even the most prominent, is available to every patient.

The strong emphasis in Soviet medicine is on prevention. There is a constant check of sanitation conditions in places of work, living areas and public establishments. The polyclinics in residential districts and in industrial plants carry on periodic medical checkups to detect ailments in the earliest stage. People with chronic diseases are under the constant care of the clinics and dispensaries.

The whole of this enormous job of keeping the people healthy is financed from the State Budget, whose allocation for public health grew from 2.6 billion to 5.6 billion rubles between 1950 and 1960.





SECOND SOVIET CO

ORBITS EARTH 17 TIMES IN 25 HOURS

ON AUGUST 6, 1961, 9:00 A.M. Moscow time (2 A.M. Eastern Daylight Time), a new launching took place in the Soviet Union: The spaceship Vistok II, piloted by Pilot-Cosmonaut Major Gherman Stepanovich Titov, a citizen of the Soviet Union, was orbited around the earth. The tasks of the flight were to study the influence of prolonged orbital flight and subsequent landing on the human organism and the working capacity of a person during a prolonged condition of weightlessness.

According to preliminary data, the satellite spaceship was orbited along a course approximating that of the chosen orbit with the following parameters: the minimum distance from the earth's surface (perigee) was 178 kilometers (110.6 miles); the maximum distance (apogee) was 257 kilometers (160 miles); the orbital plane was inclined at 64 degrees 56 minutes to the equatorial plane. The initial period of the satellite spaceship's revolution was 88.6 minutes.

Vostok II weighed 4,731 kilograms (approximately 10,430 pounds) without the carrier rocket's final stage.

The equipment on board the spaceship included multichannel telemetric systems ensuring objective observation of the pilot's condition and control over the operation of all equipment on board, receiving and transmitting shortwave and ultrashort-wave communication equipment, including a sound recorder which taped the space pilot's words and automatically played it at an accelerated rate on command from the earth. The television systems made it possible to keep the space pilot's work under constant observation. Objects for biological study were also placed on board for obtaining additional data on the effect of space radiation on living organisms.

The spaceship Vostok II made more than 17 revolutions around the earth and in 25 hours 18 minutes covered more than 700,000 kilometers (434,959 miles).

After successfully completing its scientific research program, Vostok II landed in the set area of the Soviet Union near the historic spot where spaceship Vostok I had landed on April 12, 1961, with Pilot-Cosmonaut Yuri Alexeyevich Gagarin.

Titov is in good health after his long and successful space flight.

The results of the research open up extensive prospects for the further development of manned space flight.

Moscow, Red Square, August 9: Gherman Titov (left), Nikita Khrushchev and Yuri Gagarin.

SMONAUT IN OUTER SPACE

TO THE COMMUNIST PARTY AND THE PEOPLES OF THE SOVIET UNION
TO THE PEOPLES AND GOVERNMENTS OF ALL COUNTRIES
TO THE WHOLE OF PROGRESSIVE MANKIND

MESSAGE

from the Central Committee of the Communist Party of the Soviet Union, the Presidium of the Supreme Soviet of the USSR and the Government of the Soviet Union

The Central Committee of the Communist Party of the Soviet Union, the Presidium of the Supreme Soviet of the USSR and the Government of the Soviet Union announce with great joy the new unparalleled victory scored by Soviet science and technology, the successful flight of the second manned spaceship.

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Comrade Titov safely made a 25-hour flight around the earth and, after completing the program successfully, landed on the territory of our country, the Union of Soviet Socialist Republics.

The Soviet spaceship **Vostok II*****, piloted by Comrade Titov, circled the earth more than 17 times, covering a distance exceeding 700,000 kilometers, that is, almost twice the distance from the earth to the moon.***

This exploit reflects the new, tremendous achievements of the Soviet Union, of our science and technology and entire national economy—the great superiority of the socialist system, the most advanced social system in the world.

All the peoples of the globe noted with tremendous inspiration and admiration the first flight of Soviet man into space. The remarkable flight of the new Soviet cosmonaut shows that the day is not far off when spaceships piloted by man will blaze new trails to the moon, Mars and Venus. Broad prospects open up to mankind for the conquest of space and flights to the planets of the solar system.

The Central Committee of the Communist Party, the Presidium of the Supreme Soviet of the USSR and the Government of the Soviet Union note with feelings of tremendous pride that our country, the country of victorious socialism, is confidently marching in the vanguard of mankind in the use of the achievements of science and technology for the benefit of the peoples of the world.

The second space flight of a Soviet man around the earth serves as fresh and vivid confirmation of the great might of the people who have built socialism. Our achievements in the conquest of space are not accidental. They reflect the natural course of victorious communism. Communism is irresistibly advancing, and there is no force in the world capable of hampering the vigorous advance of mankind to its bright future.

The enemies of peace are whipping up military hysteria. Against this hysteria we set up our great plans of communist construction, our firm belief in our strength and in the correctness of the road mapped out by Marxist-Leninist science.

All the people of the world are familiar with the plans and aims of our country. They are expressed in the draft of the new Program of the Communist Party of the Soviet Union that will be submitted for the consideration of the Twenty-second Congress of the Communist Party, a program for building a communist society. Communism is fulfilling the historic mission of ridding all peoples of social inequality, of all forms of oppression and exploitation, of the horrors of war, and will establish Peace, Labor, Freedom, Equality and Happiness for all peoples on earth. Everything for man! Everything for the good of man!—this is our loftiest goal.

The Soviet space flights mark the unswerving will and desire of all the Soviet people for a stable peace throughout the world. We are placing our achievements in the exploration of space at the service of peace, scientific progress, and for the benefit of all the people of our planet. The Soviet people firmly believe that the cause of peace will triumph all over the world. Peace will triumph if the peoples of all countries work indefatigably for its consolidation.

We call upon the governments of all countries, upon all the peoples, irrespective of race or nationality, social standing or religious beliefs, to exert every effort to ensure stable peace throughout the whole world.

The new glorious victory of our country inspires all the Soviet people to perform still greater exploits in building communism!

Forward to great victories in the name of peace, universal happiness and human progress!

CENTRAL COMMITTEE OF THE COMMUNIST PARTY OF THE SOVIET UNION
PRESIDIUM OF THE SUPREME SOVIET OF THE USSR
COUNCIL OF MINISTERS OF THE UNION OF SOVIET SOCIALIST REPUBLICS

By Yuri Gagarin

Pilot-Cosmonaut of the USSR, Hero of the Soviet Union

ROAD TO OUTER SPACE

(Continued from July and August issues)

A FEW DAYS after Nikita S. Khrushchev returned from his tour of the United States our scientists fired a third space probe. It shot around the moon, photographed the hidden side and relayed the picture back to us here on earth. Once again the whole world applauded.

Life was changing my plans. A while ago I thought I had plenty of time to think things over. Now I couldn't dally any longer. The very next day I applied to my commanding officers, as specified by Army Regulations, for enrollment as a prospective spaceman. It was high time. Shortly thereafter I was called up before a special medical commission.

Only one out of every ten of the applicants passed. I got through the first stage but with no guarantee, of course, that I wouldn't be eliminated at the next. I went back to my regiment to wait.

I was on tenterhooks, and the waiting was harder because I had kept the application a secret from Valya. This was so much out of the usual order of things that I thought it better policy to keep quiet. I had explained away the first medical exam as a routine trip. But my conscience bothered me because we never kept anything from each other.

At home in the evenings she would look at me quizzically, as though she had some notion of what was going on inside me. "You're not ill, are you, Yuri?" she kept asking me, insisting I take my temperature.

Obediently, I'd stick a thermometer in my mouth, but the column of mercury stayed obstinately at normal. Still I was feverish. This was a complaint for which medicine had no name, this yearning to fly into space; it was not anything a doctor could cure.

Finally, after I had given up hope, the summons came. Again I went off, telling Valya nothing. Once more I had to go through the whole rigmarole. It took several weeks. Again a lot of the men were eliminated. I was still among the prospective cosmonauts.

And now I had to say good-by to the regiment and my buddies. A new chapter of my life was beginning.

The day I got back home happened to be my birthday. Valya had made a cake for the occasion, decorated with my initials and the number 26. It was only yesterday that I had been 16, and here I was 26. Our friends came over to share the birthday cake. Although they had no idea of what was really going on, they knew that we were about to leave. I had told Valya that I had been assigned as a test pilot and that we would soon be going to Central Russia. She had passed on the news to our friends.

We flew to my new job. Valya and flying don't get along, but she agreed to travel by air because we were short of time. We found a place to live, and together with my mates I got started in earnest.

Army doctor Vladimir Ivanovich, one of the leading authorities in aviation medicine, told us what a man would be facing in space. He placed the hazards in three groups.

In the first were those that derived from the physical nature of space itself—the very low pressure in what was actually a vacuum, a different gaseous composition than ours, the various ionizing radiations and the danger from meteors.

In the second group were those that derived from the flight of the rocket —noise, vibration, overload stress and weightlessness.

In the third group he included the artificial climate in the spaceship, the very narrow range of movement in the small compartment, the restrictions of the space suit, and emotional stresses and strains.

This was all fascinatingly new and we almost held our breath as we listened so as not to miss a word. It was as though a window had been opened for us into the world of science.

We had ideal conditions. There was nothing to distract us from the fascinating lectures we were enjoying. We had great respect for our doctors who had not only worked out the techniques to keep a man hale and hearty in space flight but had taken an active part in creating the ship, the foolproof space suit and the scientific instrumentation.

School for Cosmonauts

The training program was very comprehensive, covering the theory behind the equipment of the ship and practice in its use. We had to study the fundamentals of rocketry and space techniques, spaceship design, astronomy, geophysics and space medicine. We had to fly in conditions of weightlessness and spend long training periods in a full-size model of the spaceship cabin, in specially outfitted soundproof and thermal chambers, on a centrifuge and on a vibration stand.

These were altogether different classes than the ones we had taken at the technical school, the Air Force school or in the regiment. Our teachers were eminent specialists; each had written several important theoretical works and had made major contributions to Soviet science.

Our day began with an hour of exercising in the open air under medical supervision. We also did gymnastics, exercised on the bars and trampoline, used dumb bells and played ball. We did a lot of swimming and diving. Anyone who has a fear of the water or doesn't know how to swim simply can't be a cosmonaut. All these special exercises helped us to orientate ourselves in space and increased our resistance to prolonged physical stress.

We did parachute-jumping at an airfield near the river. Over a short period I made about forty jumps, all of them different. Jumping gave me a terrific thrill, both the anticipation and the whirlwind feel of the jump itself.

In delayed parachute-jumping we would sometimes go into a spin, a very unpleasant business. Your body suddenly whirls dizzily on its own axis. Your head becomes heavy as as lead, your eyes hurt and you feel faint. As you spin about with great force, you lose your bearings and feel completely helpless.

The coach showed us how to pull ourselves out of this spin by swinging our arms and legs like ailerons and fins. He told us to lie spread-eagle, face down, a position that best assures stability in a free drop—something we proved for ourselves more than once.

4.5-Ton Spaceship Orbited

One morning all the papers carried the news that the Soviet Union had aligned the first Soviet spaceship in a sputnik orbit. The TASS announcement gave the ship's weight as an astonishing 4.5 tons and said it carried an airtight capsule with a dummy figure. We knew that was the kind of vehicle one of us would be going up in.

It was clear that the spaceship had already been built and all the techniques worked out for safe flight and recovery, and that the life-supporting systems it carried were being checked. We thought we'd better get going with our lessons or the ship might be ready before we were. We attacked our studies and training program with still greater zeal.

We began to train on the centrifuge. This simple device, used to accustom the body to big overloads, is a shaft set on an axis, a cabin with a seat inside it at one end and a balance load on the other. The faster it is spun, the greater the acceleration and the more overload the organism has to bear. The weight of the body is multiplied several times.

I had already experienced something like it in flight when my plane came out of a nose dive—as though I were pinned down to my seat by something incredibly heavy. I couldn't lift a finger, and my eyes seemed to be covered with a veil of fog. That is what overload does to you.

Centrifuge-training accustomed us to increasing acceleration and protracted multiple overloads. Attached to the device was an extremely sensitive and intricate electrophysiological instrument for recording the subject's physical condition and ability to function. As we whirled about madly, we had to identify the digits from one to ten as they flashed on a screen, their size diminishing progressively as they approached ten. At top speed I was able to differentiate between a seven and an eight.

Membership in Lenin's Party

If I were chosen, I wanted to go into space as a Communist Party member. Soviet people traditionally join the Party of Lenin on the eve of a decisive event in their lives. My probationary period as a candidate member had ended. My regimental mates up North had recommended that I be accepted for full membership—a recommendation that moved me deeply. They were my seniors, Communist Party members who had faith in me and were willing to pledge themselves in my behalf.

I racked my brain for quite a time about how to phrase my application for Party membership. Then I remembered how simply and matter-of-factly soldiers on the eve of battle had phrased their applications and I wrote, "I ask to be enrolled in the Communist Party of the Soviet Union. It is my wish to become an active Party member and energetically participate in my country's life." These few words said just about everything I felt and wanted to say.

On June 16, 1960—a sunny day, I remember—I was invited to a Party meeting, and, as is customary, was asked to tell about myself. I gave my autobiography in a few short sentences. It could have applied just as well to a million other young Soviet men and women. I heard one of the speakers say, "He's devoted to the Party and the country and is worthy of membership in the Party of Lenin."

The vote was unanimously in my favor.

A month later I was summoned to the Party office. So were several other young officers, all as excited as I. The door opened and I heard,

Moscow, Red Square, August 9: Gherman Titov (left), Nikita Khrushchev and Yuri Gagarin.

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(Continued from July and August issues)

A FEW DAYS after Nikita S. Khrushchev returned from his tour of the United States our scientists fired a third space probe. It shot around the moon, photographed the hidden side and relayed the picture back to us here on earth. Once again the whole world applauded.

Life was changing my plans. A while ago I thought I had plenty of time to think things over. Now I couldn't dally any longer. The very next day I applied to my commanding officers, as specified by Army Regulations, for enrollment as a prospective spaceman. It was high time. Shortly thereafter I was called up before a special medical commission.

Only one out of every ten of the applicants passed. I got through the first stage but with no guarantee, of course, that I wouldn't be eliminated at the next. I went back to my regiment to wait.

I was on tenterhooks, and the waiting was harder because I had kept the application a secret from Valya. This was so much out of the usual order of things that I thought it better policy to keep quiet. I had explained away the first medical exam as a routine trip. But my conscience bothered me because we never kept anything from each other.

At home in the evenings she would look at me quizzically, as though she had some notion of what was going on inside me. "You're not ill, are you, Yuri?" she kept asking me, insisting I take my temperature.

Obediently, I'd stick a thermometer in my mouth, but the column of mercury stayed obstinately at normal. Still I was feverish. This was a complaint for which medicine had no name, this yearning to fly into space; it was not anything a doctor could cure.

Finally, after I had given up hope, the summons came. Again I went off, telling Valya nothing. Once more I had to go through the whole rigmarole. It took several weeks. Again a lot of the men were eliminated. I was still among the prospective cosmonauts.

And now I had to say good-by to the regiment and my buddies. A new chapter of my life was beginning.

The day I got back home happened to be my birthday. Valya had made a cake for the occasion, decorated with my initials and the number 26. It was only yesterday that I had been 16, and here I was 26. Our friends came over to share the birthday cake. Although they had no idea of what was really going on, they knew that we were about to leave. I had told Valya that I had been assigned as a test pilot and that we would soon be going to Central Russia. She had passed on the news to our friends.

We flew to my new job. Valya and flying don't get along, but she agreed to travel by air because we were short of time. We found a place to live, and together with my mates I got started in earnest.

Army doctor Vladimir Ivanovich, one of the leading authorities in aviation medicine, told us what a man would be facing in space. He placed the hazards in three groups.

In the first were those that derived from the physical nature of space itself—the very low pressure in what was actually a vacuum, a different gaseous composition than ours, the various ionizing radiations and the danger from meteors.

In the second group were those that derived from the flight of the rocket —noise, vibration, overload stress and weightlessness.

In the third group he included the artificial climate in the spaceship, the very narrow range of movement in the small compartment, the restrictions of the space suit, and emotional stresses and strains.

This was all fascinatingly new and we almost held our breath as we listened so as not to miss a word. It was as though a window had been opened for us into the world of science.

We had ideal conditions. There was nothing to distract us from the fascinating lectures we were enjoying. We had great respect for our doctors who had not only worked out the techniques to keep a man hale and hearty in space flight but had taken an active part in creating the ship, the foolproof space suit and the scientific instrumentation.

School for Cosmonauts

The training program was very comprehensive, covering the theory behind the equipment of the ship and practice in its use. We had to study the fundamentals of rocketry and space techniques, spaceship design, astronomy, geophysics and space medicine. We had to fly in conditions of weightlessness and spend long training periods in a full-size model of the spaceship cabin, in specially outfitted soundproof and thermal chambers, on a centrifuge and on a vibration stand.

These were altogether different classes than the ones we had taken at the technical school, the Air Force school or in the regiment. Our teachers were eminent specialists; each had written several important theoretical works and had made major contributions to Soviet science.

Our day began with an hour of exercising in the open air under medical supervision. We also did gymnastics, exercised on the bars and trampoline, used dumb bells and played ball. We did a lot of swimming and diving. Anyone who has a fear of the water or doesn't know how to swim simply can't be a cosmonaut. All these special exercises helped us to orientate ourselves in space and increased our resistance to prolonged physical stress.

We did parachute-jumping at an airfield near the river. Over a short period I made about forty jumps, all of them different. Jumping gave me a terrific thrill, both the anticipation and the whirlwind feel of the jump itself.

In delayed parachute-jumping we would sometimes go into a spin, a very unpleasant business. Your body suddenly whirls dizzily on its own axis. Your head becomes heavy as as lead, your eyes hurt and you feel faint. As you spin about with great force, you lose your bearings and feel completely helpless.

The coach showed us how to pull ourselves out of this spin by swinging our arms and legs like ailerons and fins. He told us to lie spread-eagle, face down, a position that best assures stability in a free drop—something we proved for ourselves more than once.

4.5-Ton Spaceship Orbited

One morning all the papers carried the news that the Soviet Union had aligned the first Soviet spaceship in a sputnik orbit. The TASS announcement gave the ship's weight as an astonishing 4.5 tons and said it carried an airtight capsule with a dummy figure. We knew that was the kind of vehicle one of us would be going up in.

It was clear that the spaceship had already been built and all the techniques worked out for safe flight and recovery, and that the life-supporting systems it carried were being checked. We thought we'd better get going with our lessons or the ship might be ready before we were. We attacked our studies and training program with still greater zeal.

We began to train on the centrifuge. This simple device, used to accustom the body to big overloads, is a shaft set on an axis, a cabin with a seat inside it at one end and a balance load on the other. The faster it is spun, the greater the acceleration and the more overload the organism has to bear. The weight of the body is multiplied several times.

I had already experienced something like it in flight when my plane came out of a nose dive—as though I were pinned down to my seat by something incredibly heavy. I couldn't lift a finger, and my eyes seemed to be covered with a veil of fog. That is what overload does to you.

Centrifuge-training accustomed us to increasing acceleration and protracted multiple overloads. Attached to the device was an extremely sensitive and intricate electrophysiological instrument for recording the subject's physical condition and ability to function. As we whirled about madly, we had to identify the digits from one to ten as they flashed on a screen, their size diminishing progressively as they approached ten. At top speed I was able to differentiate between a seven and an eight.

Membership in Lenin's Party

If I were chosen, I wanted to go into space as a Communist Party member. Soviet people traditionally join the Party of Lenin on the eve of a decisive event in their lives. My probationary period as a candidate member had ended. My regimental mates up North had recommended that I be accepted for full membership—a recommendation that moved me deeply. They were my seniors, Communist Party members who had faith in me and were willing to pledge themselves in my behalf.

I racked my brain for quite a time about how to phrase my application for Party membership. Then I remembered how simply and matter-of-factly soldiers on the eve of battle had phrased their applications and I wrote, "I ask to be enrolled in the Communist Party of the Soviet Union. It is my wish to become an active Party member and energetically participate in my country's life." These few words said just about everything I felt and wanted to say.

On June 16, 1960—a sunny day, I remember—I was invited to a Party meeting, and, as is customary, was asked to tell about myself. I gave my autobiography in a few short sentences. It could have applied just as well to a million other young Soviet men and women. I heard one of the speakers say, "He's devoted to the Party and the country and is worthy of membership in the Party of Lenin."

The vote was unanimously in my favor.

A month later I was summoned to the Party office. So were several other young officers, all as excited as I. The door opened and I heard,

SPACEMAN ON VACATION

It took Major Yuri Gagarin, world's first cosmonaut, only 108 minutes to circle the globe on that history-making fight that launched man into space and an age of planetary exploration. But those were perhaps the longest 108 minutes that any man had ever lived through. Packed into them were endless hours on vibration stands, in whirling centrifuges, in chambers sealed away from the sight and sound and touch of other men. Months and months, these were, of the most wearing, most intensive kind of work. After work comes rest; and the harder the work, the longer the rest. That is the law in the Soviet Union. And laws are obligatory for every citizen, even for pioneer cosmonauts. So that here we go vacationing with Yuri Gagarin, his wife Valentina, and their two small children Yelena and Galina. With many other Soviet citizens, the Gagarins spent their holiday at one of the beautiful sanatoriums on the Black Sea coast not far from Sochi.

"Comrade Gagarin, come in, please." The political department chief was standing there with my red Party card in his hand. He shook my hand and said, "Always conduct yourself as the great Lenin taught us to."

I replied in a shaky voice, "I shall try to deserve the title of Communist."

I had never been so moved in my life. I felt as though I had been infused with an unusually great amount of energy.

My admission to the Party was one of the great days in my life.

First View of the *Vostok*

It was shortly afterward that we met the chief designer of the spaceship, something we had long looked forward to. He was a jolly, witty, broad-shouldered, honest-to-goodness Russian, a man you felt at home with. We liked him immediately. He treated us as equals, as his close colleagues. He wanted our detailed reaction to each stage of the training program. "It's a nuisance," he said, "but I have to know it all, otherwise you'll come a cropper up there," pointing to the sky.

When one of us complained that it was unbearably hot in the thermal chamber, he explained that in flight the temperature in the spaceship would fluctuate between 59 and 68 degrees. But, he continued, the cosmonaut must be ready for any contingency. When the ship penetrated the denser sections of the atmosphere, its outer shell was likely to heat up to several thousand degrees. It seemed incredible. Just imagine it—a man inside a shell heated up to such a temperature! We had mixed feelings about it—apprehension and awe.

The chief designer showed us around the spaceship. It was a remarkable achievement in modern engineering.

"Look at this," he said. "The outer surface and the pilot's cabin are protected by a thermal shield to prevent their burning to a crisp in descent."

We were looking at a flying machine that no living man had ever yet traveled in. The chief designer told us that the spaceship would be placed at the tip of a powerful multistage booster rocket that would separate from its last stage upon orbiting. Then he told us something we hadn't heard before—that the program for the first manned flight called for the ship to circle the earth only once. "But it can do more," he added.

We looked the ship over. The pilot's cabin was not the completely enclosed affair we had thought it would be; it had several portholes. "The glass in the portholes," we were told, "is also heat-resistant. You'll be able to make observations through the portholes in flight."

Each of us went into the pilot's cabin. It was much roomier than the cockpit of a plane. From his chair the cosmonaut could make observations, maintain contact with the ground, control the flight and steer the ship by himself if necessary. The cabin had all sorts of equipment, much different from an airplane cabin.

Everything we saw was sturdy but light. Everything was spotless, brand

No vacation from his daily dozen. Good for spacemen and everyone else, Yuri says.

A brisk trot around the grounds of the sanatorium gets the day off to a good start.

Basketball is really Yuri's forte, but he manages a pretty good game of tennis, too.

new. Nobody had ever used this equipment. Nobody had ever seen it except the men who had designed and turned it out.

We climbed out, speechless with wonder. The resources and energy of the whole nation had been invested in this ship. To build it we had had to make the kind of metal our open-hearth furnaces had never produced before, and unusual kinds of glass, plastics, superdurable fabrics and wear-resistant varnishes, as well as all sorts of ingenious instruments. Chemistry, metallurgy—all the pure and applied sciences—had contributed to fashion this wonder of wonders. We hadn't the words to describe what we felt.

"Pack My Bag"

We practiced on the vibration stand, a machine that simulates a ship's vibration when the rocket engines are in operation. We got into it for an hour or more and were shaken as though with fever, the whole body vibrating like a plucked string. But we got used to it. We also got used to the thermal chamber, where we were subjected to very high temperatures for considerable periods.

I would come home dog-tired, play with the baby for a few minutes and begin to nod. Valya persisted; she wanted to know what was wrong with me. Finally I blurted out, "I'm getting ready to fly into space. Pack my bag."

Although Valya took it as a joke, she asked no more questions.

Since the baby now spent the whole day at the nursery, Valya took a job as laboratory assistant. She didn't like staying home twiddling her thumbs and got down to business, as she always did, with her usual seriousness.

We were up to our necks in work. I barely had time to read the newspaper reports of the July Plenary Meeting of the Central Committee, devoted to scientific and technical progress. At the session Nikita S. Khrushchev had said, among other things, "Science must light the way for engineers and designers so that they can keep fashioning better and better machines."

The chief designer told us about his meetings with Nikita S. Khrushchev at Central Committee sessions, at laboratories and at the cosmodrome. Our country's leader, he said, was giving a great deal of his time to our project.

Dog Cosmonauts

The second Soviet spaceship was placed in orbit on August 19, 1960. In its cabin, equipped with every necessity for manned flight—that is to say, for one of us—were two dogs, Strelka and Belka.

We were shown a television film of the flight and saw the dogs looking about them in fright, their ears pricked up at the strange noise that followed the count-down. They strained at their harness; but as the acceleration increased, the mounting force of gravity pushed them down. At first Strelka tried to fight it. Then both dogs became immobile. When the vehicle moved into orbit, the acceleration load was followed by weightlessness and the dogs floated in air. Their heads and paws hung limp and they seemed to be dead. But then they came to and Belka barked angrily.

Seven-month-old Galina takes her first vacation with her famous daddy rather nonchalantly. She spends a good part of her time fast asleep.

After a while they got used to the zero gravity and began eating from the automatic feeder.

The film bolstered our confidence and gave us a good deal of food for thought and discussion. We now saw in living action what had been purely speculative. Experience, they say, is the best teacher. If Strelka and Belka, live but non-thinking creatures, could endure space conditions, so could healthy, trained, purposeful people.

We experienced this weightlessness by reaching zero gravity in high-speed jet aircraft. Through special maneuvering we were able to simulate weightlessness by balancing the centrifugal and centripetal forces. Although the condition lasted a minute or so, we found that it did not impede our radio communication, reading or visual orientation, eating or drinking.

We concluded, as a result of these tests, that the ability to work was not affected by prolonged spells of weightlessness. When we shared our impressions with the training instructor, he said, "You can conclude what you like, but we need practical experimental proof. And the only place we can get that is in outer space."

We made prolonged stays in a specially equipped sound-proof chamber. This "solitary confinement" was designed to test our emotional stability when cooped up in a small space and completely shut off from the outer world. It was often a trying experience, especially since we were never told how long our stay in the "cell" would be. Several hours? A day and night? Several days? The men reacted in different ways to this "solitary confinement" and to the heat chamber, the centrifuge and the vibration stand.

Autumn flew by, with the innumerable lectures and training sessions. On December 1, 1960, the third spaceship was launched with the dogs Pcholka and Mushka, other small animals, insects and plants aboard as part of the research program in preparation for manned flight. The flight provided valuable information, but not everything went well. Because of a shift in the preplanned descent trajectory, the space vehicle disintegrated.

Some of the experts were fearful of the effect this accident would have on us. But we were not too disturbed. It was unfortunate that the dogs had died and the ship that had cost so much money and effort had been destroyed. But in so large and complex an undertaking such losses were inevitable.

Simulated Flight

Our training continued apace. We spent more and more time in mock-up of a spaceship cabin to get to feel at home. We had to learn the precise location of every button and switch so as to develop an almost automatic response. Our hands almost knew what to do by themselves.

We practiced using the manual controls; the orientation and landing systems; the temperature, air-conditioning and pressure adjusters; the guidance and control systems. The scientists had thought out every one of our motions.

Yelena is very much in her element at the sanatorium. "Doctor" is one of her favorite games.

Yuri is not nearly as accustomed to civilian clothes as he is to a uniform or a space suit.

We were taught to communicate with the earth through different channels and by different means. We learned to think logically and precisely and to record our observations in the log book with a minimum of words and numbers. In the mock-up it was easy to imagine yourself in a real vessel circling the earth.

The engineers fixed up a training stand equipped with an ingenuous electronic analogue to simulate flight variants. When seated in the cabin, the cosmonaut faced the full battery of instruments and flashing varicolored lights needed to duplicate all possible contingencies in flight. We sent and received radio messages that were recorded on tape, made observations through portholes and optical orientation systems, did orientation by globe and made entries in the log book—plenty to keep us busy.

Our mock-up cabin simulated both normal flight according to program and emergency situations. We operated exactly as though in flight, all the way down the line, even to wearing a space suit with pressurized helmet and gauntlets for protection in the event of a drop in the cabin's pressure. We had to eat and drink in full rig too.

Whatever unhappy moments we may have had reading the news of the death of Pcholka and Mushka—feelings we probably wouldn't have acknowledged even to ourselves—faded when the six and a half ton sputnik was launched, followed a week later by the firing from a similar sputnik of a space rocket that placed an automatic interplanetary probe in a trajectory to the planet Venus. That probe, carrying a pennant with the Soviet coat-of-arms, blazed the trail out to the other planets of the solar system.

At home everything was fine. My only worry was Valya, who was expecting a child any time now. I wanted a boy, and she a girl. On the seventh of March she gave birth to a daughter.

On the ninth, my friends told me, "Well, Yuri, here's another birthday gift for you."

"What gift?" I asked.

"A fourth orbital spaceship has been launched."

It reentered the earth the same day with passengers—the dog Chernyushka and other, smaller animals, and with a dummy spaceman in the pilot's seat. The main purpose of this launching was to check the reliability of the ship's design and all its systems for manned flight. Everything indicated that such a flight was not far off.

Nikita S. Khrushchev said that very thing several days later at a conference of leading farm workers in the Tselinny Territory. "We are confident that the time is not far off when the first space vehicle with a man on board will sail into outer space."

Test Launching

There was a feeling of spring in the air and a spring mood in our family when our second daughter was born. We named her Galochka. I hadn't much time to fuss with the little one because I had to leave for the cosmodrome, where preparations were under way for the last test launching of our spaceship with experimental animals on board and a dummy in the pilot's seat.

The cosmodrome is a big affair some distance from public roads, staffed by highly qualified engineers and technicians who assemble and prepare powerful rockets with spaceships for launching. This is where the spaceships start off for the sky.

We were shown a light red-haired dog with dark spots. I picked her up. Zvezdochka weighed no more than 13 pounds. I caressed the animal and she trustingly licked my hand.

I stared at the giant beacon-like structure towering above the cosmodrome. The people fussing around it looked very small by comparison. I looked on as the final touches were being put on the rocket carrier. Zvezdochka and her companions were raised in the lift and placed in the cabin that sealed itself hermetically. A complete checkup of all the systems, then a second, and finally a third. The time set was nearing. In a moment the order for launching would be given.

During those few moments I could almost visualize myself in the cabin of that spaceship heading upward toward the sky, going through that preflight check.. Then the brief order—like a shot—and the tall, heavy multistage rocket rose, almost unwillingly, above the launching pad amid the roar of the engines and the flames that forced their way out of the nozzles. The rocket, as though it were a living, thinking creature, hesitated for a moment, trembled slightly, for a second or two hovered over the earth, and then suddenly vanished from sight, leaving a seething whirlwind of flames in its wake. It was all exactly as I had imagined it would be.

"That's how we'll see you off, too, Yuri," one of the fellows remarked.

The next day I still carried the image of that launching with me. The ship had already circled the planet and returned to its predetermined place. Specialists, biologists and physicians were already fussing over the dog, who had stood up excellently under the flight conditions. But I kept thinking of what had taken place before my very eyes and what I myself might soon be going through.

At home Valya asked why I was so pleased with myself and where I kept disappearing to all the time.

"I'm going to fly to outer space. Get my bag ready, will you," I said, trying to be funny.

"It's packed," Valya answered, and I realized that she already knew all about it.

We put our little girls to bed, had supper, and then began to talk seriously. I said that the first flight to outer space would soon be coming and that it was possible I would be the one to make it.

"But why you?" she asked.

I explained to her as best I could why I might be the one chosen. From the way her face suddenly turned serious, from the expression in her eyes, from the way her lips quivered and her voice changed, I could see she was both proud and fearful, but that she was not going to say anything that might worry me.

We talked most of the night, didn't close our eyes for a minute, recalled the past and built plans for the future. We pictured our daughters already grown and married. We saw ourselves playing with our grandchildren. When we had talked ourselves out, I asked Valya how she felt about the test I was facing. She answered, "If you are sure of yourself, go ahead. Everything will turn out all right."

Cosmonaut No. 1

The time was drawing close. Almost any moment now we would be sent to the Baikonur cosmodrome. I was terribly impatient. Never before had I found it so hard to wait. I knew that the ship that was to make the flight had been named *Vostok (East)*—so named because the sun rises in the east.

There was a send-off meeting of the Party just before we left with speeches from those who were leaving for the cosmodrome and those who were staying behind. Everyone assumed I had been chosen for the first flight. My friends said, "We envy you, but in the way comrades should. . . . Here's wishing you a happy flight . . . When you come back from outer space, don't put on airs, don't turn up your nose, stay as modest as you are now."

Then I was given the floor. I said, "I am proud and happy to be among the first cosmonauts. I hope to do everything I can to carry out with honor the assignment given me by the Party and the Government. Just as the big collective of workers and scientists did with the spaceship they created, I want to dedicate my flight to the 22nd Congress of the Communist Party of the Soviet Union."

Several of the space pilots were flown to the cosmodrome in case of last minute emergency changes. All that had to happen was for the first candidate to get a speck in his eye, or for his temperature to go up half a degree, or for his pulse rate to speed up five beats and he would have to be replaced. The others were just as ready for the flight as I. A physician accompanied us to the cosmodrome. The ship was ready to start exactly at the hour and minute specified.

That very night we flew to the cosmodrome. Yevgeni Anatolyevich, our commander, doctor and mentor, went with us. He is a man of rare charm and tact who has been looking after flyers for twenty years. He worked with us from the very first day, and, as he said, we had no secrets from him. He knew more about each of us than we knew about ourselves. Nikolai Kamanin came along with us also. He was one of the first to win the Hero of the Soviet Union award and has trained many pilots.

Next to me sat my best friend, Cosmonaut No. 2, a fine flyer, a Communist, a man with a wonderfully wholesome buoyancy. He, too, was looking down at the earth as it floated past us, and was probably thinking the same things I was. At times our eyes met and we smiled, understanding each other without words. Some people had thought we ought not to be told of the scheduled time of the flight until the last minute, so that we wouldn't be nervous and edgy. But I felt fine, and so did my friend who was ready to take my place in the cabin of the *Vostok.*

At the cosmodrome they were waiting for us—many of the specialists we knew and the chief designer. Also present was the "theoretician of cosmonautics"—that is what we called the eminent Soviet scientist under whose guidance the calculations for the space flight had been made.

Eve of the Flight

Time sped by rapidly. The day before the flight we were allowed a complete rest. We listened to quiet music. In the evening we played a short game of billiards and the doctor joined us for supper. For several days we had been eating "à la cosmos," tasty, nourishing food that we squeezed into our mouths from tubes. We talked about our childhood, about books we had read, about the future—not a word about the flight. The conversation was lively, with a good deal of kidding around.

The chief designer came in. He was attentive and gracious, as usual. He asked us no questions this time, said smiling, "Five years from now we'll probably be flying to outer space on a trade union pass."

We laughed heartily. He liked the mood we were in. He glanced at his wrist watch and left. I couldn't detect the slightest apprehension. He seemed to be just as sure of me as he was of himself.

The doctor attached several pickups to my body which would record physiological functions. This is a rather lengthy and not particularly pleasant procedure, but I had gone through it so many times during the training period that I was used to it.

At 9:50 P.M. Yevgeni Anatolyevich checked my blood pressure, temperature, and pulse. Everything was normal—pressure, 115/75; temperature, 98.6; and pulse, 64.

"Now go to sleep," he said.

I got into bed obediently. For several days we had been living by the same schedule, like twins. We were indeed brothers, for we were united by one great goal to which we henceforth devoted our lives. We traded a joke or two. Yevgeni Anatolyevich came into the room. "Boys," he said, "how would you like something to help you fall asleep?" He put his hand into the pocket of his hospital coat for some sleeping pills.

But we both refused to take any. Frankly, I don't think he had any with him. He was sure that we wouldn't take any. I was asleep in a matter of minutes.

After the flight Yevgeni Anatolyevich told me that when he tiptoed into our bedroom half an hour later, I was lying on my back, hand pressed to my cheek, sleeping peacefully. Cosmonaut No. 2 was sound asleep too, lying on his right side. During the night the doctor looked in on us several times. I slept well, without dreaming. At three o'clock the chief designer looked in and found us asleep. We later heard that he couldn't fall asleep and stayed up reading.

Yevgeni Anatolyevich did not close an eye. He kept walking around the house all night long, worried lest the trucks driving by and the sounds that came over now and then from the assembly shop would awaken us. But we slept like newborn infants. All of this we learned later.

At 5:30 A.M. Yevgeni Anatolyevich came into the bedroom and touched my shoulder lightly. "Yuri, time to get up," I heard him say.

"Right you are," I answered and got up immediately. Cosmonaut No. 2 also got up, singing a funny song we had made up about lilies of the valley.

"How did you sleep?" he asked us.

"The way you taught us to," I answered.

After we had done our usual setting-up exercises and washed, we had breakfast from the tubes—meat purée, black currant jam and coffee. Then came the medical exam. Everything checked out normal and was so indicated in the medical report.

Dressing for Space

It was time to get into my space outfit. I put on a warm, soft, sky-blue flying suit over which, with my comrades' help, I donned a protective bright orange space suit that I would be able to work in even if the ship's cabin, in orbit, should not prove airtight. The instruments and equipment in the suit were also checked, a procedure that took quite a long time. Then I put on a white communication helmet and, over that, a hermetic helmet with CCCP (USSR) inscribed on it in large letters.

One of the people dressing me was Nikolai Konstantinovich, Honored Parachutist, who had taught us how to make difficult jumps. His advice was very valuable because he himself had been jettisoned several times from planes equipped with the type of special seat and parachute device installed in the spaceship. This variant landing, to be used if the ship came down in an unsuitable area, made it possible for the cosmonaut to jettison from the ship at a low altitude, and then to separate himself from the seat and drop by parachute.

The chief designer arrived. This was the first time I had ever seen him worried and looking tired, probably the result of his sleepless night but with his usual gentle smile. I felt like embracing him the way I would my father. He made several suggestions that might help me in flight. He seemed to feel better after Cosmonaut No. 2 and I said almost simultaneously, "Everything will be fine. Everything will work out all right."

A specially equipped bus drove up. I took my place in the "space" seat that resembled the one in the ship's cabin. My suit had a ventilation device, connected to the power source in the bus, to which electric power and oxygen was supplied. Everything functioned well.

The bus sped along the highway. At a distance I saw the silvery tip of the rocket pointing to the sky. Its six engines had a combined capacity of 20 million horsepower. The closer we came to the launching pad, the taller the rocket loomed—a gigantic beacon with the first rays of the rising sun lighting up its tip.

The weather was favorable, the sky clear, with a few fleecy clouds somewhere far off in the distance. "A million miles of altitude, a million miles of visibility," I heard someone say.

The chief space scientist and the chief designer stood together at the launching pad, their faces glowing in the morning light. For them this was the hardest day of all. Standing around were the members of the state commission responsible for this first space flight; the men who headed the launching crew; scientists and engineers; my twin, Cosmonaut No. 2; and the other space pilots. The dawn's light flooded everything.

I became more and more impatient, and so did everyone else. People kept looking at the chronometers. At last the report came that the ship was ready. The only thing left was to get the cosmonaut set in the cabin and make a final check of all the systems.

I looked at the ship in which I would be setting off in a few minutes on a trip no one had ever before taken. It was beautiful, more beautiful than a locomotive, a steamer, a plane, a palace, a bridge—more beautiful than all of these creations put together. This was not only a monumental piece of engineering but a great work of art, and the thought occurred to me that this beauty was eternal and that it will remain for the people of all lands for all time to come.

Before going up in the lift to the ship's cabin, I made a statement for the press and radio. There was quiet all round me as I spoke, except for the sound of the tape recorder.

"To be the first to attempt what generations of people have dreamed of, to blaze man's trail into space, this is a tremendous responsibility. This is a responsibility not of a single person, not of dozens of people, or of a collective. It is a responsibility of all the Soviet people, of all mankind, present and future. And if nevertheless I venture on this flight it is because I am a Communist, because I draw inspiration from the great feats of my compatriots, Soviet people."

I noticed the chief designer steal a glance at his watch. "There are only a few minutes left before the launching," I continued. "I want to say what all people do when they start out on a long journey—'Till we meet again!' I should like to embrace you all, those of you I know and those I do not, close friends and strangers alike." I lifted both hands and said, "See you soon!"

"Earth, This is Me!"

I went into the cabin. The hatch closed noiselessly. I was alone with the instruments. They were no longer illumined by sunlight but by artificial light. I could hear everything going on down below, on the earth, which was now even dearer to me. The gantry was removed. Silence set in. I reported:

"Earth, this is me, Cosmonaut. Communications checkup complete. Tumblers on the control panel are set as directed. Horizon scanner is dead on the horizon. Pressure in the cabin is 1 atmosphere; humidity, 65 per cent; temperature, 66 degrees; pressure in the compartment, 1.2; pressure in orienting system, normal. Feel fine. Am ready to start."

The flight technical director announced 1.5 hours left to take-off, then an hour, then a half hour. A few minutes before the start they told me that my face was clearly visible on the TV screen, my pulse reading was 64, my respiration 24. Everyone was pleased to see me looking so cheerful.

I reported, "Heart beating normally. Feel fine. Have put on my gloves, closed my hermetic helmet and am ready to start."

The launching orders were passed on to me also. The flight technical director gave the order, "Up."

I responded, "Up we go! Everything proceeding normally. Feel fine."

I glanced at my watch. The hands pointed to 9:07 A.M. Moscow time. I heard a whistling noise and the mounting roar of the engine. The giant vehicle shuddered and slowly, very slowly, rose from the launching pad. The noise was no louder than in the cockpit of a jet aircraft, but it ran a gamut of tones and inflections that no musical instrument or human voice could reproduce. The mighty rocket engines were sounding the music of the future, probably more stirring and more wonderful than the greatest creations of the past.

The acceleration load began to mount. I was pushed back deeper and deeper into the seat. And even though I was seated in a way that reduced the effect of this great load to a minimum, I could hardly move hand or foot. I knew this would not last long, that it would ease up as soon as the vessel accelerated to orbital speed and went into orbit, but in the meantime the load kept growing.

"Seventy seconds since launching time," earth told me.

I reported back. "Roger. Seventy seconds. Feel fine. Flight continues. Loads mounting. All's well." My tone was brisk but I was telling myself—only seventy seconds. Each of them felt as long as an ordinary minute.

"How are you?" earth asked again.

"Fine. How are things with you?" I asked.

"Running on schedule."

I maintained two-way radio communication with earth on three channels. My transmitters worked on frequencies of 9.019 and 20.006 mc/sec. and on 143.625 mc/sec. in the ultrashort-wave band. The ground operators sounded as though they were sitting right next to me.

Beyond the dense layers of the atmosphere the nose cone jettisoned automatically and flew off at a tangent. The *Vostok* was passing over a broad Siberian river. I could clearly see islets and wooded shores lit up by the sun.

"How beautiful!" I said involuntarily, and hastily bit my tongue for my job was to collect information, not to admire the beauties of nature, especially since earth was calling for my report at that moment.

"I read you five by five," I reported. "Feel fine. Flight proceeding normally. Load increasing. I see the earth, woods, clouds . . ."

The acceleration load kept mounting, but my body seemed to be adjusting to it. It had been worse in the centrifuge, I thought. And the vibration in training sessions had also been much greater. In short, the devil wasn't as black as he'd been painted.

A multistage rocket is such a complex structure that it is hard to describe it by comparing it with anything conventional. When the fuel burns out, the worked-out rocket stage becomes superfluous and is automatically separated and cast off. The remaining section of the rocket continues to accelerate.

I hadn't met the scientists and engineers who developed the light, portable fuel for Soviet rocket motors, but as the engines kept boosting me higher and higher toward the designated orbit, I felt like shaking their hands and saying "Thanks." The intricate motors operated like clockwork.

One after another the burned-out stages separated off. I reported: "Have separated from carrier according to schedule. Feel well. Cabin readings are: pressure, one atmosphere; humidity, 65 per cent; temperature, 20 degrees; pressure in capsule, one atmosphere; pressure in altitude control systems normal."

Weightlessness

The ship moved into orbit, its highway through space, and I experienced the weightlessness that as a boy I had read about in Tsiolkovsky's books. It felt strange at first; but I soon became accustomed to it and continued to carry out the flight program.

Weightlessness is a curious feeling, but the body adapts itself quickly and one feels an amazing lightness in the legs and arms. The transition I made was gradual. I floated up from the seat and remained suspended in mid-air.

When the force of gravity began to ebb away, I felt wonderful. Everything was so easy to do. I felt that I was completely detached from my hands and feet and whole body. They weighed nothing. I neither sat nor lay, I simply floated. Everything that wasn't tied down—my map case, pencil, note pad—bobbed up in the air. It was all like a dream. Drops of water from the drinking hose formed sphericles and drifted till they touched the walls where they stuck like drops of dew on a flower.

My ability to work was not affected. I continued to take instrument readings, make observations through the portholes and note down entries in the log. I wrote with an ordinary lead pencil without taking off my hermetic gauntlets. I had no difficulty writing.

Forgetting for a moment where I was, I put the pencil down and it immediately drifted away. I was speaking into the tape recorder and didn't try to catch it. I continued to maintain radio communication with earth by microphone and telegraph key on several channels.

Wonderfully Beautiful!

Earth wanted to know what I saw. I told them that our planet looked much like it did from a jet plane at high altitude. Mountain ranges, big rivers and forests, islands and seas stood out in bold relief.

I saw clouds and the shadows they cast on that dear, distant earth of mine. It was the farm stock I came from that made the pitch black sky look to me like a plowed field sown with stars.

The stars were bright and pure. The sun, too, was wonderfully bright. Even through closed eyes the glare was almost unbearable—scores, probably hundreds of times as bright as on earth. It was brighter than the molten metal I had handled in the foundry. To keep out the glare of the sun I drew the protective blinds across the portholes.

From my observation point the expanses of water on earth were dark spots, sparkling a little. The roundness of our planet was readily apparent. At the horizon I saw the sharp division between bright earth and inky-black sky. The earth was surrounded by a delicate blue halo progressing from turquoise to dark blue to violet to carbon black—a very beautiful transition.

The cabin was filled with music from home—Russian voices singing one of my favorite songs, "Amur Waves." I was not alone. Hurtling through space, I continued to work for my country. The radio tied me to earth. I received commands, reported on the way the ship's systems were operating. In every word from earth I felt the support of my people, of the Government and Party.

I took continuous instrument readings and estimated that the *Vostok* was following its preplanned orbit and would soon move into the globe's night side. The ship passed into the shadow very quietly. It grew pitch dark almost instantaneously. The ship, I thought, must be passing over the ocean because I didn't see the golden dust of city lights below.

At 9:51 A.M. the automatic altitude control system switched on. When the *Vostok* emerged from the earth's shadow, it used the sun for tracking and orientation. The sun's rays pierced the earth's atmosphere. The horizon became bright orange, gradually changing to all the colors of the rainbow—ultramarine to dark blue to violet, to black.

17,400 Miles an Hour

Passing over Cape Horn at 9:52 A.M., I reported: "Flight proceeding normally. Feel fine. Instruments operating well."

I checked and found that the *Vostok* was keeping to its schedule. It was traveling at almost 17,400 miles an hour, a velocity hard to imagine on earth. I wasn't hungry or thirsty but, following the schedule, I ate and drank from the special water supply system at the time indicated.

The food had been made up according to recipes prepared by the Academy of Medical Sciences. I ate just as we do on earth, except that I had to be careful not to open my mouth too wide. Although all my physiological functions were being checked from earth, every now and then I listened to my heart beat. My pulse and respiration, under conditions of weightlessness, were normal. I felt fine, my mind was clear, and I had no difficulty working.

Embedded in my space suit were light, well-placed transducers that transformed such physiological factors as the electric potential of the heart, the pulsations of the vascular walls and the respiratory motions of the chest into electric signals. Amplifying and measuring systems transmitted these impulses earthward. The earth, it struck me, knew more about my physical condition than I did.

From the moment the rocket left the launching pad, all its complex mechanisms were controlled by automatic systems. They operated the rudders guiding the rocket along its preplanned trajectory, controlled the engines that gave it the necessary velocity, and jettisoned the burned-out rocket stages. Automatic regulators kept the temperature inside the ship at the required level and controlled its altitude in space, actuated the measuring instruments and served other purposes.

Also at my disposal was a manually operated flight control system. All I had to do was to throw the appropriate switch and I could take over complete control of the flight and landing. I would then be checking the position of the craft against the instruments, calculating the landing spot, keeping the ship positioned with the altitude control lever, and firing the retarding rockets at the precise moment. There was no need to do any of this, however; the automatic systems worked flawlessly.

I looked out at the surrounding universe and tried to see everything at once. Myriads of bright, cold stars shone through the portholes like diamonds. How far away they were! Scores of flight years, perhaps, but they seemed much closer from the orbit than from earth.

At 10:15, as the vessel was approaching the African continent, I made my scheduled report: "Flight proceeding normally. Enduring weightlessness well."

Return to Earth

The final stage of the flight was approaching—the return to earth. I began preparing for it. I would have to pass from weightlessness to new, perhaps even greater loads, and the ship would be heating to enormous temperatures as we entered the dense layers of the atmosphere.

Until now what I had experienced had been more or less duplicated in the training sessions on earth. What would happen on this last, and most critical, leg of the flight? Would all the systems work efficiently or was there something unpleasant in store for me? Automation was all very well, but I took no chances and checked the ship's bearings so as to be ready to take control and descend to earth independently.

At 10:25 the retarding rockets were fired automatically. The ship slowed down and dropped from its orbit into a transitional ellipse. Soon it entered the dense layers of the atmosphere. The outer skin began to heat rapidly, and through the porthole blinds I could see crimson flames enveloping the ship. Although I was hurtling downward in a ball of fire, the temperature inside the cabin stayed at 68 degrees.

The weightless state had long since passed and the load pushed me back deep into the seat. It mounted rapidly and exceeded the load during the boost stage. The ship began to spin and I reported this to earth. I was alarmed by the spin, but it soon stopped and the descent continued normally. It was apparent that all the systems had functioned without a flaw and that the vessel was heading for the preplanned target area.

I was so happy, I started to sing aloud—my favorite song—". . . My country hears . . . My country knows . . ."

The vessel lost altitude quickly. I began preparing for the landing . . . ten thousand meters . . . nine thousand . . . eight . . . seven . . .

Landing

At 10:55, after circumnavigating the globe, the *Vostok* landed safely in the area designated, in a field of the Leninsky Put Collective Farm, not far from Smelovka village to the southwest of Engels. It was in this part of the country that I had made my first plane flight. How long ago that seemed! Only six years, but what a difference in the two flights. This time I had flown two hundred times faster and two hundred times higher. Soviet wings had grown two hundred fold.

When I reached the ground a woman and a little girl with a spotted calf stood nearby. They looked at me in astonishment. I walked toward them and they toward me. Then they hesitated. I was still wearing the bright orange space suit, and they must have found me alarming. They had never seen the likes of it before.

"A friend, comrades, a friend!" I called out, taking off my hermetic helmet.

The woman was Anna Takhtarova, the wife of a forester, and the child was her six-year-old granddaughter Rita.

"You've really come from outer space?" the woman asked.

"Believe it or not," I said.

At that moment several tractor drivers ran up to me yelling, "Yuri Gagarin, Yuri Gagarin!" We embraced each other like brothers.

Very soon a group of soldiers and an officer drove up in a truck. They hugged me and shook my hand. Someone called me "Major" and I realized that Defense Minister Marshal Malinovsky had skipped a rank in promoting me; it was a very pleasant surprise. Somebody with a camera took a group picture.

The men were very much interested in the spaceship. I gave the *Vostok* the once-over and found its instruments shipshape. They could be used for another flight.

The soldiers stood guard over the spaceship. Soon a helicopter arrived with specialists and aviation officials to register the record flight into space. They remained at the *Vostok*, and I was flown to the command post for my report to Moscow.

I had hardly said hello to my comrades waiting there for me when I was handed a congratulatory telegram from Nikita S. Khrushchev. A while later I was called to the telephone to speak to him. He was in Sochi.

"I am glad to hear your voice, dear Yuri Alexeyevich," was his cordial greeting.

I reported the success of the world's first manned space flight, and he congratulated me again. He asked about my health, whether I was married and had any children, where my mother and father lived and what their occupations were. And before saying good-by: "Once again I congratulate you with all my heart! Till an early meeting in Moscow! The best of luck to you!"

In these exciting first hours after my return to earth I had many happy reunions with old and new friends. Everyone was dear to me. My meeting with Cosmonaut No. 2, who had arrived by jet plane from the cosmodrome to the landing place with the other men who had trained with me, was especially moving.

"Well," he asked, "are you happy?"

"Very," I said. "And you'll be as happy the next time."

We all drove to a secluded house overlooking the Volga. I took a shower and had a combined lunch and dinner, this time terrestrial style and with a good, terrestrial appetite.

Meeting in Moscow

At ten in the morning the scientists and engineers who had prepared the *Vostok* for its first flight gathered in that little house on the Volga. I was glad to see the chief designer among them. He was smiling and he looked younger. Now that a man had actually flown to space, circled the globe and returned, the chief designer felt fine. He embraced me.

To this audience I reported on the operation of the ship's systems during the flight and described everything I had seen and felt. They listened with the closest attention. There were so many impressions and they were so unusual that I wanted to share them with others. I spoke for a long time trying to recall everything to the last detail. Then the questions began. I tried to answer as precisely as possible realizing how important my replies would be for further progress in the conquest of space.

An Il-18 plane came for me from Moscow. As we approached the capital, an escort of MIG fighters, like those I used to fly, met us. They flew so close to our airliner that I could see the pilots smiling at me. I smiled back.

The Il-18 landed and taxied to the air terminal. I put on my dress greatcoat with the new major's shoulder straps, took a last look at myself in the porthole glass, stepped out of the open door and down the gangway. I saw a platform crowded with people and bright with flowers. Leading up to it from the plane was a bright red carpet.

I had to walk the length of that carpet all alone. Never before, not even up there in the spaceship, have I ever been so excited. The carpet seemed endless. With television and movie cameras focused on me, and to the tune "We're Here to Make Fantasy Come True," the flyer's march, I walked along.

I recognized the members of the Party Presidium and the USSR Council of Ministers. I saw my father, mother and Valya, and met the warm, encouraging glance of Nikita S. Khrushchev. I approached him, saluted and reported, "Comrade First Secretary of the Central Committee of the Communist Party of the Soviet Union, Chairman of the Council of Ministers of the USSR, I am happy to report that the assignment of the Central Committee of the Communist Party and the Soviet Government has been fulfilled."

The End

SOVIET DIARY

REMARKABLE RESULTS

THE recently published report of the Central Statistical Board under the USSR Council of Ministers on the fulfillment of the state plan for the economic development of the USSR for the first half of 1961 shows that Soviet industry and agriculture are running well ahead of the target figures set for this third year of the seven-year plan.

In the first two and a half years of the plan Soviet industry produced 15 billion rubles' worth of goods over and above the quota. The output of this 2.5-year period was equal to the total production of the 1951-1955 five-year period.

Industrial production for the first six months of this year was 8.4 per cent higher than for the comparable period of 1960. Average daily output increased by 9 per cent. Almost 35 million tons of steel were smelted, 80 million tons of oil extracted, and 157 billion kilowatt-hours of electricity generated in the first half of 1961. Greater output in these basic industries affect all others, of course.

Production rose sharply in the machine-building industry, particularly in the output of farm equipment, where the comparable period of 1960 was topped by 28-30 per cent.

More machines made it possible for collective and state farmers to sow 18.3 million more acres of grain this spring than last. The acreage sown to fodder corn was also enlarged by 63 million acres.

The southern parts of the country started harvesting at the very tail end of the first half of the year so that they could not be included in the figures published by the Central Statistical Board. But everything thus far points to a fine wheat crop, with harvesting already completed in the Ukraine, the North Caucasus, the Volga Region and Southern Kazakhstan.

The continued rise in the living standards of every Soviet person is closely connected with the successful fulfillment of the seven-year plan. Full employment has long been a fact of life in the country where production is planned and the abilities and experience of every person are put to valued use.

The number of men and women engaged in productive labor keeps growing as the new graduates join the ranks of the workers, inasmuch as all branches of the economy, which develops according to plan, continually require more manpower. In the first half of the year the total of employed persons rose by 4.2 million. A million of them were new secondary school graduates, another 750,000 were just out of college and specialized secondary school.

Wages keep rising. During the six months under consideration earnings of factory and office workers rose by an average of four per cent. In certain industries and in construction the average rise was greater—five per cent—despite the cut in the workday to seven and six hours.

During the six-month period, more than 13 billion rubles were spent for education, public health and other social services, a billion more than in the corresponding period last year. The housing program is moving along fast. In the half year about 500,000 apartments were built at state expense.

CONFERENCE ON HIGHER EDUCATION

IN 40-odd years the Soviet schools of higher education have turned out almost five million well-trained specialists for the national economy. The present college and university student body totals 2,400,000, more than twice the number in all countries of Western Europe taken together.

More than 2,500 professors, teachers, scientists, representatives of the Economic Councils, enterprises and the ministries met in Moscow recently at the All-Union Conference of Workers in the Higher Schools to discuss the changes that had taken place in the work of the higher school since passage in 1958 of the Law on Strengthening Ties between School and Life and on Further Developing the Public Education System in the USSR. The purpose of this law was to relate classroom teaching more closely to life, giving students work experience in factories and on farms, thus improving both the theoretical and practical aspects of learning.

The conference noted that the two years during which the higher schools had worked in the new way had produced good results. The new college and university curriculum provides for more thoroughgoing theoretical study in such subjects as higher mathematics, physics, chemistry and mechanics. The course of study also requires two years of actual work experience.

The general feeling of the conference was that the practical experience in factories and on farms had helped students master their theoretical studies and organize their time more effectively, and had proved an important factor in character building.

Courses in industrial electronics, computing mechanisms and telemechanics are being introduced in the technical colleges. Vsevolod Yelyutin, Minister of Higher and Specialized Secondary Education of the USSR, made the point in his report to the conference that in the very near future every Soviet engineer would have to familiarize himself with electronic and computing machines.

Other educational areas discussed by the conference included the study of the humanities, evening schools of higher education and teacher training schools whose curriculums have undergone considerable improvement.

WINGS OF THE SOVIET UNION

THE annual parade of aircraft at Moscow's Tushino Airport drew hundreds of thousands of visitors this year as it has on previous Soviet Aviation Days. Fliers, glider pilots and parachutists — amateur and professional — passed overhead in thrilling review. The latest achievements in Soviet airplane construction were also demonstrated at the parade.

There were planes that flew at supersonic speed, a plane with a liquid-fuel jet engine capable of developing a velocity more than twice the speed of sound, jet planes with boosters, heavy airships of the most varied types and designs.

A multipassenger aircraft that combined the features of a helicopter and a plane whirled overhead. An armada of turbojet and turboprop passenger planes thundered by. It was led by the TU-114 that recently opened the new long-distance Moscow-Far East route. A helicopter transported a complete prefabricated building—the field laboratory of a geological expedition—and set it down at the airdrome.

Flying is a very popular sport in the Soviet Union. Airclubs, glider stations and model plane workshops provide instruction and use of equipment without cost. The number of flying amateurs keeps growing all the time. Some of them displayed their skill at Tushino, going through a whole repertoire of daredevil stunts. Amateur pilots Vadim Ovsyannikov, a worker at the Minsk Brick Yard, and Vladimir Voloven, a Kiev printer, won special acclaim.

Competing with the fliers and glider-pilots for the attention of the crowd at Tushino were parachutists, many holding world records.

The USSR leads all countries in aviation records. Soviet parachutists hold 56 of the 81 global records registered by the FAI. Among those who made spectators at Tushino hold their breath were Vasili Romanyuk and Ivan Savkin, who have 4,000 jumps to their credit.

A COMMUNIST PARTY MEMBER

By Anatoli Russov

Photos by Alexander Mokletsov

Anatoli Subbotin says, "Every furnace has its own personality. You've got to understand it if you're going to get good steel out of it." He won the Stalin Prize for cutting smelting time.

Anatoli prefers self-study to formal schooling. "I like to keep moving ahead, learning things," he explains. "Keeps a man feeling young." Here he is at the Lenin Library going through recent books on steel.

ASK THE PEOPLE working at the Hammer and Sickle Plant in Moscow about Anatoli Subbotin and they'll tell you—as one of them did me—"You know what they say about flower growers with green thumbs? Well, whatever the equivalent is for steelmakers, he has it."

After fifteen years or so of open-hearth furnaces and rolling mills, Anatoli looks a little as though he were cut out of steel himself. There is a quiet and confident strength in his face and an easy, unhurried calm in his motions.

When we came to the mill, Anatoli was trying out a new furnace. He wasn't altogether happy with it. "You know," he said, "all these improvements and new control gadgets are fine, but every furnace has its own personality. You've got to understand it if you're going to get good steel out of it."

Anatoli is the son of a Moscow factory worker. When he got through high school in 1941, he took a job as apprentice to a lathe operator. He was learning the trade and seemed happy in it when he saw some friends of his smelting steel at the Hammer and Sickle Plant. As he watched the fiery mass flow out of the furnace like quicksilver, he decided that this was where he belonged.

Although he was earning good pay as a lathe operator, Anatoli switched to the Hammer and Sickle Plant as an assistant steelmaker. It took him three years to qualify as an expert steelmaker—that was in 1948. Then, because techniques kept growing more complicated, he took a refresher course given by the plant.

While he was taking the course, he figured out that it should be possible to cut the smelting schedule by a half hour. He went to the superintendent and told him that. The superintendent said it was impossible. And he was not the only one who said that. But Subbotin was not alone either. He was supported by his shopmates, who, like him, were Young Communists.

In the spring of 1950 Anatoli reduced the smelting schedule from six hours 30 minutes to five hours 40 minutes, thereby showing the doubters that the impossible can be made to happen. He received a Stalin Prize—an award given for outstanding contributions in science, engineering, art and literature—for expediting an operation that added tons of metal to the country's annual output.

The Figures Tell the Story

Anatoli keeps informed on the rising production total of the basic metal. "Comparisons tell the story," he says. "Let me give you a few figures. In 1928, when we were starting out on our first five-year plan, we produced 4.3 million tons of steel. By the prewar year 1940 we had already climbed to 18.3 million tons. And in 1950 we were making 27.3 million tons. But that's all ancient history. By the time the seven-year plan ends, in 1965, we will be producing 90 million tons. You can plot quite a curve from these figures. And it's not the curve for steel production only. It also plots the country's industrial growth and the rise in living standards."

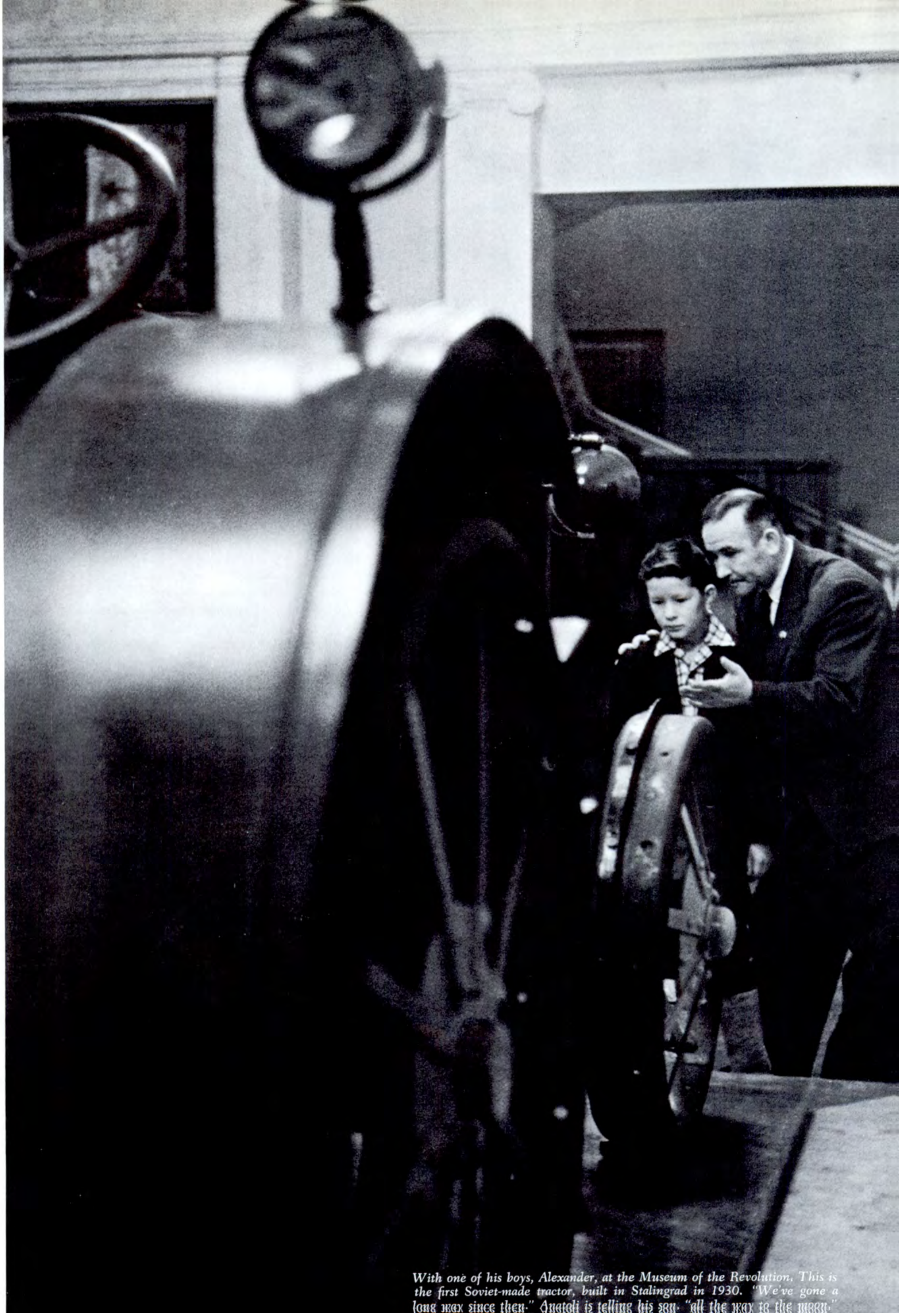
Presently, Communist Party members in the Soviet Union—more than eight million—are making preparations for the coming 22nd Party Congress. Anatoli has pledged to produce 1,500 tons of steel above plan by October 17, the day the congress opens.

"We don't push hard for more steel just to break production records," Anatoli says forcefully. "We need it to make life better today than it was yesterday and better tomorrow than it is today. What we're working for is a future where there will be enough produced to meet everyone's needs and where everyone will find his job a pleasure.

"But to get to that point," he continues, "we must produce an abundance of material goods and services. And that means working as well and as productively as one can."

Working the Communist Way

And that is precisely what Anatoli is doing. It was an obligation he undertook when he joined the Party at the age of 23. His membership gives him no special privileges; on the contrary, it imposes more responsibilities. He is expected to do more than his job calls for, to do better at it than others and in general, on the job and off, to lead by example. Anatoli calls this working and living the communist way. Even in small things, he explains. "Before I joined the Party, I would sometimes yell at a helper to let off steam. Not any more, even



With one of his boys, Alexander, at the Museum of the Revolution. This is the first Soviet-made tractor, built in Stalingrad in 1930. "We've gone a long way since then," Anatoli is telling his son, "all the way to the moon."

Anatoli sponsors the Communist Party membership application of young steelworker Vyacheslav Koptev. Party membership, he explains, gives a person no privileges. On the contrary, it means new responsibilities.

Anatoli's wife Masha is the very young-looking mother of these two big boys. Vladimir is fourteen and Alexander twelve. Masha works in an industrial diamond factory as a grinder. She heads a team of three women.

though there are times when there's good reason for yelling."

As time went on, Anatoli became the person in the shop men looked to for answers, and in 1953 they nominated him for public office. He was elected a member of the District Soviet where he headed the Housing Committee.

"It meant seeing an endless stream of people," Anatoli recalls, "and listening to an endless string of suggestions and complaints. And though I held down my full-time job as a steelworker, I managed somehow or other to find time after work and on weekends to receive people at my home or at the District Soviet office, to look into complaints, to speak at meetings and to write for the newspapers. Every so often I'd have to go to the Moscow City Soviet to argue a point for my constituents. I wasn't able to do everything, but I did manage to get many families moved to new apartments; to get the District Soviet to fix up some of the older buildings; and to get a new laundry, a factory lunchroom and a nursery built. Incidentally, the nursery was built with funds made available by savings on other construction projects."

"By his work he justified our trust in him," Anatoli's constituents said after hearing his report at a meeting.

Self-Study

Books catch your eye as you walk into Anatoli's rather spacious apartment. The shelves are crowded with the novels of Tolstoy, Gorky and Dreiser, and the works of Lenin, Plekhanov, Chernyshevsky and Lunacharsky and the Utopian Socialists Campanella, Fourier and Robert Owen.

Unlike most of his friends who are continuing their formal schooling at one or another of the city's technical institutes, he prefers to study by himself—a personal bias, he says. "When I was taking courses, I studied the theory in my own way. I never followed the sequence outlined in the curriculum. When I came upon a problem I couldn't do, I rummaged through the textbooks. When the textbooks didn't help, I rummaged through technical magazines. As a last resort, I'd ask the instructor."

Anatoli devotes most of his spare time to serious reading and study. Last year, when the mill went over from an eight- to a seven-hour day, he decided to use the extra hour to learn English.

"I like to keep moving ahead, learning things," he says. "It keeps a man feeling young." And he recalls a picture of Father Time he came across in a magazine he was leafing through in his English class. "There was this gloomy-looking, baldheaded old fellow with a scythe in his hand and a malicious grin on his face. He was sitting in a cart that moved along toward some dreary destination, and he was looking backward to the past. But this isn't my idea of Time. I'd picture a group of young, excited geologists scaling a peak that had never been climbed before. Though theirs is not a path of roses, I am convinced they'll reach their goal."

Reaching Into the Future

I'm introduced to Masha, the young-looking mother of two boys—14-year-old Vladimir and 12-year-old Alexander. She works as a grinder of Yakut industrial diamonds at the Elektroprovod Plant, heading a team of three young women. She earns 85 to 90 rubles a month. Anatoli met his wife—he calls her Mashenka—during the war. He was still working as a lathe operator repairing all sorts of damaged weapons that were brought by rail straight from the front and dumped on the factory grounds.

He still remembers that 17th of April. It was a windy, cloudless day, and you could feel approaching summer in the air. He had slipped out of the shop for a smoke and he noticed a girl climbing a pile of slag to watch the unloading of a freight train piled high with wrecked tanks and guns. "She was slim and willowy, and in her light green dress and gay kerchief she reminded me of a spring flower blooming on that hill of broken metal," Anatoli reminisces.

Masha comments with a quiet smile, "That was a long time ago."

"We've all of us gone a long way since," Anatoli says. "A while ago we took the kids to the Museum of the Revolution. The first Soviet-made tractor was on display. It had been built in 1930 at the Stalingrad Tractor Plant and had put in a quarter-century of work on collective farm fields.

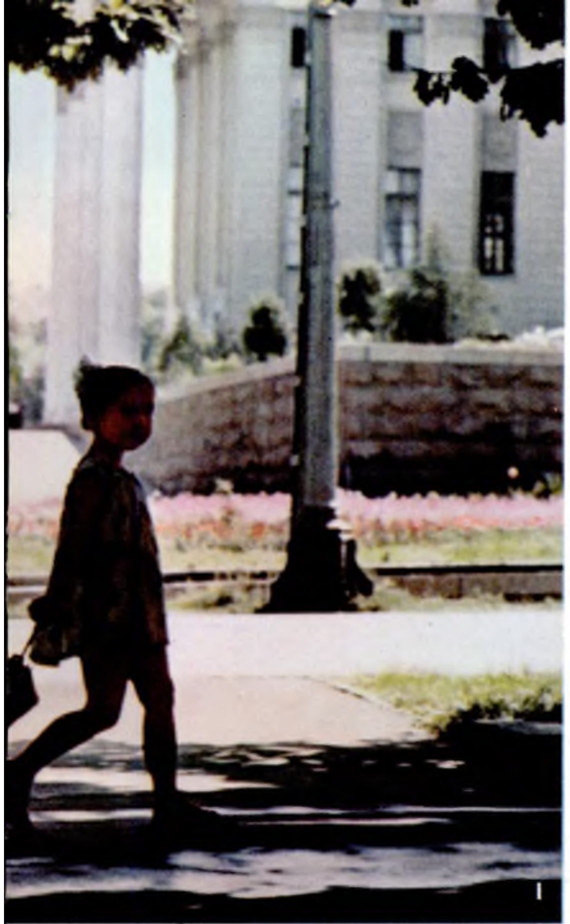
"That tractor kept popping into my mind for weeks afterward. I was in the German Democratic Republic to pass on some of our steel know-how shortly after that museum visit and went with a group of German comrades to an art show of French abstractionists, with a few representational works thrown in for contrast, I suppose.

"What struck me at the show was Rodin's *Thinker*—it was only a copy, and of just the head at that. The eyes look into the future, the face is strained—the man is thinking, trying to fathom still unattainable knowledge. The figures seems to say: 'Man is almightly!' And I recalled Moscow, the solemn hush at the Museum of the Revolution and the caterpillars of our first tractor, polished by the earth so that they seemed to be wet. Then I recalled a Latin proverb I'd learned at school: *Ad astra per aspera*—through obstacles to the stars. And I thought about the long road my country had traveled. We were the first to touch the stars with our sputnik, but a mere thirty years ago we had only this one tractor."

A CHILD'S DAY

A picture story by Dmitri Ukhtomsky

My name is Alia Mamasbayeva. I am six years old. I live in Alma-Ata. That's the capital of Kazakhstan. My mommy and my daddy teach at the university.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1. The day really begins when I start out for the nearby kindergarten. The streets are very sunny; that's why I take my parasol.

2. Sometimes Daddy accompanies me. Near the building Daddy lets go my hand and says, "Go." But he watches me go through the door.

3. It's fun in the kindergarten. We play games and take walks with Teacher. I love to observe the goldfish in the animal corner.

4. I like to draw too, and after we nap I draw till suppertime. The other children play with the blocks and make things with clay.

5. After supper Daddy comes for me. Sometimes he takes me to the park and we go on the amusements. There's one like a plane.

6. If it weren't for Daddy, I would have stayed in the park longer. But Daddy said, "No!" and he would not change his mind.

7. So I had to go home to bed. But on the way we had a long talk and he promised me that next Sunday the whole family would go.


4


6


7

Lydia and August (right) Tomingas work as a team, whether it's raising a family or running a bus.

She's conductor and he's driver on the bus line between Tallinn and the seaside town of Kjasmu.

IF YOU TAKE THE BUS from Tallinn, the Estonian capital, to the seaside town of Kjasmu, you'll make friends—all the passengers do—with August and Lydia Tomingas, driver and conductor, respectively. They've been doing things together for a long time now.

Their passengers are local people and anglers and vacationers drawn to this region of shimmering pine-fringed lakes crowded with fish waiting to be lured. It doesn't take much to start Lydia or August or both of them talking local history and legend, and after a rest stop there is usually a small bouquet in the cab left by the passengers as a token of gratitude to the couple.

Running the daily bus to and from Kjasmu is one of their two major joint activities. The other is building a family. They've been doing a good job at both.

The Tomingases live in the Tallinn suburb of Paaskjula with their two sons, 10-year-old Matti and 12-year-old Gustas, and Grandma, who takes care of the youngsters while the parents are at work.

The Tomingases live simply. Together they earn 200 rubles a month—no great sum, but quite enough for their needs. Family life centers on the children, as it does in any household built on affection and mutual respect.

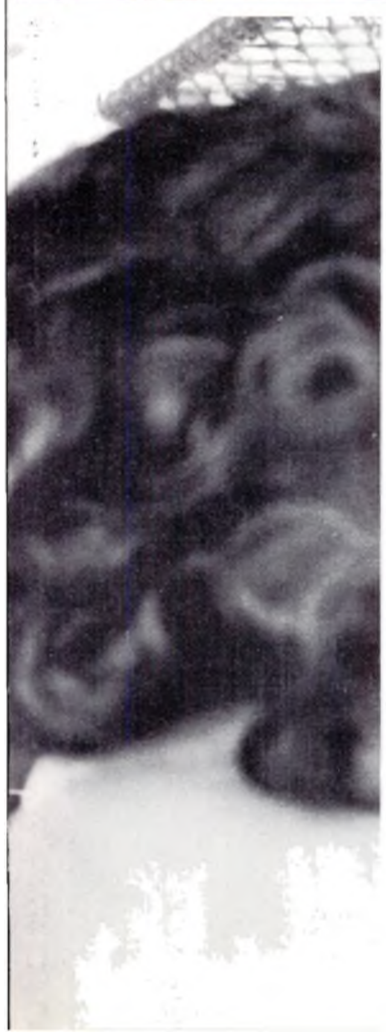
Matti and Gustas are nice, normal children who feel that school and homework are things to get over with as quickly as possible so they can get back to the really serious business of soccer. That leads, from time to time, to equally serious discussion about how much time is being spent on homework.

The Tomingases—young and old—like to do things together. Sundays they spend in the country fishing. Lydia's fish soup cooked over a campfire is very special indeed. Weekday evenings—in whatever little time is left from homework and soccer—the kids battle with Dad over a chessboard or show him the new stamps they've collected.

If you ask the Tomingases how things are going, chances are they'll answer, "Everything's OK." And as you take stock of this friendly family, where each one has the same gay but scrupulous attitude toward his duties and where all love a joke and a good laugh, you realize that the short phrase does indeed express their appreciation of life.

Lydia (left) is friendly on the job. The flowers in August's compartment (on the right) are from one of the regular and grateful riders.

BUS TO KJASMU



It takes work to keep three men—two little and one big — fed and happy.

The way a man looks and how he drives are related, says August.

The Tomingas juniors usually join forces against Dad. It's no walkaway. He has to work to win.

The younger Tomingas generation off to school. August and Lydia have a 10- and 12-year old.

Time out from chores for glancing at the daily, printed in Estonian.

This is their regular Sunday program. All four Tomingases are enthusiastic anglers.

The boys often bemoan the fact that they must take time out from soccer for school.

SOVIET ETHNOGRAPHIC STAMPS

By Ilya Zbarsky

THE FACT THAT all the many nations living within the borders of the Soviet Union enjoy the same political, economic, social and cultural rights is dramatized in stamp issues with ethnographic themes.

The first series, which included 21 stamps, came out in 1933 and pictured the people of the different Union and Autonomous Republics dressed in native costume and engaged in typical vocations.

Last year the first two stamps of another large ethnographic commemorative series were issued. These are big, square, multicolored stamps designed by Victor Pimenov to illustrate the national dress of the various peoples of the Soviet Union. The 10-kopeck stamp pictures Lithuanians performing a national dance, and the 60-kopeck (both in old currency) shows an Uzbek dance performed to the accompaniment of tambourines.

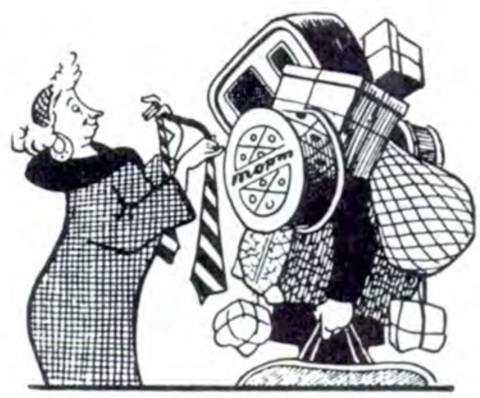
Additional stamps in this series have been appearing this year. Two stamps picture the national costumes of Georgia and a Moldavian folk dance. The denominations of both are two kopecks. Two others of three-kopeck denomination show a group of young Byelorussian women folk singing and two Ukrainian girls dancing to the accompaniment of dombras.

A four-kopeck stamp shows the Koryaks, a Northern people, with hunting trophies. A six-kopeck stamp pictures a girls' chorus and an accordionist in the Russian national dress. The ten-kopeck stamp, dedicated to sunny Armenia, shows men playing national instruments and women singing. Additional stamps in this very colorful national dress series are presently being designed by Victor Pimenov.

HUMOR

If at first you don't succeed . . . eat out.

A little isn't good, a lot may be better.



"Darling, I found just the thing for you."

"I thought no one had anything like it!"

FACTORY  COLLEGE

Up until last year, to become an engineer in the Soviet Union you either studied full time at a technical college and lived on a maintenance stipend paid by the state, or else you worked at a job during the day and studied at an evening technical college. In either case tuition was free.

Now there is a third way of obtaining an engineering diploma—at a factory college. Since the fall of 1960 such educational establishments have been set up at several large industrial plants. One of these colleges—at the Moscow Auto Plant—is the subject of this article.

By Yulia Khoritskaya

Photos by Boris Kaufman

HIS WORK SHIFT over, fitter Ivan Oleinik takes a a shower, changes his clothes, and has his dinner at the plant cafeteria. Then, instead of going home, he and a group of other workers head for the big gray school building near the plant.

It's five o'clock on the dot when Oleinik knocks on the classroom door. He's due for a consultation with Professor Pavel Terekhov. He introduces himself, and the Professor says with a smile, "Oh, yes. You're the student who confessed after our last lecture that the formula H_2O was all you knew about chemistry. Sit down. We've got a job to do."

Two hours later professor and student stop for a smoke. At nine, they take another few minutes for a stretch. And at ten the session ends.

For worker-student Oleinik this is the current week's program—the days at his bench in the plant, the evenings at school.

Next week his program will change and Oleinik will not go to the shop at all. He will attend lectures, study a foreign language and do laboratory work, or have a conference session.

Ivan will be leading this double life as a worker at the Moscow Auto Plant and a student at the Auto Mechanical Institute on the plant grounds until he gets his diploma and qualifies as an automotive engineer.

These factory colleges are designed to relate higher education more closely to practical training, the task posed by the law on the reorganization of higher schooling adopted by the USSR Supreme Soviet in 1958. The law has a wider intent than simply to give future specialists practical production experience while they are at school. Its more ambitious aim is to provide larger numbers of industrial workers and farmers with a higher education, to give men and women with practical job experience who have already chosen their vocations an opportunity to acquire professional skills.

This is the fundamental purpose of establishing these colleges directly at the factories and plants. These colleges, known as factory colleges, were set up at the larger industrial plants in Moscow, Leningrad, Rostov-on-Don, Dneprodzerzhinsk, Penza and other cities.

Back to School

Ivan Oleinik is 39 years old and has behind him study at a tank school, several years of service in the Soviet Army, including frontline service in the Second World War, several more years of advanced study at an army tank school, and more years of service in the Soviet peacetime army.

As a matter of fact, it was only two years ago that Captain Oleinik discarded his uniform. He came to Moscow with his wife and daughter and took a job as fitter on one of the conveyors of the Moscow Auto Plant.

Although graying at the temples, Oleinik gave serious thought to professional schooling. The machinery at the plant was getting more and more complex. This meant that the workers had to have an increasingly better technical background. Besides, he wanted to do more than merely operate the machines; he wanted to learn how to design them.

But there were the practical realities to consider. A day college was not feasible. He had a wife and children to support, and a student's stipend was not enough to keep them all. There was the alternative of holding down his job and going to school evenings, but the business of attending lectures after a hard day's work was not too appealing. It meant having hardly any family life.

It was just about then that Oleinik learned that a college was to be set up at the plant. Its student body was to be made up exclusively of auto workers, and its schedule was to be arranged to suit their convenience. One week students would work at their regular jobs in the shop during the day with laboratory or consultation sessions in the evening, and the following week they would study full time, just like students at any day college.

Apart from all this, they would be getting, in addition to their wages, a stipend 15 per cent larger than that paid to students at the regular day-time Auto Mechanical Institute.

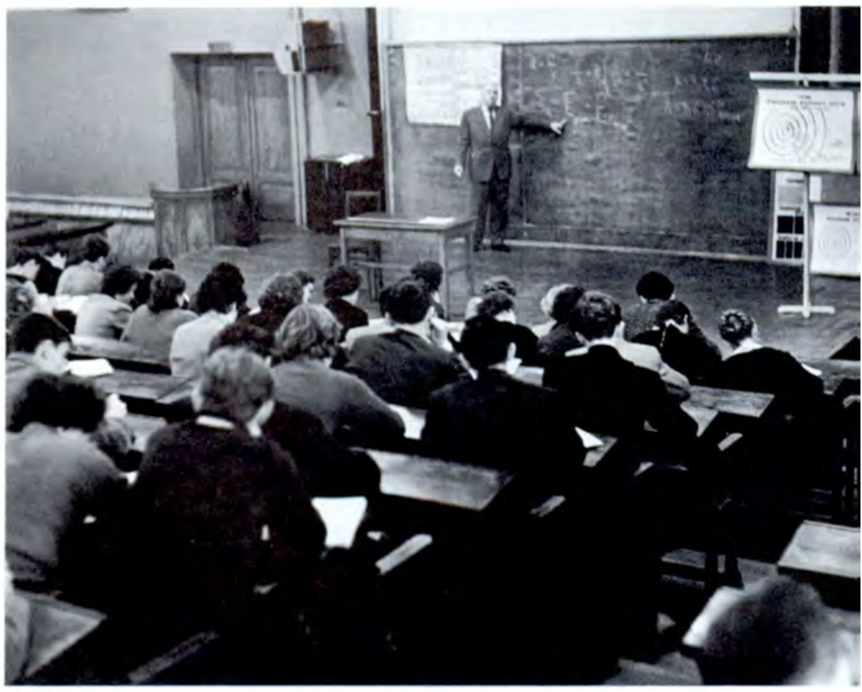
Oleinik decided that the factory college was the answer to his problem. He and some 200 of his coworkers at the plant passed the entrance exams and were admitted to the first-year class.

The Course of Study

The prospective engineers are given a thorough theoretical grounding. Like the students of any other higher technical school in the Soviet Union, they study higher mathematics, descriptive geometry, physics, chemistry and a foreign language. These subjects are given 15 to 20 per cent more time than in day colleges.

This additional time is borrowed, so to speak, from such courses as the technology of metals and the theory of automobile construction.

Factory institute students at an auto plant. This is a new type of Soviet engineering college that combines work and study.



Prospective engineers get a thorough grounding at these plant institutes. The stress here is on theory. This is a chemistry class.

One week students work at their jobs and study nights; the next, they study full time.

The curriculum planners saw no point in having men like Oleinik, who dug around the insides of cars every day, spend 120 hours on the theory of auto construction, and so they cut the course time in half. They also felt that whatever the student did not understand could be cleared up in conference with the instructor. A good portion of the time saved by this reorganization of the usual course of study is devoted to individual conferences and laboratory work.

The college has laboratories for chemistry, physics, machine parts, automobile technology and other subjects. The study halls and laboratories were equipped by the plant, and the apparatus is not only as good as that at the day college but in some cases even better.

The faculty is made up of the best instructors from the Moscow Auto Mechanical Institute, the chief sponsor of the factory college. Professor Pavel Terekhov teaches chemistry; Professor Vladimir Gordon, descriptive geometry; Konstantin Sheptunov, technology. They are all men with years of teaching experience who have made contributions to their specialties.

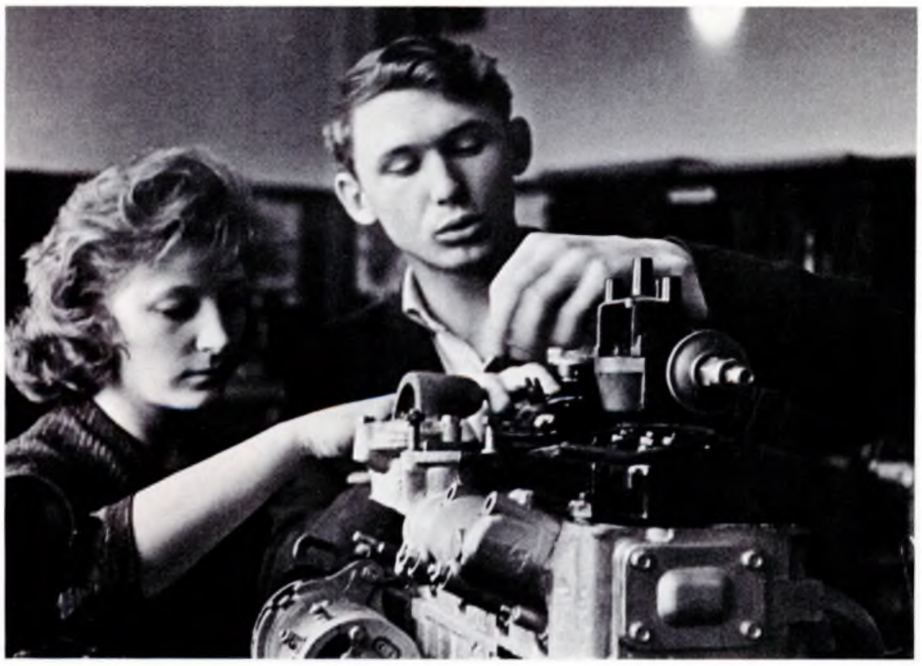
Growing Up to A Job

The aim of the curriculum is not only to give the student professional skills based on a solid theoretical background, it is also to furnish the prospective engineers with wide practical knowledge, a task no less important. That is why his job in the shop is considered part of the study process. In terms of the curriculum, this work is the equivalent of the practical training sessions at industrial enterprises required of students who attend college by day.

With an eye to the specialty of the future engineer, the studies department arranges with the plant management for the student to be assigned to the kind of job that has a direct bearing on his vocational

The school library has a growing collection of 110,000 volumes. The excellent laboratories were equipped by the plant.

Freshmen Irina Shostak and Valentin Babashkin learn engine construction. Besides their wages, students get maintenance stipends.



They will be well-qualified engineers after completing six years of study at the factory institute, with good jobs waiting for them.

choice. For example, Student Vadim Shchedrin, a fitter in the refrigeration department, was transferred to the motor assembly conveyor when he decided to specialize in motor design. Laboratory worker Eleonora Frolova was switched to a shop where she worked with semiconductors, the specialty she had selected.

Each student makes several such job shifts as he goes on with his studies. In his third year he will probably repair machine tools, in the fifth he will be working as a technician and designer, and in his sixth and last year as an engineer at a job which will be his permanently the day he gets his diploma.

The college at the Moscow Auto Plant was founded only a year ago, and its first class will therefore be graduating in 1966. All signs point to a fine, even brilliant, crop of automotive engineers and designers. These will be good theoreticians and first-class mechanics, people able to assemble autos and turn out a part on a lathe, if need be.

The factory college is training engineers for all phases of automobile and tractor building—specialists on internal combustion engines, metal working, thermal treatment of metals, foundry work, and so on.

Ask any freshman what he expects to be doing after graduation, and you'll get pretty much the same answer, "Working right here as an engineer or designer at the Moscow Auto Plant."

He has no doubt that the job will be waiting for him. The directors of the institute and the plant management have worked out an employment plan for the next fifteen years that guarantees every graduate a job for that period. The guarantee is buttressed by the plant's continuous expansion program, improvement in technological processes and the growing demands of the country for motor transport of every kind.

Nor will there be any problem for the graduate who may prefer to work elsewhere. The factory college diploma gives its owner the right to work as an engineer in any plant in the country.

By Sergei Kurashov

Minister of Public Health of the USSR

SOVIET PUBLIC HEALTH SERVICE

A GREAT ARMY OF MEDICAL WORKERS is busy keeping people in the Soviet Union healthy. We have 420,000 doctors, a third of the world's total complement. That gives us one doctor and slightly more than three medical assistants for every 520 people. This pool of health workers is replenished annually by 28-29 thousand new graduates of the country's medical schools. The present medical student body totals 160,000.

There are unlimited facilities available to every citizen for free treatment by not only the general practitioner but also specialists. This includes surgery at clinics. The Soviet Union was the first country in history to shoulder the complete responsibility for the health of its citizens. There is an article in the Constitution of the USSR which establishes the right of every citizen to material security in old age and in the event of sickness or disability.

In a very short period, considered from the historical viewpoint, the Soviet Union has changed from a country with low standards of sanitation and a high mortality rate into one with an enviable health record.

Medical progress is especially striking in those regions that were backward outposts of the Russian Empire and where, before the Socialist Revolution, there were hardly any doctors at all. In these regions the number of practicing physicians is growing at an even faster rate than that of the country as a whole.

Today, for example, Kazakhstan and the Central Asian republics have more doctors than the whole of czarist Russia had in 1913. The ratio of doctors per 10,000 of the population is higher in these regions than in some of the more developed countries of the world and several times that of Turkey, Iran or Pakistan.

The aftereffects of the past war, so far as Soviet health service goes, were cleared up in a comparatively short time. The incidence of sickness and death has dropped sharply. The death rate per thousand is 7.2, the lowest in the world, while the average life expectancy, in comparison with prerevolutionary times, has risen from 32 to 68 years.

Emphasis on Prevention

The Soviet public health service emphasizes prevention, the creation of a physical, biological and social environment that will reduce the possibility of the breakout of new disease to the very minimum. Prevention entails the enforcement of sanitary and safety regulations at places of work, the organization of public catering along scientific lines, the setting of high housing standards for air, light, greenery, and so on.

Any Soviet citizen, wherever he lives, may go to the doctor or, if necessary, request that the doctor come to his home. In both cases the patient receives qualified medical assistance free of charge. For more convenience each physician at a public health institution is responsible for a definite precinct. He is, in effect, the family doctor.

The polyclinic, the largest type of medical facility, corresponds roughly to an American medical center. It has facilities for the diag-

SOVIET MEDICAL EXHIBITS

On view in New York, Chicago and Oklahoma City this fall is an exhibition of Soviet public health facilities and services. The medical equipment section will display some hundred instruments and pieces of equipment used for reasearch and for the more complex types of surgery. The exhibit will interest both practicing physicians and the scientifically-minded layman. The equipment was developed by various Soviet research bodies, among them the Institute of Medical Equipment, the Central Institute of Traumatology and the Institute of Experimental Surgical Equipment. Most of the items shown are mass-produced.

These extraordinarily ingenious instruments for suturing blood vessels are used by surgeons all over the world. Soviet medical men and engineers, working jointly, devised these instruments that simplify a once very delicate surgical procedure and save precious time. Included are instruments for suturing the major blood vessels, the auricular appendages, the lung root, and various areas within the gastrointestinal tract.

noses and treatment of every kind of ailment as well as for dentistry. A polyclinic serves a district which for convenience, sake is divided into wards, each with a population density of about 4,000.

Assigned to each ward are at least six doctors. Two of these six are general practitioners who not only treat patients at the clinic or at home but also carry out a variety of prophylactic measures designed to improve the health of the people in their ward. Each child in the ward is under the care of a pediatrician. The larger industrial establishments have clinics of their own to serve their personnel.

The Soviet health service has special emergency facilities with thousands of doctors standing by for calls at any time of the day or night. When necessary, the patient is taken to the hospital by ambulance. Nearly 17 million such emergency calls are made a year. Planes equipped for emergency treatment serve remote areas. These flying hospitals treat 900,000-odd patients a year.

Mass Physical Checkups

A highly organized health registration system makes for early diagnosis and a larger percentage of cures. It covers the whole population under one or another category. Children from birth to the age of 14 fall into one category; teenagers, another; students of secondary and higher schools, a third; expectant mothers, a fourth; certain chronic disease sufferers, a fifth; people working at special kinds of jobs, a sixth.

This registration system provides for systematic mass medical checkups for detecting in their early stages cardiovascular diseases, malignant tumors, tuberculosis and other ailments. In 1959, for example, more than 26 million people were checked for TB.

The trade unions do a great deal of work in the field of health protection by keeping an eye on working conditions and the enforcement of safety regulations and by providing recreational facilities. The Soviet Union's more than 3,000 health and vacation resorts accommodating six million people a year are managed by the trade unions.

The larger plants have overnight and daytime sanatoriums where their personnel go for treatment and rest after working hours.

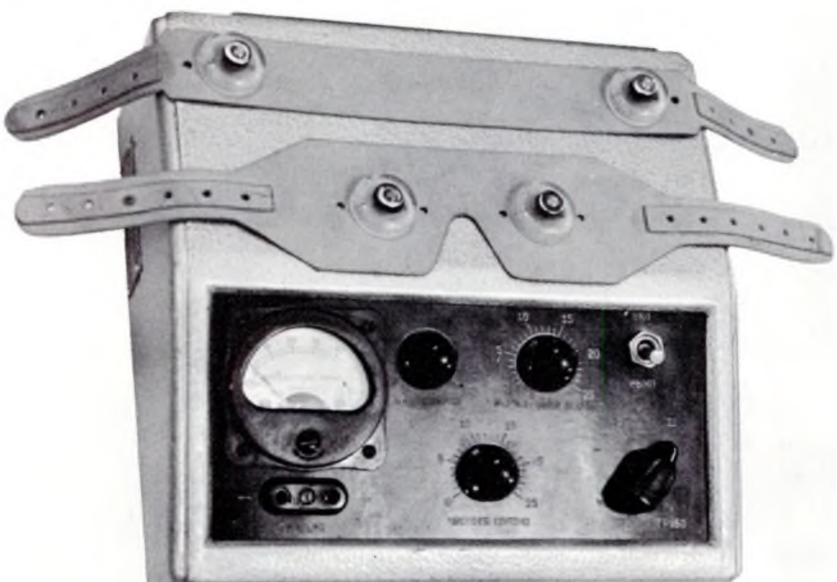
The sports societies also do their part to keep the country healthy by popularizing physical training and sports participation. Millions of Soviet citizens do their daily dozen and setting-up exercises during working hours.

Mother and Child Care

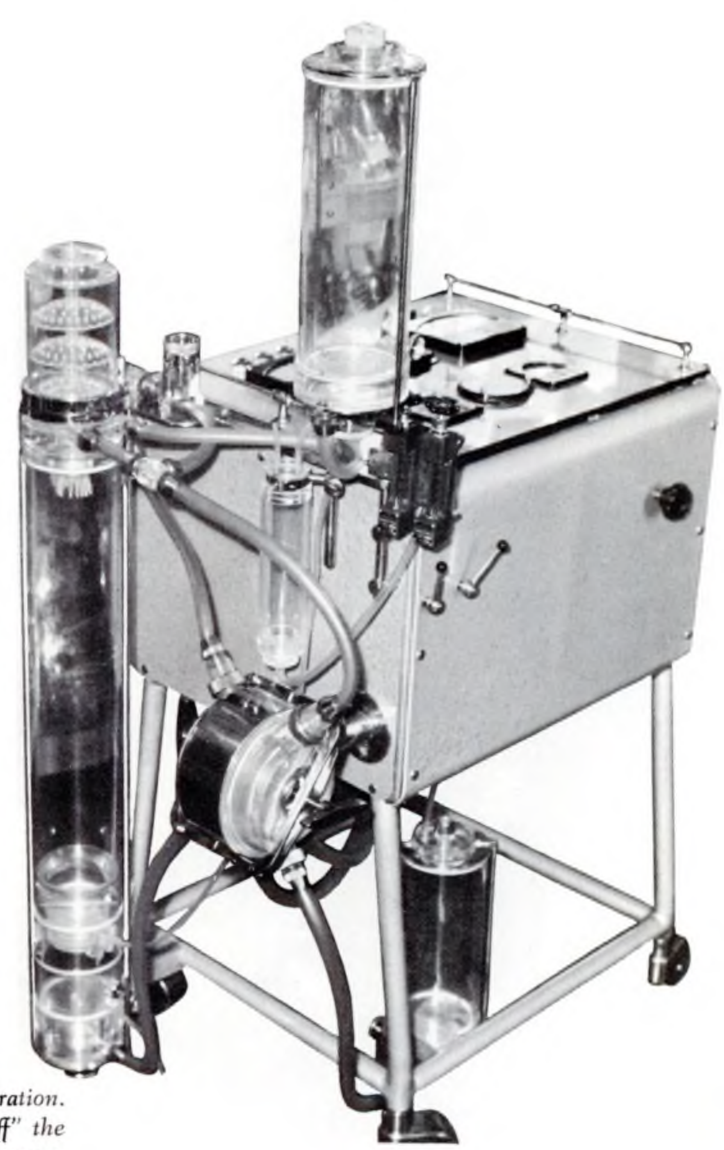
Maternal and child welfare is given special attention. The country's nurseries and kindergartens accommodate more than four million youngsters. They provide conditions for proper upbringing from every angle, including hygiene and nutrition. In addition, in the summer millions of youngsters are cared for at seasonal nurseries, kindergartens and Young Pioneer camps in the country and recreation centers in the cities. Special children's sanatoriums accommodate 120,000 children annually.

Soviet laws regulating the work done by women, especially expectant

in the U.S.A.



A portable "electric sleep" unit for use by surgeons, psychiatrists and therapists. Electrodes are placed on the patient's eyes and back of the head. They inhibit the nerve cells, produce a drowsy state and then sleep. In most cases the patient keeps on sleeping after the current is turned off.



This piece of equipment does the job of the heart during an operation. With the organ mechanically duplicated, the surgeon can "switch off" the real heart and operate with complete confidence that the unit will serve. These machines, now in general use, have saved many hundreds of lives.

and nursing mothers, are stringent. A factory or office executive may be prosecuted for refusing to hire a woman or for cutting her pay because of pregnancy. Women are not permitted to work overtime during the entire period of pregnancy. After the fifth month an expectant mother may not be sent on a business trip that will take her any distance from her home. Upon the doctor's recommendation managers are required to transfer pregnant women to lighter jobs at the same wages they were paid previously.

Paid maternity leave is fixed by law at 112 days—56 before birth and 56 after. If twins are born, or the birth is a complicated one, postnatal leave is extended to 70 days. Mothers are permitted time off from work with no loss of pay for nursing their children. Parents are paid a lump sum by the state at the birth of their third and every successive child and, in addition, a monthly allowance upon the birth of the fourth and every successive child.

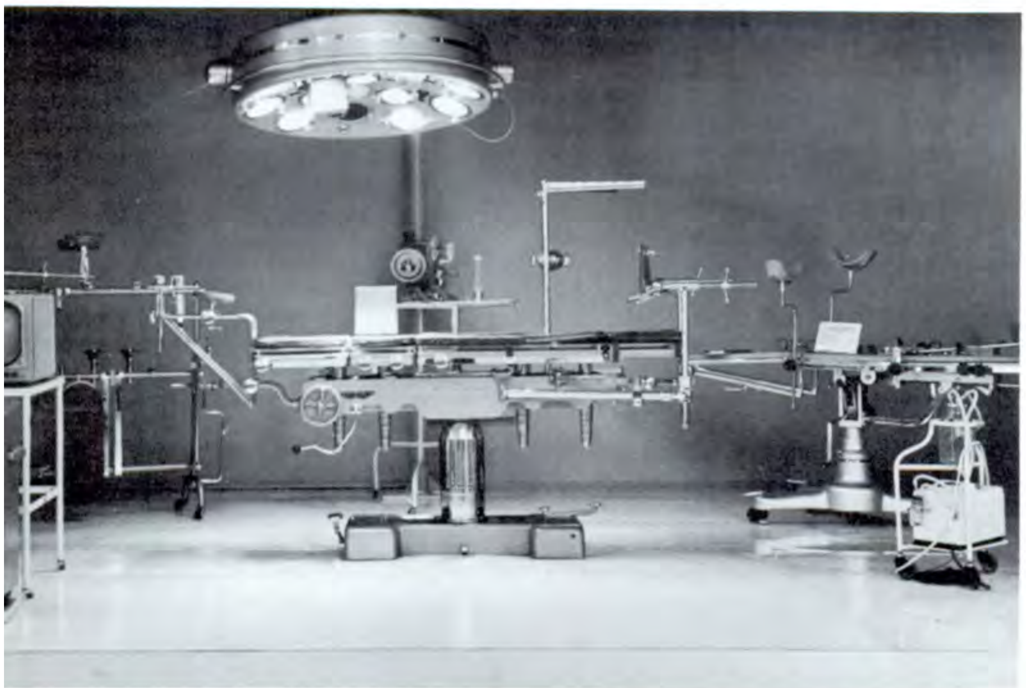
The birth rate in the Soviet Union is high. Last year it was 24.9 per thousand of the population, topping that of every other country. There are more than 16,000 maternity hospitals, which are to be found in all towns and rural district centers. All births in urban areas and three out of four births in rural areas take place in hospitals. Home confinements must be attended by an obstetrician or midwife. As a result of this precaution the number of deaths of mothers in childbirth have dropped by nearly half in the postwar years alone. The incidence now is a very low 0.05 per cent. There are more than 27,000 obstetricians and gynecologists and more than 207,000 midwives at Soviet hospitals, maternity homes and consultation centers and better than 55,000 pediatricians at children's clinics.

Death Rate Cut

Economic and cultural growth and the progress of the public health service in the Soviet Union create objective conditions for a drastic reduction in the incidence of many diseases, if not their complete disappearance. Several previously widespread contagious diseases have already been wiped out. Last year malaria was added to the growing number.

There has been a big drop in the incidence of diphtheria, whooping cough, brucellosis, intestinal infections and poliomyelitis. Last year the incidence of polio in the Soviet Union as a whole was almost half that of the previous year as a result of a large-scale vaccination program in which live antipolio vaccine was used. The vaccination of 80 million persons was made possible by the very simple and convenient dragée vaccine developed by Professor Chumakov's poliomyelitis institute. This year everybody in the Soviet Union between the ages of two months and 20 years will be inoculated with antipolio vaccine.

Soviet scientists have accumulated a great deal of experience with live vaccines, particularly those for use against brucellosis and tularemia. Their work in this field has won recognition in several countries.



With this multipurpose orthopedic table of new design, a product of Soviet medical engineering, all kinds of surgical operations can be performed, including the placing of a plaster cast, if that is required, without moving the patient. The unit has facilities for X-ray photography and a built-in device that makes it possible to follow the operation on a television screen. The findings of electronic and nuclear physics research are built into most of the currently designed medical units.

This artificial kidney can block off the natural organ for hours or even for days while necessary treatment is carried on. It can also, attached to a blood vessel in the arm or leg, be used to drain excess fluid and to inject various drugs and glucose.

They are presently working on an experimental antimeasles vaccine with very encouraging preliminary results.

Heart Disease and Cancer

In the Soviet Union as in many other countries the cardiovascular diseases cause more deaths than any other. In 1958 there were 315 men and 279 women out of every 100,000 who died of heart ailments. This is far less than in Britain, for example, where the corresponding figures for the year were 505 and 410, or for the United States, where they were 578 and 447.

The pioneer strides made in the study of the causes of vascular diseases by such investigators as Nikolai Anichkov, Semyon Khalatov and Georgi Lange have won world recognition. Heart ailments are fought on many fronts—sanitation and hygiene, housing, nutrition, leisure time activity—in general, by creating an environment conducive to longevity.

A good deal of attention is paid to the prevention of circulatory disorders. Physical training and sports play a large role in this connection. Trade-union sponsored overnight sanatoriums at the factories have also done much to combat hypertension.

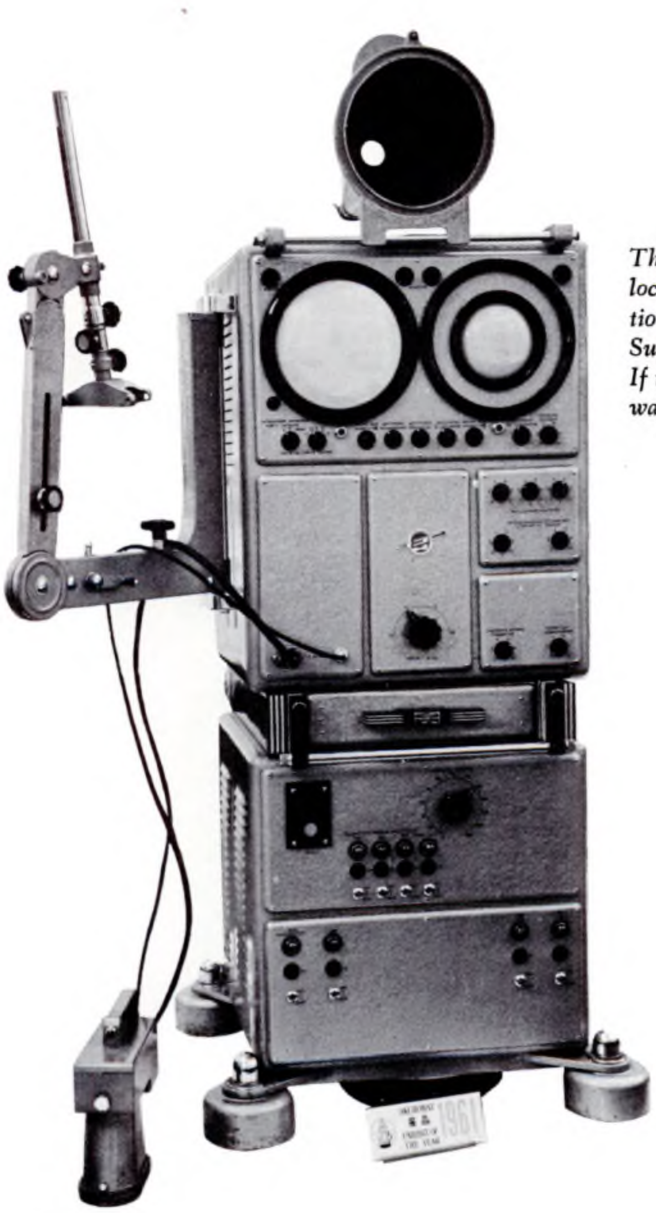
Cancer ranks second only to heart disease as a killer. The oncologi-division of the public health service has more than 226 clinics, 1,500 special wards and 18 research institutes working in the field. A special committee has been formed to coordinate research, diagnosis and treatment. Furthermore, the government has instituted annual prizes for the scientific elaboration of problems involved in the organization of a model oncological service.

An effective drive against cancer, in our opinion, can be carried on effectively only on a nationwide scale by all health institutions, free of charge, and with the participation of public organizations. One of our basic methods of early cancer detection is mass examination of the population. Last year in the Soviet Union nearly 32 million people had cancer detection checkups.

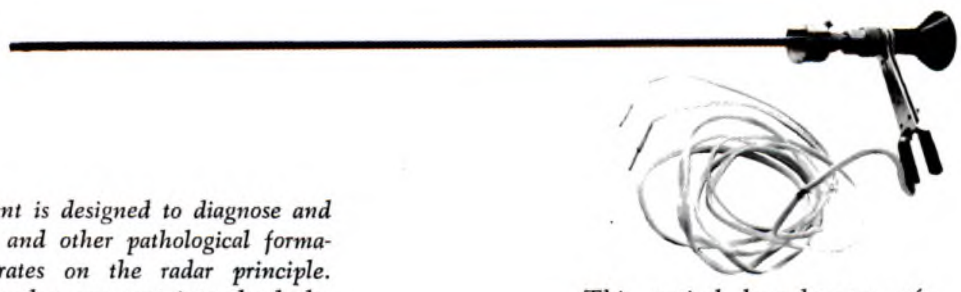
Soviet oncologists maintain constant and close contact with their counterparts abroad. Moscow will be the scene of an International Congress on Cancer in 1962.

Before the Revolution Russia had no pharmaceutical industry of its own. The industry built up since not only provides for our own needs but produces enough pharmaceuticals and medical appliances for export.

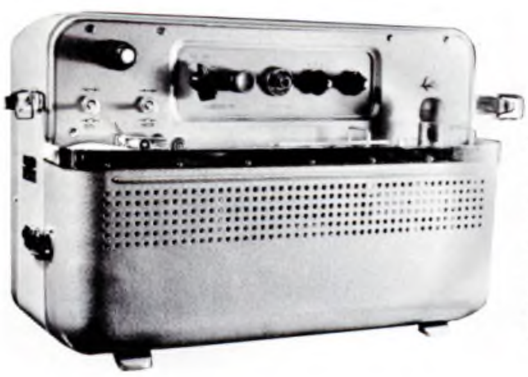
We make several thousand kinds of medicine, including such new antibiotics as colimycin, micerin, erythromycin, sarcolisin and thiophophamide. In one year alone production of some 200 of the latest types of surgical instruments and other medical equipment was begun. Our apparatus for artificial blood circulation, the artificial kidney, the unique instrument for suturing blood vessels and bronchial tubes, and many other surgical implements are in general use by the country's clinicians.



This instrument is designed to diagnose and locate tumors and other pathological formations. It operates on the radar principle. Supersonic impulses are sent into the body. If they meet a tumor or other neoplasm on the way, the impulses are reflected on the screen.



This optical bronchoscope of very original design is used for visual examination of the bronchi and their branches. The lenses placed throughout the length of the optical tube expand its diagnostic usefulness.



This electrogastrograph is a boon to both doctor and patient. It eliminates the need for swallowing a rubber tube to examine the stomach. A number of electrodes are applied to the body to give the organ's biological potential.

QUERIES FROM READERS

QUESTION: A number of Detroit readers ask about the procedure for hiring and firing workers.

ANSWER: One of the most important constitutional rights guaranteed the Soviet citizen is his right to a job. Nor is this merely a formal right. There are jobs available to suit every skill and interest. Socialist planning did away with unemployment several decades ago.

Every working citizen has a passport and a workbook. The passport is his official document for identification. The workbook lists his job background and his citations and bonuses for good work. It does not list the reprimands or admonitions he may have received; the law forbids that. Both passport and workbook are presented by the worker when applying for a job. He need not supply any kind of reference.

There is a short trial period with full pay—about a week for factory personnel, no more than two weeks for office workers. Before a person takes a job, the management is required to tell him exactly what the pay and working conditions will be. The hired worker is issued a paybook in which are entered his monthly earnings.

A worker who wants to leave a job is required to give two weeks' notice to enable the management to find a replacement. If the management wants to fire a worker on its own initiative, it has to follow through a carefully detailed procedure set up to protect workers against arbitrary dismissal. This procedure must be followed even when the incompetence of the worker is obvious. Under any and all conditions a worker may be fired only with the consent of the trade union committee in the enterprise where he works. That is the law.

Does this mean that the trade unions defend incompetence? Nothing of the sort. But firing is an extreme measure to be taken as a last resort, and the job of the trade union is to make sure that all other steps short of that have been taken.

The first question the trade union asks when the management wants to fire a worker for incompetence is: "What steps have been taken to improve the worker's qualifications?" The second question: "Have efforts been made to transfer him to work for which he may be better suited?"

Soviet law stipulates that heads of enterprises who violate the rules for hiring and firing industrial, office and professional workers are liable to court prosecution and administrative punishment.

That is why every worker can be sure that the state and judicial organs will always be on his side if anyone violates his lawful rights.

QUESTION: What is the difference between collective and state farms?

ANSWER: Collective farms are cooperative agricultural enterprises in which the farmers of one or several villages have joined voluntarily to carry on farming in common. The means of production (machines, buildings, equipment, etc.) and the yields (crops and livestock) are the collective property of the members. The land remains state property,

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Let's talk HATS

By Galina Vasilyeva

THE HAT is the most perverse item in a woman's attire. Displayed in the millinery shop, a woman finds it irresistibly elegant. She puts it on and looks a frump. A hat can do wonders for a woman or can prove her sad undoing. There is the line of the hat to consider, its color and trimmings, and whether it complements clothes, hairdo and accessories—all weighty considerations.

Perennial questions in millinery shops: "Do you have a chic hat that I can wear with a gray suit?" "Does this go well with my hairdo?" Salesladies are sympathetic and helpful. They get special training, learn clothes styling and—no small part of a saleslady's job—how to advise an elderly, largish customer tactfully that the hat she's crazy about is strictly for a pretty young thing. Many of the salesladies are graduates of special schools sponsored by the Ministry of Trade.

Soviet women are now shopping for their fall hats. They have a wide choice of styles and colors in soft felt, wool and artificial fur. The demand is mostly for pastels—light blues, pinks, beiges, lavenders—not nearly so much for such eye-catching, flashy colors as shocking pink, for instance.

The latest thing in hats is displayed at the USSR Fashion House in Moscow, where the designs originate. Nina Zamorskaya, one of the Fashion House designers, says, "We often use folk motifs in creating new models and, of course, we try to do the most modern styling."

New designs are submitted for consideration to the Art Council of the Millinery and Fur Modeling Trust made up of designers, art critics, specialists in costume history, actresses, women journalists and representatives of the millinery industry.

Once approved, the new model goes to the Price Bureau of the Trade Board where the retail sales price of the hat is fixed on the basis of the cost of the material and the quality of workmanship.

A summer hat made of raffia or monofiber is sold at one or two rubles, straw hats for three. Prices for felt hats range from five to seven rubles, and velour hats run from nine to eleven rubles.

Many of the new models are made of synthetic materials. Velvet, silk and felt are gradually being supplanted by anid, lavsan, nitron and capron.

The USSR Fashion House takes part in annual international fashion conferences, and USSR Fashion House hats are displayed at numerous exhibitions. At the Brussels Fair Soviet hat designs won the Bronze Medal.

that is, belongs to the whole people, but is deeded to the collective farm members for free use in perpetuity.

State farms are set up on unused land and are owned and operated by the state. Their means of production and yields are state property. Occasionally a collective farm is transformed into a state farm, but only with the consent of the member farmers.

The highest organ of management of the collective farm is the general meeting of its members, without which no question is decided. The general meeting elects the managing board and chairman. They direct all farm affairs and report regularly to the collective farmers.

The state farm is run by a government-appointed director, whose orders and instructions are binding on all the farm's workers. But the director, like any other Soviet executive, always takes into account the opinion of the personnel and relies on their initiative. He consults with the workers in drawing up the production plan, in planning measures for improving the operation of the plan, and in other activities.

State farm employees in the Soviet Union are not seasonal workers. Their jobs are permanent and they have the same rights and privileges as workers in industry. They have their trade union and, like industrial workers, may not be dismissed without the consent of the union committee on the farm where they are employed.

The workday unit is used to calculate the collective farm member's share—in cash and kind—of the farm's income. The workday unit takes into account the quality and quantity of his labor. The more complex the work, the more effort and skill it takes, the more workday units the farmer gets. In the course of one working day he may earn more than one workday unit.

The income of the collective farmers also depends on the value of the workday unit in terms of cash and kind. This is determined by the results of the common effort. The higher the farm's income, the more the workday unit is worth. Consequently, the farmer is as much interested in improving the farm as a whole as he is in earning more workday units.

All outlays for machinery, implements, seed, fertilizer, etc., come out of general, not individual, income. Collective farmers pay no income tax.

In recent years collective farms have been switching over to direct cash payment for work done. This preferable form of settling accounts has been made possible by the growing cash income of the farms. Between 1958 and 1960 their incomes increased by a billion rubles to a total of 12.9 billions (in new rubles).

A state farm employee is paid wages set by the state in the same way as an industrial or office worker. How much he makes depends on his qualifications and experience. On jobs where the piece-rate system is used, it also depends on the amount of work he does. As in industry, an incentive system is used under which, in addition to wages, bonuses are paid for especially efficient work.

Each collective farmer has his personal kitchen garden, orchard, livestock, poultry and garden tools. This is aside from the property owned by the members in common. The income received from the sale of the produce raised on his personal plot adds to the income he receives from the collective farm.

A fetching braided straw hat, with ribbon trim, for summer.

A close-fitting fur felt for cool weather.

A rakish fur felt chapeau for fall.

A lightweight felt for early autumn.

Airy, hand-woven rice straw for the summer.

Although quite isolated geographically, the people of this mountainous area are by no means separated from the main stream of Soviet life.

IN SVANETIA

On the right is the House of Culture in Mestia, the region's administrative and cultural center, where Svanetians gather for films and concerts.

By Leon Machaidze
Photos by Alexander Mokletsov
Drawing by Dinara Nodi

DAWN COMES early in the heavily wooded mountain country of Svanetia, a soaring mile and more above sea level. But the sun's rays have a daily struggle with the dense cold mists that rise reluctantly from the Inguri River Valley to fade into the narrow strip of sky above the peaks.

Now, mingling with the roar of the river and the rumble of huge rocks tossed about like pebbles by the racing waters, come the new morning sounds. They grow insistently louder.

A man clambers up the mountain path. The road grows steeper and more difficult as he climbs, until it ends abruptly at a cleft in the mountains. He jumps across with agility.

Every Svan is trained from childhood to scale the mountain ridges and be a good mountain guide. Alpinists come from England, France, Italy and other countries to climb beautiful, and formidable, double-crested Mt. Ushba.

Our climber stops at a clearing, the ground strewn with felled timber. From a distance comes the hum of power saws. Then suddenly, a towering fir lunges forward and, with a fluttering of its branches, drops gently to the ground.

With the yells of the lumberjacks as accompaniment one centennial fir after another falls with a heavy thud. After a while, the men come through the trees into the clearing. They all have the same tall, lean build and wear the white Svan cap, traditional to the region.

Ramin Kvitsiani, who manages the lumberyard, has just come into the clearing.

"Morning, Ramin," the men greet him.

Lemin Shampriani, a team leader says, "You're early this morning. Anything worrying you? You look pretty much upset about something."

"Yes," answers Ramin, "we've got to get moving. The flood's high, the river's all ready to do the work for us. And I've had a call from Zugdidi. The pulp mill wants the order in earlier, so we've got to step on it."

Seeing these men so companionable, it's hard to believe that many of their fathers and grandfathers were involved in centuries-old vendettas which took an enormous toll of lives.

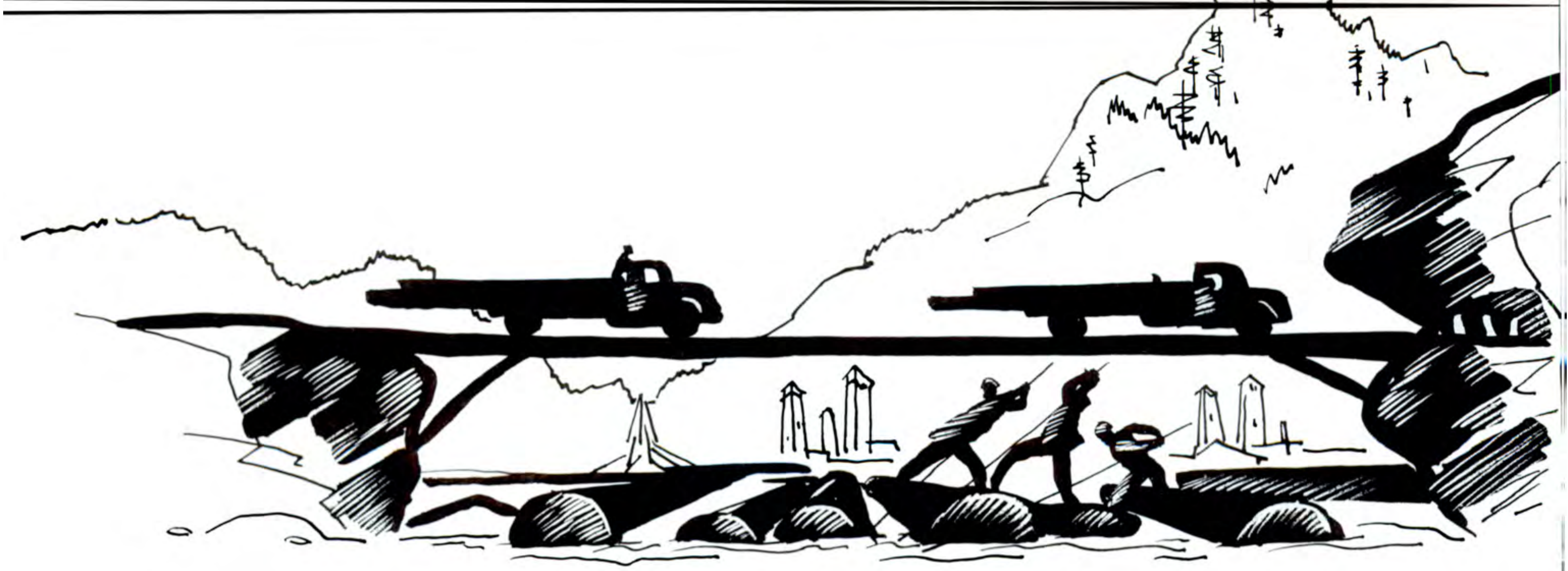
The old stone towers, seen everywhere in Svanetia, stand as mute reminders of those terrible times. Each clan had its own tower, sole refuge from the avenging hand of an enemy clan.

The feudal lords of Svanetia encouraged these vendettas as a way of diverting the downtrodden peasantry from rebelling against their rule. There were natural afflictions besides. Wheat would not grow in this mountain soil, and the lack of salt was as frequent a cause of death as the blood feuds. Hunger and the complete absence of medical care decimated the Svanetians. It is only in the past few decades that this small nationality of perhaps thirty thousand people was given a new lease on life.

A New Life for New Times

Today, in Mestia, which is the cultural and administrative center of this mountain region, alongside the ancient towers, Houses of Culture have been built where Svanetians gather for films, concerts, lectures and amateur shows.

Popular with the younger folk are two venerable amateur performers



Shepherds Seid Djaparidze (left) and 102-year-old Tariel Djaparidze (right) are the most popular performers in the amateur song ensemble.

In Savanetia, a rugged region a mile above sea level, every citizen is trained from childhood to scale the mountain ridges and be a guide.

Seid Djaparidze and 102-year old Tariel Djaparidze for their rendition of "Lile," an ancient Svan hymn to the sun that goes back 2,000 years. Both these ancients are still hale and hearty, with no intention of departing this life for a long time to come, and both insist upon holding on to their jobs as shepherds.

There are 23 Houses of Culture, 14 village clubs, 13 libraries and 11 museums in Svanetia. This region, whose population was almost completely illiterate, now has 53 schools, with 600 teachers and 20,000 students in attendance. Tina Gvarliani is typical of the Svan teachers. She is a graduate of Stalin University in Tbilisi, the Georgian capital.

Svanetia is an administrative part of Georgia, and although the region is difficult of access, the republic does everything possible to make certain these mountain people are not isolated from the main stream of Soviet life.

All the Svanetian villages have electricity. A power station which will have the highest dam in the world is presently being built in the mountains. Telephones and radios are in general use. Foodstuffs and consumer goods are delivered by plane as well as by trucks over a highway that cuts through the mountains to Mestia.

The region has a large central hospital, five precinct hospitals and 18 medical aid stations staffed by 40 physicians and their 90 assistants. The practice of Dr. Estate Kvitsiani, who heads the Medical Center in the village of Becho, is representative of most of the physicians in the region.

After a day's work at the center, he mounts his horse and visits patients in the remote mountain villages. He makes his rounds in all kinds of weather, storm or blizzard notwithstanding. His main concern is the prevention of disease.

In the period since the Revolution, Svanetia has witnessed the birth of its own intellectuals and its own working class. Lumber is the major source of wealth, but other industries are developing fast. In the local industrial combine being built one of the components is an up-to-date cannery.

This is a region and a people reborn. It is evident in every aspect of Svanetia's life.

Soviet research physiologist Professor Negovsky demonstrating his method of resuscitation after clinical death to American, Dr. Claude Beck (with glasses).

SOVIET AND AMERICAN RESEARCHERS MEET

By Stanislav Pshennikov

SCIENTISTS in many countries are working on the most dramatic of medical problems—the revival of an organism after clinical death. Professor Negovsky, head of the USSR Academy of Medical Sciences' laboratory of experimental physiology, has made important contributions to the study.

The laboratory was recently visited by Dr. Claude Beck, eminent American heart surgeon, who was first to get a patient's heart beating again after clinical death. This was fourteen years ago.

Both researchers have been corresponding and exchanging papers for some two decades, but this was their first meeting.

Dr. Beck told Professor Negovsky about the success the latter's article had had in the United States when it was published. The Soviet surgeon was the first in the world to revive a dog two hours after its heart had stopped beating and clinical death had set in. This scientific contribution is of enormous importance, opening up new possibilities for resuscitating human beings.

Professor Negovsky demonstrated his method. Blood is injected under pressure into an artery. At the same time a special apparatus pumps air with a high oxygen content into the lungs. This restores the work of the cortex.

Dr. Beck spent an interesting day talking to Professor Negovsky and his staff. He later told a newspaper correspondent that the importance of Professor Negovsky's work could not be overestimated. He said that the Soviet scientist's achievements, the experiment itself, and detailed study of the laboratory's work had provided him with a wealth of new data on the problem of resuscitation.

Dr. Beck spoke to the laboratory staff on his own method of surgical treatment of coronary disease and illustrated his talk with a film.

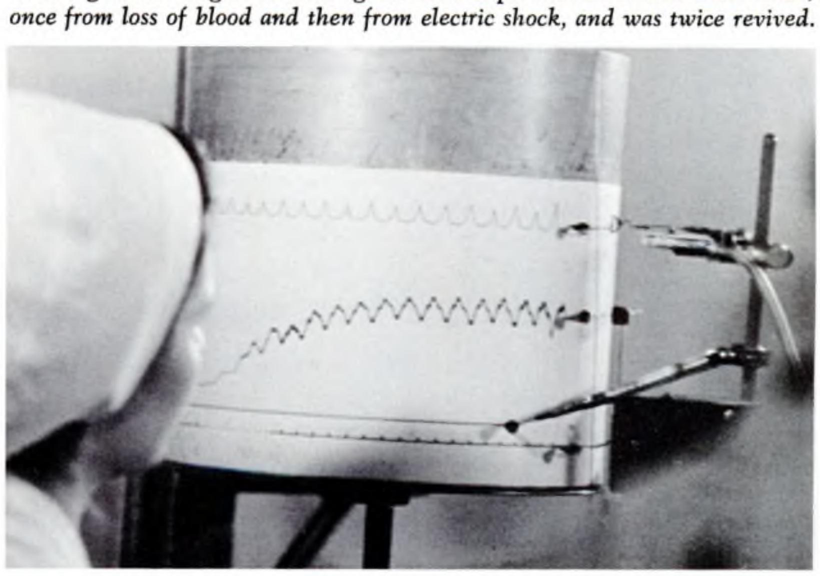
At the Institute of Thoracic Surgery the American scientist witnessed two operations on the heart.

Dr. Beck said he was happy to have had the opportunity to meet Soviet scientists and thanked the Union of Soviet Societies for Friendship and Cultural Relations with Foreign Countries for their invitation to visit the Soviet Union.

He declared himself very much in favor of more USSR-USA scientific exchange. It would help greatly, he said, in the solution of complex scientific problems, particularly those in medicine.

Both men have made major contributions in this field of research. They had been corresponding for twenty years, but this was the first time they met.

The dog's heart begins to beat again. The experimental animal died twice, once from loss of blood and then from electric shock, and was twice revived.



GORKY is the fifth largest city in the Soviet Union, and the Gorky Economic Area, after Moscow and Leningrad, is the country's third largest machine-building and metal-working center. The Gorky trademark appears on the Volga and Chaika passenger cars, on trucks of all types, on program-controlled automatic machine tools and on river boats. The factories of this economic area manufacture synthetic fabrics, leather substitutes, washing machines, refrigerators, and far too many other items to list.

Previous to 1958 the plants were run by various ministries and departments in Moscow. Now they are all administered by the Gorky Economic Council. The council is made up of 17 leading specialists in various spheres of production who have the authority to make independent decisions on production problems. They cannot, obviously, be expected to deal with the multiplicity of details that arise. Another, and larger body, the Technical Council, helps them.

This Technical Council depends on public assistance in all its activities. It has two major functions: the first, to consider scientific, technical and economic problems pertaining to the development of the industries in the area; the second, to study and introduce into production new types of machines and equipment and new methods.

Nikolai Anishchenkov, who works in the open-hearth shop of the Krasnoye Sormovo Iron and Steel Mill, has been a member of the Technical Council since it was formed in the fall of 1958. He was nominated by the Communist Party Committee and the Trade Union Committee of the plant after a preliminary discussion by the men in his shop. They thought him one of the best steelmen in the mill, a man who generously shared his experience with others and kept himself well informed on current steel developments by attending an evening technical school. For these reasons they thought he would make a decided contribution to the council's work.

In addition to Anishchenkov, the Krasnoye Sormovo nominees for the Technical Council included Mikhail Yuryev, the mill director; chief metallurgist Nikolai Mayorov; designer Rostislav Alexeyev; engineers Yuri Chigir and Victor Moskovkin; lathe operator Anatoli Godyayev; smelter Ivan Belov and fitter Pyotr Shachkov. Their candidacy was also discussed at meetings of the men in the various shops and departments, and on the recommendation of these meetings the Communist Party Committee and the Trade Union Committee of the plant presented their names for the approval of the Economic Council.

Other plants in the city chose their nominees in the same way. So did such institutions as Gorky University, the Polytechnical Institute and the Scientific Design Research Institute. After the Gorky Economic Council had approved the nominees, they were formally constituted as the Technical Economic Council.

This advisory body has a membership of about 300—approximately 150 engineers and benchworkers; 50 scientists; 40 representatives of the Communist Party, trade unions, youth leagues and other public organizations; and some 60 staff members of the Economic Council proper.

The Technical Council meets in plenary session once every three months. In the interim the council's presidium of some 80 people acts on its behalf. Every member of the council is active in one of its 70 sections or standing committees, depending upon his speciality and experience.

Participating in the work of the sections are engineers, benchworkers and scientists other than the Technical Council members. The membership of the sections total 1,500—more than 1,000 engineers and benchworkers, about 150 scientists, and 300 or so staff members of the Gorky Economic Council. Such eminent scientists as Grigori Rasuvayev, Corresponding Member of the USSR Academy of Sciences; Professor Nikolai Mazokhin of the Gorky Polytechnical Institute; and Professor Sergei Prokhorov are active participants in this industrial planning.

The Technical Council and its sections depend a great deal on the plant production council, which bears the same relation to plant management as the Technical Council does to the Gorky Economic Council. The plant production council serves as a kind of advisory body to the plant's chief engineer. With these plant councils the total number of consultants comes to 6,000.

Every major technical problem is first discussed at the plant level, then in the respective section of the Technical Council, then at its plenary session. The decisions finally reached therefore carry the authority not of the Economic Council alone but of the many hundreds of people who contributed their knowledge and experience.

New Machinery

Nikolai Mazokhin designs engines at the Gorky Auto Plant—where he rose from technologist to deputy chief designer—and teaches at the Polytechnical Institute, where he is professor and holds the chair of internal combustion engineering.

With a group of design bureau staff workers he recently developed an original type of so-called prechamber engine that runs on leaner gasoline mixtures than the customary type, weighs about the same and boosts power by 10-14 per cent with less fuel.

Mazokhin gives credit for the new engine not only to the designers but to the automobile section of the Technical Economic Council that nursed the project along. An active member, Mazokhin reported to the section periodically on the progress being made in the experiment and asked advice and help on verious problems. Members of the section visited the plant, familiarized themselves with the laboratory installation and gave invaluable advice.

The Technical Council played an important role in introducing an installation for continuous pouring of metal in the region's steel mills. The method, favored by both Soviet and foreign specialists, is timesaving, increases the output of the open-hearth shops, and lightens the work load considerably.

The installation project was supervised by Nikolai Mayorov, chief metallurgist of the Krasnoye Sormovo Mill. Steelman Nikolai Anishchenkov, previously mentioned, worked on the project.

The project was discussed at several sessions of the Technical Council's metallurgical section and, on its recommendation, was approved by the Gorky Economic Council. For setting up the first installation of this kind in the Soviet Union, a group of workers at the Krasnoye Sormovo Mill were given the Lenin Prize, the country's highest award for achievement in science and technology.

The operation of this pilot installation was followed closely by the metallurgical section and the Technical Council. Nikolai Anishchenkov was assigned by the council to head a group to study possible improvements. The group submitted a detailed report of its findings. The second installation benefited very considerably from the study. By incorporating more recent applications in automation and telemechanics, a better and more productive unit was obtained.

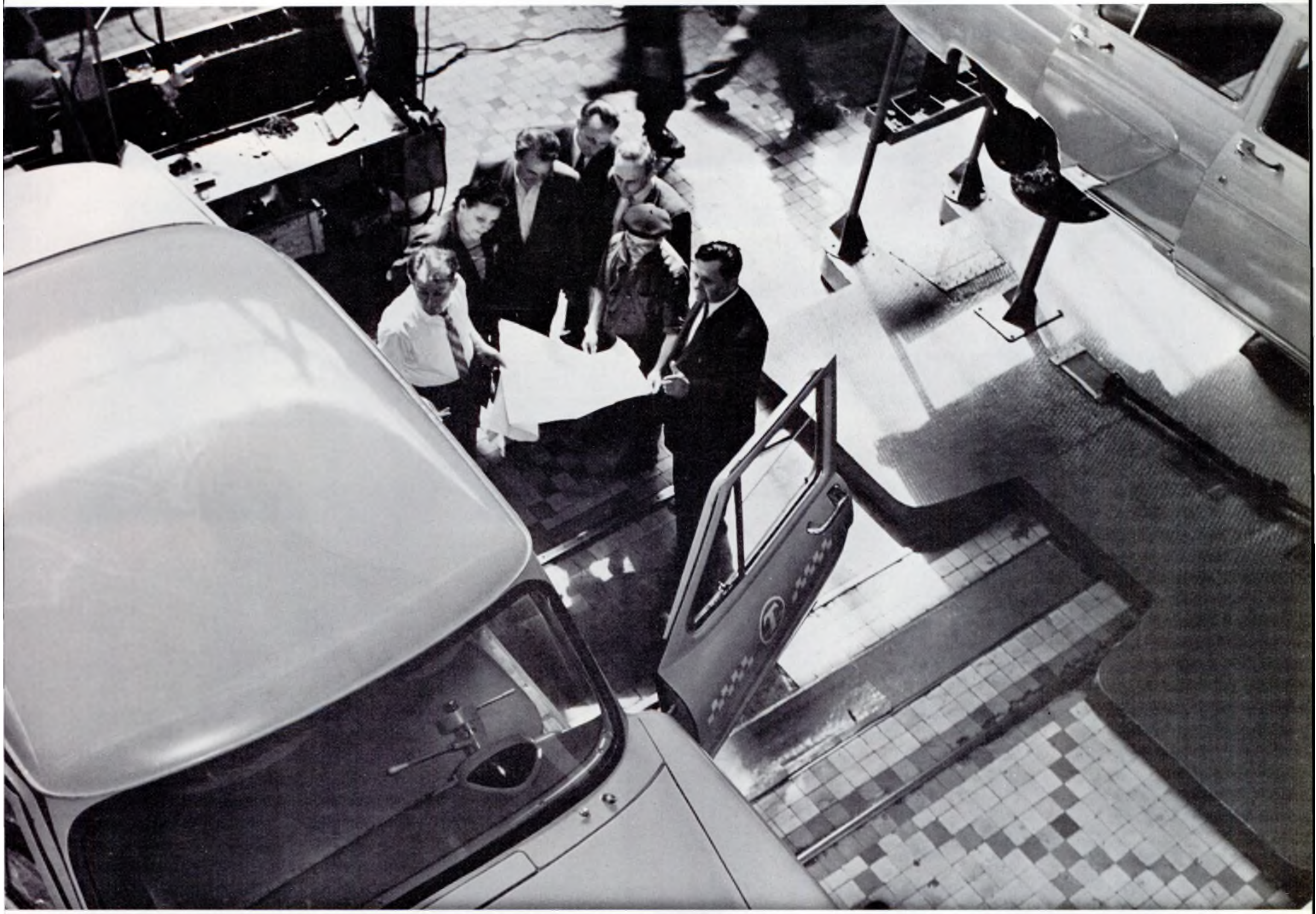
The question of introducing the latest machinery is under perennial discussion at sessions of the Technical Economic Council. The plants in the Gorky Economic Area install new machines almost constantly. An interesting example is the champagne factory where an entirely new method has been introduced. The automated method, which speeds up production time and improves quality, won a Lenin Prize for the group of scientists and engineers who devised it.

The proposal to automate the winery originated at a session of the food industry section of the Technical Economic Council. Now three mass-production lines for champagne making are in operation. Using

PRODUCTION PARLIAMENT

By Yuri Grafsky

Photos by Alexander Mokletsov



Members of the Technical Council of the Gorky Economic Area going through an auto plant for improvements. This advisory council has some 1,500 members in the various industrial specialties.

Nikolai Mazokhin, a council member, is chief designer at the Gorky Auto Plant. He headed up a group that designed a new type of engine. It is 10-14 per cent more powerful than the old type, weighs no more and even uses less gas.

Engineer Dorofei Kozlov is a member of the power section of the Technical Council. He and others worked out a project for cooling the generator at the Gorky Hydroelectric Station and thereby raising its power capacity.

the same number of workers, production was stepped up 33 per cent.

The Technical Council and its sections are most receptive to new ideas. Some time ago a group of engineers from the Gorky Hydroelectric Plant attended a session of the power section. Dorofei Kozlov, superintendent of the electrical shop at the time and now chief engineer, raised the question of whether the turbines at the station could not take a greater load and thereby increase the station's capacity.

The opinion of one of Moscow's research institutes was sought. Simultaneously the engineers and technicians of the station itself—Nikolai Vasilyev, Dorofei Kozlov and Konstantin Sokolov—tackled the problem and worked out a project for ventilating and cooling the generator that raised the capacity of the power plant from 400,000 to 520,000 kilowatts.

The Technical Council does a good deal to popularize improved working methods. Faina Klebanova, an engineer at the Gorky Auto Plant, who heads the varnish and paint section of the Technical Council, gives this illustration.

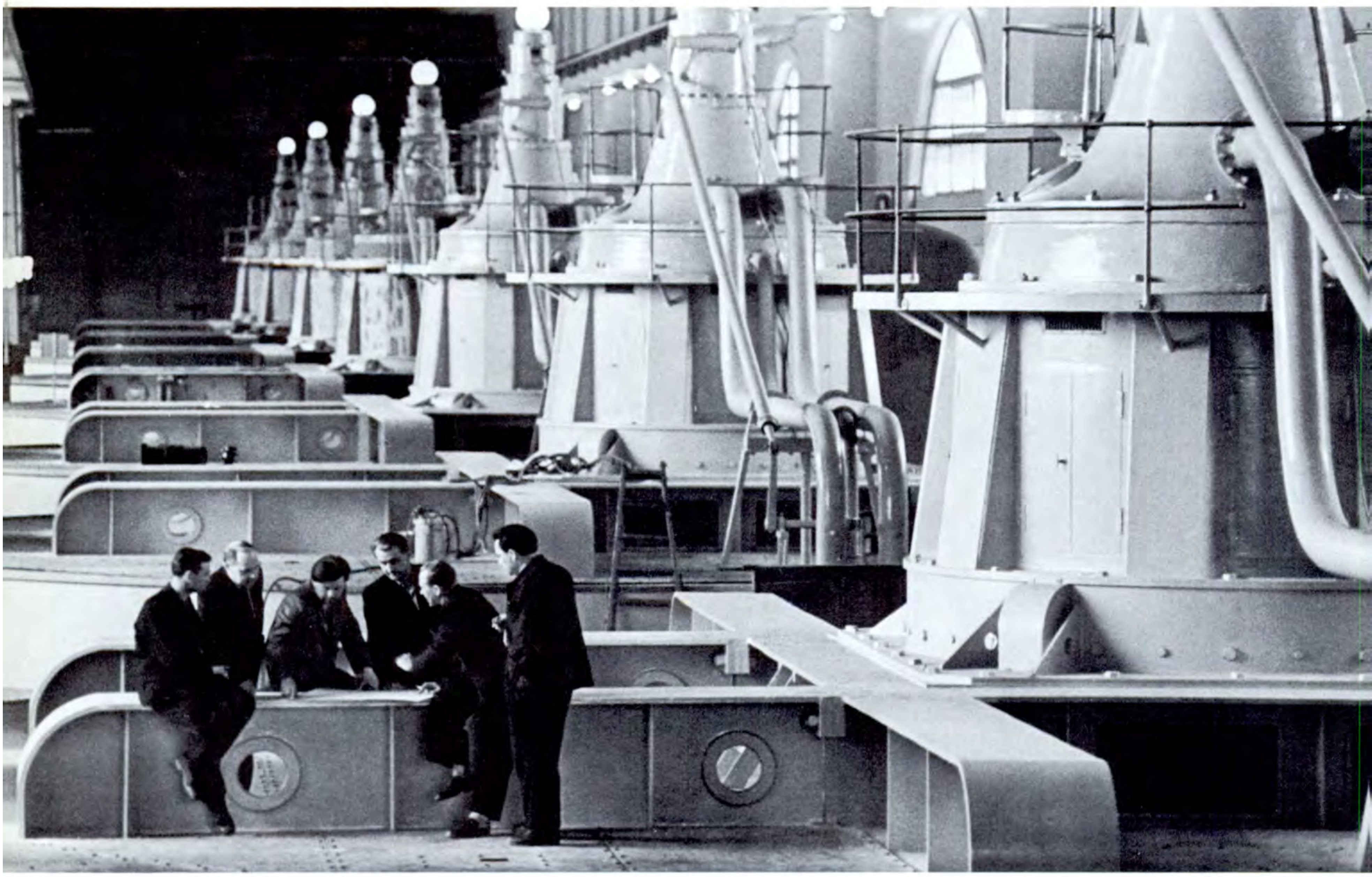
"Car-painting is a difficult job, but at our plant we have it down to a science. Other plants kept asking us how we did it. Finally, somebody at a paints and varnish section meeting suggested that we work out organized procedures for popularizing our method. And so we did. Members of the section spent time in our paint shops, got acquainted with our process and then visited paint shops in other plants. The results of every visit were discussed in the section. Thus the experience of the automobile plant workers was shared with the workers of other enterprises."

The methods of work in use at metallurgical plants in Kulebaki and Vyksa, towns not far from Gorky, and at the paper mill in the nearby town of Balakhna were discussed at various section meetings and by the Technical Council as a whole. So were the work quotas at the Dvigatel Revolutsii Machine Tool Plant and the Krasnoye Sormovo Shipbuilding Yards. The Gorky Economic Council issued a memorandum in which the positive aspects were noted and the shortcomings criticized, which was of invaluable help in improving the work of these enterprises.

Such discussions are especially valuable for new plants. When the construction of the Zavolzhsky Engine Works was being considered, designers of the Gorky Auto Plant took a very active part in the planning. It was discussed at a plenary session of the Technical Council and then at a session of the Economic Council. The Zavolzhsky Works, already in operation though still under construction, is, so to speak, the brain child of the whole economic area.

In the three years of its existence the Technical Council has won prestige with the plants and the management of the Economic Council. Deputy Chairman of the Gorky Economic Council Timofei Lapin likes to call it a "production parliament." He says, "That is what it actually is."

"Does the Economic Council ever reject the recommendations of its production parliament?" someone once asked Timofei Lapin. He thought a while and then answered: "I don't seem to remember any such case. Perhaps there was something so far as petty details were concerned. But for the most part our production parliament is doing all right. Almost all of its proposals are accepted and carried out."



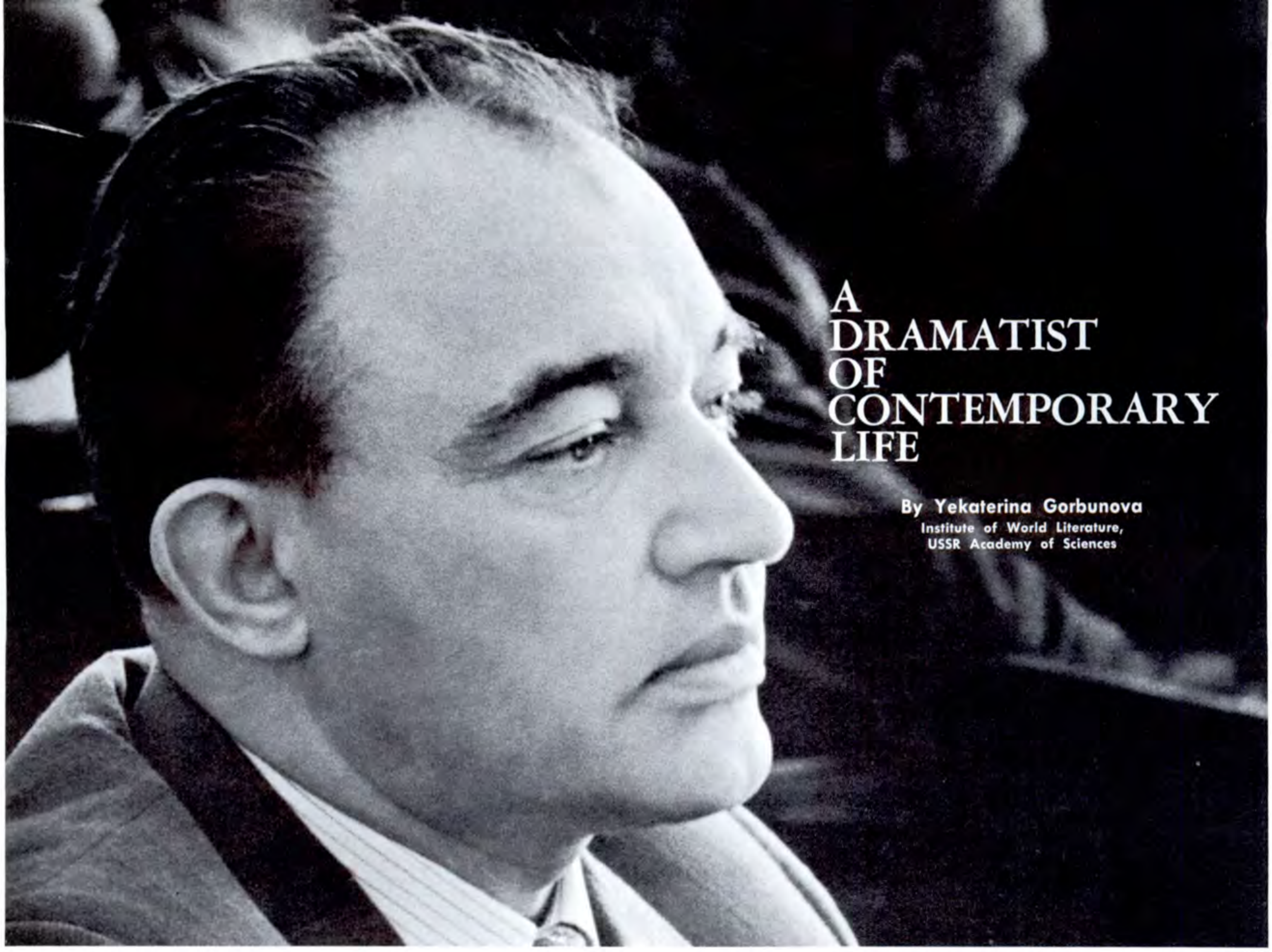
Foreman Nikolai Vasilyev, who helped work out the ventilating project at the Gorky Hydroelectric Station that raised its power capacity from 400,000 to 520,000 kw., says: The idea came from a group of workers.

Says metallurgist Nikolai Mayorov: We wanted to do continuous steel pouring at our Krasnoye Sormovo Mill and discussed a number of variant projects at very helpful Technical Council sessions before setting this up.

The continuous steel pouring installation at the Krasnoye Sormovo Mill has increased production and cut the work load.

Setter-up Dmitri Nazarov says: With other members of the Technical Council I made a study of truck loading in the Gorky Economic Area. We found too many trucks half-loaded. We set up controls and saved a lot of money thereby.

Workers and engineers of the Gorky Power Station figure out ways to get more electricity out of the big generators.



A DRAMATIST OF CONTEMPORARY LIFE

By Yekaterina Gorbunova
Institute of World Literature, USSR Academy of Sciences

ALEXANDER KORNEICHUK is one of those fortunate people on whom the fates have showered their bounty. He is a gifted and exceedingly popular playwright, an academician and a statesman. He was the friend of such world-famous men as the late Alexander Fadeyev and Frederick Joliot-Curie and a welcome guest in the house of any Soviet collective farmer.

His father was a locomotive engineer, and he himself worked on the railroads. He lost his parents when he was 14, but thereafter his life was a very happy one as he moved from one triumph to another. He is a personification of the millions to whom the new social order opened up unbounded creative vistas.

His first work was published in 1925 when he was a student at Kiev University. In 1933 he won general recognition for *Death of a Squadron*, a dramatization of one of the most momentous events of the October Revolution—the scuttling of the Black Sea Fleet to keep it from falling into the hands of the enemy.

The play, free in form, was an excellent vehicle for the young Ukrainian's talent—it demonstrated his discerning artistic eye, his ability to convey ideas through character-types, a versatility of style that ranged from the heroic to the lyrical, and a rollicking sense of humor.

A Rare Dramatic Gift

Korneichuk possesses that quality of the born playwright—the ability to project contemporary problems in dramatic terms. This quality, Vladimir Nemirovich-Danchenko, founder of the Moscow Art Theater, said, in speaking of Korneichuk, is a much rarer one than people are inclined to think. The number of writers who had it, he thought, was remarkably small.

Korneichuk thinks in scenic images, his laughter is contagious, his tears rend the heart, his plays hold audiences spellbound. He finds his very real and richly variegated characters in the life around him. It is his closeness to people and today's currents of living that gives his themes, images, people and style such unusual diversity.

Comic satire is his best medium, but he has also won plaudits for *Bogdan Khmelnitsky* (1940), a historical tragedy; *The Truth* (1937), a heroic revolutionary epic; *Platon Krechet* (1934), a lyrical drama; and *The Front* (1942), a fictionalized documentary play.

Korneichuk has an almost unerring instinct for putting his finger on the most significant of contemporary trends and problems. That is why his work is likely to remain in the permanent library of Soviet literature. He borrows his ideas and characters from the life around him and returns them as artistic generalizations, as realistic symbols of actual event and types.

Korneichuk has coined words with his characters. There is, for example, his young surgeon Platon Krechet, who personifies the new Soviet intellectual with his spiritual integrity and his unity of thought and action. Those Soviet scientists who boldly venture into new fields of knowledge are known as "Krechets." First staged in 1934, the play ran for twenty years at the Moscow Art Theater. On the other hand, Galushka, Gorlov and Dremlyuga—the heroes of *In the Steppes of the Ukraine*, *The Front* and *Wings*—are synonyms for stagnant routine and rank conservatism.

Men like his hereditary miner hero Makar Dubrava (1947), who thought in terms as large as the country and who rebuilt the economies of great areas ruined by the fascists, symbolize the finest traditions of the revolutionary working class and embody the traits and qualities of the new Soviet man.

Collective Farm Life His Theme

Collective farm life is the theme of many of Korneichuk's plays. He knows the Ukrainian village and has written a number of realistic plays around the problems encountered in the process of altering the social outlook of the peasantry. His first comedy on this subject, handled with refreshing originality, was *In the Steppes of the Ukraine* (1941).

Although he writes of men and events with a sharp and biting pen, Korneichuk never loses his sense of perspective, never lets his criticism of shortcomings overshadow the great achievements. His dramatizations of the inadequacies of collective farm construction in the prewar and postwar periods were an inspiration to work for everything that was new, advanced and beautiful in the life of the people.

That is why his satirical comedies *In the Steppes of the Ukraine* (1941), *Come to Zvonkovoye* (1946), *The Snowball Copse* (1950), *Why the Stars Smiled* (1957), and *Over the Dnieper* (1960) evoke feelings of high enthusiasm rather than pessimism.

Two of his plays, *The Front* and *Wings*, deserve an additional word in this regard. Their straightforward but always constructive criticism helped keep morale high during the hardest period of socialist construction.

During the bloody battles against the Nazi invaders when the Red Army was retreating to the foothills of the Caucasus, the newspaper *Pravda* printed Korneichuk's *The Front*. Written hot on the heels of events the playwright himself witnessed during his service in the army, it stirred readers deeply.

Korneichuk aimed his satire at a General Gorlov, the type of frontline commander who had fought in the Civil War with success but had not grown with the times. In General Gorlov Korneichuk satirized those generals who held on to outmoded methods, paid no attention to the progress that had been made in military science and thereby stood in the way of victory. Opposed to Gorlov are the young and talented General Ognev and the ordinary people in the rear.

The clarity of his thinking, the dynamic composition of his plays and the reality of his characters make Korneichuk's works eminently stageworthy. A Korneichuk première is always an occasion, and his plays invariably make the rounds of professional and amateur Soviet theaters as well as those of foreign countries.

His plays are sometimes described as folk-heroic and sometimes as lyrical-romantic or folk-humoristic, and there is a measure of truth in each of these characterizations. Rich and diverse in form and content, they reflect the variety of Soviet life today, in which the playwright so actively participates.

"Burning Issues"

He is a thoroughgoing advocate of socialist realism in art and demands above all that artistic work reflect contemporary life. He is not afraid of the controversial, of what he terms the "burning issues."

"Why should we be fearful of 'burning issues?' " he asks. "Burning issues are precisely what is stirring men's minds today, what the efforts of millions of men are directed at. Is it not an honor for the writer to help resolve these burning issues? . . . The men of letters and the art are in error who think their work will win them immortality if it is far removed from the burning issues of the day, if it deals with problems of the distant past or those that leave millions unmoved and please only a handful. The permanency of a work of art lies elsewhere—in the solution of the important, the central, problems of life, in depicting life truthfully, in the folk character of the work. And folk character presupposes close organic ties with the contemporary."

According to Korneichuk the theater is a school of life and not merely a form of entertainment for the sated. The stage magnifies both virtue and vice. That is why the playwright's role is such a responsible one.

For Korneichuk the judgment of the audience is law. I recall how worried he was at the premiere of his latest play in Moscow. I was surprised, for he must have attended hundreds of performances of his own plays.

"It's true," he replied, "I have been seeing premières of my plays for thirty years, but I'm as nervous right now as I was at the first one. The older I grow, the more nervous I get."

Alexander Korneichuk is not only a leading playwright; he is an eminent statesman as well. He is the Chairman of the Supreme Soviet of the Ukrainian Republic and a member of the Central Committee of the Communist Party of the Soviet Union. He is one of the secretaries of the Union of Soviet Writers, and as Deputy Chairman of the Soviet Peace Committee he has made large contributions to the international peace movement.

THE FRONT

By Alexander Korneichuk

This is the slightly abbreviated second scene from Act II of The Front, *written in 1942, a few months after Nazi Germany invaded the Soviet Union.*

The play criticizes some of the Soviet generals of the older generation who, though brave and devoted to their country, were unable to adjust to modern methods of warfare. Instead of taking advantage of the arms at their disposal, they depended wholly on the heroism of the soldiers. General Gorlov, front commander, is such a man.

The excerpt dramatizes an episode in the war. A small artillery antitank battery beats off an attack by numerically superior Nazi forces. The commander, Guards[1] Lieutenant Sergei Gorlov (General Gorlov's son), is killed in the action.

ACT II

SCENE II (Abridged)

THE CHARACTERS

JUNIOR SERGEANT GOMELAURI
SERGEANT OSTAPENKO
JUNIOR SERGEANT SHAYAMETOV
SERGEANT BASHLYKOV
LIEUTENANT GORLOV, *battery commander*
COLONEL SVECHKA, *division commander*
FIRST SOLDIER *(Stepan Pechonka)*
SECOND SOLDIER
MARUSYA, *a nurse*

A trench at the roadside. On the right a village can be seen not far away: white crowns of trees, a few houses, but far more black ruins over which the chimneys rear starkly. On the road near the trench stands a post with a sign in German. From the other side of the village comes the sound of cannonade and the distant crackle of machine-gun fire. In the trench sit Sergeants Ostapenko and Bashlykov, and Junior Sergeants Shayametov and Gomelauri. Antitank rifles are lined up along the trench top.

GOMELAURI: It's damned cold today. Think it's 35 below?
OSTAPENKO: I suppose so.
SHAYAMETOV: The cold's not so bad. It's the wind that's getting me down. Blows as hard as in our Kazakh steppes.
BASHLYKOV: This is nothing compared to the frosts we have in Siberia . . .
OSTAPENKO: In Poltava we have galushki[2]. . .
BASHLYKOV: Now for heaven's sake, Ostapenko, don't barge in with your galushki.
OSTAPENKO: Then don't go boasting about your Siberian frosts. My guts are frozen to my belly button as it is. Tell us, Gomelauri, what's going on in your Georgia?
GOMELAURI: Eh, better not think of it now. *(Listens to the cannonade.)* There's fighting over there. What are we sitting here for?
SHAYAMETOV: Orders. The Commander knows what he's doing.
OSTAPENKO: Tell me, boys, why is it our papers write that winter helps us to fight; that the colder it is, the worse it is for the fascists?
GOMELAURI: The papers are right.
OSTAPENKO: Why right? Jerry sits in a hut, makes a hole in the wall and shoots through it, while we have to crawl over the snow . . .
BASHLYKOV: Sure, but what happens when we drive him out of the village? He freezes to death.
OSTAPENKO: Why should he freeze? When we drive him out of one village, he runs to another. It's the guy who runs who always feels hot.
BASHLYKOV: Back to your places, boys!

Everybody lies down. The sound of an approaching car is heard. Enter Division Commander Colonel Svechka and Regiment Commander Major Yasni.

YASNI: The battery has a machine-gun outfit, and there are enough grenades to go around.
SVECHKA: Good.
YASNI: I can't understand why we're retreating, Comrade Division Commander.
SVECHKA: We've strayed too far. The Commander wants to gather us in a "fist."
YASNI: I see. *(Yells)* Gorlov!

A voice calls "Here!" Battery Commander Gorlov enters.

GORLOV: Battery Commander Guards Lieutenant Gorlov.
SVECHKA: Hello. *(Holds out his hand.)* Have you seen your father?
GORLOV: Yes. He asked me to give you his regards.
SVECHKA: Thanks. How does the Lieutenant General look? Is he all right?
GORLOV: He is. He told me: "Tell Guards Colonel Svechka that I'll soon be paying my old friend a visit."
SVECHKA: I'm glad he remembers me. As for coming for a visit—the road out here is not so good. *(Laughs)* Your battery, Gorlov, will remain here. I'm warning you—nothing, not even a mouse, must be allowed to pass over this road. Get me?
GORLOV: Right.
SVECHKA: No matter what happens, you stay here until you get further orders. Even if . . .
GORLOV: We shall do our duty.
SVECHKA: Thank you, Comrade Guards Lieutenant!
GORLOV: Thank you, Comrade Guards Colonel!

Svechka goes out.

YASNI *(quietly)*: Seryozha . . .
GORLOV: Don't worry, Pyotr Petrovich.

Yasni goes out. Gorlov looks down into the trench.

Well, how are you, boys? Feeling hot?
OSTAPENKO: Yes, Comrade Guards Lieutenant. I'm actually sweating. My throat's dry from the heat.
GORLOV: Your throat's always dry, Ostapenko.
OSTAPENKO: True, but today it's worse than ever. Give us a drink. I'll never forget your kindness.
GORLOV: The devil you won't. *(Unstraps his flask.)* Here, just see that everybody gets a swig.
OSTAPENKO: Much obliged. *(Pulls a small cup out of his pocket and fills it.)* Your health!
GORLOV: Go ahead.
OSTAPENKO *(drinking)*: Tastes like tea.
GORLOV: The devil it does! It's pure alcohol!
OSTAPENKO: You don't say? I'll see in a minute. *(Pours another cupful.)*
GOMELAURI: No you don't! *(Takes the cup.)* I'll do the seeing.
OSTAPENKO: What do you know about spirits? All you've ever drunk is sour wine.
GOMELAURI: Don't let that worry you! *(Lifts the cup.)* Here in this trench amid the snow, I raise my little cup with deep feeling to our meeting after the war in my sunny Kakhetia. My mother Veriko and father Besso and wife Tamara will welcome you as their own kin. Here's to our meeting! *(Drinking)*
OSTAPENKO: First come to Poltava. Of course, my mother, father, wife Oxana and son may all have been killed by the fascists. *(Pauses)* In that event I'll welcome you by myself . . .
SHAYAMETOV: That's all right, Ostapenko. I'll visit you. I'll make the pilau myself . . . Then we'll go to Kazakhstan.
GORLOV: Here, give me the flask. *(Takes it.)* Cleaned it out, I see.
BASHLYOV: You bet. In the regular Guards'way.
GORLOV: Now, boys, keep your eyes open. Not a single fascist louse must be allowed to pass on this road.
OSTAPENKO: I don't think you have to warn us, Comrade Commander.
GORLOV: And see you don't run around without your valenki,[3] Gomelauri. I saw you tripping about barefoot over the snow yesterday.
GOMELAURI: Please forgive me, Comrade Commander, but I couldn't help myself. I'm very high-strung, you know. It was this way: We put a tank out of action, and its commander tried to get away. We didn't have any more cartridges; and since I couldn't stand seeing the man get away, I asked our Comrade Sergeant to let me catch him. He says: "You'll never get him." He tells that to me, a Georgian! Ever see a Georgian who couldn't get his man? Naturally, that made me real mad. Before I knew it, I'd pulled my valenki off and went after the man like the wind. I jumped on him and we both fell to the ground. He bit my ear, but I got a strangle hold on him. "You're not getting away!" I yelled, and that was the end of him.
GORLOV: Good work. But you have no right to leave Ostapenko. You can miss a tank running after a man like that.
OSTAPENKO: Don't worry, I'll tie the rascal to me.
GORLOV: If everything's quiet in the evening, come and have tea with me.
ALL: Thanks, Comrade Commander!

Gorlov leaves. Long pause.

GOMELAURI: What are you thinking about, Ostapenko?
BASHLYKOV: Leave him alone.
SHAYAMETOV: *(in a low voice)* Thinking about Oxana? Tell me . . .
OSTAPENKO: Yes. Read your letter, Gomelauri.
GOMELAURI: Which letter?
OSTAPENKO: The one you got on New Year's Day.
GOMELAURI: I read it to you already.
OSTAPENKO: I know. Read it again. Nobody writes to me. I'll feel better after hearing your letter.
SHAYAMETOV: That's right, read it. I haven't received any letters either. Bashlykov, you watch while we listen. Did you get a letter?
BASHLYKOV: Only two. *(Steps away to take up the watch.)*
OSTAPENKO: Come on.

Discussing stage settings for Wings *with Maly Theater artists.*

The Snowball Copse

GOMELAURI *(pulls out his letter and reads quickly)*: "My dearest beloved Akaki, let me kiss you first and tell you . . ."
OSTAPENKO: Don't rush. Begin from the beginning.
SHAYAMETOV: Please read it word for word.
GOMELAURI: *(slowly)*: "My dearest, beloved Akaki . . ."
SHAYAMETOV: Beloved . . .
GOMELAURI: ". . . let me kiss you first and tell you that Papa and Mama are well and send you their love, and your little boy Goga . . ."
OSTAPENKO: Little boy . . . *(Drops his head on his hands.)*
GOMELAURI: ". . . says nothing but 'Papa, Papa, bang, bang!' There is a lot of work on the collective farm. We can hardly cope with it. Why haven't you written a single letter? I cry into my pillow every night . . ."
OSTAPENKO: Every night . . .
GOMELAURI: ". . . How I want to see you . . . I dream of you every night. I even dreamed you had a bear. Aunt Nina says that's an ill omen. I was badly frightened. See that you don't catch cold in the winter. I'm knitting you two pairs of woolen socks and will send them to you on September 25th . . ." They'll get here in five days. I'll give you a pair, Ostapenko.
OSTAPENKO: Why in five days?
GOMELAURI: She wrote on September 1, and I received the letter on January 1. She sent the socks on September 25th, and today's January 20th. That means I'll get them in five days.
SHAYAMETOV: Keep reading.
GOMELAURI: ". . . Give all your comrades regards from me, Papa and Mama. We want you to hurry up and beat the fascists, and then all come and visit us. We'll have ten barrels of wine ready; Aunt Nina has five. A big kiss to you from me, Goga, Papa, Mama, Aunt Nina and our whole collective farm. Your Tamara. September 1, 1941."
SHAYAMETOV: I don't know what I'd do if I got such a letter.
OSTAPENKO: Nor I . . .
Two soldiers pull in a cable and set up a telephone in the trench.
BASHLYKOV: Is the Lieutenant coming here, boys?
FIRST SOLDIER: Yes.
BASHLYKOV: Is the battery still there?
SECOND SOLDIER: He ordered us to roll on out into the open.
OSTAPENKO: That's just like him. Doesn't like shooting from behind a corner. Did you see the kitchen anywhere?
FIRST SOLDIER: No. Everybody's gone.
BASHLYKOV: Gone? When?
FIRST SOLDIER: Just now. We're the only two left behind.
GOMELAURI: And where did they all go to?
SECOND SOLDIER: That way. *(Points)*
BASHLYKOV: Back. Looks like we're retreating.
FIRST SOLDIER: That's right. And they left us behind. We're in for it, boys. Looks like we're done for. They left us to die here, as sure as I'm talking to you.
OSTAPENKO: Gomelauri, sock him in the jaw!
GOMELAURI: You sock him. You've got a bigger fist.
OSTAPENKO: 'tenshun!
FIRST SOLDIER: What's the matter?
Ostapenko grabs the soldier by his collar with his left hand and punches him with his right. Lieutenant Gorlov enters.
GORLOV: What's happening here?
FIRST SOLDIER: He hit me.
GOMELAURI: He's a coward. He said we'd been left here to die.
GORLOV: You shouldn't beat the man. Try to explain things. *(Addressing the soldier)* Your name?
FIRST SOLDIER: Stepan Pechonka.
OSTAPENKO: I'm sorry, Comrade Commander. Come on and I'll explain everything to you. Come along.
Ostapenko and Pechonka go out.
GORLOV *(picks up telephone receiver)*: Chekalenko . . . Chekalenko . . . How're things? Don't be so stingy with the snow. I can see a black spot from here. *(Calls again.)* Let's have Petrov. Petrov, do you see the tree to the left of the hill? That's it. Yes, Yes, go ahead. *(Puts the receiver down.)*
Voice of Pechonka can be heard saying: "I understand, ouch . . . I understand, ouch! . . .
What's going on there? What is he doing?
GOMELAURI: Ostapenko's driving his point home. Don't you worry about them, Comrade Commander.
Ostapenko enters, followed by Pechonka.
OSTAPENKO: Comrade Commander, we had a little heart-to-heart talk, and he understands everything now. He's a fine lad. He just made a mistake.
GORLOV: I see. Why were you left behind, then?
PECHONKA: If the fascists show up, we're here to beat them in the Guards' way.
OSTAPENKO: Good boy!
GORLOV: But perhaps we've been left behind to perish?
PECHONKA: Of course not. A man who fights can't perish.
OSTAPENKA: See that? He'll be a swell Guardsman, just see if he isn't.
GORLOV: We'll see. At ease! *(Picks up the receiver.)* Chekalenko . . . Chekalenko, put on a bit more snow. That's right.
Pechonka sits down. Ostapenko approaches him and offers him his tobacco pouch.
OSTAPENKO: Here, have a smoke, Pechonka.
Pechonka takes the pouch.
It's a little frightening at first, but then you get used to it. How about something to eat?
PECHONKA: Oh, yes.
OSTAPENKO: Here. *(Gives him a small package.)* There's a piece of sausage in that. Don't be angry at me, brother. I've nothing against you. It's all for the cause, understand? For science sake. My father used to give me a hell of a walloping. I'm thankful for it now.
PECHONKA: You're not mad at me?
OSTAPENKO: Not if you've realized your mistake.
PECHONKA: Give me your hand.
OSTAPENKO *(holding out his hand)*: That's better. I feel fine now. Think I don't feel lousy when I can't tell whether it's a friend or a swine fighting by my side? You've got to get your bearings, boy. You're still young. Remember what I told you and never bellyache. Understand?
PECHONKA: Yes.
GORLOV *(looking through his field glasses)*: Tell the battery I see enemy tanks to the right, near the windmill. Hold your fire until I give you the signal.
SECOND SOLDIER: Right. *(Goes to the telephone.)*
The men rush to their places.
GORLOV: Well, boys, here's a chance to perform miracles. Ostapenko!
OSTAPENKO: Here!
GORLOV: Climb out on the left and crawl over to the telegraph pole.
OSTAPENKO: Right. Let's go, Gomelauri!
They crawl out.
GORLOV *(looking through his field glasses)*: Tell the machine-gun outfit the tanks are carrying men.
SECOND SOLDIER: Right. *(He phones.)*
GORLOV: So. Oho! *(Watches)*
BASHLYKOV: Are there many of them?
GORLOV: Plenty.
SHAYAMETOV: Now I can see them too. One, two, three . . .
BASHLYKOV: How many are there?
SHAYAMETOV *(counting)*: Thirty-five, thirty-six . . .
GORLOV: Bashlykov!
BASHLYKOV: Here!
GORLOV: Climb out and crawl straight ahead about 100 yards.
BASHLYKOV: Right. Shayametov, forward!
They crawl toward the road. Pechonka pulls a few

Why the Stars Smiled

Wings

grenades out of his bag and puts them next to him.

GORLOV: That's right. *(Laughs)* You've got a whole ammunition dump there.

PECHONKA: Just in case, Comrade Commander.

GORLOV: Keep a sharp lookout, Pechonka, not only in front, on all sides.

PECHONKA: Right, Comrade Commander. I can already see somebody crawling toward us.

GORLOV: That's a nurse. Hurry up, there! *(Looks through his field glasses again.)*

PECHONKA: Hurry up, sister . . . She's pulling a sled. Here she is.

A nurse crawls into the trench with a sled.

NURSE: Phew, am I hot!

GORLOV: Marusya, what have you come here for? Who's at the battery?

MARUSYA: Katya's there. I'll stay here in case anything happens.

GORLOV *(picking up receiver)*: Petrenko, have your shrapnel ready. There are gunners on the tanks.

The rumble of engines can be heard faintly.

MARUSYA: There's a lot of them . . .

PECHONKA: Don't be afraid, sister. We'll beat them.

MARUSYA: I know you will. Comrade Guards Lieutenant Gorlov always wins. He's got crack gunners. Do you know Vasya Sokol?

PECHONKA: What's he like?

MARUSYA: Oh, he's . . . His eyes are deep blue. And his black eyebrows are like the wings of a bird. Oh, there isn't another man like him in the whole Guards . . . Katya is crazy about him. But he doesn't pay any attention to her. She's a redhead with freckles. We worked together before the war. I was a messenger girl and she was a charwoman. We came here together. Haven't you seen her?

PECHONKA: Quiet. They're pretty near now.

MARUSYA: To hell with them. They're still far away. Vasya told me today, "I don't care if there are a hundred tanks, Marusya, I can handle them all!" I gave him a kiss, and he said, "Now I don't care if there's a thousand!" That's how brave he is! Terribly brave! Didn't you see Katya? Well, you haven't missed anything. Vasya told me yesterday: "You know, Marusya, Katya isn't so exciting to look at, but she writes nice letters." I told him, "Maybe she's got somebody to write them for her, Vasya . . ."

The engines are louder now.

GORLOV *(speaking into the receiver)*: Battery, fire straight at the tanks!

MARUSYA: Ooh, the vipers. Look at them crawling all over the place! Come on, Vasya, give it to them!

A volley, then rapid fire.

Look, they're ablaze! One, two, three. That's Vasya Sokol for you! The darling! *(Throws a kiss in his direction.)*

Machine-gun fire from both directions.

GORLOV *(into the receiver)*: Increase fire! More! Don't miss your targets, you devils! Chekalenko, shrapnel the third!

The roar of an approaching tank is heard.

PECHONKA: Tanks are coming down on us, Comrade Commander.

GORLOV: To your place! *(Over the phone)* Hit the third with shrapnel! Hurry up!

PECHONKA: It's stopped. It's burning! The second's stopped too.

GORLOV: Good boy, Ostapenko!

Voice calls: "Nurse, nurse!"

MARUSYA: Here I come! *(She crawls out with her sled.)*

Another voice: "Nurse! Nurse!"

PECHONKA: Nine are hit!

GORLOV: Eleven!

The whistle of a mortar shell.

Marusya, down!

An explosion near at hand.

PECHONKA: Oh, they've killed her!

GORLOV *(looking through his field glasses)*: No, they haven't. She's still crawling.

Voice: "Nurse! Nurse!"

PECHONKA: Ten tanks on the left.

GORLOV *(into the receiver)*: Ten to the right of the road, skirting it. Chekalenko, fire at them. Quick!

Firing increases.

PECHONKA: They're rolling back. They're running like hell!

GORLOV: They'll come back in a minute. *(Over the phone)* Chekalenko, how are things over there? What? Get ready, they'll be skirting the road soon. They'll be coming back right away. I'm well defended here. Don't shoot this way. Watch out for the gunners, and give them hell!

Marusya crawls in.

MARUSYA: Comrade Commander, Junior Sergeant Shayametov and Senior Sergeant Ostapenko are dead. Here are their identification papers.

Sergei opens them. A piece of paper falls out of one of them. Pechonka picks it up.

PECHONKA *(reading)*: "Please admit me to the ranks of the Party of Lenin and Stalin. If I'm killed, please consider that I died as a Communist. Death to the fascists! Guards Sergeant Ostapenko." *(Pause)* . . . Friend . . . My friend . . . *(Wipes his eyes.)* Dead, so suddenly . . .

GORLOV: Don't cry, brother. He wouldn't have liked it.

Roar of approaching motors.

PECHONKA *(looks in the direction of the noise)*: I'll give it to you! Come on, come closer! *(Picks up a grenade.)*

GORLOV *(into the receiver)*: Twenty-five to the left of the road, thirty-one to the right. Ten on the road. Fire only to left and right without waiting for orders! Boys, here's a chance to perform miracles! For our country, men! *(Puts down receiver.)* Pechonka, grab your grenades and crawl over to Gomelauri. Quick!

PECHONKA: Right, Comrade Commander. *(Picks up grenades and crawls away.)*

GORLOV *(pulls out grenades)*: Sit here, Marusya. *(To the second soldier)* Have you got any grenades?

SECOND SOLDIER *(showing him)*: Sure.

GORLOV: I'm going over to Bashlykov. Hold the fort, boys!

Crawls off.

MARUSYA: Oh, the devils. You'll get it, you will! Did you hear what our Commander said? "For our country, men!" He was thinking of Vasya Sokol when he said that.

SECOND SOLDIER: What Vasya?

MARUSYA: Oh, you're a new man, that's why you don't know him. I'll tell you what he's like. Vasya has deep blue eyes . . . As big as this. And eyebrows like birds' wings. He's the best gunner in the Guards. An eagle. A real eagle! You can tell that at once.

The rumble of motors is louder. Machine-gun bursts.

SECOND SOLDIER: Watch our Commander . . .

MARUSYA: They're surrounding him . . . *(Shouts)* Bashlykov! Bashlykov! That's right! One of them is stopped. But the others are still coming on. Help him with your grenades. The Commander's surrounded! Hurry up!

SECOND SOLDIER: I can't. We're lost!

MARUSYA: You dirty louse, give me the grenades! *(Grabs them from him.)* Tell Vasya over the phone . . . *(Runs off with the grenades.)*

The soldier follows her with his eyes. Covers his head with his hands and drops to the bottom of the trench. The din increases. Crackling of machine-guns. Marusya's voice from the distance: "Vasya . . . Vasya!" An explosion, then another.

—Reprinted from Collection of Plays, published by Sovietsky Pisatel, Moscow, 1950

[1] Honorary title bestowed on Soviet military units for heroism during World War II.

[2] Dumplings

[3] Felt boots

USA-USSR SPO

STRONGMEN IN MOSCOW

IT LOOKS like 1961 will be a banner year in American-Soviet sports exchange. In July there was more English spoken at Lenin Stadium in Moscow than in a long time. First a quintet of musclemen arrived for a test of strength and skill with their Soviet opposite numbers. The team included Olympic winners Charles Vinci and Isaac Berger, two strongmen slight in stature but mighty in strength. Three newcomers also came along—weightlifters Louis Reicke, Bill March and Sid Henry—about whom team coach Bob Hoffman said, "They've got a big future."

Selectors here had trouble naming the USSR squad since results have been coming in in droves. They finally settled on four different lineups. Since each of them was first-rate, the visitors were impressed.

The USA weightlifters were not at peak form. Charles Vinci told correspondents that he had not been training as he should have but that he would be ready by the time the world championships open in Vienna. Isaac Berger was the only one on the American team who seemed to be in close to peak form and proved it by a string of brilliant victories.

On the Soviet side Yuri Vlasov once again impressed the fans. New records may be expected from this phenomenal athlete.

The American tour of the Soviet Union was more than just a matching of muscles. Said Bob Hoffman, American team coach: "These exchanges are a good idea—we've become great friends." Isaac Berger voiced the same sentiment. He enjoyed his stay, he said, and added: "These matches are a great thing not only for friendship between sportsmen but also for friendship between countries."

In a radio broadcast from Moscow Clarence Johnson, head of the International Weightlifting Federation, said: "We always enjoy ourselves when we come here. This time was no exception . . . We were very much impressed with the fans—they're very fair."

And we can reply, on behalf of the fans: We are glad to see American athletes compete. Let's have more exchanges!

One of the musclemen at the USA-USSR exchange matches in Moscow this summer. The U.S. quintet included Olympic winners Charles Vinci and Isaac Berger. Soviet contender included Yuri Vlasov, World's No. 1 strongman, and Sergei Lopatin, the athlete with the thoughtful expression in the photo on the right, who is considering how to get that terrific load off the floor. He did, as the record books show. In the photo at the bottom, Yuri Vlasov presents a bouquet to American Sid Henry. These two heavyweights lifted a ton of metal between them. Bob Hoffman, U.S. coach, said "These exchanges are a good idea . . . We've become great friends."

RTS EXCHANGES

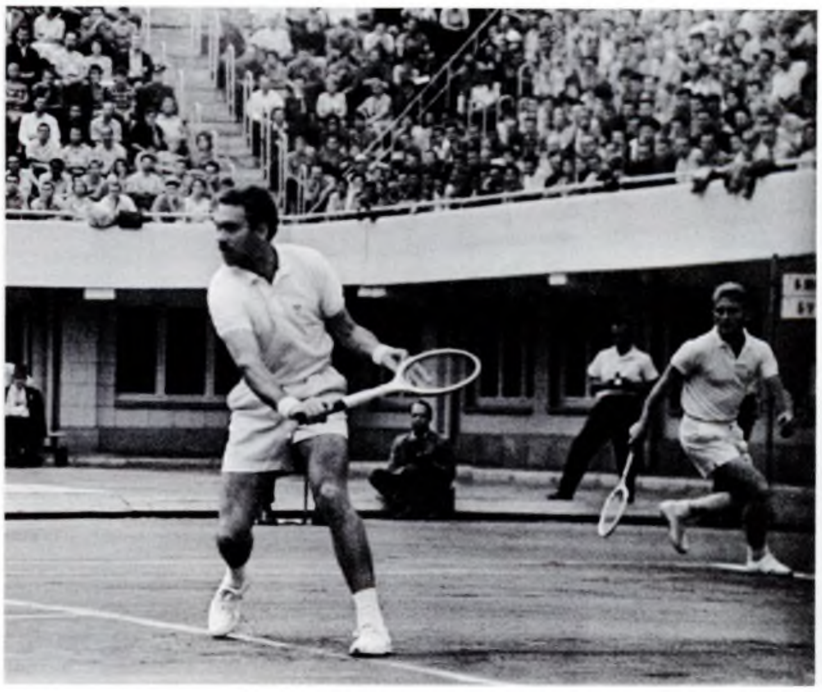
By Victor Kuprianov

Photos by Lev Borodulin and Vladimir Blioch

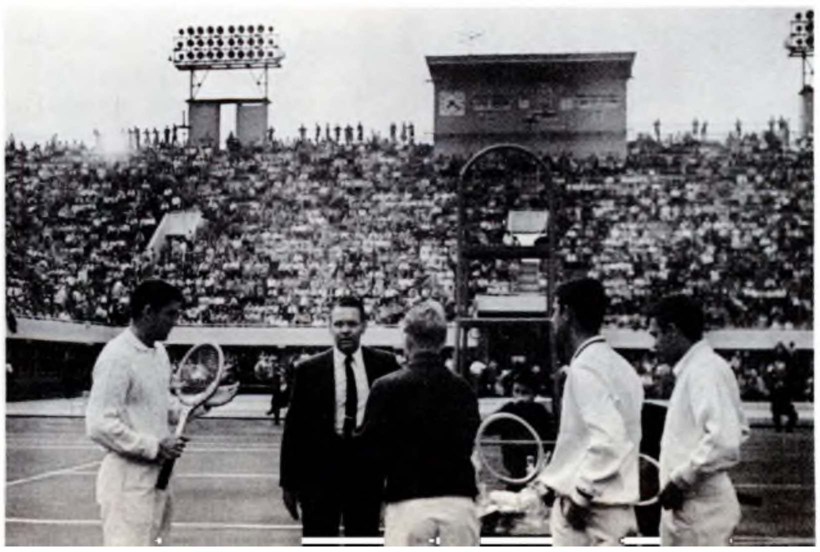
TENNIS

Sandwiched in between two headline events was the arrival of Jack Kramer's "circus." This exhibition tour of the world's top professionals was planned to give fans here a glimpse of top-flight techniques. The visitors all agreed that their stay was pleasant and had nice things to say about the Soviet players. They noted a definite improvement in their skill and ability, and predicted a great future for Soviet tennis, particularly after the victory of 16-year-old schoolgirl Galina Baksheyeva at Wimbledon.

Tennis is rapidly gaining favor in the Soviet Union. We have been developing junior players of first magnitude, a sign that the game is catching on. The annual invitation meets held here draw an impressive entry list, with the United States also represented.



Jack Kramer's tennis "circus" made sports headlines. This exhibition tour of the world's top professionals gave aspiring Soviet champs something to think about. They saw very high caliber playing indeed. In the photo to the right are Jack and charming Mrs. Kramer, all smiles before the Moscow debut, and in the photo below Jack gives a last minute pep talk to the players. As is evident in this photo and the one above, the exhibition games drew overflow audiences. Tennis is a relatively new game for Soviet sportsmen but is rapidly gaining favor. That the game is really catching on and has a very promising future is indicated by the fact that the USSR is developing international winners. Galina Baksheyeva, the smiling Soviet sixteen-year-old miss in the top right photo, captured first place in the junior division at Wimbledon.



SUMMIT ATHLETICS

The American weightlifting team and Jack Kramer's group were still making headlines when the USA-USSR track-and-field meet took over the news columns. Editors had titled the previous meets "match of the century" and "match of titans." This time, with all superlatives used up, they were nearly frantic trying to figure out what to call the current contest. After many sleepless nights they hit on "Summit athletics! Track and field at top level!" And a very apt title it was—six world records were broken in the two-day meet. Never before have records taken the kind of beating they did in Moscow this July.

THREE WORLD RECORDS A DAY

First the women's relay: Jet-propelled anchor man Wilma Rudolph pulled her team out of the hole by overcoming a sizable Soviet lead and establishing a new world record—44.3 seconds. That was what won the relay for the U. S.—the Soviet team was coming up fast, in better than Europe's best time.

The U. S. men's relay team also had to turn in a world record performance to beat the USSR. In this race both sides did better than the world's best. The United States clocked 39.1 seconds—4/10 of a second faster than the previous world high. The Soviet Union clipped 1/10 of a second off the record. This is going to start the longevity debate going again since Leonid Barteniev and Yuri Konovalov, two old-timers, were on the Soviet team. What's more, on the second day of the match fans were startled to see Leonid Barteniev run 440 yards.

The first day's record parade ended with Tamara Press throwing the discus 188 feet 4 inches which bettered the world record.

On the second day three more world records were broken. Tatyana Schelkanova, Leningrad electrical engineer, did 21 feet 3 inches in the broad jump—better than the world record—in her very first try. Last season she also turned in a record performance; but the high wind behind her, blowing at a velocity of more than seven feet a second, caused the judges to rule out the jump. This time the 70,000 fans in Lenin Stadium sat in hushed silence as the officials measured the velocity of the wind and broke out in cheers at the announcement that the velocity measured less than five feet per second, and a side wind at that. Willye White, her American rival, jumped 20 feet 11¾ inches for a new U. S. record.

Another record was set by Ralph Boston when he jumped 27 feet 1¾ inches in his second try. This was one of the most keenly contested events. Tension ran so high that all the jumpers failed in their first try. The record measurements were made with a special optical device; and while the officials were busy, Boston turned his back on the proceedings to keep his own excitement down.

Out on the field the air was electric. High jumpers John Thomas and Valeri Brumel meant business. They said as much in interviews before the match. And soon they had left their rivals behind at 7 feet 3 inches. When it came to the next height, John Thomas called for 7 feet, 4 inches, higher than the world record. Afterward he explained: "I told myself if Brumel is going to beat me, he's going to have to make a world record. And he did."

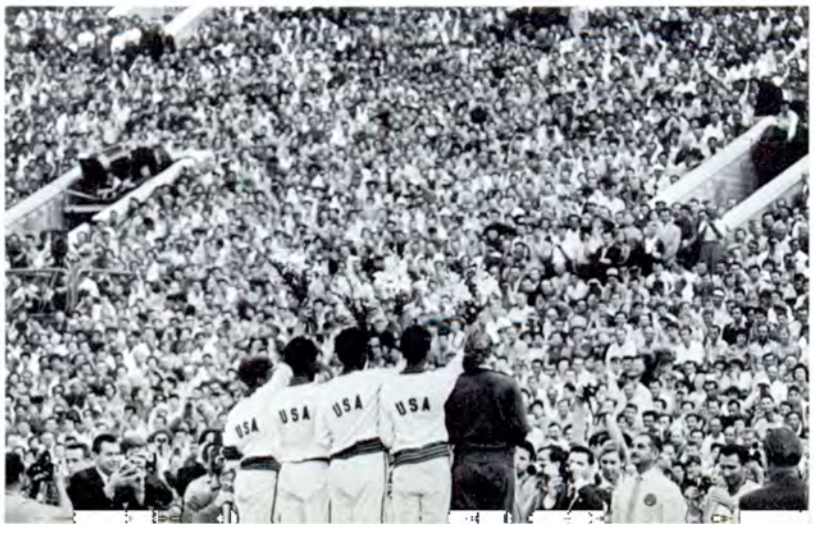
Thomas failed in all three attempts. Brumel, too, dislodged the bar on his first two tries. Meanwhile it started to rain, but no one in the stands budged. The fans were so engrossed, they even forgot to put on raincoats or use umbrellas. In his third attempt Brumel made it. The stands rocked with deafening cheers that must have been heard within a ten-mile radius.

The American athletes also chalked up a new national record in the 3,000-meter steeplechase. Pincus Sober, head of the Track-and-Field Committee of the AAU, expressed his satisfaction with the progress the Americans had made in the steeplechase and the three-mile run, in which Max Truex placed second to Pyotr Bolotnikov, and the progress the Russians had made in the sprints and hurdles. For the American team he said: "We have been received most hospitably." Jim Beatty, one-mile run winner, added, "We enjoyed our stay very much. Lenin Stadium is very beautiful. This was a pleasant trip."

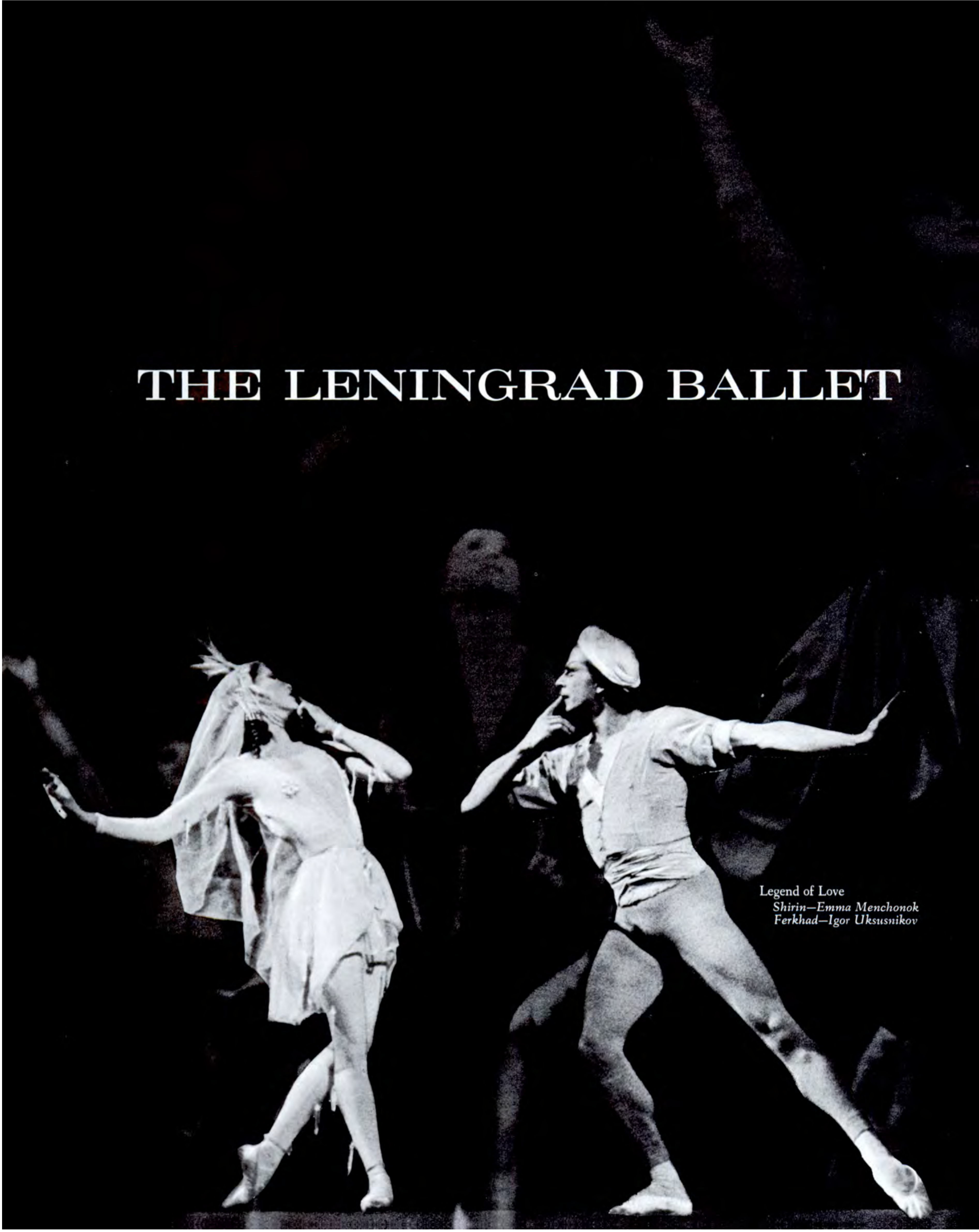
A fitting climax to the USA-USSR match was the announcement that the Soviet Union would compete at Stanford, California in 1962.

And now for the historians, here are the Moscow statistics: Men's events: USA—124, USSR—111. Women's events: USA—39, USSR—68. The USSR took first place in 17, the USA in 15.

With six world records broken in the two-day track-and-field meet, three for each of the teams, both the American and Soviet coaches had something to smile about. And that's what they're doing in the photo directly below. In the photo below that, the U.S. women's relay team is taking a bow after breaking the record. Ralph Boston, shown in photo directly above with his Soviet opponent Igor Ter-Ovanesyan, set another record with his 27-foot-plus jump. At the top of the page are Tamara Press, discus record breaker, with her American competitors Melody MacCarthy and Sharon Shepard. And in the large photo to the right USSR's Valeri Brumel sets one of the six new records.



THE LENINGRAD BALLET



Legend of Love
Shirin—Emma Menchonok
Ferkhad—Igor Uksusnikov

Legend of Love
The Stranger—Konstantin Rassadin

THE FAMED Leningrad Ballet Company, currently performing for foreign audiences, is featuring two of Tchaikovsky's masterworks in a varied program—*Swan Lake,* originally choreographed by Marius Petipa, Lev Ivanov and Mikhail Fokine, and Petipa's brilliantly choreographed *Sleeping Beauty.* Both ballets have been given new interpretation by the company's present chief ballet master, Konstantin Sergeyev, that enhances the fundamental concepts of his great Russian predecessors.

Other well-loved dances in the company's program include the "Shadows" from Minkus' *La Bayadere,* the "Dance of the Flowers" from Tchaikovsky's *The Nutcracker,* the Sech scene from Solovyov-Sedoi's *Taras Bulba,* and various divertissements.

One of the most interesting of the new ballets on the program is *Legend of Love* by the young Azerbaijan composer Arif Melikov, choreographed by Yuri Grigorovich, one of the company's budding ballet masters. This ballet is based on a dramatic poem written in prison by the talented Turkish poet Nazim Hikmet. The poet drew on an old legend about Queen Mehmeneh Banu, whose love was unrequited, and the beautiful tale of the tragic love of Princess Shirin and Ferkhad.

The artists performing include prima ballerina Alla Shelest, hailed for her moving and perceptive character portraits; Askold Makarov; Ninel Kurgapkina; Emma Menchonok; Tatyana Legat; Boris Bregvadze; Olga Zabotkina; and the younger Kaleria Fedicheva, Konstantin Rassadin and Alexander Gribov. The company is headed by People's

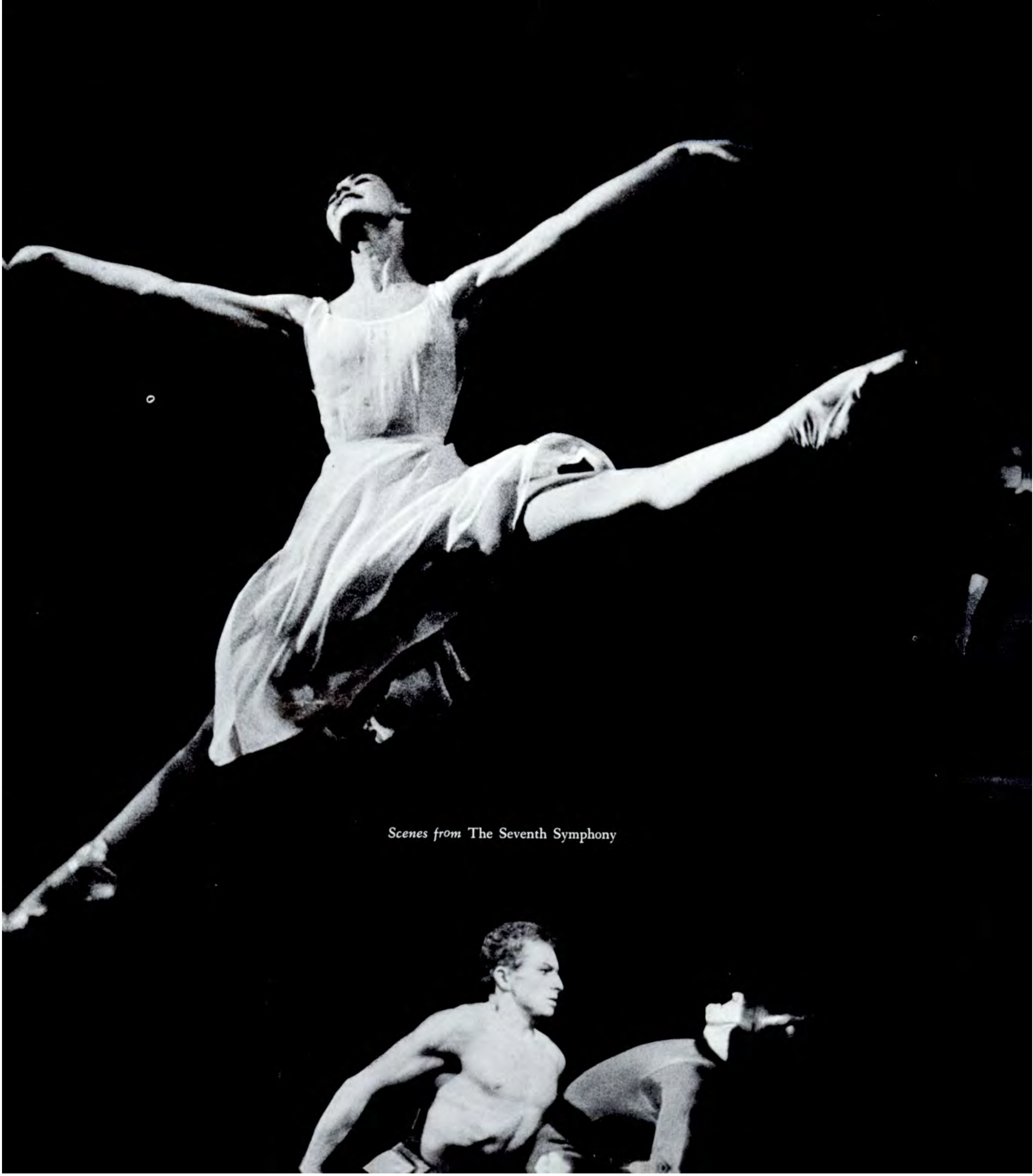
A Brief History

The Leningrad Ballet was founded nearly 225 years ago when a group of 12 Russian girls and boys—the children of serfs—were given ballet lessons with the object of forming a national ballet company. The group grew into a company that became world famous as the Mariinsky Ballet of St. Petersburg and is now known as the Leningrad Kirov Ballet.

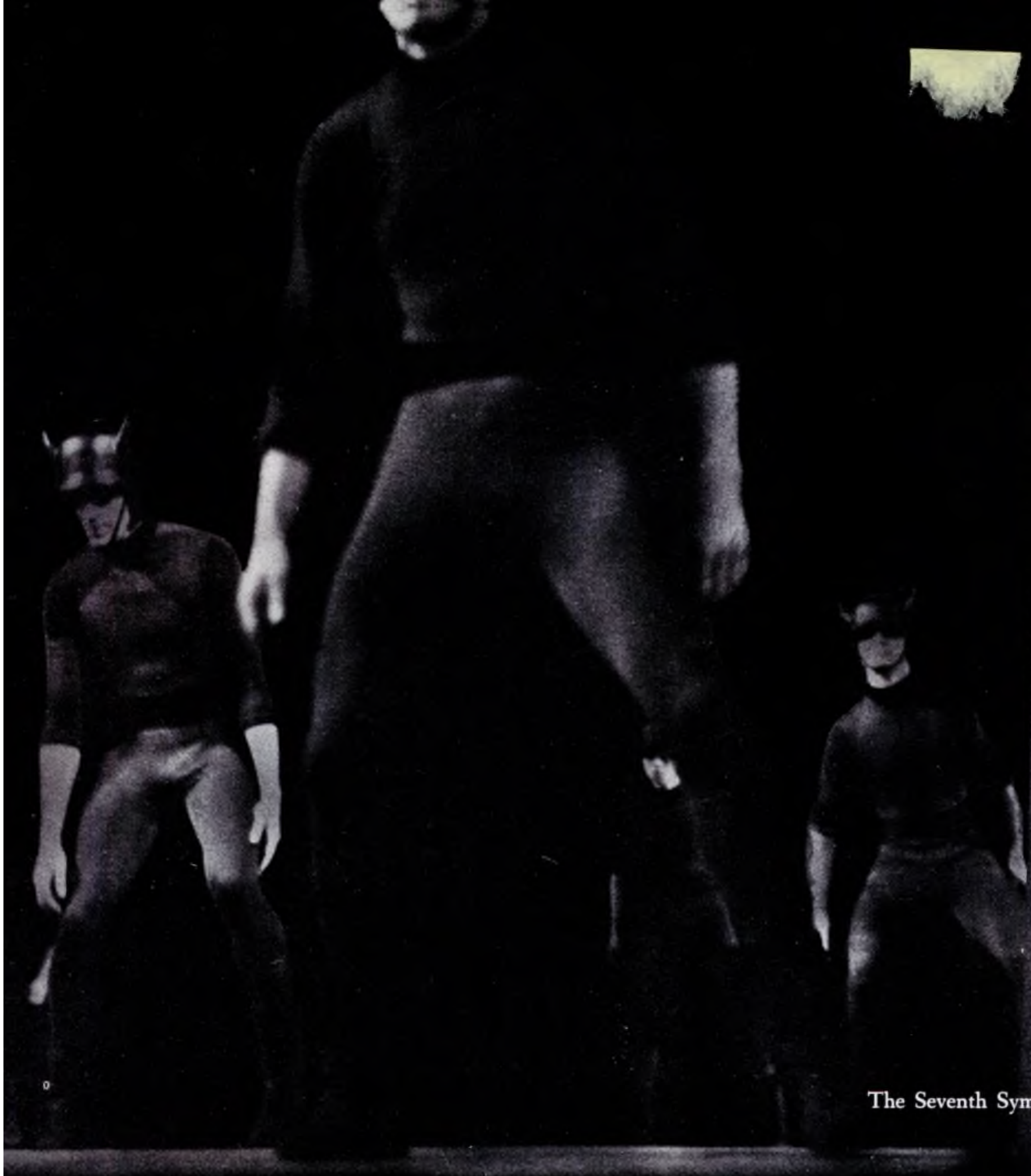
In the first years after the October Revolution the old repertory was used, but it had to be danced in a new way. In the prerevolutionary ballet of the Mariinsky Theater, classical and character dancing were used to create a purely external effect of brilliance and virtuosity. Now the dancers had to find a bond with a new, eager audience, one that came to the theater expecting to see something vitally important. Conventional mime was replaced by expressive acting capable of projecting the characterization across the footlights.

By the thirties the Leningrad Ballet had a strong company of gifted dancers, and the next problem was to create new Soviet ballets with a more profound dramatic content.

Under the tutelage of Professor Agrippina Vaganova—one of the greatest ballet teachers of all time–the Russian school of classical dance acquired new features, making it a fully Soviet school. The first great ballerinas taught by Vaganova—Marina Semyonova and Galina Ulanova—were also the first to introduce new content into the age-old



Scenes from The Seventh Symphony



The Seventh Symphony

tory acquired a contemporary note when performed by the new generation of dancers.

In molding her system, Vaganova based it not only on old and known methods but on everything she saw around her. She took something from each of the works of Soviet choreographers.

Though she taught only girls, her scientific method, embodying all the best achievements of many generations of Russian teachers, also influenced the quality of male dancing. The Leningrad Ballet produced strong and virile dancers—Alexei Yermolayev, Vakhtang Chabukiani—to perform heroic roles in the new ballets.

The extremely fruitful period of the Leningrad Ballet in the thirties, when outstanding creations by young Soviet choreographers appeared one after another, was due in no small measure to Vaganova's work. The new ballets had genuine dramatic impact and formed a new and very valuable type of actor- dancer in Soviet ballet.

During the war the company was evacuated to the Urals where its creative work was continued, and in 1945 Fyodor Lopukhov, veteran choreographer, produced a new version of *Swan Lake*. In 1950 Konstantin Sergeyev did another new version of *Swan Lake*, bringing it much closer to the Petipa-Ivanov production of 1895. This version as well as Konstantin Sergeyev's 1952 production of *The Sleeping Beauty*—a loving revival of the Petipa masterpiece—are the ones we see performed today.

A great role belongs in these productions to the excellent designer Virsaladze, who has the rare ability of being able to blend his settings with the choreography and is a past master in creating harmonious color schemes. In 1958, when Yuri Grigorovich, a gifted young choreographer, did his own version of Prokofiev's *The Stone Flower*, he worked very closely with Virsaladze. The result was a production of exceptional beauty. Grigorovich has just produced his second ballet, *Legend of Love*, to music by Ariff Melikov.

Igor Belsky, only yesterday a leading character dancer, is now working on his second ballet to Shostakovich's Seventh Symphony, choreographing it in the modern idiom.

USSR

The Earth from Outer Space

See page 44

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October 1961 No. 10 (61)

Front cover: Pavel Kotlyuba, one of the best combine operators of the Gruzia Collective Farm. Photo by Georgi Petrusov. *See story page 16*

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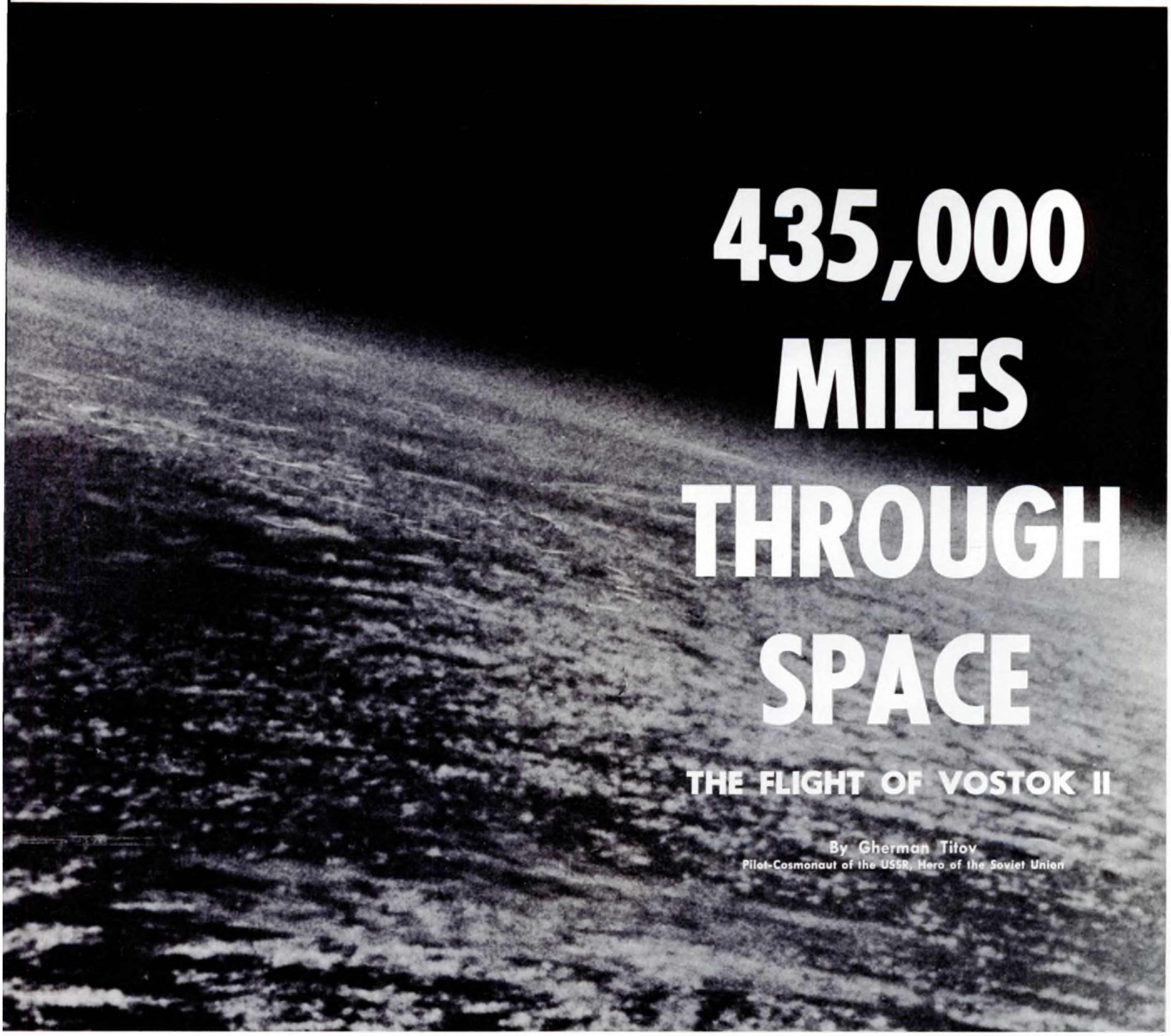
ENGINEERING has been a passion with me since childhood, and when I was offered a chance to study at an air school, it was a dream come true. I would be a pilot, I hoped, like our famed Alexander Pokryshkin who hails from my part of the country, and with thousands of other fliers guard the sky over the Soviet Union. I knew that for this I would have to work, study and train hard.

When I became a pilot I had new dreams, plans and hopes, and I wanted to learn everything about space rocketry. At the time Soviet artificial satellites were already roving the sky. The age of sputniks called for men who could fly much faster, higher and farther than we jet pilots had ever gone. The great successes of Soviet science and engineering which fascinated all of us gave me the idea—I would be a cosmonaut.

Again my dream came true. I met the physical and training qualifications, joined the group of cosmonauts and began life anew, so to speak.

Our team underwent intensive preparation for the first manned space flight. We did a great deal of study and training to get our bodies inured to unknown outer-space emergencies.

The time arrived when the *Vostok* was to be launched with a man aboard, and the big question was—who would be the first to ride through the spaces of the universe? My friend Yuri Gagarin and I were chosen. We had been



435,000 MILES THROUGH SPACE

THE FLIGHT OF VOSTOK II

By Gherman Titov
Pilot-Cosmonaut of the USSR, Hero of the Soviet Union

thoroughly prepared for this flight. I was Yuri's alternate, and I stayed at the cosmodrome in "preparedness No. 1," to use the flier's expression, until the *Vostok* took off and was orbited.

Yuri Gagarin's flight taught us many of nature's secrets. We learned many things unknown until then, including this most important fact—that man can live and work in space. But there was more we had to find out about the unknown laws that govern human life in space. Scientists made improvements on the *Vostok* and adjusted it for a longer journey, one that would take about 24 hours, make 17 revolutions of the globe and cover a distance equal to that from the earth to the moon and back, more than 435,000 miles in all.

I was chosen to make this flight, and right after Gagarin's return I began preparing for it. Training with me was my friend, Cosmonaut No. 3. an unusually level-headed man with uncommon will power and courage. His future flight, like ours, will add to the body of knowledge that our journeys through space have contributed to science.

Cosmonaut No. 3 was a bachelor and on his own. But I was a married man, and so I had to get my wife's consent before making the flight into space. She had known that Yuri Gagarin and I were in training for the first flight, and when she heard that I had been entrusted with the second flight, she was as pleased as I was, and as sure that the great undertaking would be successful. "I'm sure everything will be fine," she said as she saw me off. We cosmonauts felt that way too—pleased and confident.

The cosmodrome is a large setup, with many structures. It reminds one of a big industrial enterprise and giant research laboratory combined. Through the lacy metalwork of the gantry the body of the rocket looked like an arrow of dull silver pointed skyward.

Blast Off!

The time flew, and finally it was the evening before the flight. There were four of us at supper—Yevgeni Anatolyevich and Andrei Viktorovich, two physicians; my substitute, Cosmonaut No. 3; and myself. We ate space food pressed out of special tubes, and soon after went to bed.

It was a fine morning—the sun was rising, the birds were chirping in a cloudless sky, and snatches of music were coming from somewhere close by—all in keeping with my mood.

I entered the cabin of the *Vostok*, and the entry hatch closed behind me noiselessly. I was alone—my cabin was as comfortable as a room. I could sit and lie, work and take it easy in my pilot's chair. Everything was at hand

and in sight, every button and lever within easy reach. I could control the ship in flight, maintain contact with the earth by radio and make entries in my log journal, all from my seat. Breathing was easy, the light was soft. The designers had seen to everything that would simplify the pilot's work, to every convenience and even comfort.

I waited through a ten-minute alert interval before the start. The Chairman of the State Commission wanted to know how I felt. "Fine," I answered. I was tense, waiting for the command. At 9 sharp Moscow time it came. "Ascend!"

There was an elation I had never felt before. I responded, "Ready. Ascend!"

That same moment I felt the millions of horsepower in the boosters battling against the force of terrestrial gravity. "Here I go!" I yelled.

The rocket tore away from the starting device and lingered for a moment as though bracing itself against a violent gust of wind. The deafening rumble penetrated the cabin, and an enormous weight pressed on my body. The stress kept getting greater. I was grateful for the long, persevering training we had done in centrifuges and on vibrostands that accustomed our bodies to the conditions of space flight.

I withstood the noise, vibration and stress of the orbiting well. I was not dizzy or sick, and my consciousness, vision and hearing were unimpaired. I worked from the very first moments, checking the instruments, maintaining two-way communication with the command post, and watching the receding earth through the portholes.

The horizon expanded. New sun-drenched vistas opened up. This was something far more awesome than the landscapes you see from a jet plane. The colors were extraordinarily beautiful, like those of a sea shell, and the light in the cabin seemed to have been filtered through stained glass.

In Orbit

I could feel each stage of the rocket separating, carrying the ship higher and higher toward the calculated orbit. The chronometer predicted that the ship would be orbiting in a matter of seconds. I began to prepare myself for weightlessness, but it came smoothly after the last stage separated off.

The first impression was strange, as though I were in the middle of a somersault and flying with my legs upward. This sensation lasted only a few seconds. When it passed, I realized that the ship had been orbited. The instruments told me that too, and it was confirmed by the scientists who were waching *Vostok II* from the earth. They radioed the orbit parameters—the perigee, 110.6 miles; the apogee, 160 miles; angle of inclination to the equator, 64°56′. Now that I had been orbited and was flying through space, where there could be no rain, snow, thunderstorm or anything except vacancy, I could get down to work on the flight program.

The basic aims of the flight were to investigate the effect of prolonged flight and subsequent return to earth on the human organism, and to determine the working capacity of a man during a lengthy period of weightlessness. There were other tasks, but these were derivatives of the first two basic aims.

For each of the 17 circuits of the planet to be made in the course of the 25-hour flight a strict timetable had been drawn up of the work to be carried on by the cosmonaut. Everything had been calculated to the minute—when I was to talk by radio with earth, when to control the ship manually, when to eat and drink, when to sleep, when to wake up.

The sun shone through the portholes with a radiance intolerable to the human eye, and in order to economize the energy of the batteries I switched off the light. But I soon had to switch it on again. The ship passed into the shadow of the earth, and I was surrounded by pitch black night.

Manual Control

After an hour's flight through impenetrable darkness, I turned on the ship's manual controls according to plan, but not without some inner anxiety, I must confess—no man in the world had ever before steered a spaceship. "Would it respond to the movements of my hands?" I wondered as I touched the controls.

Vostok II obeyed my commands, and I steered it just as calmly as I would a car on earth or a jet plane in the sky. The ship proved easy to handle. Its attitude could be controlled at will, and it could be turned in the direction desired at any moment. With my hands on the controls I felt that I was the captain of this remarkable ship. I felt no particular strain. As a matter of fact, I felt no strain at all. I might very well have been in a plane.

The moment approached when I would be emerging from the shadow of the earth. It came very swiftly. My second dawn that day broke with the appearance of a bright orange strip on the horizon, above which all the colors of the rainbow began to appear. It was like seeing the sky through a prism. Then, immediately, the sun's rays came through the porthole. The day was bright and sunny after the dark night.

I stared at the earth with intense interest. I saw big rivers and mountains and was able to distinguish between plowlands and fallow fields by their color. The clouds were clearly visible; they could be differentiated from snow by the blue shadows they cast on the earth. On the horizon the earth was surrounded by a pale blue aureole.

The globe on the instrument panel, whose rotation coincided with the ship's movement, indicated that *Vostok II* had already made its first circuit of the earth. The ship clock confirmed this too. This is as far as Yuri Gagarin had gone on April 12, and *Vostok II* was continuing its flight.

Report to Earth

At 10:38 A.M. Moscow time, flying over the territory of the Soviet Union, I reported by radio to the Central Committee of the Communist Party of the Soviet Union, the Soviet Government and to Nikita Sergeyevich Khrushchev personally: "The flight of the Soviet spaceship *Vostok II* is proceeding successfully. All the systems of the ship are functioning normally. I feel well . . ."

Viewed from outer space all the continents of the globe differ not only in outline but in color. Africa is yellow for the most part, with dark green spots of jungle scattered across it. Its surface resembles a leopard skin. When I flew over the African continent, I recognized the Sahara Desert at once—a great ocean of golden brown sand with no sign of life.

The yellow Sahara ended abruptly, and there was the bright expanse of the Mediterranean Sea, the most beautiful of all bodies of water I

In Moscow's Red Square the people hear a radio announcement about Titov's flight.


Gherman Titov

had seen during the first two circuits. Dark blue, as though painted in ultramarine, it floated past the porthole and vanished in the haze.

A few more minutes and I was flying over my own country once again. At 11:48 A.M., its second revolution of the earth completed, *Vostok II* began the third.

During all this time I was transmitting data to the command post of the flight, situated at the cosmodrome, and to the coordinating-computing center many hundreds of miles from it. I knew that hundreds of eyes on earth were seeing everything that was going on in the ship's cabin, each of my movements, on television screens. Through radiotelemetric and television systems doctors were keeping a constant check of my physiological reactions. Highly sensitive equipment was recording and transmitting the electric potential and mechanical activity of my heart, the frequency and depth of my respiration, my temperature.

From the start to finish of the flight the light and compact radio apparatus worked beautifully. With the two parallel short-wave transmitters and a third ultra short-wave transmitter operating on transistors, the receivers, the microphones mounted in the space helmet and in the cabin, the sensitive earphones and loud-speakers I was able to transmit information from any point in the orbit, to receive orders from earth, to carry on radio conversations with the Chairman of the State Commission, the chief designer, the doctors and the various specialists.

Vostok II also carried a broad-range receiver. I switched it on and heard the familiar voice of a Radio Moscow announcer broadcasting the official report that a new Soviet spaceship had been launched.

Dining in Outer Space

The program scheduled my first meal, dinner, during the third circuit. Although I wasn't particularly hungry, I began to eat. There was no cutlery or napkins on this ship. I reached out to the food containers for a tube of soup purée. On earth it weighed about 150 grams (5.3 ounces), in space it weighed nothing. I squeezed the contents into my mouth, as one does tooth paste onto a brush. My second course was meat and liver paté, washed down with currant juice, also from a tube. Some of the juice drops escaped and hung like berries in front of my face, quivering a little. It was fun watching them float in the air.

I found eating and drinking in space as simple as on earth. I followed the schedule for my supper and breakfast the next morning. In addition to the food in tubes I had a solid variety—small pieces of bread, which I bit off and ate. I also swallowed vitamin pills and drank water from a special device, much as I might have done on earth.

The hand camera I had brought with me—a Convas, loaded with color film—was floating within easy reach. I took several shots as I entered the earth's shadow and as I emerged from it. I also filmed the starry sky. The moon, which I saw twice, was on the wane, and its sharp crescent looked as it does when seen from earth. I had the impression that the ship was standing still and that the moon, with its horns forward, was swiftly floating past the porthole.

Before the ship emerged from the earth's shadow, I saw the twilight move across the globe. One part of the earth was illumined by the sun; the other was completely and utterly black. A fleeting gray belt of twilight with pinkish clouds hanging above it made a distinct line of demarcation.

Everything was unusual, fascinating, wonderfully colored. Space is awaiting painters, poets and, of course, scientists, who will be able to observe everything firsthand and to describe and interpret what they see. I was especially struck by the Tien-Shan Ridge and the peaks of the Himalayas covered with dazzling snow. They were directed at an angle to the ship's flight. The mountains looked like stacks of straw dotted with the bluish gaps of their crevices.

Through an optical device with three- and five-power magnification I watched the long swaths of the Pacific and Atlantic waves chasing each other—a grand sight.

Oceans and seas, like the continents, were of different colors, in shades as varied as those on Ivan Aivazovsky's palette—from the dark blue of the Indian Ocean to the lettuce green of the Caribbean and the Bay of Mexico.

Once in the darkness I sighted the golden dust of a big city. The globe on my instrument panel told me that I was flying over Rio de Janeiro.

The spaceship kept making its circuits. I had work to do. Once more I took the manual controls, this time with more confidence since I knew the ship would behave. And it did, like a well-trained animal.

Like Sleeping on a Sea Wave

The schedule said I was to go to sleep. I was tired enough. *Vostok II* had made six circuits, and nine hours of the space flight had passed. Also, the long period of weightlessness had begun to affect my vestibular system and I had unpleasant sensations from time to time.

At Vnukovo Airport in Moscow the morning of August 9. Cosmonaut Titov reports that the mission assigned him has been carried out.

Moscow turns out en masse to welcome the hero. Hundreds of thousands line the route all the way from the airport to Red Square.

The cosmonaut, his wife and relatives at the Kremlin with Nikita Khrushchev and President of the Presidium of the USSR Supreme Soviet Leonid Brezhnev (far left).

Muscovites carrying banners and pictures of Gherman Titov parade through the streets to Red Square in an impromptu celebration.

From Titov's Family Album

1

2

3

4

At 6:15 P.M. the ship was passing over Moscow. It was the time scheduled for sleep. But I could not resist the impulse to send a short radiogram.

The receivers stayed on, but according to schedule, radio communication was discontinued. No one disturbed me, not a sound came from the earth.

I strapped myself to the chair with special belts. I had been taught by the physicians to fall asleep at will and wake at a prescheduled time. I shut my eyes and went to sleep. The ship's radiotelemetric controls and the various systems that took care of the cosmonaut's vital functions continued their noiseless operation.

I awoke because of the strange position of my body. My hands were raised and hanging in mid-air. I put them under the belts and looked at the diagram of a special counter that showed me the ship was in its eighth circuit. I woke up again when the ship made its tenth, and then when it made its eleventh circuit, glanced at the counter and went to sleep once more. It was fine sleeping in space, no need to turn over every once in a while because neither my hands nor legs became numb. It was like lying on a sea wave.

I was scheduled to awaken at two o'clock sharp and get down to work. But I slept another 35 minutes. Down on earth they knew I was oversleeping but did not wake me. Immediately after I had gone through the morning routine, I went back to work.

The ship's equipment functioned with clock-like precision. I felt rested and refreshed and all unpleasant sensations were gone. I reported this to earth.

The radiogram transmitted, I went through my daily dozen. Exercise has long been a habit with me. I don't feel in form without it.

Exercise in space? It would seem that physical effort is not possible under zero gravity conditions, but allowance had been made for weightlessness, and our physicians and physical training instructors had worked out a special set of exercises. One for the abdominal muscles, for example, required the cosmonaut, when he was strapped in, to try to tear his body away from the chair. There were exercises for other muscles and for the joints.

The exercises activated my heart and generally invigorated me. I still had a long way to travel—five more revolutions of the earth, 125,000 miles of space flight.

Vostok II made its circuits with pinpoint accuracy, to the minute. Once I clocked the time it took the ship to re-enter the earth's shadow. When it re-emerged on the sun-lit side, I began watching the land. The ship re-entered the shadow in the 89th minute, precisely as had been calculated on the earth and as I had been told it would before take-off.

Re-entry

This flight, which required stamina and a great deal of patience, was coming to an end. The time for the difficult concluding stage, the landing, was approaching. My comrades on earth did everything they could to keep me in good spirits.

I didn't need much cheering up. I felt good, not surprising since the whole scientific program had been carried out and everything pointed to a successful conclusion. I glanced at the food containers. They were stocked for ten days, and, if necessary, the flight could continue. But I hadn't any doubt that I would land safely. I had complete confidence in the vehicle and in the accuracy of the calculations.

As the spaceship was beginning its seventeenth loop, the chief designer asked me, "Are you ready for the landing?"

I answered, "Ready!"

And frankly, I was. I longed to get back to earth. Outer space was fine, but there's no place like home. Nothing can compare with your native land, where you live, work, have friends and breathe the good fresh air.

The ejection of the vehicle from its orbit, the re-entry into the dense layers of the atmosphere, and the actual landing itself are all very tricky.

1. *For a man, says Tamara, Titov's wife, he's really not bad at housework.*

2. *Titov is an all-round athlete, with long-distance bike racing a favorite.*

3. *His camera know-how stood him in very good stead for space photography.*

4. *He is very fond of hunting and is a better than fair hand with a shotgun.*

5. *Like a true angler, he'd just as soon make a good cast as pull them in.*

6. *The only man on earth who has done setting-up exercises in outer space too.*

The slightest misjudgment in this final stage of the flight can be unpleasant, to put it mildly. Remember that everything is taking place at tremendous speed, that the protective shell insulates the cabin against imposssibly high temperatures and that the ship is thousands of miles from the landing area.

The main thing was not to get rattled. I don't like to have to make hasty decisions. There were several questions that bothered me, and I decided to consult the chief designer once more. He gave me detailed answers, and I resumed my routine work.

At the time scheduled I was informed that the automatic re-entry system was going to be switched on. The attitude control system worked without a flaw. The retro-engine was fired. Its thrust was directed against the motion of the vehicle and the velocity dropped. *Vostok II* left its orbit and approached the dense layers of the atmosphere.

I tried to detect the precise moment when gravity set in. Yuri Gagarin had said that it was hard to pinpoint. I found that to be true. Suddenly I was sitting solidly in the chair and had to make an effort to move my hands and feet.

The ship entered the dense layers of the atmosphere. Its heat-resistant shell warmed up rapidly and made the air flowing past it glow. I decided to keep the blinds of the portholes open so I could see what was going on outside. A faint pink halo surrounded the vehicle, gradually grew denser, turned red, then crimson, then scarlet.

I glanced at the thermometer; the temperature inside the cabin stood at 22° centigrade (71.6°F). I had to squint when I looked at the vari-colored flames swirling round the ship. It was a beautiful and awe-inspiring sight. The refractory glass of the portholes took on a yellow tinge, but I was sure nothing would happen. The vehicle's protective shell had been checked and rechecked in flight over and over again.

Weightlessness ended, the load increased rapidly and pressed me down into the chair, as though a tremendous weight were flattening my body. "I hope it ends soon," I thought. The load grew lighter. I felt comfortable again, and the glow in the air outside faded.

Parachute Landing

All the systems had worked perfectly. The ship was headed directly for the target area. I knew the place. I had met Yuri Gagarin there on his return from outer space. The ship's construction allowed for two landing methods—I could land in the cabin or separate the seat from the ship and parachute down. I was permitted to use either of the methods, at my discretion.

Since I felt fine, I decided to use the latter method. When *Vostok II* had decended low enough for the seat to be ejected, it separated off from the ship and a bright orange parachute opened up.

Down below were cumulus clouds. I passed through their moist thickness and looked down at the earth covered with a golden stubble. I made out the Volga and two cities located on its banks, Saratov and Engels. That meant that everything was proceeding according to plan and that I would be landing in the prearranged area, in the same place where Yuri Gagarin had landed.

The parachute, swaying but dropping smoothly, brought me lower and lower until I could clearly make out a combine at work, mown fields, hay stacks, a herd of cows grazing in a green field. Then all these things got mixed up and I realized that there was a rather strong wind blowing. Not far away I could see a freight train moving along. The wind was carrying me straight toward it. I thought, "All I need now is to land on top of a freight train and be carried heaven knows where."

But the ship landed on one side of the railroad track and I on the other. The gusts of wind dragged me through the stubble. The soil was soft and lessened the impact. It felt very good to stand on the earth, to feel it beneath my feet, to take my first steps on it.

Accustomed to doing everything on the flight according to an exact schedule, I glanced at my watch. It was 10:18 A.M. Moscow time. I calculated how long I had been up—25 hours and 18 minutes. More than a day. The most important day in my life.

I removed the parachute and looked around. Along the road raced a motorcycle with three riders, farm machine operators who had seen me from their field camp. They ran toward me and hugged me, their faces glowing. I said, "Please help me get out of my heavenly garb."

They got me out of the space suit. Then a car drove up with two men and a woman, and people came running across the field from all directions. They wanted to drive me to the District Party Committee, but I asked them to take me to the ship first. It was standing in the field beyond the railroad embankment. Near it were some people from the group that was to meet me.

Congratulations!

I went into the ship, took the log book, had a drink of water from the supply in the cabin, and then set off for the District Party Committee in the same car. There I was connected with Nikita Sergeyevich Khrushchev by phone and reported to him that the flight had ended successfully and that I felt fine.

"You have realized the dream of mankind," he said. "Not so long ago manned space flight was considered a dream that could not be fulfilled. We are proud that you, a Soviet person and a Communist, have accomplished this . . . Consider your probationary period for Party membership over. Every minute you spent in outer space is the equivalent of so many years. You have passed your candidate stage, you have shown that you are a real Communist and can hold Lenin's banner high. Take a rest now," he concluded, "you have certainly earned it."

Only then did I realize how tired I was.

But the townspeople had gathered outside the District Party Committee and were calling for me to say something. I could not refuse. From a platform in front of the building, I said, "The flight was successful. I have learned a great deal. I feel fine. I have just spoken with Comrade Khrushchev." These were moments I knew I would never forget.

With people shouting their greetings after me I got into the car and was driven to the airdrome where a plane was waiting. It had been sent down from the command post of the welcoming group.

That very same day, in a little house on the bank of the Volga, I met Yuri Gagarin, who had flown over from the Western Hemisphere. The many people around congratulated me. Someone made the point that the glory should be devided into two equal parts, half for me and the other half for those who had designed *Vostok II.*

I replied that all the glory of this new space triumph belonged to the Party, the people and, of course, to those who had created the spaceship. Without the ship there could have been no flight. But even if there had been no Titov, there would have been an Ivanov, Petrov, Nikolayev or Sidorov. We had thousands of people capable of doing what the first two cosmonauts have done.

The next day Yuri Gagarin, Cosmonaut No. 3 and I spent the day together. We strolled along the Volga, its blue expanses sparkling in the sun, and listened to the whistle of the steamers. Cosmonaut No. 3 asked questions only we could answer. He wanted to know everything we had felt and experienced, whatever might be of use to him in the flight he would be taking next, very probably a more difficult one than ours.

Abridged from Pravada

Question from the floor on a point in the draft Program.

"The present generation of Soviet people shall live under communism!"

COMMUNISTS DISCUSS THE

Rapt attention to this blueprint for a communist society.

SOME WEEKS AGO the Communist Party group of the rolling shop at Krasnoye Sormovo, one of the oldest steel mills in the country and famous for its revolutionary traditions, held an open meeting to discuss the draft of the new Program of the Communist Party of the Soviet Union. This was one of several thousand such meetings held at plants all over the country prior to the Party Congress. There were some 300 people present, old and young, Party and non-Party, and a considerable number of them took the floor to speak.

The discussion was opened by Ivan Chugunov, a Party member since 1917. Chugunov, who is 75 years old, worked in the rolling shop for more than half a century, moving up from assistant roller to foreman. Today he is a professional writer and chairman of the District Council of Veteran Communists.

"More than 50 years ago," Chugunov said, "I was present at a meeting very much like this one—to discuss our Party's first Program. I was 20 at the time, and the major thesis of the Program—the overthrow of the czar—seemed to me to be a matter for the distant future. Czarism was like a bitter, never-ending, unchangeable winter. The goal seemed to be an impossible one for our handful of revolutionaries and sympathizers. In Sormovo at the time there were less than 40 Communists.

"But only 12 years later I participated in a discussion of the Party's second Program. It called on the people who had overthrown czarism and the system of exploitation to begin building socialism. This was in 1919, and I had been elected a delegate to a city Party conference. Dressed in an army overcoat and felt boots, I sat in the orchestra of the opera house holding an Italian trophy rifle in one hand. With the other I raised my delegate's card to vote for a program to build socialism in Soviet Russia.

Steelworker Nikolai Anishchenkov, Communist Party member, proposes an amendment to the new Program.

Ivan Chugunov, a pensioner, speaks for the draft.

NEW PARTY PROGRAM

"I must admit that this goal also seemed to me remote, and here again I was mistaken. As you well know, within the lifetime of one generation we transformed our backward country into an industrial power.

"Now here I am once again discussing a new program, a program for building a communist society. We shall reach our goal, and in the time scheduled by the Party."

Next to take the floor was Victor Sedov, a young non-Party worker. He made a short speech that brought a burst of applause. "So far as I'm concerned, there's no question about approving the new Party Program. It's the program for me. The men in my team all feel the same way—that it's our program. We talked it over and decided that instead of long speeches, we would make a pledge in honor of the Twenty-second Party Congress. So on behalf of Rolling Mill Team No. 350 I pledge that we shall fulfill our annual plan by October 17 and in the process save 27 tons of metal, 57 tons of mazut and 125,000 kilowatt-hours of electricity."

Alexei Pleskov, an old Communist like Ivan Chugunov, a Party member since 1917, talked of the way the town had changed. "It's not the same Sormovo," he reminisced. "It's like living in a different town—all these modern apartment buildings, the Palace of Culture, the Young Pioneer Club, six new movie houses, 100 new stores, a hotel, restaurants and cafés. The Sormovo of prerevolutionary days was a lot different. What I remember is the red brick wall of the plant and saloons lined up in a row. Down the street were Karpov, Gorbachev and Co., Kotov and Sons, six churches and a jumbled mass of wooden huts that showed all the marks of time and weather. The workers lived in those appalling shacks. That's what the town was like 40 years ago."

Then Pleskov pulled a copy of the newspaper *Izvestia* out of his pocket and read the paragraph from the draft Program listing all the changes which will take place in the country during the next 20 years.

Engineer Alexander Galyanov got onto his favorite subject—education. He's always after the younger men to continue with their schooling.

Galyanov said: "According to the draft Program, all the big shops in the country are going to be automated, including ours. What's the purpose? To make work easier, cut hours, eliminate the hard physical jobs and gradually do away with unskilled labor altogether. It's obvious that all this is going to require more from workers in the way of training and education, and that is what I want to talk about."

He did, and at some length. "Are we preparing ourselves as well as the shops for this comprehensive automation?" Galyanov asked rhetorically. "I can't says that everyone is. Let me cite a few examples. Here is team leader Kharitonov of Rolling Mill No. 75 dropping out of his class at the specialized secondary school. When I asked him why, his answer was, 'I've had enough studying. I make enough money and I want to take it easy for a while.' Here is Dorogushin putting off taking the institute's entrance exams for the third time. Assistant rollers Kirillov and Kotelnikov of Rolling Mill No. 510 didn't put in enough time studying and failed their math course at the secondary school. These comrades obviously don't understand that the pace of technological development at the plant calls for equally fast growth in a man's skill and knowledge."

Many others spoke, and when the discussion was over, the chairman proposed that the draft of the Program be approved. This resolution was carried unanimously.

Communists and non-Party people, factory and office workers of Krasnoye Sormovo not only approved the Program; they thoroughly discussed their concrete production tasks. The solution of these tasks will be their contribution to carrying out the Party Program.

EVENTS and PEOPLE

TAIGA POWER PLANT READIES FOR OPERATION

THE PHOTO SHOWS workers completing assembly of the rotor for the Bratsk Hydroelectric Plant's first turbine. As their greeting to the 22nd Congress of the Communist Party of the Soviet Union, the builders pledged to get the station's initial turbine revolving earlier than scheduled so that the plant will be able to start generating electricity on the eve of the congress.

The Bratsk station is the gem of the Soviet power industry, one of the country's biggest construction projects. The turbulent flow of the Angara waters has been curbed by a dam more than half a mile long built in the heart of the taiga. This station, with its 20 unique hydroturbines—their aggregate capacity is 4,700,000 kilowatts—will generate 22 billion kilowatt-hours of electricity a year.

It will take the Angara three years to fill the giant reservoir behind the dam. Bratsk will be supplying electricity to a vast industrial area. Aluminum, chemicals, timber, ore processing and other large-scale industrial enterprises will be springing up in this former wilderness.

NEW HYDROFOIL BOAT ON THE VOLGA

FOLLOWING tradition, a bottle of champagne was smashed against the side of the new cigar-shaped motor ship *Sputnik* as it slipped down the ways into the Volga.

Sputnik is the latest of the hydrofoil ships to be built in Gorky. The *Raketa, Meteor* and *Kometa* are already speeding up and down the Volga, Dnieper, Ob, Yenisei and Irtysh Rivers at 35 to 45 miles per hour. The *Sputnik*, designed by Soviet engineer Rostislav Alexeyev, is bigger, faster and more comfortable than its predecessors. It has airliner-type seats in its several salons and accommodates 300 passengers. With its superpowerful engines and stripped-down design, *Sputnik* can skim over the water at a speed of 50 miles an hour. The maiden voyage of this new hydrofoil craft is scheduled for the opening day of the Party Congress.

TO HONOR THE 22ND PARTY CONGRESS

THE DRIVE to mark the approaching Party Congress with personal achievements in work has become very popular in the Soviet Union. It is hard to say when and where it got its start among the working people of the country. The personnel of the Moscow Krasny Proletary Plant claim that they initiated the campaign; the iron and steel workers of Magnitogorsk and the machine builders of Leningrad claim that they did. The most important thing, however, is that factory and office workers, scientists and teachers are doing their special bit to translate into life the new Party Program for the construction of a communist society.

The workers in the Azovstal Plant's open-hearth furnace decided to smelt an extra 15,000 tons of metal by October 17, the opening day of the Party Congress. As of the last report, their steelmen are more than living up to their word. This one team pictured here, led by Leonid Kazmiridi, has already smelted 800 tons of steel in excess of the plan.

AMATEUR PAINTERS ON DISPLAY

MOSCOW'S LARGEST exhibit hall is the setting for a national amateur art show that opened this fall. On display are some 6,000 works—paintings, drawings, sculpture and wood carvings—selected from previous shows held in the various republics and regions of the Soviet Union. The exhibit is being held under the auspices of the USSR Ministry of Culture.

Thousands of people have already seen the show. Among the pictures that have aroused general interest are *Portrait of a Mother* by Ivan Kurochka, a railroad man from Sumy, and *A Foggy Day*, a landscape by Victor Kogunov, an engineer.

Boris Ioganson, President of the USSR Academy of Arts, thinks the works on display reflect the high level of Soviet amateur art. There are some 130,000 Sunday painters and sculptors in the Soviet Union.

EAR SURGERY UNDER A MICROSCOPE

VALENTINA NIKITINA was the first surgeon in the Soviet Union to attempt the delicate operation of replacing a natural ear bone with one made of polyethylene. Her patient was threatened with total deafness. The smallest of his earbones had lost mobility and blocked the passage of sound waves.

This delicate operation is done under a microscope. An incision is made in the ear drum, and a long thin needle is inserted some two inches into the ear, clearing the operative field with almost invisible movements.

The tiniest drop of blood, magnified many times by lenses, can block out the operative field. Therefore, the surgeon has to put his scalpel aside dozens of times to clear the operative field with the needle. The long operation—it takes five hours—demands extraordinary patience and stamina on the part of the surgeon.

FLIGHT RECORD BROKEN

THE AVIATION SPORT Committee of the USSR Central Air Club reports data recently received on a new flight record set by Ivan Sukhomlin and the crew of a serial-production TU-114. The plane, with a load of 66,197 pounds, rose to an altitude of 41,115 feet and stayed up in the air for one hour 22 minutes. This is far in excess of previous Soviet and world records for high-altitude flying with heavy loads. The earlier records were also held by a Soviet test pilot, Vladimir Kokkinaki. Simultaneous new world records were set for altitude flights with loads of 55,000 and 66,000 pounds. The flight data has been forwarded to the International Aeronautical Federation (FAI) for registration.

The photo shows test pilot Ivan Sukhomlin, the new record holder.

LENIN PRIZE WINNER

SEVERAL YEARS ago, when she graduated from the Institute of Nonferrous Metallurgy in the capital and was asked where she wanted to work, Moscow born and bred Valentina Bublis answered, without hesitation, "Kazakhstan." It was not a snap decision. The young mining engineer had given the question serious thought and decided that the Asian republic, with its great wealth of natural resources, offered the greatest opportunities.

Valentina started working at a nonferrous ore mine in Leninogorsk, added practical experience to her solid academic background, and kept up with developments in her field by reading everything she could find on mining engineering in Soviet and foreign journals.

She developed a new method for mining so-called hard ores that saved the Leninogorsk mine alone 50 million rubles a year, for which she recently received a Lenin Prize, the nation's highest award for technological, scientific and cultural achievement. There are dozens of mines like Leninogorsk in the Kazakh Republic that have introduced the new method, and Valentina is now working on improvements.

TEN-YEAR-OLD CHESS SENSATION

THE ANNUAL JUNIOR tournament of the Russian Federation in the town of Borovichi is a chess fixture. It is the rare year that does not turn up a sensation, with youthful chess talent mushrooming, as it has been doing, all over the country.

The sensation of the latest tourney in Borovichi was the brilliant showing—six points out of a possible eight—by ten-year-old Tolya Karpov from the Urals city of Zlatoust. The youngest and smallest of the challengers, Tolya started his fourth school year this fall. He received excellent grades in all his subjects, but his real passion is chess. He has been playing the game since he was four with his father, an engineer in a Urals factory. When his father started losing far too often, Tolya looked around for stiffer competition at the chess section of the local Young Pioneer Club. There are 700,000 Soviet schoolboy chess enthusiasts.

The lad came to the Borovichi tourney as the junior champ of his region, having won the title two months earlier. It may be a little premature to predict a brilliant chess future for young Karpov, but he certainly has worked out a very promising style of his own.

AMERICAN PHOTOGRAPHERS EXHIBIT IN MOSCOW

PHOTOGRAPHY is a more universal language than anything we have yet devised. It pictures life in all its changing shades and moods. The recent exhibition of work of American photographers at Moscow's Friendship House spoke that common tongue.

What attracted large numbers of Moscow viewers, aside from the consistently high standard of the photos exhibited, was their fidelity to life. The show is decidedly a critical and popular success. The photos submitted by Baltimore Photo Club members Robert W. George, Aubrey Baudin, Edward L. Bufford, Paul C. Klug, by members of the Lens Photo Club, and by New York amateur photographers attracted special attention.

The portraits of a Nova Scotia farmer by Ben Cooper and of a Bartonsville sawmill worker by Richard Stacks, and the landscape *Winter Morning*, also by Richard Stacks, drew an especially large number of viewers, but the Muscovites were particularly interested in the photographs typifying American life.

Our photo shows amateur photographer Frank B. Christopher opening the show.

The Program for BUILDING A

This is the fourth in a series of articles on the Communist Party of the Soviet Union. The first, in the June issue, describes the Party as the leader of the Soviet people; the second, in July dealt with the organizational principles of the Party; the third, in August, took up the significance of the Party congresses as historic landmarks in the development of the Soviet State. The fourth and concluding article summarizes the first two Party Programs and gives the main points of the draft of the third, to be adopted at the Twenty-second Party Congress.

THE TWENTY-SECOND CONGRESS of the Communist Party of the Soviet Union, convening in Moscow this month, is concluding a discussion of national scope. For several months the draft Program of the Communist Party of the Soviet Union, the major item on the congress agenda, has been studied and debated by all Soviet citizens—Communists and non-Party people alike.

This great document of our time was published in the press and broadcast over radio and TV. The draft Program as a whole and its individual theses were discussed in detail at meetings of local Party organizations and at city and regional Party conferences. As a result, the 22nd Party Congress was made fully cognizant of the sentiment of the whole country.

The discussion demonstrated that there was no differences with regard to the principles and aims enunciated in the new Party Program. The Soviet people are of one mind as to their goal—the building of a communist society with this inscription on its banner, "From each according to his ability, to each according to his needs."

But these millions who participated in the discussion did not simply nod in approval. This was a sharing of opinions, an exchange of ideas, an exploration of better ways for realizing the great project. This was a businesslike discussion of a people engaged in the common task of building a new society, a people certain of their bright future.

The draft Program gives a profound analysis of the current stage of mankind's development from capitalism to communism. It is not only a theoretical document, however; it outlines the tasks, scientifically based, that must be carried through to build communism in the Soviet Union.

The Vision Becomes the Reality

"The building of a communist society," declares the draft, "is the immediate practical task of the Soviet people. The gradual development of socialism into communism is an objective law, prepared for by the development of Soviet socialist society throughout the preceding period."

The theoretical foundation of the plan which was followed in building socialism during the preceding historical stage made an invaluable contribution to scientific communism, to Marxism-Leninism. The theory that underlies the practical ways and means to make the transition from socialism to communism also opens a chapter in the development of scientific communism.

In advancing these new theses that arise out of the concrete realities of life, the draft Program proceeds from the Marxist-Leninist theory of the revolutionary transformation of society. Marxist-Leninist doctrine, once only a scientific prevision, has become the concrete reality that determines the everyday life of hundreds of millions of people who are creating a very real and living communist society.

The draft Program is a harmonious system of ideas, principles and theses for building a communist society, a grand plan by which the Party, the government and the people will operate. The plan is impressive in its enormous breadth, its sober approach, its complete realism and conviction. Everything is founded on reason, figured in terms of the necessary material preconditions, based on a knowledge of the objec-

COMMUNIST SOCIETY

By Vasili Moskovsky

tive laws governing the gradual transition from socialism to communism.

The draft Program outlines the tasks of this decade and the one to follow. In twenty years a communist society will, for the most part, have been built.

The reason for the activity of the Communist Party is service to the people, and concern for their welfare and happiness permeates the draft Program from the first to the last line. "Communism," the Program declares, "accomplishes its historic mission of freeing all men from social inequality, from every form of oppression and exploitation, from the horrors of war. It proclaims Peace, Labor, Freedom, Equality and Happiness for all the peoples of the earth."

Building Socialism

The Communist Party of the Soviet Union has a 60-year-old history. This is its third Program. The first was adopted in 1903 at the Second Party Congress. That was when the working class of Russia emerged in the arena of political struggle for the revolutionary transformation of society, a time when the forces of its revolutionary Party gathered, grew and consolidated.

Lenin, the Communist Party's founder, considered the Program a vital document that would determine the Party's activities and give it clarity of purpose. In 1895 he penned the first draft Program. It asserted that the revolutionary struggle would be concluded only with the transfer of political power to the proletariat, only when the land, factories and machines were in the hands of the people for organizing social production.

The draft Program grew out of Lenin's struggle against his ideological opponents within the Party—a principled but bitter struggle—the significance of the document made that inevitable. The draft laid out the Party's tasks and the nature and direction of its activities. In the final analysis it was a program of revolutionary activity, of struggle for the overthrow of the czarist regime, a program for capturing political power, for building a socialist society. Lenin's theses won the day; the Second Party Congress adopted his draft.

Armed with this revolutionary program, the Party guided the people in their struggle to overthrow czarism and led them in a socialist revolution. With the assumption of power, the working class was able to realize its ideals for building a socialist society.

The goals of the first Program were achieved with the victory of the October Socialist Revolution. In 1919 a second, drafted under Lenin's guidance, was adopted by the Eighth Party Congress. This was a program for building the world's first socialist society.

It formulated the Party's basic tasks—domestic and foreign—for the period of transition from capitalism to socialism.

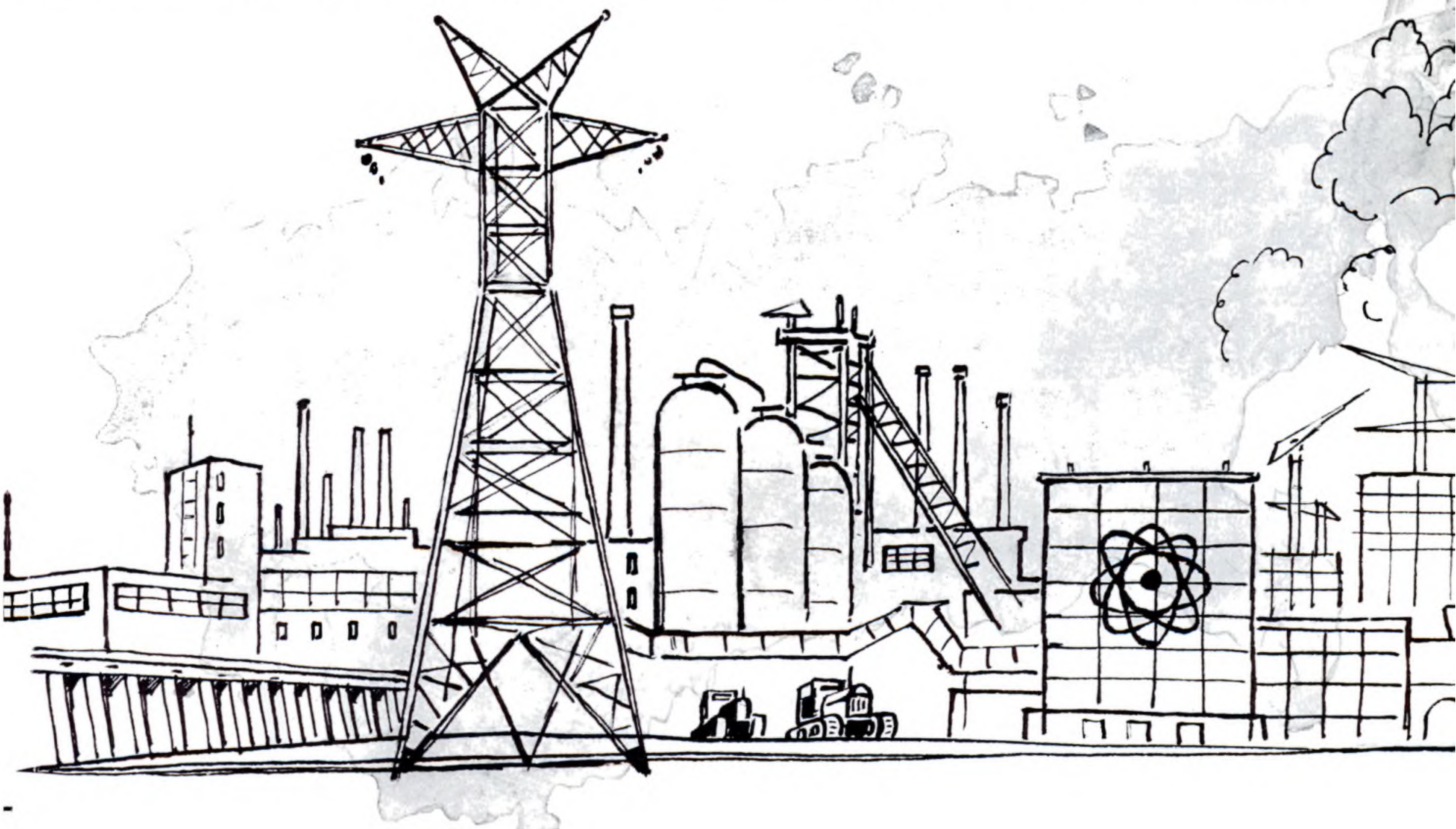
This second Program was also carried through. The Soviet people did a herculean job of transforming the country, proceeding in a direction never before explored. Overcoming enormous difficulties and deprivation, they built a socialist society.

From Socialism to Communism

Now that the victory of socialism is assured and final, the Party is adopting its third Program, a program for the construction of a communist society.

All the elements of communist construction are interlinked and conditioned by each other, but the decisive factor is production—the economy. The key to the transition from a socialist to a communist society is the development of the social productive forces. That is why the creation of the material and technical basis of communism, achieving a productivity of social labor that will guarantee an abundance of the material needs of life and make possible the realization of this paramount principle of communism: "From each according to his ability, to each according to his needs"—is the central theme of the draft Program.

The majestic twenty-year plan for the development of industry, agri-



culture and transport predicates complete electrification and over-all mechanization and automation. It means the complete elimination of hard physical labor, the opportunity for everyone to achieve the fusion of physical and mental labor. It means that "the USSR will have productice forces of unparalleled might; it will surpass the technical level of the most developed countries and be first in the world in per capita production."

Maximum development of the country's productive forces and of labor productivity—these are the essentials for creating the abundance required for communism, with its minimum workday and its maximum distribution of material and cultural values. The draft Program declares, "There is every possibility now for a rapid rise in the living standards of the entire population—workers, farmers and intellectuals. The Communist Party sets itself the historic task of achieving a standard of living in the Soviet Union higher than that of any of the capitalist countries."

Society and the Individual in Transition to Communism

Socialism has developed the same attitude in all the people toward public property, that is, every individual in socialist society is equally interested in preserving and increasing the public wealth. There is still a difference between public property and collective farm property, but it is only a matter of time until collective farm property and the property of the whole people merge into one—communist property.

Socialism has put an end to exploitation, the appropriation of the fruits of other people's labor, and with it, to the division of society into antagonistic classes. Socialism has not only proclaimed but has guaranteed equal pay for equal work, that is, payment to every citizen, in accord with the quantity and quality of work irrespective of sex, age or race.

Experience has demonstrated that equal pay for equal work is the only equitable and the only possible principle of measurement at the socialist level of production. Under communism with its abundance, that gauge need no longer be applied. The differences in the property status of people that still remain will gradually disappear. Differences in remuneration will decrease as unskilled work is replaced by skilled work and the wages of lower paid categories of workers are raised.

Material incentive is a most important motivation under conditions of socialist production. It remains an important factor during the entire period of building communism, but with the individual's dedicated interest in his work and his sense of voluntary responsibility to society assuming a larger and larger role as time goes on.

The rapid rise in the standard of living envisaged by the new Party Program will be effected through increases in wages, cuts in retail prices, abolition of the income tax and a longer list of social services available without charge to everyone, regardless of the quality and quantity of his labor—education, medical treatment, maintenance at children's institutions, rent, transportation, etc.

As the country moves toward communism, personal requirements will be met increasingly out of public funds without charge to the individual citizen and with no restrictions whatsoever. "The transition to communist distribution," says the Program, "will be completed after the principle of distribution according to one's work will have outlived itself, that is, when there will be an abundance of material and cultural wealth and labor will have become the prime necessity of life for all members of society."

Work, which for most people is now little more than a means to a livelihood, will become a source of creative pleasure, the prime necessity for individual fulfillment. The transformation will not take place of itself. It will be the end product of labor efficiency, automated production, greater power capacity, a continued rise in the technical and cultural level of all working people and a growing communist consciousness.

Socialist and communist construction have released the abilities and talents of millions. Hundreds of millions of working people are advancing to new heights of creative effort, are actively and enthusiastically participating in the life of society. Soviet people have not only been building factories, railroads, power stations and houses; they have been creating socialist, and now communist, social relations.

Under the new historical conditions of communist construction, the socialist government born of the October Revolution as a dictatorship of the proletariat has been transformed into a government of the people as a whole. Its present and future direction is toward a progressive development of socialist democracy, growing participation of all citizens in the administration of the state, perfection of the work of the state apparatus, complete elimination of all traces of bureaucracy and increasing control by the people over the activities of state bodies. As socialist democracy evolves, the organs of state power will gradually be transformed into organs of public self-government.

Educating the New Man

The building of communism is the concern of all the peoples of the Soviet Union. In the struggle to achieve their common aims, Soviet people of different nationalities have developed common spiritual characteristics that embody the finest national traditions. The continued economic and cultural development of the nationalities that live in the Soviet Union, their economic and ideological concord and fraternal unity is dealt with in one of the most important of the theses in the draft Program.

The Program proclaims that the education of man in the communist society now being built is a cardinal aspect of the Party's everyday ideological work.

Historical experience demonstrates that even after the victory of socialism the customs, habits, and traditions of the old and moribund world still persist in the attitudes and behavior of people. They cannot be disposed of in one fell swoop. Patient, systematic and intelligent effort is required. Only in living, working relations with people will the communist ideology be confirmed.

A high level of social consciousness, a communist attitude toward work, the complete eradication of the survivals of capitalist thinking, the harmonious development of the individual, the creation of a truly rich culture—these are the major ideological tasks in the transition period to communism.

The principles of communist morality formulated in the Party Program grow out of the struggle to build a communist society. They were not contrived; they derived from life itself. They are unequivocal, just, noble, humane. They will become the standard of behavior, the moral code of communist society. They represent the most advanced ethical ideas that progressive humanity has developed which are given a new communist content worthy of the new man already born who is being educated for life in the new society. Being molded are people with a communist consciousness, bold-thinking and creative people, people who do not easily succumb to hardship, people who look forward confidently to the future.

Economic and social progress, the growth of communist consciousness and the general acceptance of communist ethical concepts are the basis for the further all-round development of freedom of the individual and the harmonious blending of cultural wealth, moral purity and physical well-being in man. Communism by no means implies that the individual is "dissolved" in the collective. Communist collectivism is the creative interaction of highly varied individuals, each with his own interests and tastes, his own complex psychological world, his personal thoughts and feelings.

The Party's role as guide will tend to grow with the advance toward communism. The Party, exploring into the future, finds the right road to be followed, releases the incalculable energy of the people, and channels that energy to solve the gigantic problems encountered on the way.

A Communist, regardless of position or the job he does, is called upon to be in the vanguard; to set the example for responsible, disciplined and self-denying work; to be the initiator of the new; to fight irreconcilably any deviation from the high moral code by which the people of the new society guide their lives. The history of the revolutionary movement, the history of socialist construction, proves that Communists take up positions in the most demanding, most responsible and most dangerous sectors of the people's struggle.

Led by the Communist Party, the Soviet people are confidently building a communist society. "The present generation of Soviet people shall live under communism." This is the Party's solemn declaration.

"Our people," said Nikita Khrushchev, "on taking power into their own hands, built socialism and are now building communism. They are building communism not for someone else but for themselves, for their children, for the coming generations that will forever remember and be proud of those who laid the foundations of communism, who fought for it with arms in hand, who spared no effort for the great goal."

THE NEW PARTY RULES

THE TWENTY-SECOND CONGRESS, convening this month, will be adopting new Rules for the Communist Party of the Soviet Union. The Rules, in draft, published widely in the press for nationwide discussion, lay the scientific foundation for the Party's organization and methods of work to conform to the new tasks of a new period.

The Soviet Union has moved into an advanced stage of historical development—the comprehensive construction of a communist society. The Party, leader of the people, obviously cannot remain unaffected by this epochal transition.

The Party of All the People

The principles upon which the Rules are based derive from the objective laws of this new stage of development. The major principle—that the Communist Party of the Soviet Union is a party of all the people—is stated in the preface to the Rules:

"The Communist Party of the Soviet Union is the tried and tested militant vanguard of the Soviet people, a voluntary union of the more advanced and politically more conscious sections of the working class, collective farmers and intelligentsia of the USSR.

"Founded by V. I. Lenin as the vanguard of the working class, the Communist Party has traversed a glorious path of struggle and led the working class and the toiling peasantry to victory in the Great October Socialist Revolution and to the establishment of a dictatorship of the proletariat in the USSR. Under the leadership of the Communist Party exploiting classes were abolished and the moral and political unity of Soviet society was forged and strengthened. Socialism has triumphed completely and finally. The Communist Party, the party of the working class, is now the party of the Soviet people as a whole."

It is the whole people's party by reason of the fact that the Party's goal is the people's goal. More than that, it is part of the people in an organic sense. It has drawn into its ranks almost ten million of the most advanced, most conscious representatives of the working class, the collective farmers and the intellectuals. It grows increasingly closer to the people by virtue of its methods of work, which, as time goes on, are more and more infused with democracy in its most meaningful sense, becoming the prototype of those social and ethical relations which will be developed more completely in a communist society.

A Communist's Duty

The transformation of the Communist Party of the Soviet Union into a party of the whole people has not diminished the role of the members of the Party nor the demands made upon them. On the contrary, it has heightened their responsibilities.

The first section of the draft Rules states that only a citizen of the USSR who takes an active part in the construction of communism may become a member of the Communist Party of the Soviet Union. Thus, not everyone is accepted for membership. The Party will admit into its ranks only those who actively fight for the principles of communism, those for whom service to society is a paramount moral duty. Only such people are worthy of the honored title—member of the Communist Party of the Soviet Union.

The new Rules describe the obligations and responsibilities of a Party member in the present historical stage of the country's development—to help build a material and technological foundation for communism, to foster the growth of communist social relations, to live by the communist moral code, to fight against any vestige of nationalism and chauvinism, and by word and deed to strengthen the friendship of the peoples within the USSR as well as the fraternal ties of the Soviet people with the peoples of the socialist countries of the world and with the working people of all countries.

Inner-Party Democracy

The Party is responsible for each of its members, and each Communist is responsible for the Party. Together with the obligations, the Rules outline the rights of a Party member.

A Communist has the right to elect and be elected to all Party organs. He can freely and openly, in speech and in the press, present and fight for his position on all questions of Party policy or activity. He has the right, at Party forums, to criticize any other Communist, no matter how highly placed. The persecution of a member for exercising his right to criticize is punishable with all the rigor of the Party laws, up to and including expulsion.

These and other rights are guaranteed by an expanding inner Party democracy which generates the ever greater activity and initiative of the Party membership. The Rules set forth the indispensable conditions for inner Party democracy that guarantee every member his full rights as one of the many equal masters of his Party.

The draft Rules declare that "as the vanguard of the people building a communist society, the Party must march in the lead also in organizing its inner-Party life, setting the example and serving as a model in evolving more perfect forms of communist public self-rule."

Party members are called upon to set the example for communist social relationships, to live by a high moral code which, as the communist society evolves, will become the natural standard of behavior for every citizen.

The systematic renewal of the composition of all the elected organs of the Party, from the basic organizations up to the Central Committee of the Communist Party of the Soviet Union, while preserving the continuity of leadership will be of primary importance for the greater development of inner-Party democracy. At every regular election the composition of the Central Committee of the Communist Party of the Soviet Union will be renewed by at least a quarter, the Central Committees of the Communist Parties of the Union Republics and the Regional Party Committees by at least a third, and the City and District Party Committees and those of the basic organizations by a half. The possibility is left open for a longer term of office for a Party leader of unusual qualities and talents. In these cases the draft Rules require that for re-election the candidate in question must receive three-quarters instead of the customary majority of votes cast by secret ballot.

The systematic reduction in full-time paid staff will also help to foster inner-Party democracy and strengthen collective leadership. Party work, the Rules declare, ought not to be a career; more and more it must become a voluntary civic activity that members carry on in addition to their regular jobs or professions.

The Party Does Not Replace Government Bodies

The draft Rules stress that the "Party organizations do not replace the Soviets, trade unions, cooperatives or other organizations of the working people. There must be no merging of the functions of the Party and other bodies nor unnecessary duplication of work."

This admonition reflects the larger role to be played by the Soviets, trade unions, the Young Communist League and other organizations in building communism, and the Party's very important function of drawing workers into these organizations and thereby developing the initiative of greater numbers of people.

The Rules emphasize the fact that the primary units of the Party have been, are and continue to be the basic Party bodies, that they must provide more Marxist-Leninist education to both Communists and non-Party people, that they must bend their efforts toward building the material and technological foundation of communism, that they must combat any and every manifestation of bureaucracy, parochialism and violation of work discipline.

Every clause in the draft Rules and all the changes proposed have but the one aim—to attune the Party to the demands of this period of communist construction, to equip the Party for carrying through the great tasks it has laid out for itself in the new Program.

"The Party holds that the *moral code of the builder of communism* should comprise the following principles:

devotion to the communist cause, love of the socialist motherland and of the other socialist countries;

conscientious labor for the good of society—he who does not work, neither shall he eat;

concern on the part of everyone for the preservation and growth of public wealth;

a high sense of public duty; intolerance of actions harmful to the public interest;

collectivism and comradely assistance; one for all and all for one;

humane relations and mutual respect between individuals—man is a friend, comrade and brother to man;

honesty and truthfulness, moral purity, modesty and unpretentiousness in social and private life;

mutual respect in the family, and concern for the upbringing of children;

an uncompromising attitude toward injustice, parasitism, dishonesty and careerism;

friendship and brotherhood among all peoples of the USSR, intolerance of national and racial hatred;

an uncompromising attitude toward the enemies of communism, peace and the freedom of nations;

fraternal solidarity with the working people of all countries and with all peoples."

From the Draft of the Program of the Communist Party of the Soviet Union

UKRAINIAN SOIL

By Yakov Usherenko
Photos by Georgi Petrusov

Gruzia's combine operators set new regional harvesting records this fall with their machines going at 9-10 miles an hour, twice as fast as last year.

SOVIET FARMERS worked well this spring and summer, and now the soil is compensating them for their efforts. Bumper harvests of grain, corn, vegetables and industrial crops have been grown almost everywhere in the country, and the orchards and vineyards are yielding a fine supply of fruit.

The cultivated area has considerably increased this year, covering over some 504 million acres, more than ever before. But this year's agricultural development is reflected not only in the increase in the cultivated area but also in the sharp rise in the yield. In the Ukraine, the North Caucasus and the Volga Region the wheat yield on large areas is as high as 1.3 tons per acre.

The collective farms of the Russian Federation, the Ukraine and other republics are delivering to the state purchasing organizations considerably more grain than formerly. It is expected that the purchases of grain for the country as a whole will be about 18 million tons more this year than last. It is evident that after the collective farms have fulfilled their obligations as regards deliveries to the state, they will have a sufficient amount of grain left to satisfy their own needs. The achievements in the grain economy and the creation of a stable fodder base make it possible to develop animal husbandry at a much more rapid pace. That this bumper harvest reflects the labor of many millions of Soviet farmers is shown by this story of a typical Ukrainian collective farm.

In the middle of January, Grigori Legunov received a telegram from Kiev inviting him to attend the Plenary Meeting of the Central Committee of the Ukrainian Communist Party. This rank-and-file member of the Party felt flattered by the invitation, to be sure, but also somewhat puzzled. As chairman of a collective farm he had frequently attended all kinds of agricultural conferences. But he had never had occasion to attend such an important forum, where questions of significance for the entire republic were to be considered and decided.

"Why did they invite me?" he wondered. "Our collective farm hasn't distinguished itself especially. It's no worse and no better than the others in our district."

It was only after he arrived in Kiev that Legunov's question was answered. This plenary meeting took place two weeks after the January Plenary Meeting of the Central Committee of the Communist Party of the Soviet Union, at which ways of developing agriculture on a countrywide scale had been discussed. And immediately following it agricultural workers' meetings were held in various parts of the country, including the Ukraine.

All collective farm chairmen and state farm directors of the republic were invited to the plenary meeting in Kiev. As Legunov later learned, about 12,000 of the most active members of the local Party organizations and local governing bodies, and people directly engaged in agriculture, were there. Nikita Khrushchev, too, personally took part in the work of this meeting.

Although he had been a member of the Communist Party for 25 years, Legunov could not recall any other meeting of the members of the Party organizations in the republic's capital so large and so representative. The four days he spent at the enlarged Plenary Meeting of the Central Committe of the Communist Party of the Ukraine was a veritable school for him and the others who attended.

"To be more exact," he says now when recalling that gathering, "it was an entire academy, rather than a school." There he heard and learned a great deal which he would not have found in the best agricultural textbooks.

The discussion touched upon the most urgent questions and revealed everything that hampered the development of the republic's agriculture. The people shared their experience, showed how existing resources could be most effectively used, how large crops of wheat and corn could be grown constantly on the fertile Ukrainian soil, and how animal husbandry could be developed more rapidly. Legunov himself did not address the meeting but listened most attentively and did a great deal of thinking on the way home.

The collective farm that Grigori Legunov heads is situated in the south of the Ukraine on the Chongar Peninsula. The shores of the peninsula are washed by the shallow straits and estuaries of the Azov Sea, and further to the south is the Crimea. Formerly every village on the peninsula had its own collective farm. But after the war all these small farms joined to form one large collective farm which was named "Gruzia"—Georgia. What prompted the Ukrainian collective farmers to name their farm after this Transcaucasian republic? That is a story in itself.

The Hitlerite occupation of 1942 and 1943 inflicted tremendous losses upon the collective farm economy of the Chongar Peninsula. The aggressors destroyed everything that the older generation had created with their labor. When they retreated they carried off all the agricultural machines, drove all the cattle away, burned the farm buildings. In a word, they left the place completely barren.

"Most of the collective farm families lived in dugouts," says Yevdokiya Pavlenko, one of the oldest of the collective farmers. "We had to use cows to plow the land. The farm had two horses and one tractor which had been sent to us from Georgia. That's what we began with after that terrible occupation."

When the war was over, aid came from all parts of the Soviet Union to the Ukrainians. The Chongar Peninsula received its aid from the Makharadze District of Georgia, and that marked the beginning of close ties between the collective farmers of these two Soviet republics, ties which continue to this day. In honor of this friendship the Ukrainians named their collective farm "Gruzia," and the Georgians named theirs "Ukraina."

Those difficult postwar years are now a thing of the past. Today the Gruzia Collective Farm is large, diversified and prosperous. About 30,000 acres of land are sown to grain, corn and vegetables, the main crop being the famous Ukrainian wheat.

For about nine or ten months of the year it is warm in this region, and even in the winter months there is hardly any frost. Snow is rare and does not stay very long when it does come. So the livestock fatten in the meadows where they pasture practically all year round. The straits and estuaries of the Azov Sea are excellent natural reservoirs for breeding waterfowl. And, finally, the farm has 750 acres of vineyards, which also are a good source of income.

In 1960 Gruzia's income amounted to 1.95 million new rubles, as

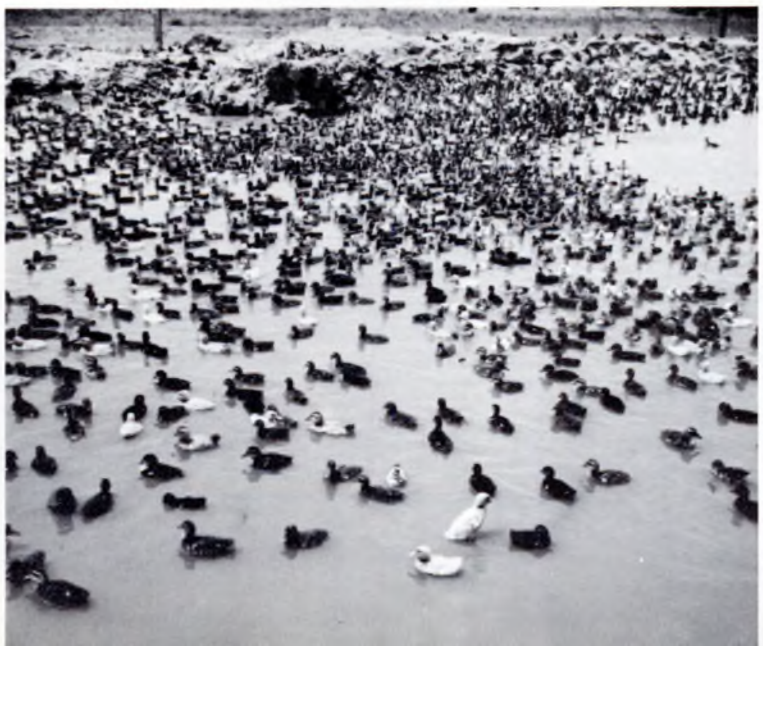
Yevgenia Samets has been teaching the other dairymaids how to get the high milk yield that she does.

Ivan Karandin is one of the top-notch sheepmen at Gruzia. The flock has increased by 6,000 in the past six months.

The collective farm has put up long rows of two- and three-family houses fully equipped with all modern conveniences.

Grapes are grown on about 750 of the farm's 20,000 acres. The main crop is the famed Ukrainian wheat.

The shallow bays of the Azov Sea provide fine natural breeding places for the farm's flock of 50,000 ducks.



compared with 1.4 million in 1958. Its increasing income, year after year, has enabled it to buy all the equipment it needs in the way of tractors, harvesting combines, trucks and agricultural implements. The farm's chief engineer, Nikolai Karpovsky, says that the total number of agricultural machines and implements exceeds 4,000.

New 2- and 3-family houses with modern conveniences have been built in all nine villages where the members of the Gruzia Collective Farm live. The collective farm administration finances the construction and amortizes payments over a ten-year period, after which the family owns its home. New high schools, pre-school institutions and clubs have been erected in the largest villages of the Chongar Peninsula with funds from the collective farm's annual budget.

The major topic of discussion at Gruzia while Legunov was away in Kiev was, understandably, the conference he was attending. The farmers followed the reports in the newspapers and the radio but were eager to hear their chairman's report firsthand.

For three hours Legunov spoke in detail about what he had learned at the plenary meeting and answered questions. He finished with the simple but very significant words:

"And so, friends, in agriculture everything is important—the machines, the fertilizer, the seed, but most of all the people. We have achieved considerable success in the past, but that is no reason why we should be satisfied. We must keep advancing all the time, from year to year. Otherwise we'll find ourselves lagging behind. We must quicken our pace in all our work."

In the Southern Ukraine the spring sowing begins in March. By that time everything at the Gruzia Collective Farm was ready—the machines, the soil, and especially the people. And the idea of "a rapid pace" took hold. The sowing was completed quickly and on a higher agrotechnical level than ever before. On May First when the farmers celebrated the holiday, they could say, with justifiable pride, that they had done a first-class job.

The grain in Gruzia's fields ripened early this year and the crop was a magnificent one. It is true that the weatherman cooperated with the right proportions of moisture and sunshine in spring and early summer. But weather is not the only factor or the most important one. A good crop does not come of itself. It reflects the work of the collective farmers who sow and care for the crops.

By late June the harvester combines were already working. Ten of the farm's 26 combines were self-propelled SK-3's newly shipped from the Taganrog plant, a contribution pledged by the plant's designers and benchworkers after the January Plenary Meeting of the Central Committee of the Communist Party.

Gruzia's combine operators set new harvesting records for the region during this period. Ivan Salo, for instance, harvested almost 100 acres per day and threshed an average of better than a ton and a half of wheat per acre. The combine operators lived up to the "rapid pace" slogan. They ran their machines at speeds of 9 to 10 miles an hour, twice as fast as last year. The early grain crops—barley and wheat—were harvested in a record 11 days, and the average yield ran from one fifth to one quarter of a ton more per acre than last year. The farm's livestock section also showed good results. By July the number of head of cattle had increased by 1,300 as compared with the beginning of the year, fine-fleeced sheep by almost 6,000, and fowl by 56,000.

The individual incomes of the Gruzia farmers have been rising as their farm keeps growing. This year, to judge by the harvest, they have another big income boost on the way. Of significance is the fact that the farm board has worked out and applied a system of incentive bonuses that has raised individual earnings considerably over the past years.

My last talk with Grigori Legunov took place soon after the publication of the draft of the new Program of the Communist Party of the Soviet Union. He was obviously very much excited. "Our collective farmers have done quite a bit this year, and we are proud of the fact that we are also making our contribution to the common task of advancing agriculture. But that is only a good beginning along the road to abundance to which the new Party Program calls us. I haven't the slightest doubt that we'll create that abundance in our country and that we will build a communist society."

Recent agricultural institute graduate Mikhail Samoilik returns to the farm.

Grigori Ligunov has been chairman of the Gruzia farm for twelve years now.

Nikolai Karpovsky, the farm's chief engineer, is in charge of all equipment.

Chief agronomist Mikhail Belokin says, "Good farming means scientific farming."

(Above) A truck from Gruzia farm makes a delivery to one of the nearby state grain elevators.

(Left) New secondary schools have been built in every one of the Gruzia farm's nine villages.

(Far left) The youngsters of working parents are well cared for at the farm's nurseries.

TO KNOW EACH OTHER BETTER

ON AUGUST 31 of this year a meeting was held at the House of Friendship with Foreign Countries in Moscow to establish an Institute of Soviet-American Relations. Its purpose—to work for better understanding between the people of the two countries.

The Institute was created on the initiative of 42 organizations of the Soviet Union representing many hundreds of thousands of Soviet citizens. Among them are the USSR Academy of Sciences, the Academy of Medical Sciences, the USSR Chamber of Commerce, the All-Union Theatrical Society, the Mosfilm Studio, the Likhachov Automobile Plant in Moscow, the Riga Railroad Car Plant, the All-Union Society for the Dissemination of Political and Scientific Knowledge, the Moscow State Institute of International Relations, the Soviet Committee of War Veterans, the Ukrainian Institute of Longevity, and many theaters, schools and collective farms.

Many of these sponsoring bodies already have ties with institutions of similar interests in the United States. The USSR Academy of Sciences, for example, has a functioning exchange agreement with the National Academy of Sciences of the United States. In August more than 900 American scientists participated in the International Biochemical Congress held in Moscow. Very recently the delegation of Soviet scientists that took part in the Pugwash Conference, led by Vice President of the USSR Academy of Sciences Alexander Topchiyev, visited the United States.

The Research Institute for the Arctic and the Antarctic is another of the new Institute's sponsors. Worth recalling in this connection is the international congress held a short time ago in Canberra, Australia, in which American and Soviet Antarctic scientists participated, and where agreement on a number of questions prompted commentators to speak of the warm breeze of cooperation blowing over that icy continent.

Two of the theater groups sponsoring the Institute of Soviet-American Relations are the Bolshoi Ballet Company and the Moiseyev Folk Dance Ensemble. Both these groups are well known to Americans, having performed to enthusiastic audiences in many cities of the United States.

In addition to public organizations, a number of individuals are among the sponsors of this Institute, people highly respected and popular in the Soviet Union. They include Alexei Adzhubei, editor in chief of the newspaper *Izvestia;* film producer Sergei Gerasimov; Georgi Zhukov, chairman of the State Committee for Cultural Relations with Foreign Countries of the USSR Council of Ministers; art director Yuri Zavadsky, whose Mossoviet Theater staged several Chekhov plays in New York last year; and the venerable sculptor Sergei Konenkov, whose magnificent works are on exhibition not only in Soviet museums but also in the United States.

Other individual sponsors include David Oistrakh, the violinist whom Americans know so well; the famous aircraft designer Andrei Tupolev; Nina Khrushcheva, public leader; composer Dmitri Shostakovich; Valeri Brumel of Olympic high-jump fame; and Grigori Chukhrai, producer-director of the film *Ballad of a Soldier,* which is enjoying a long run in the United States and many other countries.

The Institute's Function

At the founding meeting Nina Popova, who heads the Union of Soviet Societies for Friendship and Cultural Relations with Foreign Countries, said, in reference to the new Institute's function:

"Many of us here today have had frequent occasion to meet with representatives of the American public on our trips to the United States, at the conferences of representatives of the American and Soviet public at Dartmouth and in the Crimea, and at various international

THE INSTITUTE OF SOVIET-AMERICAN RELATIONS IS FOUNDED IN THE USSR

By Oleg Feofanov

conferences and congresses. Many of us have visited American families and talked with numerous Americans visiting our country. Despite the many differences in our points of view, we invariably found areas of accord when we discussed important and urgent current problems. We are convinced that Soviet and American people can speak to each other with mutual respect, can do away with mistrust and strengthen mutual understanding. We are convinced that the Institute can do much to bring the people of the USSR and the USA closer to each other."

The eminent Soviet surgeon Nikolai Blokhin, who made the major report, defined the tasks of the newly founded organization in these words:

"The Institute of Soviet-American Relations is a new public organization whose purpose is to develop and strengthen in every way possible, mutual understanding, trust and friendship between the great peoples of our countries in the interests of lasting peace. The Institute must help to give the Soviet people a better understanding of the history, life, culture and science of the United States and to acquaint the American people with our way of life, with the science and culture of the Soviet Union. In short, this Institute must help us to know and understand each other better, must help to establish truly good-neighbor relations."

A President and Board Elected

Dr. Blokhin is president of the USSR Academy of Medical Sciences. He has been director of the Research Institute of Experimental and Clinical Oncology for the past nine years and is vice president of the International Union Against Cancer.

It is symbolic that this organization, dedicated to peace and friendship, is headed by a member of the most humane of professions.

Nikolai Blokhin has visited the United States several times. In 1944 he studied the care of the wounded in American military hospitals. In 1957, and again in 1959, he lectured in the United States on Soviet methods of treating cancer, and in 1960, after a Soviet-American conference on fighting cancer, he lectured on the subject at Columbia.

The founding meeting elected a board of the Institute of Soviet-American Relations composed of 128 people—public leaders, scientists, industrial workers and collective farmers. The board, at its first session the same day, elected a president and 16 vice presidents. Nikolai Blokhin was elected president of the Institute. Among the vice presidents are Acadamician Ivan Artobolevsky, Nina Khrushcheva, Georgi Zhukov and Alexander Korneichuk.

Korneichuk, the well-known Soviet writer who headed the Soviet delegation at the Dartmouth and Crimea conferences, was unable to attend the meeting but sent this telegram:

"I heartily welcome the noble initiative of our public which decided to create an Institute of Soviet-American Relations in Moscow that will serve to strengthen friendly ties between the great peoples of the USSR and the USA. I firmly believe that the American public and all people of good will in the United States will highly value this humane act on the part of the Soviet public."

Better Relations an Urgent Necessity

The idea of founding an Institute of Soviet-American Relations did not come out of the blue. The precedent for it was established long ago. A recent example is the administration of Franklin Delano Roosevelt, a period of fruitful cooperation between our two countries. During the years of the anti-Hitler coalition our friendship was tempered in the fires of war.

There have been ups and downs in Soviet-American relations since, but in spite of the icy wind of the "cold war" the Soviet Government has always endeavored to solve disputable and oft-discussed questions through negotiations. The atomic arms race has again demonstrated the imperative necessity for adjusting and normalizing relations between the two greatest world powers.

The Soviet Government displayed boldness and a realistic understanding of the times when, in 1959, it sent Nikita Khrushchev, its Chairman, to the United States. The Chairman's talks with people of all walks of life and points of view; his frankness, directness and the logic of his speeches won the sympathy of millions of Americans. Unfortunately, later events enabled the forces hostile to the cause of peace to sow distrust and suspicion between our two peoples.

We are aware that our Institute has been created in a situation of unfavorable international weather, at a time when storm clouds darken the sky. Nevertheless, in these days which are so disturbing for the people of the entire world, an Institute of Soviet-American Relations has been organized in the Soviet Union. That is a very noteworthy fact and is evidence of the tremendous optimism of the Soviet people, their profound faith in the triumph of the forces of peace, in the fact that the sunshine and the future of their children are as dear to the American people as to the Soviet people.

To do away with distrust and suspicion it is necessary to even more energetically strengthen friendship and contacts betwen the Soviet and American peoples and to improve the relations between our countries. Such is the bidding of our times; such is the demand of all peoples, a demand which is persistent and which must not be ignored. For we are faced with the implacable alternative—to live as good neighbors or to resort to atomic madness.

The Soviet people have made their choice plain—they are for peace and against war—and have so declared on numerous occasions. More important, they have given body to their resolution in deeds. One such deed is the founding of the Institute, which attests to the profound faith of the Soviet people that peace will triumph.

"The friendly, joint actions of the broad public of our countries," said Nikolai Blokhin in his report at the first meeting, "will help to dispel completely distrust and suspicion in the relations between the USSR and the USA and will replace them with relations of good will, mutual understanding, peaceful, friendly cooperation. To serve this cooperation and to pave a broad highway to it—such is the aim of our Institute."

TO KNOW EACH OTHER BETTER

Excerpts from speeches at the founding meeting of the Institute of Soviet-American Relations in Moscow on August 31.

NINA POPOVA

Chairman of the Presidium of the Union of Soviet Societies For Friendship and Cultural Relations with Foreign Countries

WHEN WE INITIATED the idea of founding a new Soviet public organization—the Institute of Soviet-American Relations—we proceeded from the belief that the public of the Soviet Union and the United States could play a very considerable part in normalizing Soviet-American relations, improving understanding and establishing stable, friendly good-neighbor relations between our countries.

The sincere wish of the Soviet public to see a spirit of cooperation and understanding between the people of our two countries established is an acknowledged fact. However, we can say with great satisfaction that the overwhelming majority of Americans today also have this sincere hope. . . . Many of us have met representatives of the American public during our trips to the United States. . . . Despite the many differences in our points of view, we invariably found areas of accord . . . .

The Union of Soviet Friendship Societies has received many letters and telegrams in which Soviet people express their fervent support for the idea of setting up this Institute. Telegrams have come from workers, prominent scientists, people in literature and the arts, engineers, technicians; from office workers of the Automatic Transfer Line Plant in Minsk and car builders in Riga; from public figures in Azerbaijan, Armenia and Lithuania; from students and teachers at the Leningrad Polytechnic Institute; from collective farmers in the Ukraine, Tajikistan and Latvia, and from many, many others.

We hope that the Institute will meet with the same response from the American people, that it will have their support and cooperation. We hope that it will establish friendly, businesslike contacts with all individuals and organizations in the United States that are for the development of good-neighbor relations and cultural exchange.

NIKOLAI BLOKHIN

President of the USSR Academy of Medical Sciences, Vice President of the International Union Against Cancer

WE BELIEVE that the common efforts of our two countries with their unlimited potentials . . . will play a tremendous role in the scientific cognition of the world and its transformation for the good of mankind. This is completely confirmed by the experience of the scientific and cultural relations between the USSR and the USA, which mutually enrich the science and culture of both countries. . . .

I visited the United States several times and had long talks with many prominent scientists and cultural workers. . . . I have had many meetings, cordial and friendly meetings, with well-known American medical men here in Moscow, too, and have the warmest recollection of those meetings. I am sure that my friends Dr. Stanley of California, Dr. Heller of New York, Dr. Endicott of Washington, Dr. White, who was recently elected a member of the USSR Academy of Medical Sciences, and many other of my friends and fellow scientists also remember these necessary and important meetings with the same warmth.

We medical men are proud of the fact that this cooperation is already yielding good fruit and has saved many a human life. You probably know that an effective vaccine against poliomyelitis was developed in the Soviet Union on the basis of the one created by the American scientist Dr. Sabin. Together we are working out ways of fighting cancer, heart disease and other ailments. . . .

Dear friends, the founding of the Institute of Soviet-American Relations is an important chapter in the history of relations between our two countries. . . . The role of public opinion has never been so great nor so necessary as in our time. We hope that our Institute will help make this voice ring out louder and louder in behalf of universal peace. . . .

YEVGENI FYODOROV

Chief Learned Secretary of the USSR Academy of Sciences

ALTHOUGH Soviet scientists are in contact with scientists in the United States and the USSR Academy of Sciences has exchange agreements with the National Academy of Sciences of the USA and other scientific organizations, we must admit our scientific contacts with the USA, unfortunately, are fewer than with many other capitalist countries, including allies of the USA.

We believe that the science of our countries—unquestionably the most advanced in research and technological application—must be linked more closely. Some spheres of science are better developed in the USSR, others in the USA; consequently a better exchange of ideas and results would be of immeasurable value.

We also know that representatives of American science are eager for closer contact with our scientists. The Academy of Sciences of the Soviet Union is always glad to meet them more than halfway. For instance, in 1961 alone more than 800 scientists from the USA came to the USSR to attend various meetings and conferences, many of them guests of our Academy of Sciences. About 100 Soviet scientists visited the USA during the period.

On behalf of our scientists I greet the founding of the Institute and assure the representatives of the public gathered here that Soviet scientists will take a most active part in the organization.

ELENA ZVAIGZNITE

Deputy to the USSR Supreme Soviet, Chairman of the Lenina Cels Collective Farm (Latvia)

WE DO NOT WANT WAR, neither hot nor cold. We want in peaceful competition to create better conditions of life, to raise the standard of living of our people and the peoples of countries competing with us.

We do not close our eyes to facts. We say frankly that the question of war or peace at the present time depends, first of all, on Soviet-American relations. Therefore we—I am speaking on behalf of our collective farmers—welcome and heartily support every step that will help to improve relations between the Soviet Union and the United States.

The Institute of Soviet-American Relations will be an organization whose express purpose is to promote good relations with the United States. Therefore we greet this new organization and ask that our Lenina Cels Collective Farm, which means Lenin's Path, be considered one of its members.

While we are proud of the fact that the milk yield on our collective farm has surpassed the U.S. average, we know that there are many advanced American farms from which we can learn. On our part we are ready to extend a hand of friendship to American farmers and share our experience and our achievements.

VASILI SMIRNOV

Hero of Socialist Labor, Team Leader Baltic Shipyard (Leningrad)

SPEAKING for the workers of Leningrad, I favor the idea of setting up an Institute of Soviet-American Relations. My colleagues at the shipyard, as well as I, think that this Institute can do a great deal to build friendly contacts between the American and Soviet peoples, to promote mutual understanding and to expand trade and cultural exchange.

We know that the level of development of American industry and the skill of American workers is high, but we still believe that in the next few years we will surpass the United States in per capita production of goods. We have both done many good and useful things in the field of production. If we were able to share our accomplishments, this would benefit both our peoples. Let's compete not in producing the means to destroy people but in producing the goods people need and can use, in raising the standard of living of both our countries.

Modern technology has drawn people closer together, has made it possible for them to have closer contacts. Moscow is nearer to Washington now than Leningrad used to be to Moscow. Let our technology serve the purpose of bringing people together, not of separating them. Every nation has the right to choose its own system of government. We have different social systems, but this should not be a barrier to friendly contacts.

NIKOLAI SMELYAKOV

USSR Deputy Minister of Foreign Trade

FROM THE EARLIEST DAYS of its existence the Soviet Union, guided by the Leninist principle of peaceful coexistence of countries with different social systems, has declared itself for peace, international cooperation and mutually profitable economic relations with all nations.

Peaceful coexistence implies the development and expansion of economic relations—trade included—that redound to the advantage not only of the countries immediately concerned but of all countries and peoples. At the present time, with the world trying to find the way to a stable peace, the building of closer economic ties serves as a most effective means of relaxing international tensions.

When we advocate better economic relations and closer trade ties with the United States, we do not set conditions different from those in our trade agreements with any other capitalist countries. We hold to the principle of equality and mutual benefit.

What is necessary to improve Soviet-American relations, besides the sincere desire to do so, is for us to get to know each other better. The new Institute can serve a most important function in this connection and, by better acquainting Americans with the peaceful strivings of the Soviet people, help to normalize the international situation.

APPEAL

To Public and Cultural Organizations; Men of Culture, Science and Art; Representatives of the Business World; and All Citizens of the USA Who Come Out for Cooperation between the United States and the Soviet Union

WE, representatives of public, scientific and cultural organizations; workers in industry and agriculture; and men of science and culture, wish to inform you of the establishment in the Soviet Union of an Institute of Soviet-American Relations.

We are convinced that there exists between the peoples of the Soviet Union and the United States of America, the two greatest world powers, a profound community of interests based on a mutual striving for cooperation and universal peace. Both the Soviet and the American peoples are vitally interested in the establishment—between their countries, between all states—of relations which will open up to mankind a wide path to progress, prosperity and a peaceful, happy life.

During the years of World War II the peoples of our countries fought in the ranks of a single coalition of freedom-loving nations and together with other peoples saved world civilization from fascist barbarism. The blood of Soviet and American soldiers, shed on the field of battle against their common enemy, sealed the long-standing traditions of friendship between the peoples of the USSR and the USA and placed on them special responsibility for averting a new world war.

We profoundly believe that the public forces of our countries can make a great contribution to the cause of saving mankind from the disastrous arms race and the cold war, and, by joint efforts, achieve disarmament, reliable international security and lasting world peace.

The vast natural resources, powerful economy, highly developed science and technology of our respective countries, the creative power and diligence of our peoples—all this excludes the collision of the vital interests of the Soviet Union and the United States and lays a reliable foundation for fruitful cooperation between them in all fields of creative human activity.

We consider that on the road of peaceful coexistence and economic competition our countries can achieve an all-round expansion of Soviet-American economic contacts, cooperation in the sphere of science and technology, and exchange of cultural values for the welfare of our peoples, for the welfare of all mankind.

With the object of strengthening confidence and achieving mutual understanding, the peoples of our countries must better understand each other's hopes and strivings, history and present life.

We are convinced, and this is confirmed by all the exchanges

Presidium of the Constituent Assembly of the Institute of Soviet-American Relations:

Alexei Adzhubei—*editor in chief, newspaper Izvestia*

Anushavan Arzumanyan—*director, Institute of World Economy and International Relations, USSR Academy of Sciences*

Ivan Artobolevsky—*member, USSR Academy of Sciences*

Ivan Anisimov—*professor, director, Gorky Institute of World Literature*

Nikolai Blokhin—*president, USSR Academy of Medical Sciences*

Nikolai Bobrovnikov—*vice chairman, State Scientific and Economic Council of the USSR Council of Ministers*

Valeri Brumel—*Merited Master of Sports of the USSR*

Alexander Vishnevsky—*member, USSR Academy of Medical Sciences*

Sergei Gerasimov—*film producer, People's Artist of the USSR*

Vasili Yemelyanov—*chairman, State Atomic Energy Committee, USSR Council of Ministers*

Vyacheslav Yelyutin—*Minister of Higher and Specialized Secondary Education of the USSR*

Georgi Zhukov—*chairman, State Committee for Cultural Relations with Foreign Countries of the USSR Council of Ministers*

Yuri Zavadsky—*director, Mossovet Theater; president of the Theater Section of the Union of Friendship Societies*

Elena Zvaigznite—*deputy, USSR Supreme Soviet; chairman of the Lenina Cels Collective Farm, Latvian Republic*

Alexander Deineka—*artist, member of the USSR Academy of Arts*

Mstislav Keldysh—*president, USSR Academy of Sciences*

Fyodor Kozhevnikov—*professor, Doctor of Law; head of the Chair of International Law at the Moscow State Institute of International Relations*

Vladimir Kovanov—*director, First Moscow Medical Institute*

Sergei Konenkov—*sculptor, People's Artist of the USSR, Lenin Prize Winner*

Alexander Korneichuk—*writer, member of the USSR Academy of Sciences*

Alexei Krylov—*director, Moscow Likhachov Automobile Plant*

Alexander Kuznetsov—*First Deputy Minister of Culture of the USSR*

Vladimir Kucherenko—*president, Academy of Construction and Architecture of the USSR*

Nikolai Mamai—*miner, Hero of Socialist Labor; deputy, USSR Supreme Soviet*

Enver Mamedov—*first vice chairman, Board of the Novosti Press Agency*

Alla Masevich—*Doctor of Physico-Mathematical Sciences*

Yozes Matulis—*president, Latvian Academy of Sciences*

Igor Moiseyev—*director, State Folk Dance Ensemble of the USSR, People's Artist of the USSR*

Mark Mitin—*member, USSR Academy of Sciences*

Nikolai Mostovets—*public leader*

Mikhail Nesterov—*president, USSR Chamber of Commerce* *made by public representatives of our countries, that personal contacts and communication between the Soviet and American peoples help give each of us a better understanding of the views of the public in the other country, remove prejudice and suspicion and strengthen friendly relations between our peoples.*

Guided by the strivings to contribute in every way possible to carrying out these lofty goals for the welfare of the Soviet and American peoples, we have established an Institute of Soviet-American Relations.

We hope that the public and cultural organizations, men of science, culture and the arts, representatives of business circles, and all American citizens who come out for mutually advantageous cooperation and good-neighbor relations between our countries, will look upon our initiative favorably and will help in the Institute's activities and the carrying out of the noble tasks it has set itself.

We shall be happy to receive from you advice and suggestions on the new Institute. Please address:

Institute of Soviet-American Relations
14 Kalinin Street,
Moscow, USSR

Alexander Nesmeyanov—*member, USSR Academy of Sciences*

David Oistrakh—*violinist, People's Artist of the USSR*

Nina Popova—*chairman, presidium of the Union of Soviet Societies for Friendship and Cultural Relations with Foreign Countries*

Ruben Simonov—*director, Vakhtangov Theater; People's Artist of the USSR*

Leonid Sedov—*member, USSR Academy of Sciences*

Abid Sadykov—*rector, Tashkent Lenin State University*

Leonid Solovyov—*secretary, All-Union Central Council of Trade Unions*

Nikolai Smelyakov—*Deputy Minister of Foreign Trade of the USSR*

Vasili Smirnov—*Hero of Socialist Labor; shipbuilding team leader, Baltic Shipyard*

Andrei Tupolev—*airplane designer, Hero of Socialist Labor*

Mikhail Tahl—*chess Grandmaster*

Igor Tamm—*member, USSR Academy of Sciences; Nobel Prize Winner*

Galina Ulanova—*ballerina, People's Artist of the USSR*

Yuri Frantsev—*corresponding member, USSR Academy of Sciences; president, Soviet Association of Sociology*

Nina Khrushcheva—*public leader*

Dmitri Shostakovich—*composer, Lenin Prize Winner*

Grigori Chukhrai—*film producer*

August 31, 1961
Moscow

PEACE AND HAPPINESS IN OUR HOMES

NINA KHRUSHCHEVA

Public Leader, Vice President
Of the Institute of Soviet-American Relations

I STILL REMEMBER the warm handshakes of the many American mothers and children I met during my trip to the United States in the fall of 1959. I wish all of them, and all other Americans, peace and happiness.

I am sure that the new public organization founded in the Soviet Union—the Institute of Soviet-American Relations—will do much to ensure that peace and happiness reign forever in the homes of the American and the Soviet people.

Made in USSR

The bucket of this walking dragline used for open-cut mining can hold a ten-ton truck comfortably.

(Right) Soon this hoop of steel band will become pipe as air is pumped between two welded strips.

Tadeusz Gorozdovsky's defectoscope has solved the problem of 100% quality control of machined parts.

Automatic Quality Control

EMID is short for Electro-Magnetic Induction Defectoscope, a machine designed by the research institute of the bearing industry. At most plants quality control is selective. A hundred finished parts out of every 10,000 are chosen at random for laboratory testing. Depending on the percentage of spoilage in that hundred, the entire consignment will either be approved or rejected. Even an approved consignment, however, contains a certain number of defective parts.

Soviet designers have now solved the problem of 100 per cent quality control. They make use of the so-called Foucault or eddy currents induced in a transformer core when alternate current is passed through the coil. Foucault currents have the property of skirting such surface and internal defects of the core as scratches, cavities and cracks.

The part to be tested is placed inside the transformer coil instead of the core. A second coil is added to detect the Foucault currents. The quality of the part is indicated by the curve on an oscillograph screen.

The EMID is used in conjunction with a computer device in an automatic transfer line. A ball bearing, for example, is placed in the EMID. If no defects are found, it is passed on to a finished parts chute. If there is a defect, the machine decides whether the ball bearing is to go into the spoilage bin or a recovery chute for further processing. The EMID is finding wide application in industry.

Giant Walking Excavators

THE walking dragline with 494-cubic-foot buckets and 246-foot booms used in building the canals of Central Asia and Southern Russia and the hydroelectric stations on the Dnieper and Volga rivers show the size and scope of these great construction jobs.

An even bigger walking dragline, manufactured at the Urals Heavy Engineering Works, is being used successfully at open-cut mines. It has a 328-foot boom and an 883-cubic-foot bucket that can lift a 4-ton truck.

Engineers at the Urals plant have now designed a new walking excavator with a 410-foot boom and a 1,765-cubic-foot bucket into which a good-sized cottage can fit comfortably.

The long boom makes it possible to dump dirt a considerable distance from the excavation without the use of trucks. The excavator, designed for mine capping, does the job of several hundred thousand pick-and-shovel workers.

Rolled Pipe

OUTWARDLY it looks like a small roll of strip steel, but it is actually a steel strip rolled into a pipe. Pipe made by this very ingenious method can be seen at the USSR Exhibition of Economic Achievements in Moscow.

The idea of manufacturing pipe by rolling steel strips was conceived by Lenin Prize winner Georgi Rayevsky of the Paton Electric Welding Institute in Kiev. He welded the edges of two narrow steel strips and then pumped air under high pressure into the space between them.

An experimental installation was set up to make the first pipes. When subsequent tests proved their high quality, the Paton Institute designed an industrial installation for the production of thin, flat-rolled pipe and sent it to an engineering plant in the Ukraine.

The new pipe is now in wide use in the Soviet Union for water mains and oil pipelines. Oil specialists estimate that for every 62 miles of pipeline laid 1.5 million rubles and more than 1,000 tons of metal are saved. There are also very considerable economies in transportation since the pipe is carried flat in compact rolls and is blown up only after it gets to the construction site.

THE AIR GATES OF MOSCOW

By Yuri Grafsky
Photos by Georgi Petrusov

The turboprop giant TU-114 carries 170 passengers a distance of 4,350 miles nonstop in nine hours. Fares on the TU-114 and other big Soviet liners are no higher than for rail travel.

Vnukovo, Moscow's largest airport, is expanding to handle its fast-growing turbojet traffic. Experts say that by 1965 only one passenger in ten will be flying in piston-engined planes.

Vnukovo, Sheremetyevo and Bykovo airports are linked to each other as well as to the city by helicopter.

The TU-114's provide all the amenities of de luxe air travel, including very helpful stewardesses.

AIRLINES CONNECT the Soviet capital with Siberia, the Far East, the Black Sea region, the western borders of the country and many cities abroad. French Caravelles, British Comets and other foreign planes land in Moscow daily.

The very large Sheremetyevo Airport services international lines as well as Soviet planes flying the domestic western routes. Sheremetyevo handles both the usual piston-engined planes and the high-speed turboprop and jet liners.

Piston-engined craft that fly the domestic eastern and southeastern routes use the Bykovo Airport.

The main air gate of the capital, however, is Vnukovo, focal point for all seacoast, southwestern, northern and northeastern lines. A good half of all the piston-engined, and a large number of the high-speed, craft use it.

This major airport will be handling more and more traffic as jet planes replace the slower piston-engined craft. Today two out of every three plane passengers travel by turbojet. The estimate is that by 1965 only one traveler out of ten will be flying in a piston-engined plane.

At Vnukovo you see every type of Soviet aircraft. Lined up in neat array in front of the terminal building are trim TU-104's, TU-104A's and TU-104B's, each with accommodations for 100 passengers and capable of traveling at two-and-a-half to three times the speed of a piston-engined plane, and high-speed turboprop IL-18's and AN-10's that carry 115 passengers.

The turboprop giant TU-114 takes only nine hours to cover a distance of some 4,350 miles. In 1959 Chairman Nikita S. Khrushchev flew nonstop from Moscow to New York in one of these. The TU-114's, each carrying 170 passengers, are now flying the domestic air lanes. Their

Pyotr Soldatov flies a TU-114 turbojet. A veteran pilot, he has logged several million miles.

These boards at the Vnukovo terminal show the movements of all incoming and outgoing planes.

With radar Vnukovo Airport's control tower does its work of guiding all take-offs and landings.

Control tower at Vnukovo Airport. These aerial traffic cops ensure the safety of the planes traveling Moscow's busy skyways.

greater passenger capacity and speed make turboprop aircraft very economical to operate. Fares on the TU-104's and other big liners are no higher than those on the railroads.

In the very near future still more economical planes will be flying the Soviet airways. Leading aircraft designer Andrei Tupolev and his assistants have completed work on the TU-124, which will carry about 70 passengers at a speed of 560 miles an hour. Since it needs a runway of only 2,600 feet, the TU-124 can be used in various parts of the country. Another Soviet designer, Oleg Antonov, is working on the AN-24, which will need a runway of only 1,300 to 1,600 feet.

Safety Is the Word for Aeroflot

Every plane that approaches Moscow is monitored by radar until it touches the runway.

Incoming planes report to the central control station at Vnukovo Airport. There are several section dispatchers on duty, each responsible for a different section of the sky. To these aerial traffic cops the sky is not a romantically blue ocean of air but rather a heavily traveled highway marked with invisible signs and signals that direct the pilot.

Every section dispatcher has his section of the sky divided into air corridors whose borders are sharply delineated. Vertically, the corridors have several layers, or echelons. Thus, to a section dispatcher his sky sector appears somewhat as a slice of layer cake.

Every plane approaching Moscow is assigned a definite air corridor and an altitude which it must maintain. The line of the plane's approach is dotted with radar stations that report the progress of the flight to the section dispatcher. Depending on its final destination, the plane is directed either to Vnukovo, Sheremetyevo or Bykovo Airport.

Within a radius of some 60 miles of Moscow the section dispatcher transfers observation of the plane to the respective airport's control tower.

In the control tower at Vnukovo Airport are three men: the controller, who registers the orders of the main district dispatcher station; the dispatcher at the microphone, who maintains contact with the pilots; and the controller at the radar screen. Their job is to designate a path of descent for every plane so that it does not collide with another craft in fog or darkness, plot for the pilot the best approach route to the airport, and help him by-pass storm clouds.

As soon as the plane leaves the cruising altitude, its reflection appears on the screens of the instrument-landing dispatcher station which designates the route from thereon in and the course of descent the plane is to follow to bring it down smoothly on the landing strip.

The runway of Vnukovo Airport is equipped with light signals of up to 400,000 candle power. Their intensity varies with weather conditions and the degree of light. The belt of land under the approach to the landing strip is lined with orange beacons that form an arrow with the landing strip at the tip. Impulse lights are spaced at 165-foot intervals for a distance of 8,200 feet before the beginning of the landing strip. They are also used for take-offs. The monitoring of planes, too, is passed

The Bookstalls, snack bars and restaurants at the Sheremetyevo terminal are open for round-the-clock service. Travelers can stay over at the airport hotel.

along from one dispatcher station to another, in reverse order—first to the instrument-landing station, then to the control tower of the airport, and then to the main district dispatcher station.

Flight Reservations

Aeroflot—the Soviet civil air agency—has offices in various sections of Moscow where flight reservations to any point may be made. They may also be made by phone and the ticket delivered to the purchaser.

Express buses leave every 10 to 15 minutes from the center of the city to Vnukovo. Sheremetyevo Airport is also reached by express bus. All the airports are linked with one another and with the city by helicopter service for the convenience of travelers in transit. Every airport has an information desk where complete data on all flights is available. It knows where a given plane is at all times during flight. The progress and landings of planes at intermediate airports are plotted on huge charts, and a glance at the chart gives the information clerk the answer to any question about a plane's flight. At Vnukovo there is an information staff of 80 young women, working in four shifts around the clock.

The terminal building has a closed-circuit televised information desk and announcement board. Vnukovo has a hotel for passengers, and the restaurant and snack bars are open 24 hours a day. A new terminal building is now being constructed near the present one for serving the ever growing number of passengers.

To accommodate the increasing number of visitors to Moscow coming by plane, a new air terminal is being built almost in the center of the city, close to the Leningradsky Prospekt, and another airport is being laid out in Domodedovo, a town near the capital.

Special express buses leave every 10 to 15 minutes from the center of Moscow to Sheremetyevo (one of the terminal building wings shown here) and Vnukovo.

(Left) At Sheremetyevo passengers are driven to their planes in these gaily striped buses.

(Lower left) The televised information desk answers travelers' inquiries at Vnukovo terminal.

(Lower right) The attractive restaurant at Vnukovo serves many hundreds of travelers daily.

STAMPS PICTURE COMMUNIST PARTY HISTORY

By Ilya Zbarsky

GREAT EPISODES in the history of the Communist Party of the Soviet Union are periodically reflected in Soviet postage stamps. They tell of the birth and development of the Communist Party, its leadership in the struggle of the working people of Russia against the czarist autocracy, and of the victories of the working people in the building of socialism and communism.

In 1948, to commemorate the hundredth year of the publication of the *Communist Manifesto*, the Ministry of Communications of the USSR issued two stamps of 30- and 50-kopeck denomination and of the same design. Both stamps carried the portraits of Marx and Engels, the *Manifesto's* authors, and the title page of the first Russian edition of that outstanding document of scientific communism.

The first Russian Revolution (1905)—"the dress rehearsal for the Great October Socialist Revolution," as Lenin called it—was commemorated in a set of three stamps of 3-, 7-, and 14-kopeck denomination issued in 1925. The 3-kopeck stamp pictured a strike of postal and telegraph workers; the 7-kopeck, a man addressing a revolutionary rally from the top of a lamppost; and the 14-kopeck, a reproduction of Vladimirov's painting "Moscow Barricades in 1905." Some of the early stamps were printed without perforations.

Another three-stamp series of 3-, 5- and 10-kopeck denomination was issued in 1930 for the 25th anniversary of the first Russian Revolution. The 3-kopeck stamp showed the battleship *Potemkin* whose crew mutineered against czarism in 1905; the 5-kopeck stamp, an episode of barricade fighting; and the 10-kopeck, dedicated to the Moscow uprising led by the City Party Committee, the workers hoisting a red flag over a barricade.

Two multicolored stamps, of 40-kopeck and one-ruble denomination, were put out for the 50th anniversary of the Communist Party of the Soviet Union. The first bore Lenin's profile in bas-relief and his pronouncement: "The role of front-rank fighter can be fulfilled only by a party guided by a progressive theory"; the second, with the same picture of Lenin but with the title page of his famous work *What Is To Be Done?*

Commemoratives were issued for the Party's postwar congresses, which charted new vast prospects for the country's economic development and rapid rise of the population's living standards. In 1956, for the 20th Congress, there was a two-stamp issue, multicolored, of 40-kopeck and 1-ruble denomination, both with a sculptured figure of Lenin against a background of red flags and the Kremlin's Spasskaya Tower.

New multicolored 40-, 60-kopeck and 1-ruble stamps were issued in honor of the 21st Party Congress. Pictured on the 40-kopeck stamp were the Red Flag bearing a portrait of Lenin and a view of the Kremlin in the background. The 60-kopeck stamp showed a meeting of construction men on the Volga hydroelectric power project; it was this Party Congress that called for a sharp increase in electric power production, among other things. The 1-ruble stamp symbolized Soviet progress in space exploration with three sputniks and a spaceship.

MEDICINE COMES TO BEAUTY'S AID

A DESPAIRING sixteen-year-old asks, "Doctor, will I look like this the rest of my life?" She sits hunched over on the edge of a chair, much of her face covered by her handkerchief. Gently the doctor puts the girl's hand down into her lap and examines her forehead and cheek speckled with ugly blue-brown warts.

"Vascular nevus," thinks Dr. Inna Kolgunenko. She pats the girl's shoulder. "We'll fix all that, clear up your face beautifully, but it will take time. And you must help yourself."

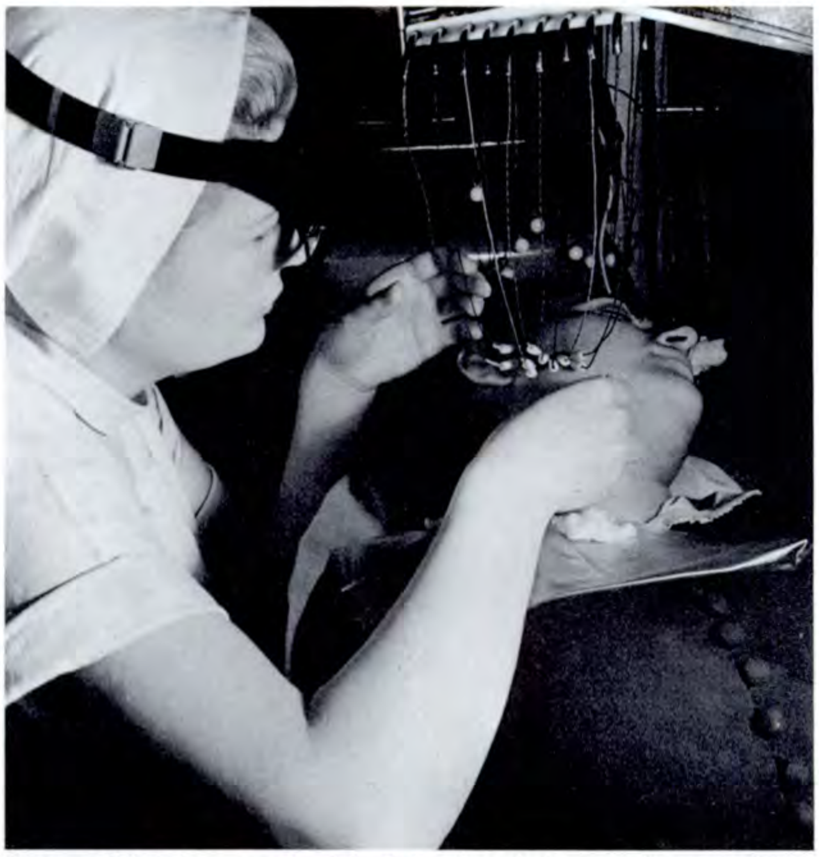
The girl doesn't really believe it. She puts her hand up to her face covering it again. But the doctor knows that even after the very first treatment the patient will be smiling and hopeful.

Such scenes are enacted frequently at the Cosmetic Clinic in Moscow. Until very recently surgeons and cosmetologists rarely cooperated professionally, but the progress of medicine and present-day living has brought them together. And now cosmetologists, surgeons and internists not only work together to remove skin blemishes but go below the skin's surface to eliminate the cause.

The Moscow Clinic has several branches and a hospital; there are also such clinics in Leningrad, Kiev, Kuibyshev and other cities. Some people go there for facial treatments, complete with vitaminized masks and massage; others have their freckles or tatoos eliminated and warts or unsightly hair removed. Still others want to have the shape of their noses or ears corrected, or their faces lifted.

Each visitor is first examined by cosmetologists who prescribe the necessary treatment. It usually includes vitamins, special diet and a course of home treatment. "Cream and makeup," says Dr. Kolgunenko, "are insufficient aids for concealing defects. To really get rid of a skin blemish we must find its cause."

The Cosmetic Clinic has done some interesting plastic surgery. Professor Anastas Lapchinsky is well known for his skillful facelifting and corrective operations. "Our people, especially the women," he says, "should all be beautiful and happy. Wherever nature has made a mistake, we correct it."



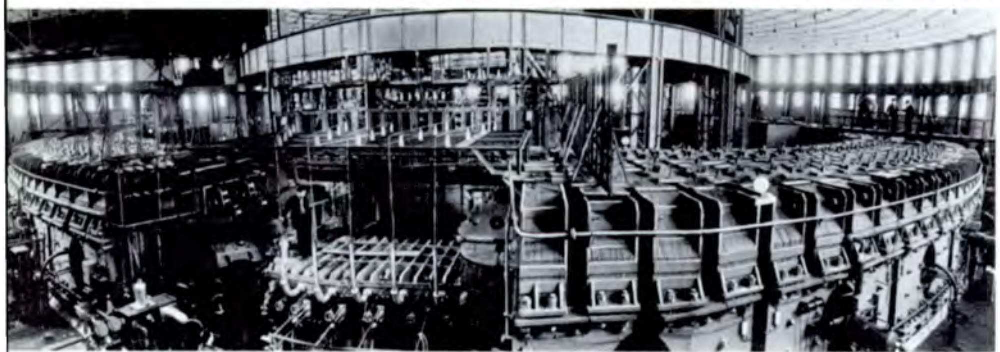
Unwanted hair is removed painlessly by electrolysis at the Cosmetic Clinic in Moscow, where internists, surgeons and cosmetologists collaborate to correct nature's mistakes. The clinic staff handles a wide range of problems—from changing the shape of a nose to the removal of unsightly warts.

USSR Magazine Is FIVE YEARS OLD

Nikita Khrushchev presents the Soviet program for "general controlled disarmament in a four-year period" to the UN. (No 7/38, 1959, p. 10)

Muscovites welcome 34,000 young men and women from 131 countries arriving for the Sixth International Youth Festival. (No. 15, 1957, p. 28)

Cosmonaut Yuri Gagarin tells the Soviet people that he has successfully completed the world's first manned space flight. (No. 6/57, 1961, p. 7)



A 10 Bev-capacity proton synchrotron, the world's largest, is installed at the Dubna Joint Nuclear Research Institute. (No. 7/34, 1959, p. 44)

Two years after his triumph at the International Tchaikovsky contest Van Cliburn plays to cheering Soviet audiences. (No. 9/48, 1960, p. 58)

FIVE YEARS AGO, on October 23, 1956, *USSR* Illustrated Monthly made its debut in the United States, and on the same day its counterpart *Amerika* began to circulate in the Soviet Union. The two magazines are published on a reciprocal basis under an agreement between the governments of the USA and the USSR.

The agreement fixed the circulation of each magazine at 52,000 copies—50,000 for sale through newsstands and by subscription, and 2,000 for free distribution. The question of larger circulation for both magazines now merits consideration.

The two periodicals are very much alike in format and subject matter. That they have the same function is evident at a glance—to tell their readers in word and picture about life in their respective country, thereby meeting the growing desire of the people of the two most powerful countries in the world to learn more about each other.

Long before the magazines appeared, in fact as soon as the press announced the agreement, letters began to pour into the offices of *USSR* from Americans of every trade and profession and the most diverse views. Many were from friends, others from people simply interested in our country, and still others from people prejudiced against it. They wrote about all kinds of things, but the letters had this in common—the overwhelming majority welcomed the opportunity of getting information about the Soviet Union from the originial source, of getting answers to their questions firsthand.

Press comments and letters to the editors make it abundantly evident that the public in both countries considers the exchange of magazines a contribution to better understanding, the development of contacts and the promotion of friendship between our peoples. It is no accident that these periodicals have won an important place in the over-all American-Soviet exchange program.

In his message of greeting to *USSR* readers in the November 1960 issue, Nikita Khrushchev, head of the Soviet Government, wrote: "The Soviet people sincerely want friendship between the peoples of our two countries. This can be facilitated by getting to know each other better. The purpose of *USSR* Magazine is to spread truthful information about the life of the Soviet people, thus contributing to better understanding between our countries."

The Hows and Whys of Soviet Life

It is from our readers that we find out what Americans want to know about the Soviet Union, from the comments and requests, the friendly criticism and helpful suggestions that the mail brings daily. We give careful attention to inquiries from our readers and take their letters very much into account when planning the contents of forthcoming issues.

The questions sent in are extremely varied. What kind of state and social system does the Soviet Union have? How can the principle of peaceful coexistence be reconciled with the statement that communism will triumph throughout the world? What does communism give the common people? Why is there only one political party in the Soviet Union, and, in view of that, how can freedom of criticism be guaranteed? What explains Soviet pre-eminence in space exploration? Why is there no unemployment in the Soviet Union? Why don't Soviet workers strike, and how are their claims met under such conditions? How does one get a divorce in the Soviet Union? Can one who is not a member of the Communist Party be elected to public office? What kind of pension system is there? Can a Soviet citizen go to church? What kind of dancing is popular with the young people in the Soviet Union? May foreign tourists travel freely in the Soviet Union? What difficulties does the Soviet Union encounter in solving its economic problems? Can a Soviet citizen own his own home? How are Soviet physicians combating polio? Is there any juvenile delinquency in the Soviet Union?

There is no end to the stream of how, why, is it true that, can you, and so on. The magazine is asked to write about almost everything—from the history of the Soviet Union to Russian cooking, from Palekh boxes to the standard of living of workers and collective farmers. The number and variety of questions show that Americans with the most widely varying interests want information about these many aspects of life and activity in the Soviet Union. And that is the magazine's chief aim—to give the American reader as many facts as possible in order to enable him to get a true picture of the Soviet Union.

Growing Interest in Things Soviet

This wish to learn more about the Soviet citizen and the socialist system which has nurtured him is not a recent occurrence. It goes back to the memorable years of World War II, when an amazed world paid homage to the magnificent fortitude and patriotic heroism of the Soviet people as they staunchly met the incredible pressure of the Nazi hordes. The Soviet Union was able to muster the strength not only to stand its ground in that mortal combat, but also, together with its allies, to finish off the fascist beast in his own lair.

During the postwar years, in spite of the frequent tenseness of the international situation, there was no decline in the very natural interest of the people of the two countries in each other or in their wish to become better acquainted. In recent years, especially since the first sputnik was launched in October 1957, the interest of Americans in the Soviet Union has been growing by leaps and bounds.

That event, the greatest of our epoch, caused a chain reaction in the minds of people on all continents. Our mail reflected that change very sharply. We began getting many more hows and whys, and the substance of all of them was essentially this one question: How is it that socialism, and not capitalism, blazed the trail to the stars?

At the time, *USSR* was completing its first year of publication. Now its fifth year is highlighted by the epic flights of two Soviet cosmonauts. Last April Yuri Gagarin made a pioneering circuit of the earth in the spaceship *Vostok I*, and four months later Gherman Titov made a 25-hour journey around our planet in *Vostok II*.

These great achievements represent more than Soviet progress in the one field of space exploration. They are the end products of the numerous and highly diverse activities of the Soviet people. Obviously, a single magazine article, no matter how extensive, cannot hope to answer all questions arising, say, in connection with the Soviet achievements in conquering outer space. The answer has to be sought in many articles on many subjects that will lead to a comprehensive knowledge of Soviet life in all its diversity. And that is precisely what *USSR* Magaine strives to give its readers. In these five years the magazine has faithfully reflected five years of the Soviet Union's life.

Although *USSR* is not a news magazine, its job, nevertheless, is to report and explain current Soviet events of major importance. And recent years have been rich in events which have effected great changes in the life of the country and its people.

Reorganization of industrial management, virgin land cultivation, the seven-year plan for economic development, the unilateral cut in the armed forces, the new pension system, the decision to abolish the income tax, the cut in the workday without reduction in pay, the improvement of the educational system, and, of course, the Communist Party Congresses, which decide major questions of the country's development—this is only a partial listing of developments in the past which decide major questions of the country's development in the life of the Soviet people. All these events were treated in the magazine.

The country's 3,000 resorts and spas, visited by 3.5 million people a year, are turned over to the trade unions to manage. (No. 5/56, 1961, p. 27)

Khrushchev meets Americans of all views and vocations on his USA visit. They liked his sense of humor and friendliness. (No. 11/38, 1959, p. 37)

The Soviet Union displays four decades of socialist achievement at the Brussels Fair and wins several hundred awards. (No. 8/23, 1958, p. 38)

In five years beginning with 1955 the USSR reduces its armed forces by 2,140,000, thus showing its peaceful intentions. (No. 6/21, 1958, p. 15)

Moscow builds 100,000 apartments a year, and other cities follow suit, in a speeded-up drive to solve the housing problem. (No. 7/46, 1960, p. 12)

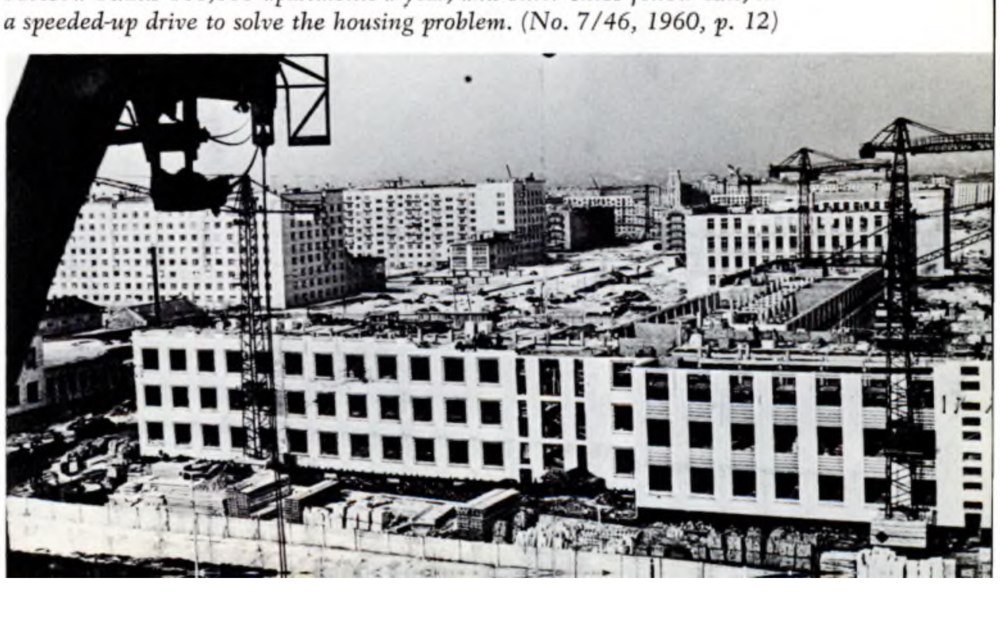


Table of Contents

A large number of the 4,000 pages of *USSR* Magazine's first five years of issue, were devoted to the everyday life and interests of the Soviet man. Every issue carried articles, essays and reports on people of every walk of life. The simple stories and pictures showed Soviet people at work, at home and in their leisure hours, their views on contemporary problems, conception of civic duty, relations with workmates and family problems. These articles usually centered on individuals to show the more typical aspects of Soviet life. Others dealt with Soviet men and women who have won nationwide recognition and high honors as a result of their outstanding accomplishments in their fields of work or study. In telling about individual Soviet people, the magazine has shown how their creative efforts merge into a single current of progress in communist construction.

Many facets of Soviet life were illustrated in feature stories about particular factories, collective farms, cities and republics. A good deal of space was given to the activities of young people, their schooling, their interests outside the classroom, their leisure hours.

Comparisons Not Always Helpful

It is not always easy to describe the Soviet way of life so that the general reader will understand it. Sometimes comparisons are helpful, often they are not. For example, when we speak of the Soviet standard of living, we must explain that we mean not only take-home pay and what it can buy but a great many additional things that the Soviet citizen gets from the state without contributing a kopeck from his pay envelope. These services—they include free education through college, social insurance, free medical and hospital care—are a substantial addition to family income.

It is even more difficult to explain to the uninformed reader the complex of social relations in a socialist country or the substance of Soviet democracy. The magazine has carried a series of articles on these and related problems by leading Soviet sociologists and statesmen.

USSR has run articles expounding the philosophical principles upon which Soviet life is built. Several series have surveyed the history of the Soviet state, its political structure, the activities of the many mass organizations, the larger areas of government administration being taken over by public organizations.

A number of articles on the Communist Party have attempted to explain the Partys' role in building communism. There have been stories describing the work of Party organizations on all levels—from a local factory group to the national Party congresses.

Soviet democracy in action has been illustrated in many of the articles, showing how it carries over to very wide spheres of the country's life and is by no means confined to parliamentary institutions. In the economic sphere, for example, it is demonstrated in the decentralization of management in industry and the wide public participation in setting factory and industry policy. Another manifestation of this democracy is the submission of the more important draft laws to nationwide discussion, and this, too, has been the subject of articles. National forums of this kind took place around drafts of the pension law, legislation to abolish taxes and the Party's draft of the seven-year plan targets. Under countrywide discussion today are the drafts of the Communist Party's new Program and Rules. The 22nd Congress of the Party will take into account the opinions expressed and the suggestions made in the course of the discussion.

A number of articles dealt with the development of different forms of public self-government—volunteer public order squads, town improvement committees, wide citizen participation in the work of the standing committees of the local Soviets. The magazine has tried to show how the basis for replacing administrative authority by communist self-government is being laid, step by step, in these forms of democracy.

The Theme Is Friendship

USSR Magazine has published numerous reports, articles and interviews of personal exchanges between Soviet and American citizens. Almost every issue has reported visits made by scientists, artists, students, industrial executives and farmers of one country to the other. The magazine has also published reviews of how the USA-USSR agreements on scientific and cultural exchanges were being carried out and the future prospects in this direction.

The hospitality shown foreign visitors by Soviet people bears witness to their earnest desire for international friendship. They do not consider peace a matter of government decision alone but rather the vital cause of every Soviet individual.

The Soviet Union has proclaimed and adheres to the principle of peaceful coexistence of countries with different social systems, and *USSR* has run several articles on the cuts the Soviet Government has made in its armed forces with the result that more than two million men have returned to peacetime pursuits. The magazine has carried articles by economists showing the tremendous economic gain mankind would derive from a general disarmament agreement.

Outstanding among the materials carried by the magazine on the Soviet Union's peace policy are the articles on the visits of Nikita Khrushchev, head of the Soviet Government, to the United States on a goodwill mission in 1959 and as head of the Soviet delegation to the Fifteenth Session of the UN General Assembly in 1960. The magazine dealt with Khrushchev's meetings with the American people; his speeches for better understanding between our peoples, for strengthening peace and friendship between our countries; the speeches in which he clarified the Soviet program for general and complete disarmament put forward in the United Nations.

The keynote of every issue of *USSR* published in these five years has been peace and friendship. The magazine enters its sixth year with confidence that its efforts in explaining the Soviet way of life will continue in the future to help develop understanding and friendship between the peoples of the two great countries and will thus continue to contribute to the promotion of universal peace.

Америка

IN THE SOVIET UNION

Amerika *on sale at a newsstand in Sverdlov Square in Moscow.*

AMERIKA, the magazine published in Russian to acquaint Soviet readers with things American, like its counterpart *USSR* Magazine, celebrates its fifth birthday this month. Publication was begun in 1956 as the result of a reciprocal agreement between the governments of the USSR and the USA on exchanging periodicals. Since then sixty issues of each magazine have been circulated. The decision to start publication of the magazine was closely related to the preparation of a broader agreement on cultural and scientific contacts subsequently signed by the two governments in 1958.

USSR Magazine and *Amerika* have the same aim: to promote better understanding of the way of life of the respective country. The magazines look very much alike—both are combined picture-text magazines—and are even produced by the same print shop—Haynes Lithograph Company in Rockville, Maryland—where they coexist wonderfully.

Our correspondent called at Soyuzpechat, the agency responsible for the circulation of *Amerika* in the Soviet Union, to ask some questions. He spoke to Yevgeni Prokofiev, assistant manager.

"What's the circulation procedure?"

"The magazine," explained Prokofiev, "is shipped to the central dispatch office in Moscow from the United States, then distributed throughout the country."

"In what cities is the magazine available?"

"The list of cities where the magazine is distributed was established by a special agreement between Soyuzpechat and the American Embassy. The magazine is on sale in Moscow, Leningrad, the capitals of the Union Republics, Kharkov, Rostov, Voronezh, Novosibirsk, Irkutsk, Magadan and dozens of other cities."

"Is it sold by subscription or in bookshops and on newsstands?"

"According to the agreement, 45,000 copies are sold on newsstands and in bookstores, 5,000 by subscription, and 2,000 are distributed free of charge by the U. S. Embassy in Moscow. We stick very closely to that arrangement."

"How do Soviet readers get to know about the magazine?"

"Soyuzpechat puts out an annual catalogue of the newspapers and magazines to be published during the year. The catalogue, which is our major advertising source, is available at all Soyuzpechat branches and at many other places—big plants, offices and the like. It lists *Amerika* first in the section headed "The Press of Capitalist Countries" and gives the price as well as the frequency of publication and manner of distribution."

"Is the magazine available in library reading rooms?"

"Yes, if a library wishes to, it may subscribe to *Amerika* just as it does to any periodical. In Moscow, for example, the magazine is always available at the State Public History Library, the Ushinsky State Library, the reading rooms of Moscow University, the House of Trade Unions reading room and a number of other libraries and reading rooms—and, of course, the Lenin Library and the State Library of Foreign Literature. *Amerika* is also available in the reading rooms of institutes and universities and in the public libraries of many cities of the Soviet Union."

The first Soviet reader of Amerika *was Ruslan Renkov who works at the Soyuzpechat.*

*Both magazines—*Amerika *and* USSR*—are similar in format. They are printed in the same shop, the Haynes Lithograph Co., where they coexist wonderfully.*

USSR 1956

OLD ACQUA

From some of the early issues of our magazine we have chosen several old acquaintances —people we wrote about or interviewed the first year* USSR *was published. We thought that many of our old readers would like to

The charming young schoolgirl above is Larissa Demachova, whose full-page photo we printed in color in the fourth issue of our magazine, in January 1957. At the time she was eleven years old and a student in the fourth grade at Moscow School No. 1. Now she is in the ninth grade, a grown-up sixteen-year-old, with very serious ideas about life in general and her own in particular. She wants a career in the theater and has made up her mind to apply for admission to the drama department of the State Film Institute after graduating from secondary school. Meanwhile, no amateur theatrical performance at the Moscow City House of Young Pioneers takes place without her. The stage directors find her very promising.

In our first issue we described the TU-104, the then new and first Soviet jet passenger airliner, designed by Academician Andrei Tupolev in 1956. Today this turbojet, which flies at a speed of about 500 miles an hour in the stratosphere and accommodates 70 passengers, is in regular commercial service on the domestic and international airways and is a familiar sight at airports in Paris, London, Brussels, Copenhagen, New Delhi and other capitals of the world. In the past five years Tupolev has designed two new planes. One is the turboprop giant, the TU-114 that brought Chairman of the USSR Council of Ministers Nikita S. Khrushchev nonstop to the United States in September 1959 on his memorable visit of peace and friendship. It was on public view at Andrews airfield outside of Washington, D.C., during the Chairman's visit. The TU-114 accommodates 170 passengers on long-distance hauls and 220 on short trips. The other new plane, the turbojet TU-124, for domestic use, is similar to the TU-104 but has some advantages over it. Although it has the same load capacity and cruising speed, it does not require a special landing strip but can touch down at any airfield.

NTANCES

1961 USSR

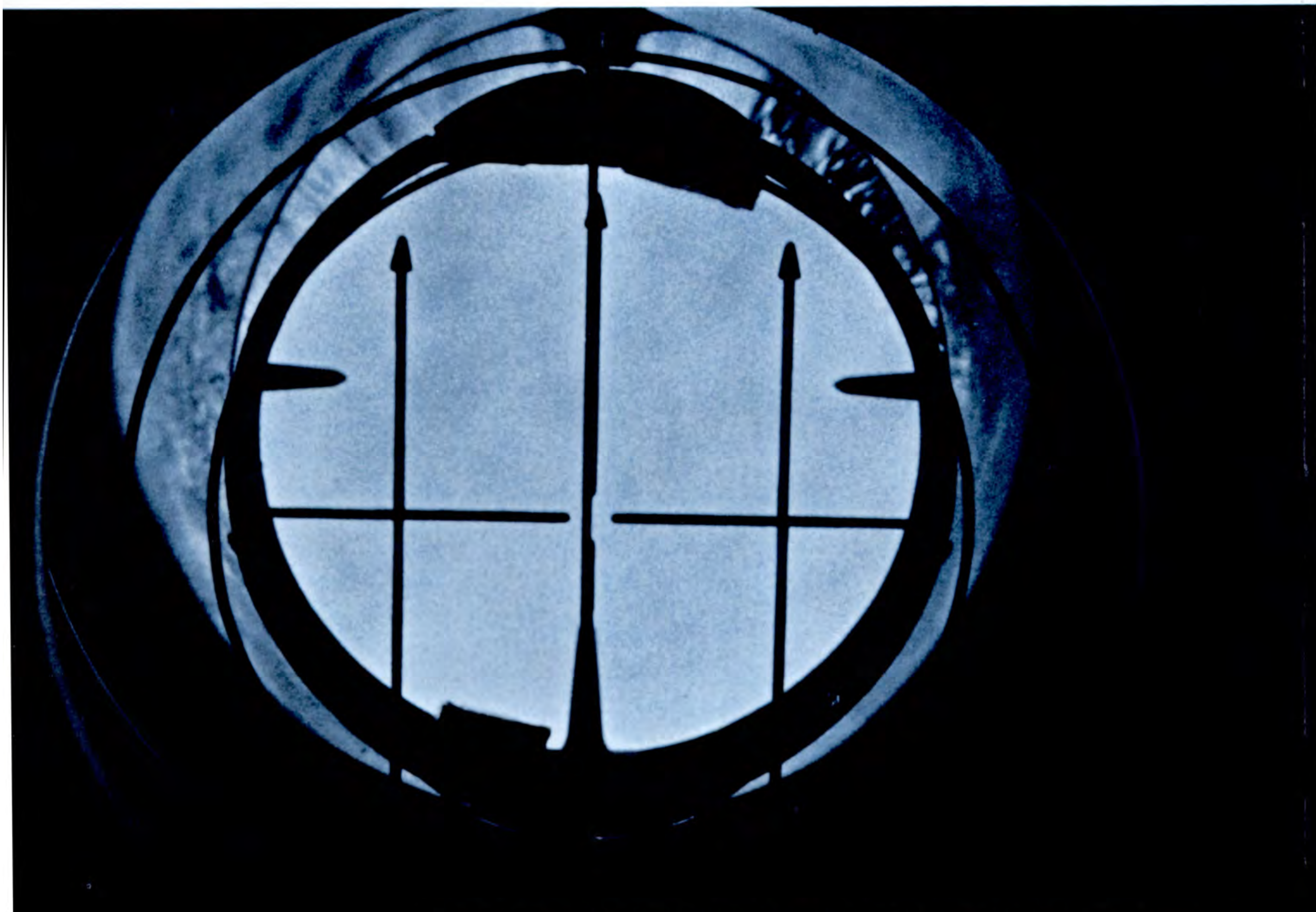
know what has happened to them since, and that readers meeting them for the first time would be just as interested in hearing what five very eventful years of life in a socialist country have done for these four Soviet people.

We told our readers about Maria Kulikova in the February 1957 issue of our magazine. At that time she was a spinner at a mill in the city of Ivanovo. In the past five years she has woven hundreds of thousands of yards of fabric. Her skill, warmth, understanding, and her unfailing readiness to help people have made her very popular at the mill. Three years ago the people of her district elected her deputy to the USSR Supreme Soviet. She is a member of its Committee of Legal Proposals, helping to draw up documents of nationwide significance. In her own constituency she attends to scores of administrative problems daily. As all other deputies to Soviet legislative bodies, she is availabe to her constituents for help with all their troubles, personal or vocational. Yet she is no less interested in what goes on in other parts of the country. In a recent photo (bottom) she is greeting a deputy from Uzbekistan, the cotton-growing republic. The photo above, taken five years ago, shows her with her youngest daughter.

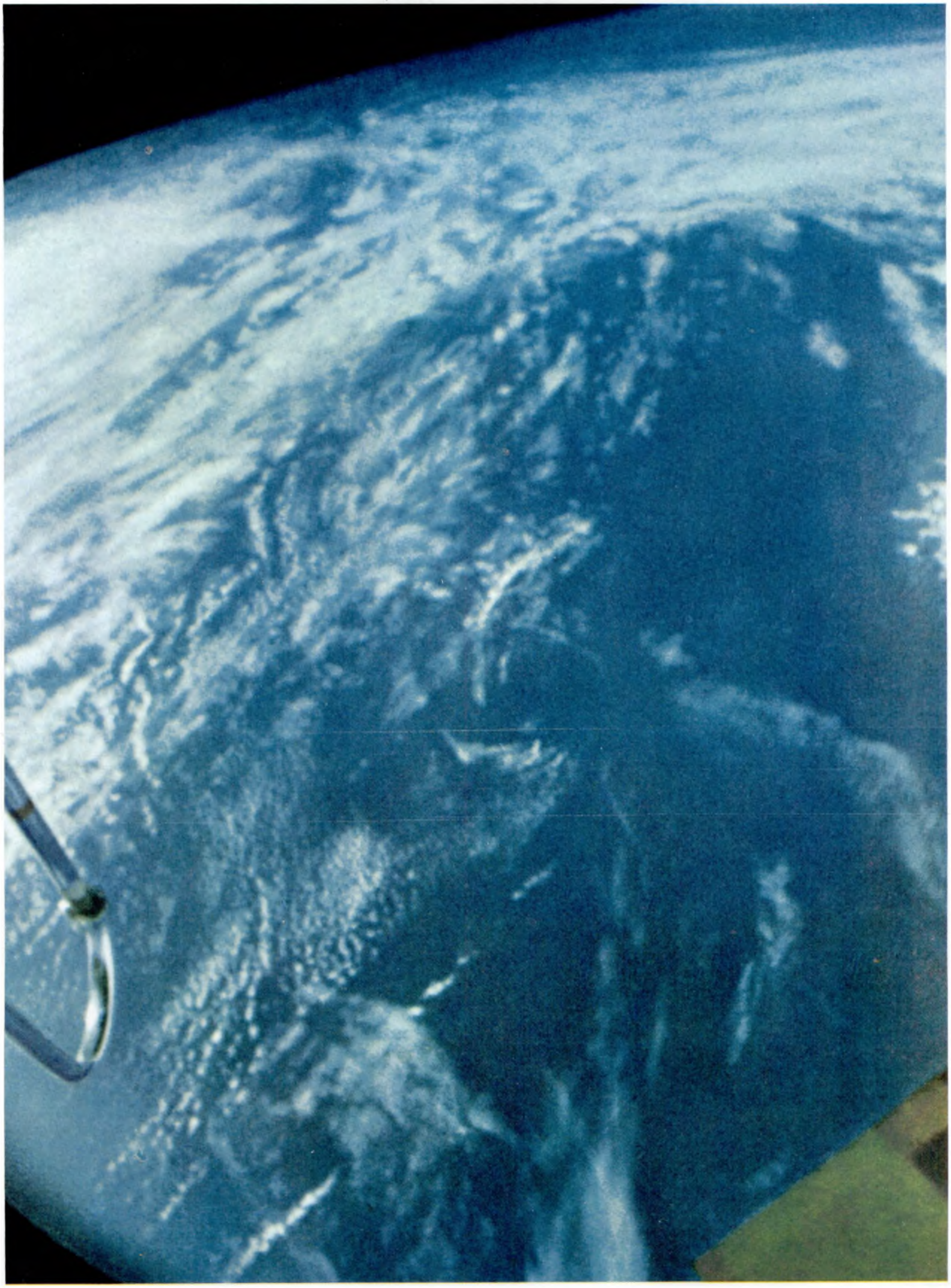
Architect Zulfa Pogarskaya is another old acquaintance. An interview with her appeared in the fifth issue of the magazine, in February 1957. Zulfa has had a busy five years. She helped work out the experimental block of apartment buildings in the Southwest District of the Soviet capital. There, on the outskirts of Moscow, stand two eight-story houses with 223 apartments built after her design. It's a long time, she says, since her husband has smiled about her "half-baked" ideas. She was particularly excited about working with the group of architects on the design of the Congress Building which is already rising above the ancient towers of the Kremlin. Made of white marble, aluminum and glass, the imposing structure with its Great Hall seating 6,000 will be the setting of nationwide congresses, forums and scientific conferences. This talented young architect's present job, no less challenging, is on the design of the 1967 Moscow World's Fair.

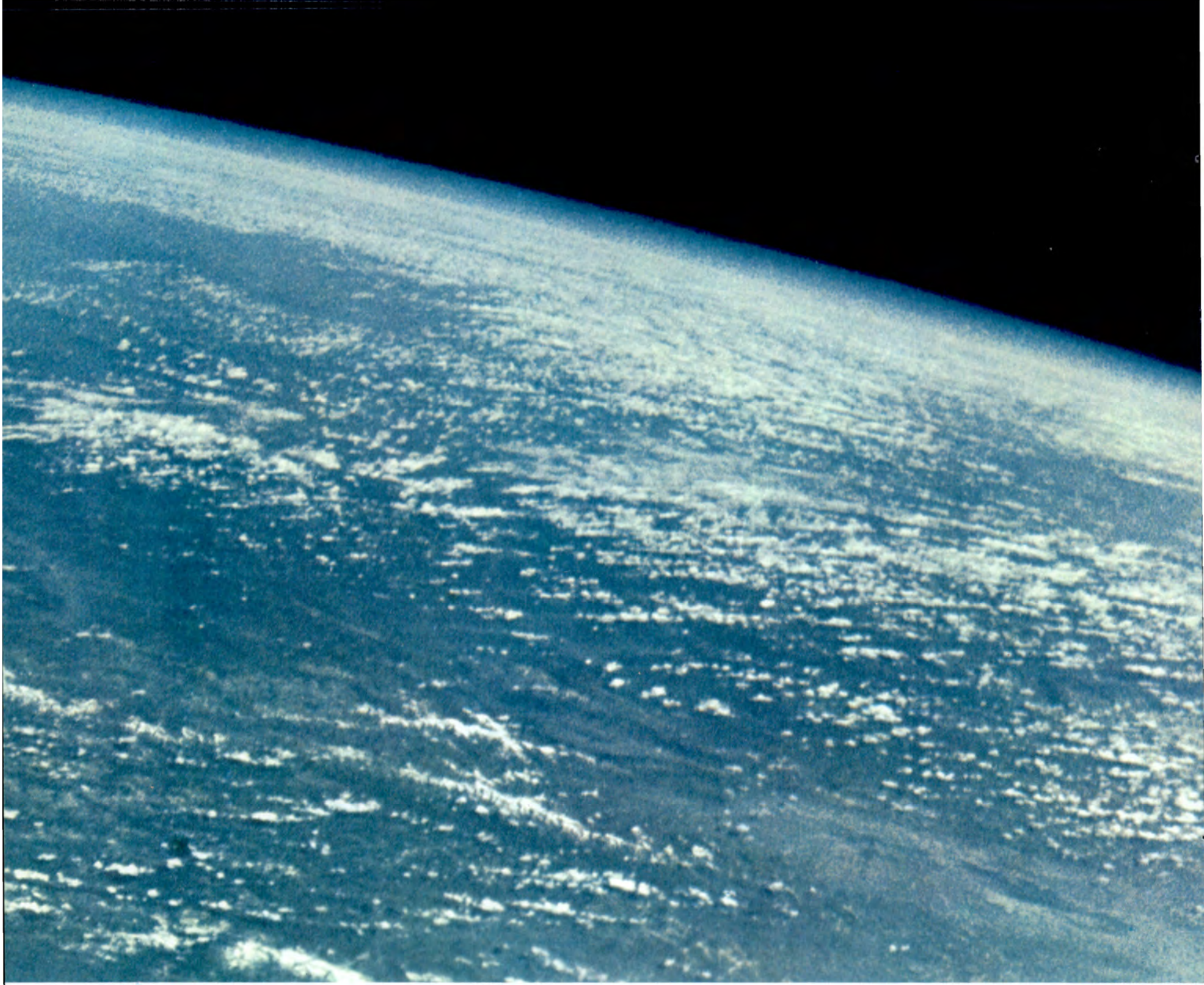
THE EARTH FROM OUTER SPACE

PHOTOS TAKEN BY GHERMAN TITOV

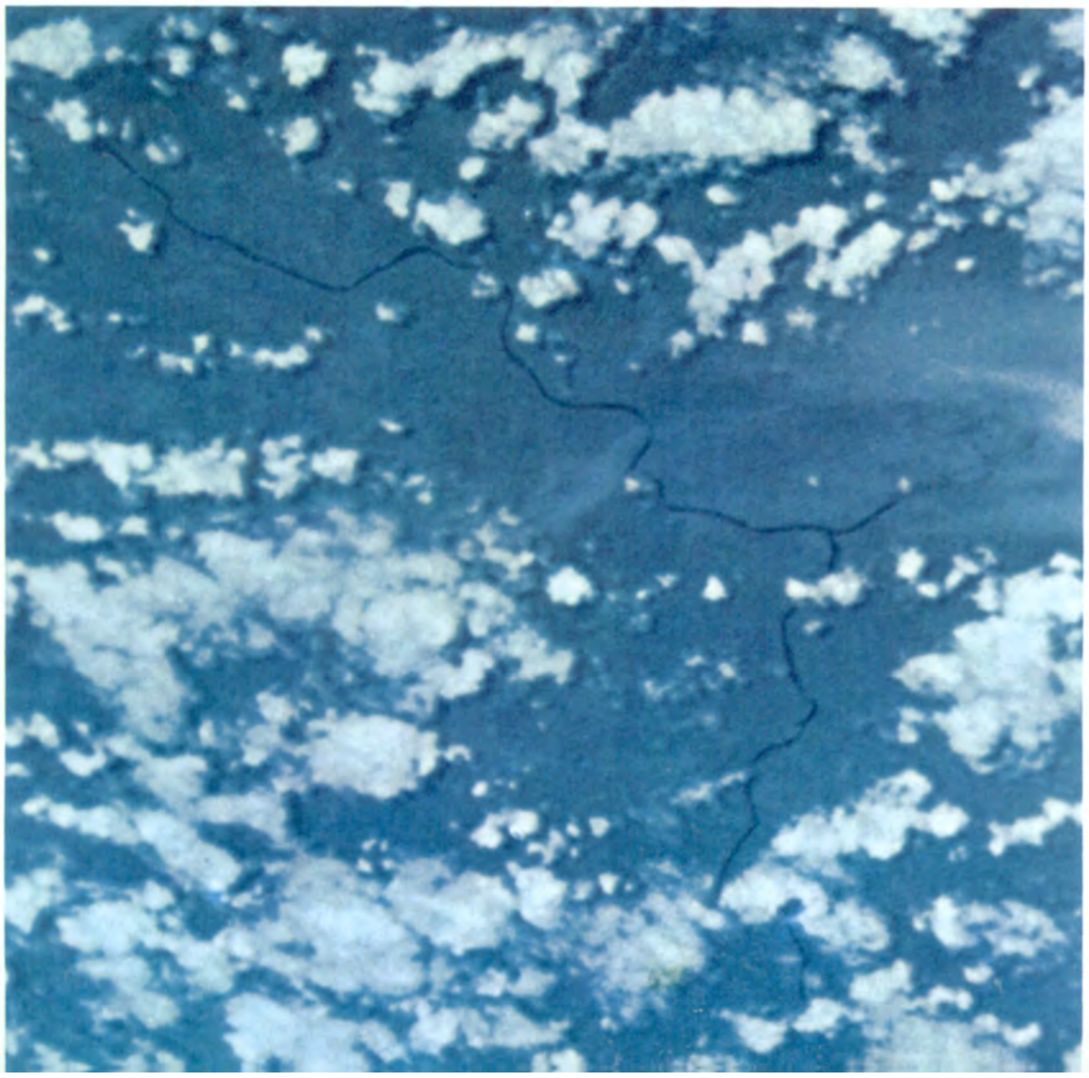


Gherman Titov was 155 miles above the earth when he took these shots with his Convas movie camera. Said Titov at a press conference after the history-making flight: "I didn't want Yuri Gagarin and myself to have a monopoly on the view in space so I took a few shots to share with my earthbound friends." Above is the illuminator of the Vzor (Look) optical device through which Titov photographed the earth. The arrows show the direction of the ship's flight. The shot on the right shows mountain ridges and ravines. The object at the lower left of the photo is one of the antennae of Vostok II.

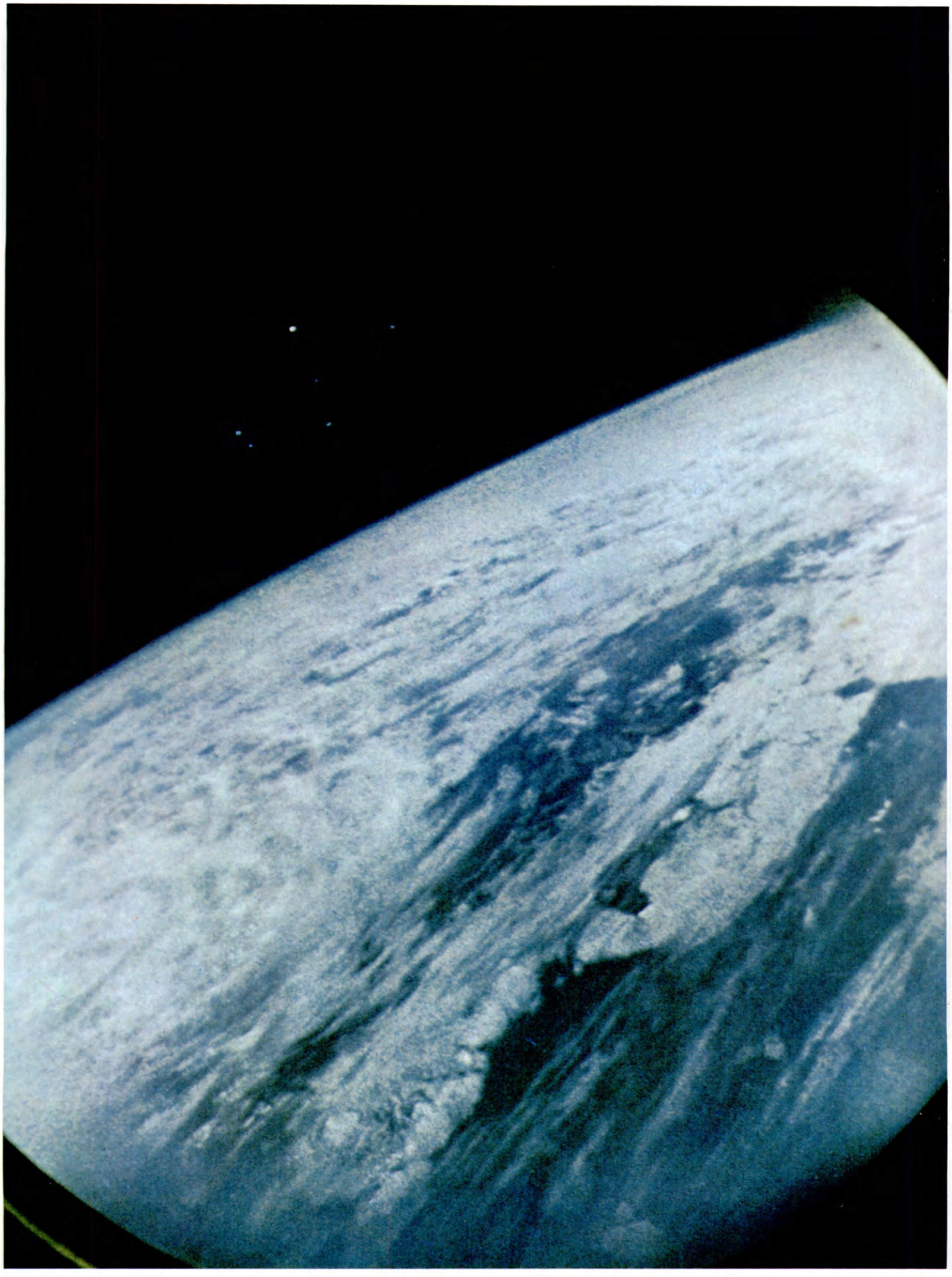




This photograph shows the sphericity of the earth and the halo that surrounds it.



The earth through a cumulus cloud layer with the curves of a large river evident.



The earth partially hidden by clouds and shadows. The bright stars do not twinkle in the pitch black sky but shine with an even, steady light.

TWO YOUTH CLUBS -

A very major activity for a young people's club in Moscow or anywhere else.

Summer is hardly the time for indoor activities, with woods and water only a short bus ride away.

Lake Senezh, in Moscow's suburbs, is a favorite place for boating and swimming.

By Anatoli Romov
Photos by Victor Sakk

THERE are two Moscow youth clubs which in many respects resemble each other, but then in many others they differ: One has been around a long time, the other not so long; one has permanent club rooms, the other still rents theirs. Their memberships reflect somewhat different interests, yet they are both doing very good and important work.

I am referring to Activist and KMK (Kirovsky Molodyozhny Klub—Kirov Youth Club). The former is for the young people in the building trades, the latter is a neighborhood organization in Kirov District.

The members of the KMK could, of course, get along with the services of an amateur social director and also could have organized their own amateur band. But the club has its own maxim: Anything we do ourselves must be top-grade. If we want to have a social director for Fun Night, we want a person with a good sense of humor and with good taste. If we're going to have a jazz band, we want one that'll be as good as a professional one, not just a noisy combination.

Therefore one of the first things the KMK

Members who play in the band wouldn't think of going on an outing without their instruments.

The club's speaker on this outing is the well-known sports commentator Vadim Sinyavsky.

Serious planning for fall activities at the Activist Youth Club, but a laugh is always in order.

did was to organize the professional training of people who agree to take part in the club work free of charge, on a voluntary basis. Courses were organized to train leaders for cultural mass activities. The course of study was for four months, after which those who finished received KMK certificates. Who knows, perhaps these certificates will be valued as highly as college diplomas!

Things were a bit more difficult so far as the band was concerned. Let anyone try to find a good orchestra willing to play without remuneration!

By a stroke of luck this problem was solved when Mark Duboisky, organizer and prime mover of the KMK, heard someone at the drums in the club room. It was Misha Tsibulkin, a repair man at one of the factories near the club, who had dropped in to see what the club was like. He noticed the drums in the corner, picked up the sticks and began to "beat it out."

It was then that the idea occurred to Mark of getting the fellows from the plant's band to come over to the KMK. Before long other musicians joined the band, coming from all parts of the district. That was how the KMK band was formed.

"As yet, we're not as good as professionals insofar as our technique is concerned," says Victor Mikhalko, the band's leader. "But I think any professional band can well envy our band's youthfulness, energy and enthusiasm."

To have its own band and its own courses was only the beginning. The club proceeded to develop its maxim of quality further.

Volodya Strebnitsky, member of the KMK board and a producer at Radio Moscow, started a drama group, and so the KMK theater company was born. It has already toured the virgin land territory. Actors are now being recruited for a KMK film. Its members are firmly intent on becoming as good as those of professional studio companies.

Both clubs have the motto: "We do it ourselves." The idea of organizing the Activist club originated when it was discovered that the construction workers' House of Culture lacked sufficient staff workers. The young people then decided to organize a club which would not have a single paid staff worker. Since then "We do it ourselves" has been the motto for all its club work. And, indeed, the only paid staff worker is the watchwoman, Grandma Katya.

The story of how KMK was organized is entirely different. The YCL'ers of the Kirov District of Moscow had longed dreamed of having a club, but they had no place to meet. Only recently did they succeed in finding club rooms, though they are not altogether their own. The power workers' House of Culture agreed to put several rooms at their disposal. It was then that the imagination, resourcefulness and initiative of the YCL'ers were fully manifested.

The thing that characterizes the work of the Activist club is that no one finds things dull there. As at the KMK, its members enjoy themselves but do not "organize" their leisure.

Take the hobby circles for example. There is one for the study of the Czech and Slovak languages, another for automobile theory, still another where the girls can learn how to cook well, dress with good taste and decorate a home attractively.

These activities are for the wintertime. For the summer, however, the club council decided that all activities should stop except those of the tourism circle. Summer is no time for being indoors. That's when one should go to the river and lake with his knapsack on his back and a song on his lips!

KMK also favors that, and its club sections are equally as interesting. It has a music studio, an art studio, its stamp collectors, a young homemakers group, a poetry circle, a movie section, and an amateur theatrical group. But the main activity of KMK in summer is tourism.

HAT ALIVE!

By Vladimir Nosov

THE HAT LAY on the chest of drawers. Vaska, the kitten, sat on the floor nearby. Vovka and Vadik were at the table, coloring pictures. All of a sudden they heard a thud behind them as something fell to the floor. They turned around and saw the hat on the floor by the chest.

Vovka ran over and bent down to pick it up. Then he shrieked and jumped back quickly.

"What's the matter?" Vadik asked.

"I-it's alive!"

"What's alive?"

"The ha-a-t!"

"Go on! Hats can't be alive!"

"We-ell, look!"

Vadik went close to take a good look. Suddenly the hat started creeping toward him.

"Help!" he yelled and jumped onto the sofa, with Vovka right behind him.

The hat glided to the middle of the room and came to a stop. The two boys looked at it, their knees shaking. The hat turned and moved toward the sofa.

"Help, help!" the boys yelled.

They jumped off the sofa and ran into the kitchen, banging the door behind them.

"I-I'm going," Vovka said.

"Where?"

"Home!"

"Why?"

"I'm a-a-fraid of that hat. It's the first time I ever saw a hat running around a room."

"Maybe somebody's pulling it on a piece of string?"

"You go and see."

"Let's both go. I'll take the poker. If it comes near us, I'll give it a whack."

"Here, wait—I'll bring a poker too."

"But we haven't got another poker!"

"I'll take a ski pole then."

They took the poker and the ski pole, gingerly pushed the door open and peeped in.

"Where is it?" Vadik asked.

"Out there, by the table."

"You just see what a whack I'll give it!" Vadik said.

"Just let it come near us."

But the hat remained near the table, motionless.

"Cowardy, cowardy, custard!" the boys crowed. "It's afraid to come near us."

"I'll give it a scare," Vadik said.

He started to bang the poker on the floor, shouting: "Hey, you hat!"

But the hat didn't move.

"You know what? Let's go and get some potatoes and throw them at it," Vovka said.

They went back to the kitchen, got some potatoes out of a basket, and began to throw them at the hat. They kept on throwing until Vadik scored a hit. Did it jump!

"Miaow!" it squealed.

They looked and saw first a gray tail coming out from under the hat, then a paw, and then the rest of a kitten.

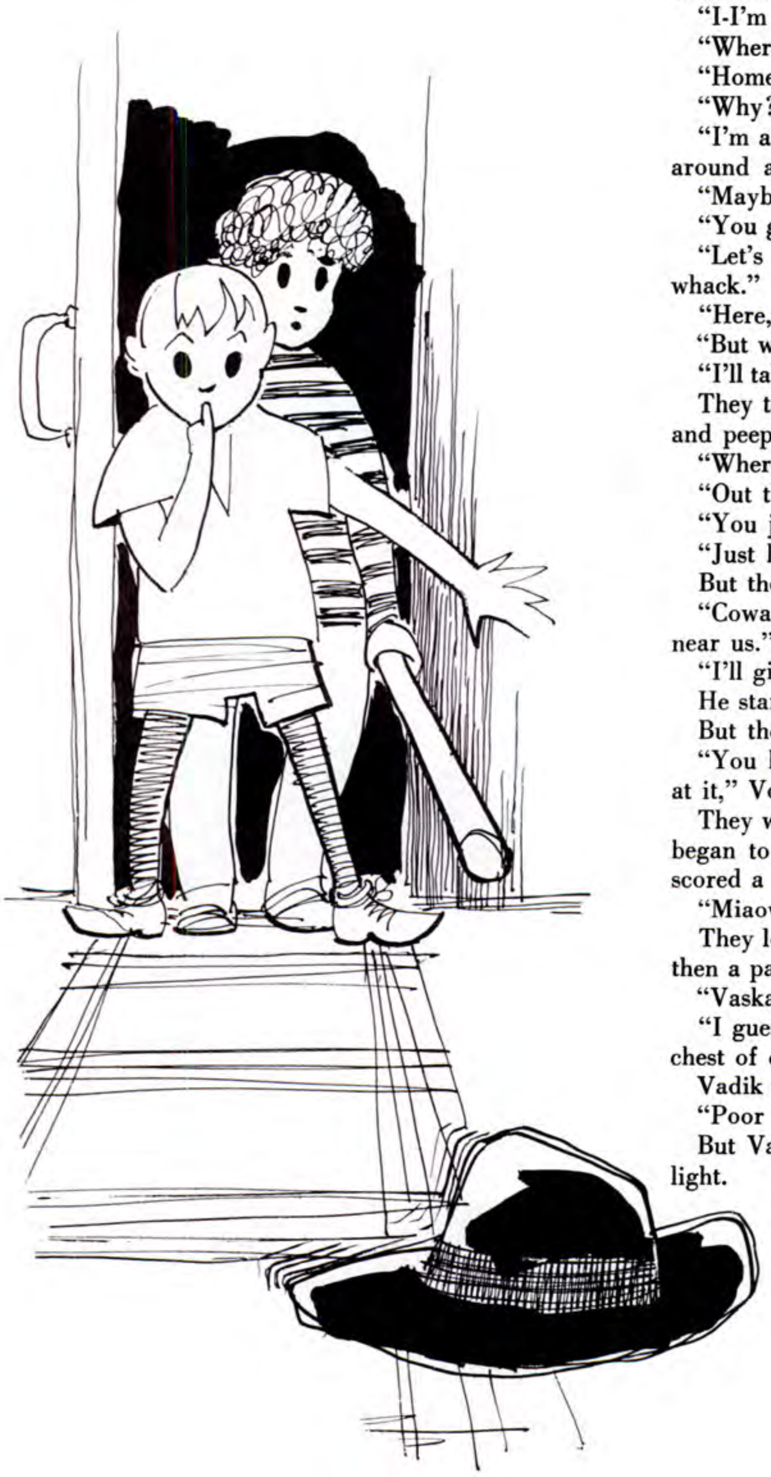
"Vaska!" the boys shouted with joy.

"I guess he was sitting on the floor and the hat fell on him from the chest of drawers!" Vovka said.

Vadik picked up Vaska and hugged him:

"Poor little Vaska, how did you get under the hat?"

But Vaska wouldn't say. All he did was to snuffle and blink at the light.



INTERNATIONAL FILM

THE Second International Film Festival was held in Moscow last summer. For two weeks in July the Soviet capital played host to film workers from fifty countries. The festival jury, made up of world-famous motion picture personalities from Europe, America, Africa and Asia, viewed all the films; argued their creative cinematographic features in free, open and very searching debate; and awarded prizes to writers, composers, directors, actors and scene designers. As is customary in the Soviet Union, the winners were also awarded prizes by various public organizations.

Were the decisions influenced by the fact that the Soviet Union had organized and was host to the festival? The judges asked themselves this question and concluded that notwithstanding the friendliness and hospitality shown throughout the festival, the awards were made solely on merit.

The standard was set by the two films that shared the Grand Prix. The unanimous judgment of viewers and judges was that the two best full-length entries were *The Island*, a brilliant Japanese production by Kaneto Sindo, and the new Soviet film *Clear Skies*, produced by Grigori Chukhrai and Daniil Khrabrovitsky. The former was cited for its exceptional maturity and humanism; the latter, for its brilliant cinematic handling of an important postwar problem. They set the high standards by which the other fifteen entries were judged.

The shorts and documentaries were judged by a separate jury. An Italian film, *The Great Olympiad*, emerged the winner in this category. Here, too, the jury had its problems. There were more films deserving prizes than there were prizes, a predicament both gratifying and distressing—gratifying, because it demonstrated that the entries were top-level productions; distressing, because it was difficult to choose among them.

The Special Jury Prize, which by International Film Festival tradition is considered second only to the Grand Prix, was awarded to the Italian feature film *Everyone Goes Home*, produced by Comencini. This brilliant product of Italian realism moved the viewers alternately to tears and laughter when it was shown at the Rossiya Motion Picture Theater.

The jury unanimously awarded gold medals to *Professor Mamlock*, produced by Conrad Wolf of the German Democratic Republic—especially significant for this young producer because it is a contemporary version of his father's work—and to the Bulgarian film *How Young We Were*, produced by Binka Zhelyazkova.

Silver prizes went to *Alba Regia* (Hungary) and *Thirst* (Rumania).

FESTIVAL IN MOSCOW

By Sergei Gerasimov,
Soviet Film Director, Member of the Festival Jury
Photos by Georgi Petrusov

The festival jury of world-famous film personalities. Joshua Logan represented the USA.

USSR's Mikhail Kolotozov wins the David Selznick Prize for The Cranes Are Flying.

Minister of Culture Yekaterina Furtseva (left) greets Gina Lollobrigida and other film guests.

A special silver prize was awarded to *The Haunted Castle,* the best comedy, by producer K. Hoffman (Federal Republic of Germany) whose film *Wir Wunderkinder* is very well-known to Soviet moviegoers.

Prizes for the best acting were shared by Yu Lan, a Chinese actress; Bambangu Khermanto, new Indonesian star; and English actor Peter Finch.

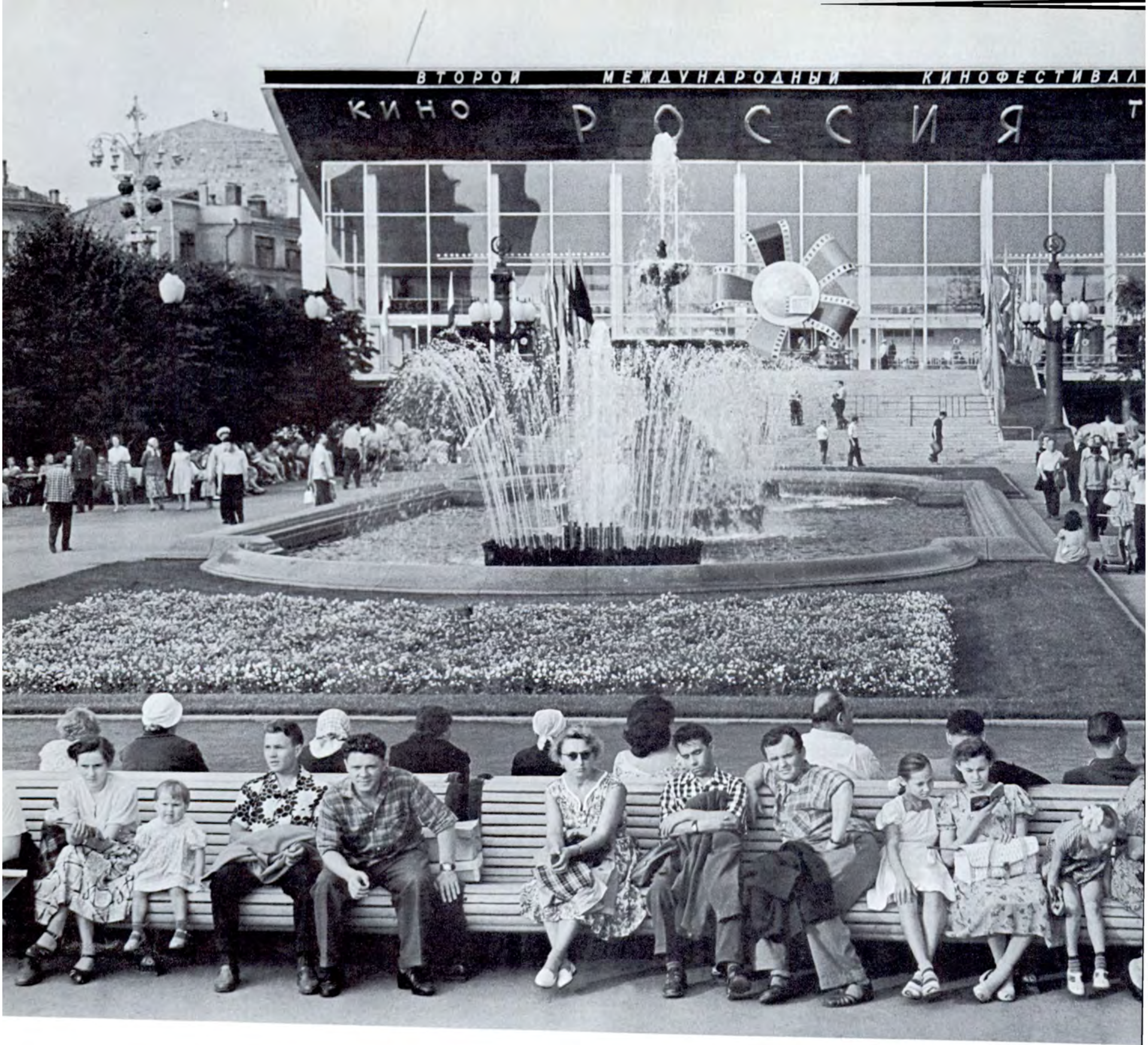
American cinematography was represented by two films—*Beyond Silence,* a short documentary, and the full-length film *Sunrise at Campobello.* The Union of Soviet Societies for Friendship and Cultural Relations with Foreign Countries awarded Ralph Bellamy an honorary prize for his acting in the starring role of Franklin D. Roosevelt.

The prize for best camera work went to Poland's *Tonight a Town Dies.* The film, commended for its antiwar sentiment, shows the tragic destruction of Dresden in the last days of World War II and is a grim reminder of the total disaster which may befall mankind in the event of a new war. For that reason it also received a certificate award from the Soviet Peace Committee.

All the films shown were affirmations in cinematic terms of the festival's motto: "For humanism in cinematography, for peace and friendship between peoples!" This festival, as well as the one held previously in Moscow, was a broad review of the progressive forces in world cinematography. These film workers from many countries took part in the many discussions, exchanged ideas at daily informal meetings, met at the showings, went on trips together, and chatted over lunch and dinner.

It is hard to overestimate the importance of the Moscow festival in the development of modern cinematography. It was the general opinion of festival participants that there was complete freedom of judgment throughout the festival, that the films presented were appraised on the basis of the unanimously held opinion that cinematography is a mighty, creative force capable of uniting people for the most humanistic purposes.

The festival ended on the traditional Moscow holiday, Cinema Day, when our guests and friends had another opportunity to see how popular the cinema is with our demanding audiences. It was not the traditional parade of stars, a sensational fashion show, but a friendly meeting between moviegoers and film people. This meeting, interesting to both sides, reminded us of the guiding principle of our art: Everything that we create must reflect the life of the people, their sorrows and joys, and must share their responsibility for the future of mankind.



Film actresses Nina Mordyukova (USSR) and Niuk Lan (Vietnam) with festival delegates on a boat trip.

Moscow was all decked out for the film festival. One of several street displays.

Charming festival guest Elizabeth Taylor and husband Eddie Fisher at the Moscow waterfront.

Virginia McKenna and Bill Travers, British acting couple, took a sightseeing excursion boat along the Moscow Canal.

The Grand Prix was shared by producers Grigori Chukhrai of the USSR and Kaneto Sindo of Japan.

The festival films were shown in the new wide-screen Rossiya Theater, which seats 2,550.

Actress Tatyana Samoilova presents flowers to American film director Milton Sperling.

INTERVIEW WITH TURNER B. SHELTON

TURNER B. SHELTON, chairman of the U.S. delegation to the festival, was interviewed by one of our staff correspondents:

Question: How are the Muscovites receiving you?

Answer: They are extremely interested in American pictures, movie stars and, of course, primarily in the American people. We were surrounded everywhere by journalists and crowds of people, both Soviet and Western.

Question: What was the highlight of your stay in Moscow?

Answer: From my point of view, one of the highlights of the entire festival was Elizabeth Taylor's visit. She is recognized everywhere.

But in general we were all impressed by the warmth with which the Soviet people received the American delegation. Everyone was eager to take the opportunity to express the fact that he was confident that USA-USSR exchange would become broader. I feel that the Soviet people have very definitely demonstrated their high regard for American motion pictures.

Those of us who deal with this matter in connection with the exchange agreement will certainly try to see that more American films are shown in the Soviet Union.

HUNDREDS of American scientists are visiting Moscow these days. They come at the invitation of the USSR Academy of Sciences, institutes and individual scientists, or simply as tourists. The doors of 87 higher educational establishments and 284 scientific research institutes are open to guests from New York University, Columbia and the University of California as well as other scientific centers of America. These visits help the scientists of the two countries with the highest level of scientific and technical development to become acquainted with each other's work.

Opportunities for the exchange of scientific experience have been growing steadily. Today as many scientists come to the Soviet Union from American institutes and universities each month as formerly came in a whole year. This summer some 700 delegates from the United States attended the Biochemical Congress held in Moscow. The contacts made are in the interest of both countries.

Professor Richard Courant, world famous for his work in quantitative analysis, was one of the American scholars recently invited by the USSR Academy of Sciences. He looked into the work being done at Moscow University, the Computing Center of the Academy of Sciences and the Steklov Institute of Mathematics, and met such leading Soviet mathematicians as Ivan Vinogradov, Ivan Petrovsky and others. Professor Courant's comment on leaving was, "This was an interesting and exceptionally fruitful trip. We should meet more often."

The Soviet and American mathematicians agreed to establish direct contact between the Computing Center of the USSR Academy of Sciences and New York University, where Professor Courant teaches, and to plan for increasing the number of exchange visits.

Nobel Prize Laureate John Bardeen, who devised the transistor now used in all electronic circuits, was another recent visiting American scientist. The University of Illinois professor was shown through research institutes in Moscow, Leningrad and Kiev and familiarized himself with new Soviet electronic equipment.

Professor James Bartlett, also of the University of Illinois, radio astronomer Professor Dirk Brouwer and dozens of the other American scientists invited by the USSR Academy of Sciences lectured in Moscow.

Leading Soviet researchers in several fields of study made exchange visits to the United States at the invitation of the National Academy of Sciences. Among them were inorganic chemists Academicians Victor Spitsyn and Ivan Tananayev; Oleg Reutov, who is working on tracer problems; and microbiologist Alexander Imshenitsky.

Academician Spitsyn went through the inorganic chemistry laboratories of the Universities of Maryland, Michigan and Minnesota. He found his talks with Professors Glenn Seaborg and Emilio Segre, University of California specialists in radioisotopes, particularly interesting and useful.

In lectures he gave at the American universities the academician cited new data demonstrating the effects of radioactivity on the physicochemical properties of solids.

American and Soviet scientists have jointly participated with investigators from other countries in many congresses and symposiums and have, thereby, through exchange of findings and discussion of controversial problems, been helped to arrive at solutions more quickly. A number of American scientists attended the USSR Congress of Theoretical and Applied Mechanics and the conference on nuclear reactions.

Academician Leonid Sedov participated in a conference of American scientists on the liquid dynamics of gas plasma. His visit to the United States coincided with the historic flight of cosmonaut Yuri Gagarin, and in a television broadcast on Soviet space exploration he was, of course, bombarded with questions on the first manned space flight.

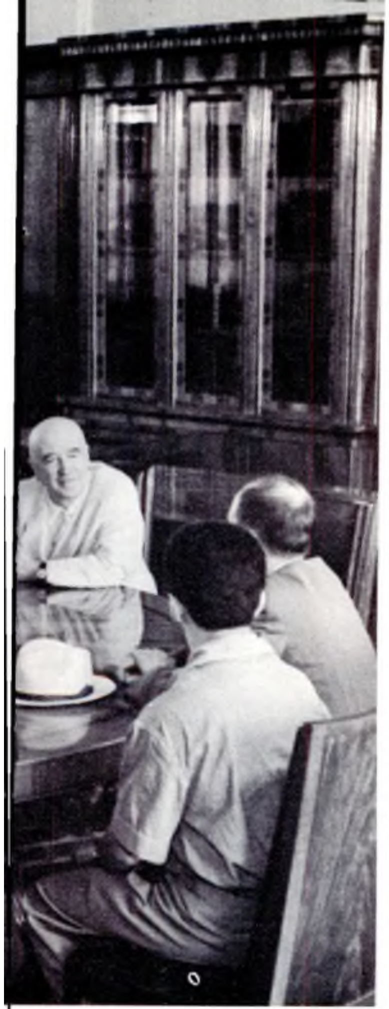
Many American scientists come to the Soviet Union as tourists, to see the sights and find out how people in a socialist country live. Invariably they find themselves spending most of their time visiting laboratories and meeting Soviet scientists. The greater part of the Moscow tour made by Professor Antonio Ferri of Brooklyn Polytechnic Institute and New York University Professor Lee Arnold was through the laboratories of Moscow University and the Power Institute.

It is gratifying to see that Soviet-American scientific collaboration, which conforms with the interests of both countries, is expanding with every passing year.

The eminent Soviet mathematician Ivan Petrovsky with a group of visiting American scientists at Moscow University last June. Academician Petrovsky is the university rector. He told the visitors about the work and interests of the twelve American exchange students at the university for the academic year.

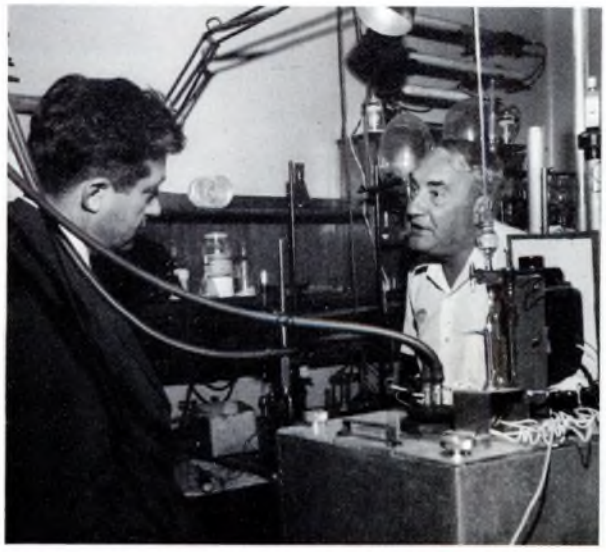
Professor James Bartlett of the University of Illinois, who speaks Russian, had no problem making contact with his audience. He gave a paper on the "Behavior of Iron in Sulphuric Acid" at the Electrochemistry Research Institute in Moscow.

AMERICAN



Franklin Reeve (right), professor of linguistics at Columbia University, arrived in Moscow with his family for a stay of ten months.

Antonio Ferri of the Brooklyn Polytechnic Institute and Lee Arnold of New York University go through the laboratories of the Moscow Power Institute. Both professors are aerodynamics experts.



Academician Valentin Kargin (right), chief of a chemistry department section at Moscow University, with Professor Harrison Brown. Both scientists are working on the problem of the origin and decomposition of proteins.

University of California professor Harrison Brown (right), internationally known for his work in geochemistry, is shown round Moscow University. He was invited by the USSR Academy of Sciences.

Professor Mikhail Deitch shows Professors Arnold and Ferri a new kind of screw blade for powerful turbines developed at the Power Institute. The guests were also told about the research program.

Professors Ferri and Arnold said they both came to the Soviet Union primarily for sightseeing, but they did most of it in science laboratories. Here they look at the design sheets for a new experimental gas turbine.

SCIENTISTS IN MOSCOW

Photos by
Nikolai Granov

The Soviet liner Pobeda *was our floating hotel for a month.*

CRUISING AROUND

Photo story by David Sholomovich

One of the most popular of the deck sports.

New places and memorable impressions, new friends and stimulating talk—that's what makes a cruise.

We talked with the people everywhere.

WE ASSEMBLED in the port of Odessa. In our group of 400 tourists embarking for a month's cruise of Europe were industrial workers from far-off Krasnoyarsk; cotton growers from Uzbekistan; fishermen from Murmansk; teachers and doctors from the Oryol and Smolensk Regions; office workers, writers and artists from Moscow, Leningrad, Kiev, Rostov and other cities in the USSR.

We strode gaily up the gangplank onto the deck of the gleaming white motorship *Pobeda,* dumped our bags in our staterooms, and spilled out again on deck to get acquainted with one another.

Early the next morning we set sail. We were to stop over in Greece, Italy, France, Britain and Denmark. We wanted to see the ancient memorials and art treasures of these lands, of course, but more than that, we wanted to learn something about the people—their customs, habits and way of life—to understand the country's soul.

The first day at sea we organized ourselves into 13 groups—we weren't superstitious—about 30 tourists to a group. That was because we'd be sightseeing in buses.

Then we made a tour of the ship—the library, music salon, lounges, dining rooms, snack bars, game deck, movie theater, swimming pool. Intourist representatives gave us a rundown on the daily routine. For the next thirty days the ship's bell would serve as our clock to announce mealtime and the ship's radio would keep us posted on events at home and abroad. The operators would gladly relay any radiograms we cared to send relatives and friends.

The second day out, despite the early hour, the decks were thronged with passengers as we passed through the Bosporus and approached Golden Horn Bay. The palace towers and minarets of Istanbul glittered in the morning sun. A Turkish pilot on the captain's bridge guided our liner to its berth through fishing boats, launches and other small craft.

We spent only a day in Istanbul, seeing the former palace of the sultan, the National Museum, the university and the bazaar, but we carried away with us a multitude of impressions.

The "shutterbugs" on our ship—almost everyone on board—were busy loading their cameras for the next day's sightseeing trip. We had taken pictures from the deck, through bus windows, in the streets and museums. I began to wonder whether I had brought enough film. Some of the passengers, myself included, took time to make entries in diaries.

Passing a landmark, our camera fans click away.

Our luxury ship had everything for a gay holiday.

EUROPE

We bought souvenir sponges in Athens.

In Rome we posed for these amateur photographers.

The Isle of Capri, where Gorky worked and met Lenin.

The history of ancient Greece seemed to come alive as we walked within the walls of the Acropolis.

Greece Yesterday and Today

We arrived at Piræus after another day's sail on the blue expanse of sea. All of us had a mental image, from our school days, of ancient Hellas—her history, religion, architecture, philosophy. What was Greece like today?

The first thing we did in Athens was to drive over to the Acropolis. We were part of what seemed to be an endless stream of tourists. A group of Greek school children were listening as their teacher related the ancient glories of their country. A party of tourists from Germany and England stopped in the shade of the Propylæa; and some elderly Americans, despite their years and the sun's heat, jumped nimbly from stone to stone as they went deeper into the Parthenon.

"No matter where you travel, you will never see such a blue sky and such a sea," our Greek guide and interpreter told us proudly. We agreed.

The next morning word came over the ship's public address system that it was one of the passenger's birthday. We showered him with congratulations and gifts, and that evening a banquet was held in his honor.

We had settled into the pleasant life on the *Pobeda*—the sunbathers in deck chairs around the swimming pool; the more energetic among us at the ping-pong tables; the ever present chess players in the cool, quieter section of the deck, and, close by, the book-lovers.

We had get-togethers almost daily of people in the different trades and professions—engineers, machinists, architects, writers, artists, doctors, film and theater workers—attended by many of the tourists and those of the ship's crew who were off duty.

Time passed almost unnoticed, and before we knew it we were sailing into the lovely Bay of Naples. We were in Italy, country of history and legend, of great art and music.

We roamed among the ruins of temples, palaces and the famous baths of Pompeii. The well-preserved frescoes, sculptures and household utensils gave us an idea of the highly developed culture of this ancient city that vanished centuries ago.

We could have spent many more days in Pompeii, but our rigid schedule forced us to leave for Sorrento, the town glorified in song. We lunched in a restaurant shaded by grapevines and date palms, served by waiters who could have doubled as characters in an Italian opera.

Capital of the Ancient World

After a day on the Isle of Capri we were taken by special train to Rome, capital of the ancient world. Sitting at tables in a sidewalk café, we sipped chilled Chianti and looked on at the life about us. The big show windows of the shops and the neon signs shone brightly. On the other hand, we could see laundry hung on lines stretching across an alley nearby and women preparing the family supper at their front door.

Other tourists sauntered by our tables. Bantam Fiats sputtered by, squealing to a halt inches from a pedestrian. A staid padre driving a scooter was overtaken by another scooter carrying a laughing young couple very fashionably dressed.

In the art galleries we admired paintings by Giotto, Titian and Leonardo da Vinci, and wandered reverently around the Terme di Caracalla, the Forum and the Colosseum.

Only a few yards away was the modern city, throbbing with life. We joked with stevedores eating their lunch on the crates they had just unloaded—very jolly and friendly young men. We talked with artists, some of us sketching alongside them in the street. We waved to workers at a construction site.

Our stay in Italy was short, but long enough for us to realize that the Italians are a wonderful people with an enormous zest for life—musical, hard working, optimistic in the face of adversity.

Enchanting Paris

Another week at sea brought us to Le Havre, the sea gate of France. From there our buses passed through small towns in Normandy on the way to Paris. Here was the city many of us had long wanted to visit, the place where Voltaire, Descartes, Diderot, Zola and Romain Rolland had worked; where La Fontaine, Chopin, Rossini and our countryman Chaliapin lay buried; the city that for so many centuries hád been the center of European literature, art and fashion.

Our large group put up at hotels in the Grand Boulevards area, conveniently situated for tourists. I can't possibly describe everything we saw and did in the French capital. Highlights of our stay were the Louvre, the Pantheon, the Cathedral of Notre Dame that we knew from Victor Hugo's book, Les Invalides with Napoleon's sarcophagus, the Basilique du Sacre Coeur; the Eiffel Tower, the Versailles gardens, the Place de la Concorde, the Opera, the Champs Elysees, Montmartre with its winding streets, the Sorbonne, the Latin Quarter, the bookstalls along the Seine embankment, the famous Le Ventre de Paris market. We ate the traditional onion soup and blood sausage with French fried potatoes, and watched butchers, grocers and fish peddlers selling their wares.

We discussed modern art trends with Montmartre painters. We enjoyed watching the animated life of the Paris streets, the people drinking wine or lemonade at the countless sidewalk cafés in the shade of chestnut trees, exchanging news and gossip, reading papers, or, like us, just watching passers-by.

We spent our last evening seeing Paris from an excursion boat on the Seine. We sailed under bridges, past the Louvre, Notre Dame and the Ile de la Cité around which Paris grew. We were sorry to leave this beautiful city and its friendly people.

In London we were pleased to see huge billboards announcing performances by the Leningrad Ballet and the Soviet circus troupe. We found that all seats for the ballet performances had been sold out long before the tour opened.

We visited the British Museum, the National Gallery, Trafalgar Square, Westminster Abbey, Parliament and the Tower of London. And, of course, we went to Highgate Cemetery where Karl Marx is buried, a hallowed place for all Soviet people.

On the two-day journey from England to Denmark we spent most of the time preparing for our farewell masquerade party, and everyone was busy trying to think up original costumes, rehearsing dances, memorizing songs, verses and parodies

The final three days of our cruise sped by and we sailed into the port of Riga, ending a month of travel on the high seas and through many European cities. We carried home with us a host of happy memories and the knowledge that despite differences in attitudes, habits and customs, the people in all the countries we had visited wanted much the same thing—to live in friendship with all other people and to work in peace.

A very charming young Parisienne we met.

A Chekhov play shown in a Paris theater.

A friendly greeting from a French bus driver.

Paris' new apartment houses reminded us of home.

Only a few steps away from London's Trafalgar Square.

A resident of Montmartre.

Houses of Parliament and Big Ben across the Thames.

Our artist at work in the Latin Quarter.

All Copenhagen travels by bike, it seems.

AFTER THE GAME—AT THE LENIN

AFTER a capacity crowd of 103,000 Moscow sports fans leave the giant bowl of the Lenin Central Stadium in Luzhniki District, the concrete stands, the track and green field look strangely empty for a very few minutes. It seems as though life here is over until the next event.

But this impression is not correct. The more than a hundred courts, practice fields and indoor gyms of this mammoth sports center are always stirring with activity.

Here on a ball field are a group of middle-aged men diligently doing setting-up exercises under the guidance of an attractive young instructress. In one of the gyms boxing hopefuls are skipping rope and using the punching bags, while vocational school students and members of factory athletic clubs are working out on the dozens of volleyball, basketball and tennis courts.

Some 50,000 Muscovites of all ages and from every walk of life come to the Lenin Stadium every day—some to enjoy their favorite sports, others to perfect their athletic skill. A great many come for the bodybuilding exercise classes the stadium advertises. The charge is a very moderate 1-1.5 rubles a month.

Many stadium habitués come through the public sports councils set up at Moscow factories and offices. They organize groups of people, both young and not-so-young; rent gyms, courts and equipment; and pay for the services of instructors. The members of the various sports groups do not pay anything for this.

For the Children

Luzhniki has a stadium for children with instructors and coaches who work closely with the schools. All activities are free.

Everyone who wants to work out at Luzhniki, adult or child, must be checked by a stadium doctor at least twice a year. Doctor and physical training instructor work out a practice regimen for each individual.

Youngsters, most of them brought to the stadium by their parents, follow a progressive bodybuilding program. The child is first put into a general physical development group where he learns proper breathing and muscular coordination, and plays games that develop dexterity, stamina and self-reliance. One of the important aims is to get the child to enjoy games and physical exercise.

The program is designed for all-round development. As they build up their strength and endurance, the children try their skill at the different sports. Subsequently, with the doctor's permission, they are transferred to groups in their preferred sport—calisthenics, gymnastics, soccer, basketball, table tennis, etc.

The older Luzhniki frequenters require as much attention as the young ones, if not more. For some the general physical fitness class is

STADIUM

By Yuri Davidov
Photos by Igor Vinogradov

The huge bowl seats 103,000 spectators, but it usually fills to overflowing for each of the big soccer games.

This mammoth sports center on the Moscow River has more than 100 courts and playing fields and 14 indoor gyms.

Stadium coaches and instructors are highly trained, usually graduates of physical education colleges.

One of several pools for swimmers of Olympic caliber and neophytes. Water in the outdoor pools is heated in winter.

A practice game of a top-flight team always draws a big audience of fans to the Stadium at Luzhniki.

Working out on one of the Stadium tracks. These young lady sprinters may be setting new highs before they're much older.

About 50,000 Muscovites come to the Stadium daily for calisthenics or to play their favorite game.

their first and only one. It is something of a problem to convince these people that exercise is good for their physical and emotional health. They are perfectly willing to accept the idea in theory but not in practice.

One elderly skeptic comments, "Chin once on the horizontal bar, and the next thing you know you're in bed flat on your back."

Another says doubtfully, as he stands next to a Swedish ladder, "I'll get up somehow, but you'll have to call the fire department to get me down."

But they get over their timidity and self-consciousness once they get started. Some of the older people come to the gym and swimming pools with enthusiastic regularity.

They too follow a progressive program. A 90-minute practice session begins with breathing exercises, followed by running—400 yards at first, then 800, and after a month, a half-mile or more. Contests in speed and dexterity come next. The session winds up with swimming.

Medical statistics compiled at the stadium show that people over 50 who followed the program lost their shortness of breath, expanded their lungs and felt better in general.

Variety in Sports

Young people don't stay in the general physical fitness group long; many of them bypass it altogether. They have taken physical training in high school and college, so that when they come to Luzhniki they start right in with their favorite sport—basketball, fencing, tennis, gymnastics, water polo, etc. The stadium schedules practice sessions and contests in all the popular sports and adds new ones as they gather adherents.

A few years ago badminton was practically unknown in the Soviet Union. Today it has a large following. To meet the demand Luzhniki set aside several gyms located under the stands of the small arena for the sport, and coaches have already taught the game to hundreds of people.

Obviously Lenin Stadium is more than an athletic center for spectators. Many thousands who train at Luzhniki have become fine sportsmen. A number of those now making a strong bid for national records are the products of its various sports sections.

There are the "hurry up" people who go in for the kind of intensive exercising that gives them Charley horse the next day. And there are the "slow but sure" people who hardly approach the limit of their capacity for exercising. The stadium doctors and instructors help the enthusiasts find the golden mean.

The Luzhniki instructors are specially trained and as a rule are graduates of colleges of physical education. Quite a few have earned the title Honored Master of Sports of the USSR. Among them are athletes whose names are internationally known who have retired from active competition to coach and teach.

They work very closely with the stadium doctors. Occasionally a person doing well in the exercise program begins to complain of fatigue or dizziness. He becomes a patient for a time until his training schedule is properly adjusted. Luzhniki has about 50 doctors on its staff.

Also on the stadium grounds is a branch of the Central Physical Culture Research Institute which studies the effects of various training methods on the body.

A Recreation Center

Besides being a sports center the stadium is one of the country's largest recreation areas. On weekday evenings and weekends Muscovites by the thousands promenade on its beautifully landscaped grounds. The Bolshoi Theater ballet company is presently performing at the spacious sports palace on the stadium grounds. Other attractions include boating, movies, target-shooting, chess, table tennis and *gorodki,* the Russian form of skittles. There are several open-air cafés and restaurants.

A sports museum under the stands of the large arena displays pictures of famous Soviet athletes and the trophies they have won at Olympic, European and Soviet meets. New exhibits are added all the time. Among the most recent is a pair of skis (one and a half, to be more exact) believed to have been worn by Nansen, the Norwegian explorer and peace advocate, and an antique bicycle which made the first run from St. Petersburg to Moscow.

The Central Stadium is lovely to see after twilight, when scores of floodlights transform it into a rock crystal palace. It is cool at the edge of the Moscow River, which flows around three sides of the stadium area. Young couples stroll along the riverside paths and congregate in the open-air cafés and restaurants.

This sports center has become one of the country's largest recreation areas. It is no accident that it bears the name of the founder of the world's first socialist state. In the beginning of Soviet government Lenin, thinking of plans for the building of socialism in Russia —which had been devastated by the First World War and the Civil War—dreamed of the time when "health factories"—green oases and sports centers—would long preserve the health of the people and instill in them fresh energy, cheer and optimism. For Muscovites the Lenin Central Stadium is such a "health factory."

There are many restaurants on the Stadium grounds, a theater, a movie and other recreation facilities.

Six-year-old Galya Ivanova belongs to the youngest training group at the Stadium's children's center.

A carefully supervised program of exercise keeps these elderly Luzhniki frequenters in tip-top form.

Teenagers Irena Berestetskaya and Lena Koperbakh take a breather after a fast singles game on one of the courts.

Many of the capital's factory and school basketball, soccer and volleyball teams hold practice sessions at the Stadium.

The latest methods are used to keep the fields and courts in proper shape. On hot days mobile spinkler systems cool and clean the air.

Nothing like a drink or bite at one of the dozens of open-air snack bars to replenish the energy burnt up in a bike race.

The Pipe Rolling Plant in Sumgait, Azerbaijan—*Photo by Valeri Yakovlev*

USSR

Delegates to the 22nd Congress of the CPSU

See page 3

NOVEMBER, 1961 — 20 Cents

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November 1961 No. 11 (62)

Front cover: Space brothers—Gherman Titov (left) and Yuri Gagarin.

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MILLIONS DEBATE TH

IR FUTURE

THIS FALL millions of Soviet people debated the program for the country's future before it was presented for final approval to the Twenty-second Congress of the Communist Party. Communists and non-Communists alike discussed the details of this program and the goals in sight—the world's highest standard of living and shortest workday, comprehensive automation, modern, rent-free housing for every family, production of goods and services in sufficient abundance to satisfy all and every need.

This was not the first time that matters of great national concern have been submitted for the public judgment. This is general practice in the Soviet Union. The Communist Party and the Soviet Government have complete faith in the wisdom and fortitude of the people and consult them on all matters vital to the entire nation. But in terms of scope and magnitude, this debate had no precedent. The difference was that the Party Program was discussed by the nation as a whole and not by Party members alone. The draft Program was thoroughly discussed at the general meetings of primary Party organizations; at district, city and regional Party conferences; at the Congresses of the Communist Parties of Union Republics. Simultaneously, everywhere in the country factory and office workers held general meetings at which, on an equal footing with Communists, they passed judgment on the draft. All told, a total of 82 million people gave the draft their wholehearted approval. Of these, 9 million are members and candidate members of the Communist Party of the Soviet Union.

People had at their disposal every medium of public expression—press, radio, television—and used them freely. The editorial offices of newspapers and magazines were swamped with letters like this one from D. Kabertai, a teacher on a state farm in Krasnodar Territory. He wrote, "Although I am not a Communist, I have always felt close to the Party because it has my interest at heart. The Party submitted its draft Program for discussion to the whole country, not only to its members. It is truly a people's party, and its main everyday concern is the people's welfare, their peace and happiness."

Party member I. Fyodorov, a fitter at the Krasny Proletary Machine-tool Plant in Moscow was typical of many who asked for the floor after lengthy discussion on the draft had been completed to move that it be approved. He said that he hoped he was speaking not only for himself but for all the Communists and non-Communists at his plant, one of the largest in the Soviet Union. The roar of assent from the large gathering made it evident that he was.

Even while this national forum was under way, workers throughout the country were already planning how to carry through the great tasks set by the draft Program.

Team Leader I. Gorbatko at a meeting in a turbine plant in the Ukrainian city of Kharkov made this pledge for himself and his fellow workers. "Like all Soviet people," he said, "we turbine builders approve heartily of our Party's ambitious plan, and not only in words but in action. Yesterday, for instance, our designers finished work on the 310,000-kilowatt hydroturbine for the Nurek Power Station, and we propose to complete the design for a million-kilowatt turbine by the day the Party Congress opens."

These facts convincingly show that the entire people approve of and support the Party's projects and that they are eager to bring nearer the radiant future of which the Program speaks.

There was much discussion at these meetings about the most effective use of material and manpower resources, and trenchant criticism of lagging sectors of the country's economy. The new Program opens up horizons that only yesterday seemed very remote—the reason speakers were so sharply critical of bottlenecks and so many proposals were forthcoming for better and faster ways of getting things done.

A meeting of building workers, for example, called for more productive use of funds earmarked for construction. They wanted money concentrated on building projects of decisive importance, some of them awaiting only the final touches, rather than having it spread among many construction sites simultaneously.

Power station builders pointed to an imbalance in the construction of stations and transmission lines. Their objection was that only 10 to 15 per cent of power development funds were being spent on new transmission lines, with the result that they sometimes had to build small and unprofitable stations to meet immediate local needs.

Economists were critical of plants that were not automating fast enough, thus lowering their whole industry's level of productivity. They referred to metallurgy and engineering, where, despite over-all technological progress, inadequate attention was being paid to mechanization of auxiliary jobs. The consequence was that there were unnecessarily large numbers of workers employed on these jobs. That also served to lower the generally high standards of productivity set by those workers who used the most modern equipment.

Economic planners advised greater care in choosing locations for future plants and in deciding their size and specialization. They wanted better account taken of local resources to make for a balanced economic development of the different regions, to eliminate the disparity between production and consumption, and to lower transportation, investment and maintenance costs.

The draft Program called for priority use of natural resources that could be exploited rapidly and with the best over-all economic gains. This point evoked much discussion. I. Kalinin, chief geologist of the Mikhailovo Iron Ore Mines, suggested in an article in the newspaper *Kurskaya Pravda* that a combination of plants be built near the Kursk Magnetic Anomaly, where enormous deposits of iron ore have been found, and that a national iron and steel center be established there.

There was hardly an aspect of Soviet life and endeavor, large or small, that was not touched on in the nationwide discussion. Salesclerks and food workers wanted more stores and restaurants opened to free people of burdensome household chores. Scientists spoke of researches into new fields; architects, of the cities of the future; doctors, of the better organization of the health services. Writers, theater people and painters spoke of aesthetic standards and of molding public taste, and teachers of educating the new man of the communist society blueprinted in this new Program for the Party and the nation.

Regardless of who spoke and what was said, it all added up to one thing—concern for man's well-being, providing everything needed for a healthy and happy life. It was indeed a grand discussion of the Party's plans, which all the Soviet people accept as their own. And this is the guarantee that these plans will become reality.

The new Kremlin Palace of Congresses became the focal point of world attention in October when the 22nd Communist Party Congress was held there.

WHO ARE THE DELEGATES?

THE CONGRESS of the Communist Party of the Soviet Union is the highest organ of the Party. It is convened at least once every four years. The convening of a Party Congress, the agenda and the ratio for representation are determined by the Central Committee of the Party at least six weeks before the congress opens. The following norms of representation were established for the Twenty-second Congress: one voting delegate was elected for every 2,000 full members of the Party and one delegate with a voice but no vote for every 2,000 probationary or candidate members.

If we turn to the history of the Twenty-first Congress, we shall see that there was one delegate with a vote for every 6,000 members, and one delegate with voice but no vote for every 6,000 candidate members. Thus the number of delegates is considerably greater to the Twenty-second Congress, the most representative of all the congresses the Communist Party has held—4,408 voting delegates and 405 delegates with a voice but no vote.

The delegates to the Twenty-second Congress were elected at congresses of the Communist Parties of the Union Republics. In the larger republics—the Russian, Ukrainian, Byelorussian, Uzbek and Kazakh, in which there are administrative regions and territories—the delegates were elected at regional and territorial Party Congresses. Those from the Moscow and Leningrad Party organizations were elected at city district conferences.

The election of delegates to the congress, as well as to any Party body, is by secret ballot. All Party members have the unlimited right to speak for or against a nominee.

How is the list of nominees drawn up?

Representatives of the delegations elected by Party organizations to a conference or congress draw up a preliminary list of nominees. After discussing the nominees and drawing up a preliminary combined list, the representatives report back to their delegations.

This conference of delegation representatives, usually attended by from 150 to 300 people, depending on the number of delegates, submits its list of nominees to the conference or congress, and the delegates have unlimited right to accept, reject or substitute candidates. Each nominee is discussed individually to determine who is to be left on the list. A majority vote is necessary for a candidate to be listed on the ballot. There is no restriction on the number of candidates on the ballot, but the number elected cannot exceed the established norm of representation. Those nominees receiving the largest number of votes are declared elected, with the proviso that each one must be approved by at least half the assembled delegates.

Delegates range from well-known Party and state figures to rank-and-file factory workers and farmers. Among the voting delegates at the Twenty-first Party Congress were 339 industrial workers and collective farmers; 50 specialists in science, public health and the arts; 91 servicemen; 287 engineers; 81 agronomists and zootechnicians; and 85 teachers.

Thirty of the 222 women delegates with a vote were Heroes of Socialist Labor, and 24 were deputies to the USSR Supreme Soviet and the Supreme Soviets of the Union Republics.

The Congress is a Party-wide forum in which all Party organizations are represented. Here are a few of the men and women from various walks of life who were authorized to solve the most important problems of Party policy and the life of the country at the Twenty-second Congress.

ANASTASIA KALGANOVA
TEACHER

ANASTASIA KALGANOVA of School No. 333 was elected a delegate to the congress from Nevsky District of Leningrad. She teaches what she calls "the kindest of sciences"—botany and zoology. In her flower-filled classroom, in the school's garden, and during field trips to the nearby collective farm, she instills in the children in her classes love for the plant and animal life of their native region. They take care of the flowers and fruit trees in the school garden that extends straight down to the Neva River.

This outlying part of the city was one of the fighting fronts in the Second World War, the scene of fierce battles with the Nazis. Anastasia had just received her teacher's diploma then. She took a special nursing course and volunteered for front-line duty. For a long time her days were filled with blood-clotted bandages and the smell of chloroform. That was when she joined the ranks of the Communist Party.

She came out of the war with a row of medals, and in the 15 years since then has worked in the school system. It is a tribute to her teaching that she has never had a failing pupil. She was one of those chosen to work out a new natural science curriculum for the country's schools.

Anastasia is active in civic causes and has served with distinction as deputy to the Leningrad City Soviet. At the nominating meeting for delegates to the Party Congress, people who knew her personally and others who knew her only by reputation spoke of "Our Anastasia." One fellow Communist said, in support of her election, "When Maxim Gorky wrote 'To be a human being is a wonderful occupation,' he was thinking of people like our Anastasia."

VICTOR KIRILLOV-UGRYUMOV
SCIENTIST

VICTOR KIRILLOV-UGRYUMOV is 37 and rector of the Moscow Engineering and Technical Institute. There are professors at the institute who remember the brilliant research he did as a student.

He graduated in 1949 and did postgraduate work in various problems of physics. At the age of 30 he became associate professor and dean of one of the institute departments, following that with a period of research at Dubna, the atomic research center near Moscow.

This young scientist has a warm concern for his large body of students. He greets almost all of them by name and knows their special talents and interests. They come to him for advice about things scientific as well as personal. His duties are many. At present he is busy with the new educational center the institute is building. But naturally he reserves his primary attention for science, the source of his greatest pleasure.

Because of his talent as an organizer and his professional reputation, his fellow Communists at the institute sent him as a delegate to the District Party Conference where he was chosen to represent a larger group of Moscow Party members at the Twenty-second Congress.

NIKOLAI SUDAVTSEV

CONSTRUCTION WORKER

NIKOLAI SUDAVTSEV is one of the people Muscovites have to thank for their new apartments. He has helped to construct more than a hundred apartment buildings in different parts of the city. He's a young man with thick brown hair, only partially covered by his cap, and the ruddy complexion that comes from working outdoors in all kinds of weather.

Ask him why he picked the building trade, and he'll tell you, "I was 14 when the war ended. A movie I saw showed Stalingrad after the battle. It was a terrible sight to see, hardly a house left standing. I made up my mind that I would help to rebuild homes. I went to the factory school, finished the course in 1949, and have been working on new apartment houses ever since."

Nikolai lives in a house he helped put up. He and his wife and child have a one-bedroom apartment.

For the past six years he has been leader of a construction group that won the honored title of Communist Work Team. All the men on the team, Nikolai included, go to school after work. He is in his second year at the Moscow Technical School.

Nikolai was an active member of the Young Communist League before he became a Party member. He thinks of himself as a run-of-the-mill sort of person, but apparently his fellow-Communists do not. Some time ago they elected him a member of the Party District Committee, and when they chose delegates to the Party Congress, his name was high on the list.

AMIRAN PANTSULAYA

STEELMAN

AMIRAN PANTSULAYA, one of the delegates elected to the Twenty-second Congress of the CPSU, is the Georgian steelman written up in the March issue of *USSR* magazine. He lives in Rustavi, about 40 miles from Tbilisi, the Georgian capital, and has been working at the Transcaucasian Iron and Steel Mill since its first smelt 11 years ago.

Amiran was 18 when he went to Taganrog to learn the craft of steel smelting from Ukrainian steelmen. During the time he was studying in Taganrog the Transcaucasian mill was being built in Rustavi.

Amiran returned to Rustavi when the mill had been completed and was ready to start operations. The young steelman had done so well in Taganrog that he was entrusted with the new mill's first smelt as a first assistant. Four months later he was put in full charge of the first of the mill's five furnaces.

Amiran was determined to learn everything he could about steel smelting and attended the mill's technical school where he studied metallurgy, mathematics, physics, chemistry and other sciences to get a good theoretical background.

Now he is considered a master at rapid smelting. Having cut the time for the smelting process from eight hours to four hours and forty-five minutes, he and his assistants produce 1,500 tons of steel above plan annually. Like all Communists, Amiran shares his skill, lecturing to young steelmen at the same mill technical school he attended.

In recognition of his work Pantsulaya was awarded the Order of Lenin and the Medal for Distinguished Labor. For the past two years he has been elected to the City Party Committee where he takes an active part in solving problems that come up in the life of the city. As a delegate to the Twenty-second Party Congress he participated in deciding problems of countrywide importance.

NIKOLAI OHLOPKOV

DIRECTOR

NIKOLAI OKHLOPKOV, director of the famous Mayakovsky Theater, was one of the delegates from the Soviet capital to the Twenty-second Congress of the Communist Party.

The theater has always been the calling of this celebrated artist. His first job was with a shop that sold theatrical goods in Irkutsk, the city of his birth. He worked hard, studied painting and sculpture, played the cello in a theater orchestra, always with an eye to one day becoming a director.

A former secretary of the City Party Committee tells of the time when Okhlopkov, a dark-haired young man with light blue eyes, came to him and said, "I want to put on a mass spectacle." It was springtime, and the secretary took young Okhlopkov to the window, opened it and, pointing to the square below, said, "Go ahead, there's your stage."

It was this mass spectacle in the city square, on May Day, 1921, that launched Okhlopkov on his stage career. He subsequently worked with Meyerhold and directed and starred in many early Soviet films. Two of the roles he played are particularly memorable—Vasili Buslayev in *Alexander Nevsky* and the worker Vasili in the series of pictures about Lenin.

During the thirties he worked with the Moscow Art Theater's Fourth Studio, putting all his energy into creating a theater that would concentrate on producing the works of Soviet playwrights. In their small premises the group put on plays of great impact, among them *A Running Start,* about collective farm life; *The Iron Flood,* about the 1917 Revolution; and a dramatization of Gorky's *Mother.*

These productions served to test Okhlopkov's talent that later was so brilliantly displayed in *Aristocrats, Young Guard, The Irkutsk Story,* and *Ocean.*

Okhlopkov personally participates in all the important undertakings of his theater with a deep feeling of responsibility as its leading director and as a Communist.

For the fame that the Mayakovsky Theater enjoys today as a genuinely contemporary playhouse it is greatly indebted to Nikolai Okhlopkov and his ability to inspire the actors with whom he works. Many of them owe the beginning of a brilliant career to him.

YURI GAGARIN

COSMONAUT

YURI GAGARIN, known to people the world over as the first man to venture into space, was elected a delegate to the Party Congress from the Leningrad District of Moscow by acclamation.

The 27-year-old cosmonaut is a newcomer to the Party, having applied for membership a year ago when he was training for his pioneering flight. At that time he wrote, "I ask to be enrolled in the Communist Party of the Soviet Union. It is my wish to become an active Party member and energetically participate in my country's life."

In their recommendations, his comrades noted that he was rated high as a flier, was a disciplined and competent person active in civic affairs, and was responsible in his personal and family relations.

At the meeting that approved him as a member of the Party, Gagarin said simply, "I shall do everything to justify your confidence. I am ready to accept any task the Party or the government may assign me." The task he was assigned had never been undertaken before. He carried it through with the courage and modesty that mark the true Communist.

Yuri Gagarin and his friend Gherman Titov, Soviet Cosmonaut No. 2, recently wrote in a letter to *Izvestia* readers, "We have occasion to meet and talk with many people and to read letters addressed to us from all parts of our homeland. Each of these talks and letters tells us again and again of the wonderful people around us and of the friendship that unites all Soviet people into one family. We are happy to belong to this great family."

PYOTR SAPUPNOV
COLLECTIVE FARMER

PYOTR SAPUNOV was born and raised in the village of Bryantsevo in the northern part of Orel Region where the famous Bryansk woods begin. Woods are a common sight in this part of the country, but not the kind that Pyotr grew last year on the Krasnoye Znamya Collective Farm that had people coming from other farms miles away to see—fodder corn that stood 11½ feet high. From 200 acres Peter harvested 45 tons of stalks and cobs per acre.

For some parts of the country, where the climate is right, corn this tall would be no great achievement. But for the northern Orel Region with its cold climate it was phenomenal.

Skeptics on the collective farm board said it was pure luck. These were the people Pyotr had had to fight to get the acreage for sowing the corn.

"You don't know what you're talking about," they told him at the time. "When did anybody ever grow corn in this part of the country? It's unheard of. All you'll do is use up the land without growing either leaf or stalk."

But 24-year-old Pyotr, a Communist, wouldn't give in. At every meeting of the collective farmers he spoke about the possibilities of growing corn. He convinced some other young people that it could be done in spite of the cold and the lack of the special cultivators corn requires.

This summer Pyotr and his friends silenced the skeptics once and for all. They gathered 33 tons more per acre than last year on a stretch of 250 acres, although the weather was no better.

Thanks to Pyotr Sapunov, corn has become a regular crop in the region, helping the livestock breeders get additional first-grade fodder for their cattle.

A Party conference was held in Dmitrovsky District in the fall. And for his initiative, enterprise and understanding of the people's needs, the local Communists elected Pyotr a member of the Party District Committee and one of the 28 delegates from Orel Region to the Twenty-second Party Congress.

YELENA KALINYCHEVA
SEAMSTRESS

YELENA KALINYCHEVA was one of the 22 Communists elected to represent the Bauman District of Moscow at the Party Congress. She works as a seamstress in a clothing factory only a few minutes' walk from the Kremlin where the congress convened.

Yelena is 28. Her father was a fitter and had a large family, so Yelena went to work at an early age. She learned her trade at a three-year factory training school and completed her secondary schooling in the evening.

One of the biggest days in her life was when she became a member of the Communist Party four years ago. Another was when she was elected to the factory Party Committee.

Membership in the Party means continued study and self-improvement, and last year Yelena finished a 5-year correspondence course at a specialized secondary school for people in the garment trades. Her diploma thesis, dealing with the rationalization of garment manufacture and the effect of improvements she had suggested in some of the processes, was rated very highly by specialists in the field.

Her husband also took the specialized secondary school course. He is a mechanic at the factory and, says Yelena, was most cooperative in helping to look after their three-year-old son while she was hard at work on her paper.

Yelena Kalinycheva is highly respected among her fellow workers and was elected by the Communists to the factory Party Committee. In her life and in her work she is industrious, modest, active and purposeful. And the Communists of the factory, together with the entire District Party Conference, have authorized her to represent them at the Party Congress.

BIG DREAMS NEED BIG WINGS

BY SPARTAK BEGLOV
HISTORIAN

THE RUSSIAN peasant from some Vologda or Orel gubernia who marched in uniform on November 7, 1917, to storm the Winter Palace in Petrograd, where the counterrevolutionary Provisional Government had taken refuge, probably saw in his misty dream of a new Russia a good iron plow instead of his time-worn wooden one, a kerosene lamp to light his hut, and a school where his children could learn to read and write.

Perhaps his dream was for a little more, but he hardly thought that his everlastingly poverty-stricken, hungry village would soon have not only iron plows but tractors and combines, not only kerosene but electricity, and that his children would not only learn to read and write but would become doctors, engineers, scholars.

The worker from some Putilov or Sestroretsk factory who marched alongside him on that unforgettable fall night 44 years ago must certainly have had a larger vision of the new Russia. But, tempered as he may have been in long revolutionary struggle, he could hardly have foreseen such power giants in the people's service as the 2.5 million-kilowatt Volzhsk Hydroelectric Station that was put into operation this year.

He must surely have known that the victorious Revolution would throw the doors of schools and universities wide open to his children, but were his dreams bold enough to encompass a Russia with a student body as large as that of all the Western nations taken together and with more scientists than the combined total in the ten largest West European countries?

Dreams need wings. Big dreams need big wings. But the wings of those men who stormed the Winter Palace, even those whose dreams were most daring, could hardly have carried them so far and so high that they could see their sons exploring the cosmos in 1961.

In these 44 years deeds have kept outpacing dreams. What force made that possible? The creative power of the people that the Revolution set free. To use a scientific analogy, the 1917 Revolution was an enormously powerful social reaction that released the illimitable energy of a people.

Lenin's Party, dedicated to a Russia transformed along scientific socialist principles, worked out a program for each stage of struggle. The first Program, operative from 1903, the year of the Party's birth, to 1917, called for the overthrow of the obsolete and inequitable social system and its replacement by a dictatorship of the victorious class—the proletariat.

The second Program, adopted in 1919, called for the creation of a new society founded on socialist principles—public ownership of the means of production and the public distribution of goods and services produced, disappearance of exploiting classes, cooperation of all working people, fraternal friendship and assistance of all the peoples in the Soviet Union.

This program has been fulfilled.

Reviewing Four Decades

The forty-fourth anniversary of the Revolution, celebrated this month, is especially noteworthy because the Soviet people have this year been summing up the results of the fulfillment of the second Party Program, a program for the construction of a new socialist society, before they embark on the tasks of a new, a third Program to build a communist society.

What are the accomplishments of these four decades? Let the figures speak for themselves.

By comparison with 1917:

Industry. Over-all production growth multiplied by 40 times. Engineering output multiplied by more than 300 times.
Agriculture. Power capacity multiplied by 6 times. More than 100 million acres of virgin land broken to the plow.
National Income. Multiplied by 25 times.
Employment. Full and complete. Permanent end of unemployment.
Real Income of Workers. Multiplied by 6 times.
Real Income of Farmers. Multiplied by 7 times.
Urban Housing. Multiplied by 5.4 times.
Number of Higher Schools. Seven times as many.
Death Rate. Dropped from 30 to 7 per thousand.
Longevity. Went up from 32 to 68 years.

The basic aim of the new society is man's well-being. It has freed its citizens from the ancient fears of joblessness, of insecurity in sickness and old age, of tomorrow's uncertainties. It has guaranteed the right to work, made education and medical care free and accessible to everyone, set up a pension system for the old and disabled. These security values cannot be measured by figures and indices alone. They are an irrevocable part of Soviet man's life and work, his welfare and prosperity.

Social Progress and Democracy

What changes have occurred in Soviet power and in the Soviet state during this period?

With the Revolution the workers and farmers took power, to be administered through the Soviets of Working People's Deputies. From the Village Soviet to the USSR Supreme Soviet, the Soviets are representative bodies, elected by citizens by secret ballot.

What are the features of *Soviet* democracy?

Its outstanding feature is that it is bound organically with the people's life in contrast to the professionalism of government bodies in countries with other social systems.

The deputy to a Soviet is first and foremost a factory worker, a farmer, a teacher, a scientist, and *he continues to work at his job while carrying on his legislative duties.* This means that he is in close and constant touch with his constituents. Being a worker like themselves, he is consequently far more aware of what they think, say and need than even the most knowing career politician.

A glance at the composition of one of the two chambers of the USSR Supreme Soviet, the Soviet of the Union, makes that clear. We see that 322 of its 738 deputies work directly in production. Thirty-five are teachers, 22 doctors, 82 are in the sciences and arts, 113 are engineers. These people are not political hacks, they have the background and the experience necessary for coping with day-to-day problems.

Another unique quality of Soviet democracy is *its mass character.* This is expressed not only in the large number of deputies—about 2 million in the local, republic and national legislative bodies—but in the voluntary participation of some 2.5 million private citizens in the work of the standing committees of the Soviets. This serves as a way of directly involving the most active and civic-minded citizens in the administration of the country's affairs.

But even these large figures fall short of describing the extent of civic participation. There are many millions of people on house management and block committees, on pensioners' committees, in parent-teacher organizations and other public groups.

All these varied forms and expressions of the people's power keep growing and expanding, drawing into the work of state administration large new sections of the working people on the way to genuine communist self-government.

One should also note the special *concreteness* and *effectiveness* of Soviet democracy.

Firstly, the method of electing the deputies is aimed at selecting the person best suited for complying with the necessary qualifications of servant of the people.

Those who try to prove the advantages of a multi-party over a one-party system ignore the very vital fact that the voter in a multi-party political system is restricted to a choice between candidates he has had no voice in choosing, candidates who represent the interests of a particular group.

In a one-party system, in which the party is the political organization of all the working people, those candidates who best meet the needs and interests of the people they are to represent are chosen to run. That is why the selection of candidates is such an important part of the Soviet electoral procedure, with large groups of workers in factories, farms, offices and mass organizations participating directly.

At these meetings several people are nominated for each post. The records of the several nominees are compared at pre-election meetings, and the one thought most worthy is chosen as the candidate and his name entered on the ballot.

Under these circumstances the candidate does not represent merely the special interests of a limited group or a particular party alignment, but all the voters. When he receives his mandate, he acts far more effectively in fulfilling his duties as deputy precisely because of his having been selected as the best qualified executor of the will of his electorate.

One other unique characteristic of Soviet democracy, and not the least by any means, is that *political and economic power are both concentrated in the same hands— the people's hands.* They not only run the state, through their elected representatives, but they also own the land and the factories—the means of production—and use them for the general well-being. This makes Soviet power a hundred times more effective. It is also one of the main reasons for the achievements of the past 44 years.

New Goals

As a result of these achievements the Soviet Union is now ready to move on from the socialist society it has built to a higher stage, communism, whose operating principle is "From each according to his ability, to each according to his needs." The further advance to this higher stage is possible not only because the foundation for it has been laid in these past four decades but also because a society organized along socialist lines *can foresee and plan* its continued advance.

At its Twenty-second Congress, the Party, and along with it all the people, set these goals—within the next 20 years to make Soviet industry the most productive in the world; to increase the volume of industrial output at least sixfold; to create an abundance of farm products, to multiply per-capita income by three and a half times; to provide a modern and rent-free apartment for every family; to furnish public utilities, city transport and most other similar services without charge.

With all-round automation and other advanced industrial techniques that make labor less burdensome will come a change in people's attitude toward work. They will not work primarily because they have to make a living—society will provide that—but because work will be the means through which each man develops his creative potentialities and fulfills himself. This is one of the major goals of the transformation of society and man.

In the process of building communism, the forms of public representation will be improved, and governmental functions will be increasingly transferred to public organizations. The ultimate aim is communist self-government and the gradual withering away of the state apparatus. With communism will come the fullest possible development of individual freedom and rights of the Soviet citizen.

We have spoken of the accomplishments of these 44 years. But we must remember that nearly half of these four decades were spent in defense of the young republic and in reconstruction. First came the Civil War and intervention by 14 foreign powers—five years of war and another five of rebuilding. Then came the fascist invasion—another five war years, followed by five in reconstruction. Each war thrust the country back at least a decade. It is interesting to speculate on what might have been accomplished had these been years of peace.

Many million people killed, 25 million houses leveled—that is what the war cost us. Is it necessary to elaborate on why the Soviet people hate war?

The banners borne by the Red Army soldiers when they marched on the Winter Palace in 1917 carried the inscription, "Peace to the Peoples, Power to the Soviets!"

World peace has been the urgent appeal of the Soviet Union ever since. Progress means building, and building needs peace. The Communist Party of the Soviet Union declares its goals in the newly adopted Program—peace, labor, freedom, equality and happiness for all peoples —and reaffirms its historic mission—to rid mankind of the curse of war.

BY ALEXANDER MARYAMOV

A TRIP TO THE COUNTRY'S TOMORROW

OUR TU-104 Jet Liner traveled the enormous stretch from Moscow to Irkutsk so swiftly that I had no time to finish the book I had taken along, nor my neighbor the long nap he had promised himself. Shortly before landing, our young stewardess told us to set our watches ahead five hours.

But none of us thought this speeding up of time at all strange. It seemed perfectly in order for Siberia, a young country of grand and extraordinary projects, where the present and future merged. A trip to Siberia was like a trip to the country's tomorrow.

"*The Future Begins Today!*" We saw this slogan lettered in whitewashed stones on the high shoulder of the road as we drove by in a truck crowded with young people. We were on our way to the settlement where the builders of the Bratsk hydropower project were living.

Six years ago there was nothing there but dense forest growing down to the rocky shores of the Angara River where it foamed over the Padun rapids. This was in 1955 when the first detachments of young builders pitched their tents on a narrow strip almost at the water's edge. They dubbed the spot Zelyony Gorod, Green City, and started on the construction of the biggest hydropower plant in the world.

In winter their faces were bitten by frosts of 58 degrees below zero. It was so cold they could barely catch their breath. With the first spring thaw came maddening swarms of gnats. But they met all these hardships with a shrug of the shoulders or a joke. They were building their own future here.

This generation of Soviet people shall live under communism, the new Program of the Communist Party declares. That is the meaning and the reason for this great effort of a whole nation. I felt the reality of it at the Bratsk project. The slogan "The Future Begins Today" was a fact. It was tangible, something you could see and touch. Bratsk and other gigantic building projects like it were barometers of the country's labor.

"We Will Tame You, Angara"

You get your first view of the construction site from the rocky shores of the Angara River, more exactly, from Cape Pursei. There you see the whole of the great dam, the cranes on its upper trestle, the endless files of big dump trucks crawling to and from the excavator dippers. And below, rising from the

river's surface, tall white letters many feet high read, "We will tame you, Angara."

The challenge was flung by the men who built the dam, the young people who came to Bratsk from all parts of the Soviet Union. Reading the words, one becomes conscious of the swift passage of time; the phrase has already passed into history. The Angara has been harnessed. The words should read "have tamed" instead of "will tame."

Chief engineer Alexander Gindin gave us some dates. Excavation work began in 1955. The first batch of concrete was poured in the pit in March 1958. The foundation of the building that houses the generators was laid in April 1961. And at the time we were there, they were on the fourth and final phase—to get the first power units assembled by the time the Twenty-second Party Congress convened.

From the heights of Cape Pursei you cannot make out the faces of the workers in the grand panorama of construction below. They look like tiny, very busy ants walking upright, but it was these ants who built this 295-foot wall to tame the roaring Angara, another monument to man's conquest of nature.

. . . Plus Electrification

Lenin defined communism as Soviet power plus the electrification of the entire country, a definition that has guided the Party during these four decades of socialist construction. Over the years hydroelectric stations of varying capacities were built throughout the country. "Electricity factories" these were, each one of them a milestone marking backward Russia's transformation into the industrial power that is now blazing man's road to the stars.

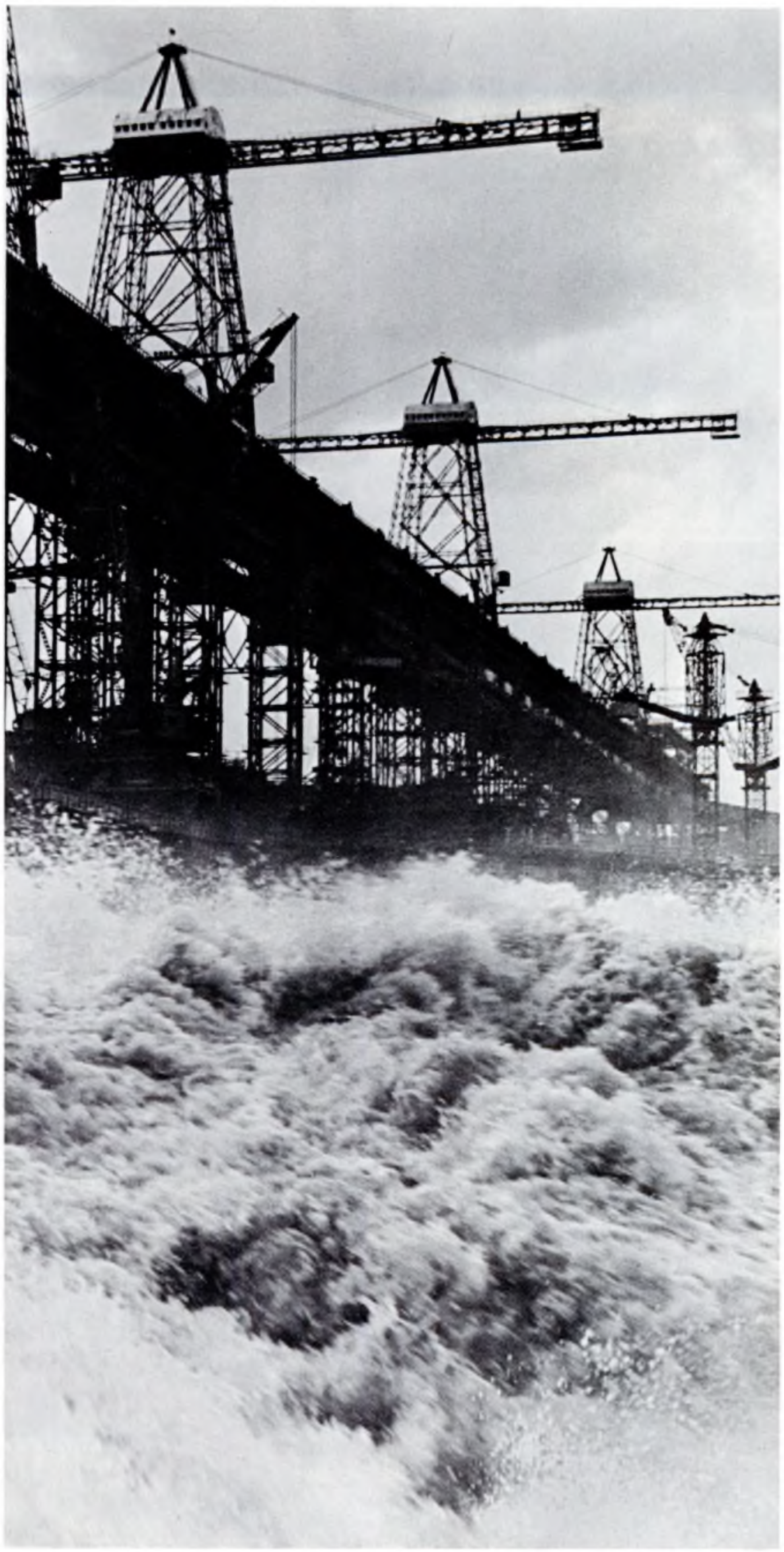
Bratsk is one more such milestone, the biggest of its kind in the world. When the project was planned there were some who thought it an unattainable dream. And now, only a mere six years later, a huge pit is being dug for an even larger hydropower plant—the Krasnoyarsk on the Yenisei River.

Thermal plants are also being built in Siberia, as all over the Soviet Union, to make electric power available everywhere for the production of an abundance of manufactured goods, to lighten work and to make living easier for both city and country people.

Electrification is the prime mover of a communist economy. That is why the power plan is so important a part of the new Party Program. Bratsk is the plan in progress.

Bratsk People

I visited the project when the first power units were being assembled. The men were working at top speed. They had pledged themselves to get the first unit set up in ad-



Bratsk workers fulfilled their pledge to get the first unit operating on the eve of the congress, when the three-year job of filling the reservoir was also begun.

Workers on the giant Bratsk hydropower project come from all over the country. Victor Vitalyev helped build the Volzhskaya station before he came.

vance of the scheduled time as their greeting to the Twenty-second Party Congress.

I met team leaders Vladimir Mamedov and Victor Vitalyev. They were quite different in appearance and temperament, but they both had the stamp of builders, men who liked the challenge of new places and new experiences.

When I asked Vladimir Mamedov if he had come to Bratsk to stay, he said, "I live where I work. I feel like a permanent settler wherever I happen to be."

In his fourteen working years Mamedov has been practically everywhere in the Soviet Union. He has worked on assembling power units in the most widely scattered places—the Kuban, Georgia, Moldavia, Daghestan, Kakhovka, Irkutsk. But when he leaves after a station is built, he leaves part of his heart behind him, he says.

I visited his home, a new apartment in a block of tall buildings rising in the midst of the woods that still surround this very young city. The rooms were almost bare, just a few pieces of furniture scattered around. My eye was caught by a small, attractive carved desk and some wicker chairs of interesting design.

Mamedov's wife explained, "You won't recognize the house in a couple of months. My husband likes to make everything himself. His hobby is wood carving, and he's always sawing, planing or carving something in his spare time."

It won't be long before the twenty power units at Bratsk are finished, and then the Mamedovs will pick themselves up and move to a new construction job, as they have so often in the past. Their six-year-old Natasha was born in Georgia, and three-year-old Yura in Daghestan. It was evident that a new member of the family was on the way. This one, they laughed, was their Bratsk child.

When I first met Mamedov he shrugged off the notion of my including him in my article. "What for?" he asked. "I haven't done anything special. Why don't you write about Victor?"

But Hero of Socialist Labor Victor Vitalyev, also a team leader, reacted in pretty much the same way. "Why me? Talk to Mamedov's team. They're a fine bunch of men."

They're modest, these Bratsk builders. They don't like to do much talking about themselves. What ordinary people might think impossible is part of the day's work to them. With their hands they are building the future—communism. It is not surprising, therefore, that the first Communist Labor Team to appear among the hydropower plant builders was one at Bratsk.

All Roads Lead to Bratsk

One of the young builders who came to the project from Byelorussia had painted on his valise, "All roads lead to Bratsk." The paraphrase was well taken, for Bratsk has attracted people from almost every corner of the country and from practically every nationality in the Soviet Union. But once you've come to Bratsk to work, no matter where you're from or what your nationality is, you become a Siberian. So says unwritten law and custom.

A crane operator talked of "Us Siberians!" But a singing inflection betrayed his Ukrainian origin.

A young Georgian girl smiled at me and began her sentence with "Here, in our Siberia . . ."

"Come again! We Siberians like visitors," a sunburned Uzbek yelled to me over the construction din.

One could see these young people were proud of the job they were doing in this grim but immeasurably rich country. They had the heart and the imagination Siberia demands of its people in return for its national riches. The way they lived and worked together was testimony to the comradeship of all Soviet people, regardless of national origin.

Yuri Litvinov came to Bratsk from Novosibirsk five years ago, when he was seventeen. He had had seven years of schooling and began working at odd rock-hewing jobs; then he became a concrete mixer operator.

"I've learned a lot here," he told me. "For one thing, I now have a good trade. I'm an assistant machinist. For another, I've finished the evening school for young workers and am going to matriculate at the institute. I want to become a construction engineer. And for a third, I've seen how really big things get done."

Alla Mikhailova came to Siberia from the Black Sea resort town of Sochi. Like Yuri, Bratsk was her first job and she loves it. It's hard to imagine any two parts of the world more unlike than the Black Sea coast and Siberia. But when we were talking about the fierce Siberian frosts and the scarcity of fresh vegetables in winter, this girl from a subtropical resort town said, "Siberia has a beauty of its own. I like it and I am thinking of really settling down here."

You come across other kinds of people also. When I first arrived at the Bratsk airport, I saw three young men and a young woman sitting by themselves, away from the other passengers.

"Heading for the construction site?" I asked.

"No," answered one of the men, very curtly.

His tone and the sudden flush on the young woman's face told me they were on their way out, going back home. These were young engineers, I learned, who had come to Bratsk on their own and now, three weeks later, they were back at the airport. "What's the trouble?" I asked them.

"Things always look rosier from a distance," the young woman said.

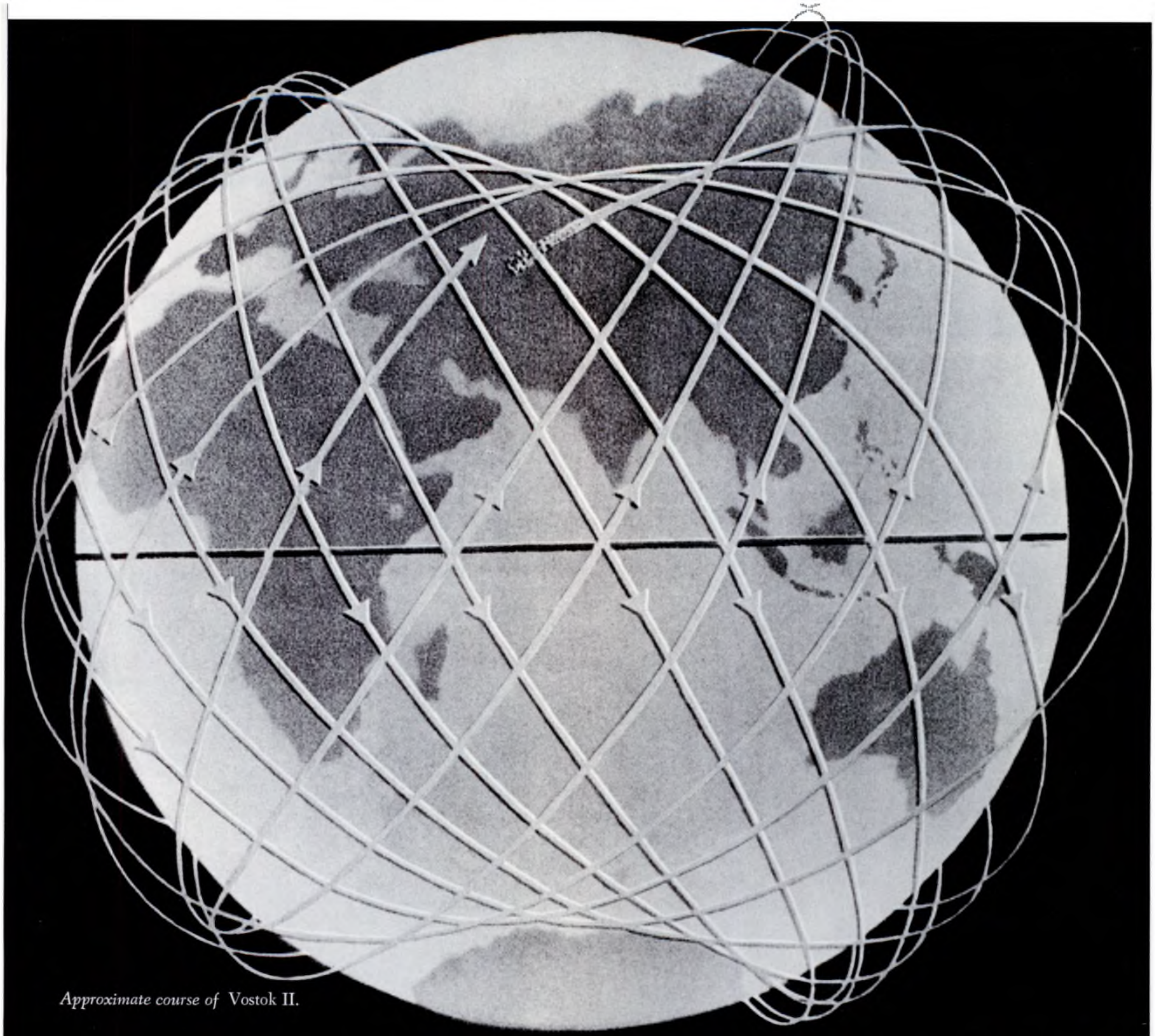
One of the men said, "Many of us can't take the climate."

Were there really many, I wondered, talking to these four young people who found it hard to meet my eye.

And then a truck full of cheerful young people, boys and girls, stopped a few feet away and the driver leaned out and yelled to me, "Going to the site? Get on." I climbed on, gratefully.

A young fellow in work clothes said, "Good riddance." He was talking about the four who were leaving. "They're the kind who like to live under papa's and mama's wings and want all the comforts of home right away. They never stop to think of the way their fathers and older brothers worked and sweated to create those comforts. We'll build up Siberia without them."

And they will.


Approximate course of Vostok II.

TWENTY-FIVE HOURS IN SPACE

ON THE MORNING of August 6, 1961, the spaceship *Vostok II* with cosmonaut Gherman Titov aboard was shot from the launching pad at Baikonur Airdrome, northeast of the Aral Sea. The ship landed in a prearranged area—near the Krasny Kut settlement in Saratov Region—after a successful and sustained space flight.

Less than four months before, Yuri Gagarin had made the first manned flight, relatively short in duration, in *Vostok I*. Titov, in *Vostok II*, orbited for more than 25 hours, covering a distance approximately equal that to the moon and back before returning to earth.

The development of spaceships of the *Vostok* type made it possible to place manned vehicles in orbit and bring them back safely, to study the effects of cosmic flight on the human organism and man's ability to function under zero gravity conditions.

Vostok II consisted of a pilot's cabin, an instrument compartment and a braking power-plant compartment. A thermal shield on the outer surface of the cabin provided insulation against the high temperatures on descent through the dense sections of the earth's atmosphere.

The cabin had three portholes and two snap-action manholes. The glass of the portholes was heat resistant so that the pilot could make observations while in orbit and on the downward leg of the flight. Each of the portholes had motor-driven curtains to shut out the sunlight, if necessary.

In the cabin were the life-supporting systems, the controls, part of the radio apparatus, the log book, the optical horizon scanner with which the pilot made visual observations through the portholes, and the television cameras for observing the pilot during the flight.

The instrument compartment housed radio equipment, the controls and the temperature-regulating system.

For Forced Landing

The pilot's seat incorporated a number of systems and devices that permitted the cosmonaut to live in the cabin for an extended period or, in case of need, to escape from the ship and land safely on earth. The seat could detach itself from the cabin automatically in the event of trouble on take-off or on the powered leg of the flight. It carried a supply of oxygen and a ventilating device for the cosmonaut's pressurized space suit. It also carried a radio receiver-transmitter, a supply of food and other vital articles he might need for a forced landing. The supporting surfaces of the seat were upholstered with soft plastic cushions shaped to the human body. The parachute system contained in the seat allowed for a stabilized descent to the ground or water if the pilot had to leave the spaceship and land by parachute. If the landing had to be made on water, an automatically inflated boat would have been ready for his use the instant he touched the surface.

For added safety in a forced landing on water the space suit could keep the pilot afloat face upward. It was airtight and insulated so that the pilot could stay in water with a temperature of 32°F for 12 hours without discom-

The cosmonaut dressed in his pressurized and insulated space suit.

fort. The space suit was worn over woolen underwear. Under the space suit the pilot wore overalls. The glass face plate in his helmet could be opened and closed both manually and automatically in the event the pressure or composition of the air in the cabin changed beyond safe limits. The space suit and the systems contained in it would have made it possible for the cosmonaut to control the ship even had the cabin lost its airtightness.

The ship's air-conditioning and pressure-regulating equipment automatically kept the air composition, humidity and pressure at normal. In an emergency the pilot could take over the controls to raise or lower the temperature or humidity, or change the composition of the air. *Vostok II's* air-regenerating unit was an improvement on *Vostok I's* set-up, chemicals and design.

The specially prepared foods—juices, chocolate, patés, etc.—were packed in tubes. Water was carried in a tank and sipped through a mouthpiece and tube.

Vostok II was scheduled to make 17 revolutions of the earth, but the ship's design and the food, water, regenerating chemicals and power supply it carried would have made a longer flight possible.

As it passed over Soviet territory, the ship's equipment telemetered the orbital parameters and televised the pilot's image. The data on the trajectory parameters received by the ground tracking stations were relayed automatically through communication links to computing centers, where they were processed by electronic computers. The ship's movement was thus plotted throughout the flight.

The pilot maintained radio contact with the ground tracking stations for flight instructions and kept them advised of his condition, his progress, and the operation of the ship and its equipment.

The spaceship could have landed at any moment in case something went wrong with either the pilot or the equipment.

The pilot could have acted on his own or after consultation with the flight command station on the ground. The landing could have been made automatically or manually.

The ship was landed automatically at the start of the eighteenth revolution. The attitude of the ship was corrected automatically before the retrorocket system was fired at a prearranged point on the orbit to brake the ship, which then moved out of its orbit into a downward trajectory. When it passed the zone of high temperatures and acceleration loads and was near the earth's surface, the landing system went into operation so that the ship could touch down at low speed.

Two landing methods were possible—in the spaceship, and separate from the ship. In the second case the pilot would have been ejected in his seat at a low altitude and brought down by parachutes. Titov chose this latter method.

Communications Equipment

The communications equipment was designed for the fastest two-way contact with the ground over the greatest possible distances under any and all flight conditions. The ship carried three two-way radio telephone systems—two AM and one FM.

Short-wave communication is easily disturbed by ionospheric phenomena and cannot always be depended upon. For this reason the AM systems were supplemented by FM systems, which are very reliable over relatively short distances—up to 1,000 or 1,300 miles. For all practical purposes FM signals are unaffected by flight altitude; time of day, month or year; or other such factors governing the condition of the ionosphere.

Communications equipment included a tape recorder that was started automatically by voice and could play back the record at high speed on command from earth, and a broadcast receiver with continuous tuning on the medium- and short-wave bands.

A network of AM and FM ground stations maintained radio contact with the spaceship. The FM stations were equipped with special directional antennae and equipment for taking down tape-recorded messages played back at high speed. The AM stations also used special directional antennae, sensitive receivers and high-power transmitters. The ground stations were in constant contact with the dispatcher in charge of the communications program. He indicated which transmitter was to be used when and what information was to be relayed to the pilot. All messages from the ground receiving stations were sent to him.

With the spaceship traveling at such high speed, it was imperative that communication between the dispatcher and each of the many ground stations be reliable and continuous. Any delay, however short, in reporting messages received or in relaying information to the spaceship could upset the communications program.

The functioning of all the units and components of the communications system was tested last March, well before Gagarin's and Titov's flights, when vehicles were launched carrying biological payloads.

These test flights provided a thorough check on the range of radio communication on AM and FM bands, the effects of noise on speech audibility during the powered leg of the flight, the possibility of simultaneous operation of receivers and transmitters in flight, etc. The operation of the electroacoustic equipment of the pilot's communications system and its sensitivity to noises was also checked under flight conditions.

Vostok II carried equipment to televise the pilot's condition, behavior and physical coordination. An equally important reason for the TV equipment was to obtain more data on transmission from space vehicles so as to improve existing apparatus. The ship carried a narrow-angle and a wide-angle TV camera, each of which operated independently and had an FM transmitter. The images transmitted to the ground were viewed on monitors and recorded by motion picture and still cameras. The film records were synchronized with records made of the pilot's basic physiological functions—heartbeat, respiration, etc.—so that the various types of data could be checked against each other and analyzed.

Climate Control System

Vostok II's microclimate was kept close to normal by an air-regenerating system that absorbed the carbon dioxide and moisture given off by the human body and supplied the proper amounts of oxygen for breathing.

Any deviations in the content of oxygen, carbon dioxide and water vapor in the cabin's atmosphere were sensed by pick-ups that signalled an automatic controller to make the necessary adjustments in the regenerating system.

The automatic system was backed up by manual controls and, if necessary, the pilot himself could make the adjustments required to get the desired composition, humidity and temperature in the cabin. He could set the temperature at anywhere from 50° to 77°, and it would then be maintained automatically. The relative humidity throughout the flight varied from 50 to 70 per cent.

Variations in the air-regenerating system and in the cabin's atmosphere were recorded and telemetered to the ground.

To study the effects of weightlessness on the human body, initial experiments were done on the ground. But these studies were hardly definitive, since the weightless state could only be maintained for a second or two.

The weightless state was also simulated by immersing a human test subject wearing a special suit in a liquid whose specific gravity equaled that of the human body. These studies shed considerable light on vital functions under conditions approximating weightlessness, in which some portion of the neurosensory system is affected.

A great deal of headway in studies of zero gravity effects was made with aircraft. By flying at high speed in a parabolic curve, it is possible to counterbalance the force of gravity by centrifugal force so as to maintain a state of weightlessness for periods as long as 40 to 50 seconds. But the time factor was obviously a vital one, and these findings did not necessarily apply for longer periods. Moreover, many important studies could not be carried through at all with aircraft.

The next stage of investigation was to test zero gravity effects on various animals—mice, rats and dogs—carried aloft in rockets and later in artificial earth satellites. In some cases the animals tolerated weightlessness for more than 24-hour periods without any pronounced unfavorable changes in physiological functioning or vital activity. These experiments warranted the conclusion that several hours of weightlessness—up to a 24-hour period—would not be inimical to human life or health.

When Gagarin, on April 12, 1961, was placed in orbit, he experienced about an hour of weightlessness without unpleasant consequences. He ate, wrote and made the necessary observations without difficulty.

The medical research program planned for the second manned flight was, of course, much broader. It covered an entire daily cycle of human life under space flight conditions and tested the ability of the cosmonaut to work in long, sustained periods of weightlessness.

Both subjective and objective data were gathered. The cosmonaut described his feelings and sensations by telephone over a two-way radio link in messages written in a special form. Objective data was recorded automatically and televised or radiotelemetered to the ground stations. The data is still being analyzed and interpreted.

The pilot's seat included everything needed for survival in an emergency.

Radiation Safeguards

The unmanned orbital spaceship launchings that preceded the Gagarin and Titov flights carried through a wide program of biological studies. They led to the conclusion that manned flight was possible and safe. Among other things, it was found that the hazards of radiation need not be a deterrent. However, not all the biological aspects of cosmic radiation had been clarified. Special precautions had to be taken against solar flares. Some of them sharply increase the intensity and the qualitative and quantitative composition of cosmic radiation and may be dangerous to human life. The mechanism of the flares has not yet been studied, and forecasting them presents great difficulties.

A whole range of procedures were worked out to provide radiation protection for Titov, including observation of solar activity and direct measurement of cosmic radiation in the upper atmosphere.

Prior to the launching and throughout the flight a widespread netword of astronomic observatories kept the sun under close surveillance by means of special methods which made it possible to forecast solar activity and solar flares with a high degree of probability. During the same period pilot balloons were launched from various spots within the Soviet Union, particularly in the polar regions, that directly measured the intensity of cosmic radiation in the stratosphere. The information obtained was immediately processed, and the decision on the date of launching and the flight program was made in the light of this information. Solar activity had been normal prior to the launching and remained normal throughout the flight. The intensity of the cosmic radiation in the stratosphere as measured with pilot balloons was also normal. Thus the flight took place under favorable radiation conditions.

The powered leg of their flights gave neither Gagarin nor Titov any trouble. In his press conference on August 11, Titov said, "I bore up well under the acceleration loads, noise and vibration on the powered leg of the flight and had no unpleasant sensations. I carried on observations through the portholes, read the instruments and maintained two-way contact with the ground throughout the active stage."

In spite of his good objective reaction, the cosmonaut did have a somewhat quickened heartbeat that went up to 118-134 beats a minute. These changes in heartbeat and respiration rate are attributable to the flight factors (noise, vibration, acceleration loads) and to the emotional strain natural under the circumstances. These physiological changes were comparable to those Titov experienced in the centrifuge during the training period.

The noise, vibration and acceleration stopped as soon as the spaceship was placed in orbit, the rocket engines cut off, and weightlessness set in. According to Titov, his first sensation was that of flying with his legs upward, but the feeling passed in a few seconds.

An hour after blast-off the cosmonaut took over the attitude control system and made some maneuvers required for scientific measurements. He reported that the manual controls operated faultlessly. On the seventh circle of the earth he took over the manual controls once more.

Weightlessness

Weightlessness did not prevent the cosmonaut from taking care of his physical needs—he ate, disposed of body wastes and slept. It should be noted, however, that his sleep, especially at the beginning, was restless, and his appetite was smaller than usual. Titov's loss of appetite and slight dizziness and sickness were obviously due to the unusual stimulation of the vestibular system under conditions of weightlessness. Note too, that these symptoms of changes in the vestibular system disappeared as soon as the cosmonaut assumed a rigid posture and did not make any sudden movements of his head.

These symptoms were sharply reduced after sleep and left him completely with the onset of the acceleration load during re-entry.

In orbital flight Titov's heartbeat, when he was awake, varied from 80 to 100 per minute, slightly higher than his initial rate. In sleep the rate dropped to 54 to 56 beats a minute, in keeping with ground conditions. There were no substantial changes in the wave form or other elements of the electrocardiogram throughout the flight in orbit.

The cosmonaut's long period of weightlessness did not result in any pathological disturbances. Some changes were observed in the operation of the vestibular system, but they had no effect on the cosmonaut's ability to function.

We will have to determine from subsequent studies whether the changes occurring in the vestibular system were due to Titov's increased sensitivity or whether they are to be generally expected in zero gravity conditions. If the latter is true, it may be necessary to provide artificial gravitation on spaceships. This can be done.

The cosmonaut felt fine and was in a cheerful mood throughout the flight. No pathological effects were evident, and the postflight medical checkup revealed no deviations from his normal health.

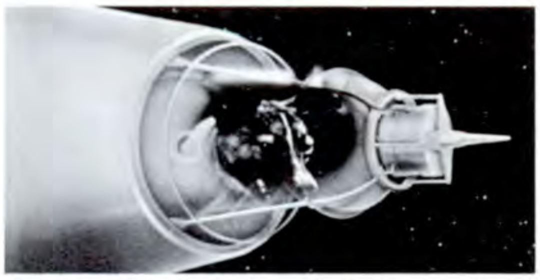
Gherman Titov's flight in *Vostok II* resolved many space problems. Most important for future cosmic exploration was that it proved a man can maintain his full working capacity throughout a 25-hour stay in space.

Konstantin Tsiolkovsky, rocket navigation theory pioneer, traced the outline of today's spaceship.

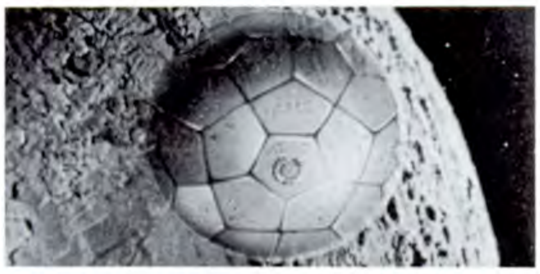
Prologue to space flight. Lenin at the country's first air parade. A still from the documentary.

Another step to the stars. Valeri Chkalov makes the first USSR-USA flight over the North Pole.

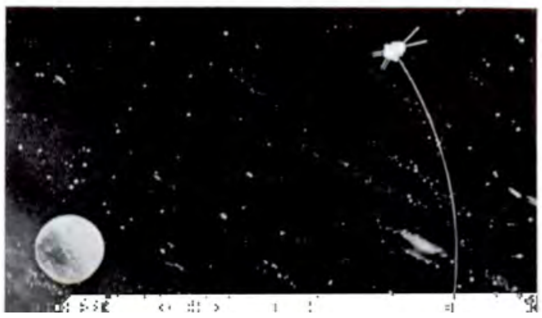
Breakthrough into space. Sputnik I, man's first earth satellite, is launched on October 4, 1957.



A few months later, Sputnik II is orbited with the dog Laika, the first living cosmic voyager.



In 1959 a Soviet pennant is landed on the moon. That year the moon's hidden side is photographed.



FIRST FLIGHT T

I HAVE SPENT more than 35 years of my life making documentaries on a variety of subjects, but I have never been wrapped up in any project to the degree I was in *First Flight to the Stars*, the film about the first manned space flight. And that goes for everyone who had anything to do with the picture.

We were proud that our country had blazed the trail to the cosmos, that our scientists had built spaceworthy ships and marvelously precise computers that could calculate a vehicle's orbit and velocity almost instantaneously, that our industries had made alloys capable of withstanding the thousands of degrees of heat to which the ships would be subjected on re-entry into the dense layers of the atmosphere and fuels that could boost rockets weighing many tons into space.

With this feeling of pride came a sense of our own great responsibility. This was not an ordinary film that would be buried in the archives once its run was over. We were making a historic document that posterity would be turning to again and again to study man's first venture into outer space. We strove for absolute authenticity in every sequence, in every frame.

Our film does more than picture the first flight into outer space on April 12, 1961, that thrilled the world. It tells the whole great story of man's dream of cosmic flight and its realization.

From the towers of Babylon nameless sages searched the skies for an answer to the mystery of the movement of the celestial bodies. The first stellar charts of ancient Egypt are older than the Pyramids. Jules Verne carried people off to the moon in his fantasies. In every age man sought to break his bonds with earth.

Nikolai Kibalchich, a Russian revolutionary and scientist, on the eve of his execution by the czarist government, drew a design for a jet-propelled machine on the wall of his cell in the Peter and Paul Fortress. The police hid his notes from the world.

Konstantin Tsiolkovsky, never doubting the real substance of his dream, wrote, "Man will not remain bound to the earth forever. Step by step he will conquer the space around the sun."

Our film shows this step-by-step progress—how the Soviet people developed their aircraft industry, carried through long nonstop flights, and broke through into space with Sputnik I whose "beep-beep-beep" echoed round the globe in October 1957.

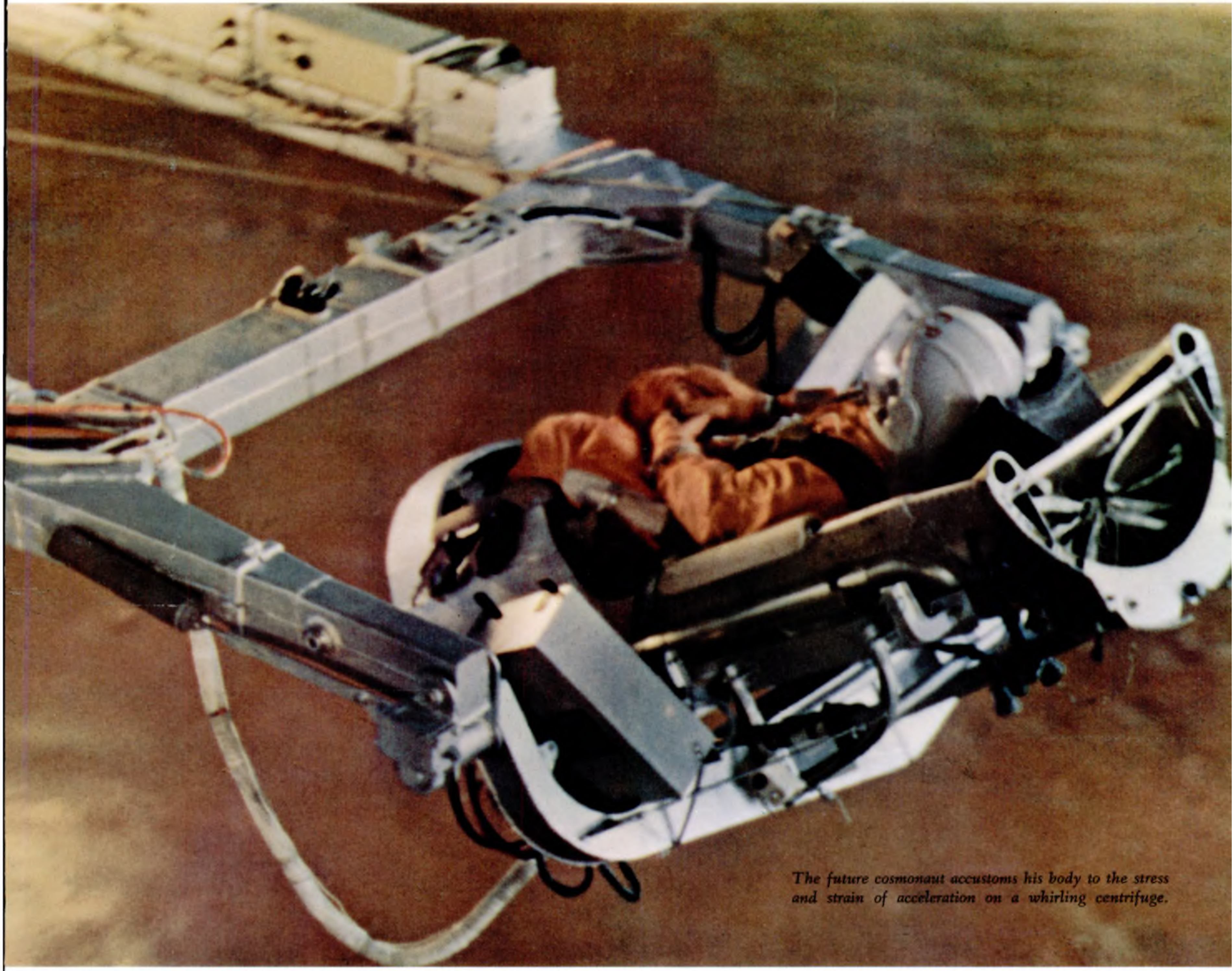
One by one the sputniks and luniks opened the road to the stars. Thousands of Soviet people wrote in volunteering to make the first manned flight. Airman Yuri Gagarin was one of them.

Then came the selection of an astronaut. He had to be a man in top-notch condition whose body could adjust to great stress and strain, a man with extraordinary powers of mental concentration and physical coordination and with an uncommon degree of body control in parachute jumps.

We shot the whole complicated and taxing routine of testing and

THE STARS

BY ILYA KOPALIN
FILM DIRECTOR



The future cosmonaut accustoms his body to the stress and strain of acceleration on a whirling centrifuge.

Months of rigorous training and preparation for the pioneer cosmic flight with constant examinations by space doctors.

Vostok I, *the ship that took Yuri Gagarin, the first cosmonaut, to outer space and returned him safely.*

In a few minutes the lift will carry the cosmonaut to the ship, the cabin's hatch will close and the countdown begin.

The future space pilots had to become inured to overload, heat and vibration. Training for weightlessness.

The space suit, a veritable traveling laboratory with complicated equipment, is checked before the take-off.

training that the astronauts were subjected to. Day after day, month after month, our cameramen filmed the spacemen in pressure chambers, on vibration stands and in centrifuges under zero gravity conditions. We photographed them studying astronomy, geophysics, rocketry, space technology—the large body of knowledge that is part of an astronaut's equipment.

We filmed all this because we wanted to show how difficult the road to space was and the courage and perseverence it required from such dedicated men as Yuri Gagarin, the hero of our film.

I find it hard to describe the quality of that very brave man. He would take his seat in the centrifuge with a smile, aware that in a moment he would be whirled around, his blood as heavy as mercury and his body weight multiplied several times. We watched this father of two children smile as he fondled his baby daughter and kissed his wife before leaving for a tough and dangerous training session. We watched him smiling as he rode off to Baikonur Cosmodrome.

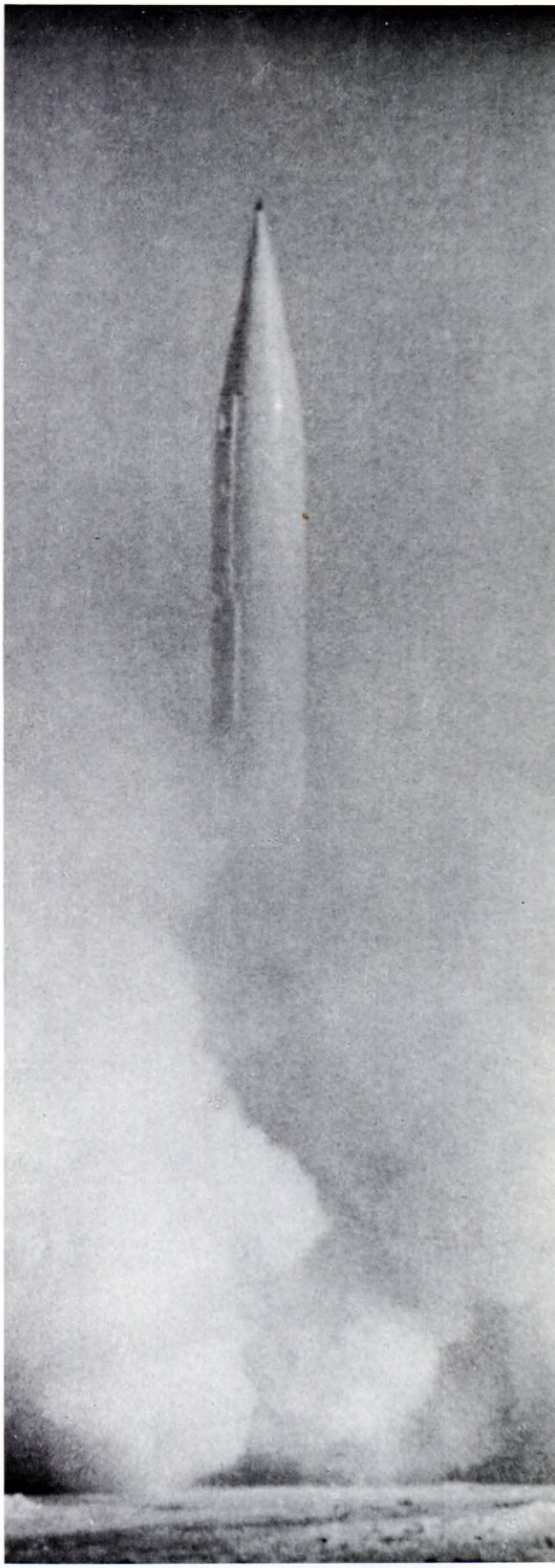
He was calm, confident—a confidence rooted in his country's concern for its people and its scientific progress. That is why, addressing the State Commission on the eve of the flight, he declared, "I have no doubt as to the successful outcome of this flight, but if difficulties do arise, I shall meet them like a Communist."

He went into action like a soldier, armed with faith and courage. He was not seeking glory and personal reward; that was foreign to his way of thinking and living. This farm lad, who by dint of hard work mastered a pilot's skills, is a true son of his country.

We filmed Gagarin before his flight, when he was known only to his circle of friends and fellow pilots. We also filmed him with the Gold Star of the Hero of the Soviet Union on his breast, being acclaimed by the world. He was always the same modest man with a smile on his lips.

What we hoped to do was to light up our whole film with his smile, to render in cinematic terms the poetry and wonder of that first flight of man into the cosmos.

A final check of the instruments and he is ready to take off. The gantry is removed, the ship freed.



Blast off! The giant rocket shudders and rises from the launching pad. The historic flight begins.

WORLD BIOCHEMISTS MEET

The Fifth Biochemical Congress brought 6,000 scientists from 58 countries to Moscow this summer. About half of the living Nobel Prize winners in science are biochemists, and practically all of them were at the international gathering. The Soviet and American delegations were the largest —1,650 and about 1,000 respectively. The American biochemist Dr. David Green gave the plenary report at the opening session—a paper reviewing the most recent findings on the structure and function of cell particles.

The 2,750 papers read provided a view into the fascinating future now being created by advances in biochemistry. Principles that govern the physiological reactions of the living organism will be applied to industrial chemical plants. A knowledge of photosynthesis will make it possible to extract food products from water and air with the help of sunlight. An understanding of the physicochemical processes that take place in the living cell will provide the key to the cure for many diseases, among them cancer, that scourge which physicians, biologists, chemists and physicists are battling. International exchanges like the congress and the joint work of scientists of many lands will hasten that future.

EVENTS AND

MOSCOW SELECTS MAYOR

The Moscow City Council elected a new mayor, Nikolai Dygai, at its last session. The previous mayor, Chairman of the City Soviet, Nikolai Bobrovnikov, had left for a national ministerial post.

The new mayor was born in Rostov Region in 1908. He has been a member of the Communist Party since 1929 and is a construction engineer by profession — one of the country's outstanding men in this field. Nikolai Bobrovnikov was formerly First Deputy Minister of Transport Construction.

The choice of a building engineer for mayor of the Soviet capital is no accident. Housing construction is—and is likely to be for some years to come—one of the most important activities of the City Soviet. There is no city in the world where housing development is being pushed so hard. The City Soviet and its new head have the big job of providing Muscovites with 130,000 new apartment units annually.

WORLD'S BIGGEST POWER STA

This is the three-mile-long dam of the new hydroelectric station on the Volga at Stalingrad, the biggest power project of its kind in the world. It was dedicated to the Twenty-second Congress of the Communist Party of the Soviet Union.

At the opening ceremonies Pyotr Neporozhny, USSR Deputy Minister of Electric Power Stations, told newsmen: "This new station will generate 11 billion kilowatt-hours of electricity a year at very low cost. To give you an idea how low—we expect to cover all our construction costs in five years. The station will be supplying electricity to the Donbas and the Ukraine generally. Three-fourths of its generated power will be going to Moscow through a 500,000-volt transmission line."

"What effect do you think the project is likely to have on the

PROUD GOLD NUGGET

Big gold nuggets are not unusual finds these days with mining done with big excavators and draglines and mechanized scrapers and washers — standard equipment in Soviet gold fields. But the nugget in the accompanying photo is so huge it was dubbed the "Gold Giant." It came from the Mikhail Frunze Gold Field on the Kolyma River in Magadan Region, Siberia, and weighed 31 pounds. The mined gold-bearing concentrate is shipped to a factory for extraction, and the refined metal is then sent off to the government treasury.

STUDENTS OF 70 COUNTRIES AT FRIENDSHIP UNIVERSITY

The Patrice Lumumba Friendship University, founded in Moscow for students from the underdeveloped countries, opened this fall for its second academic year with its enrollment doubled. Newly arrived from 70 countries in Asia, Africa and Latin America were 700 young men and women. They will have a preparatory year of study in the Russian language, physics, chemistry and mathematics, and will then be accredited first-year students of one of the university's six faculties—physics and mathematics, engineering, agriculture, medicine, history and philology, economics and international law. The lecturers are eminent academicians and authorities in the humanities and the sciences drawn from other universities in the Soviet capital.

The entering students were welcomed by the "veterans" who had completed the preparatory course and had spent the summer vacation in the Ukraine, Moldavia, Georgia and Kazakhstan seeing Soviet life firsthand.

PEOPLE

IS GENERATING ELECTRICITY

surrounding area?" he was asked.

"An enormous effect. The canal to be dug from the Stalingrad Sea to the Ural River will bring water to tens of millions of acres of arid land. We'll be getting two crops a year from some 6,250,000 newly irrigated acres on one side of the river alone."

"This station is currently the world's largest. Will it be for long, do you think?"

"Not very," the deputy minister answered. "It has a capacity of 2.5 million kilowatts. The Bratsk power station in Siberia, which will have a capacity of 4,750,000 kilowatts is about to start operating. (See story "A Trip to the Country's Tomorrow," p. 10). The Krasnoyarsk station, now under construction, is bigger still. And we're planning a six-million-kilowatt project at Sayany on the Yenisei River."

KAZAKHSTAN ON EXHIBIT

NOT ONLY Kazakhstan's past and present but its future is on graphic display at an exhibition this Central Asian Soviet Republic has opened at Alma-Ata, the capital.

The Kazakhs of czarist times were a nomadic people, with poverty, disease and illiteracy the normal way of life. Since the Socialist Revolution the republic has built dozens of new and modern cities like Temir-Tau, where an iron and steel mill is presently under construction, and Balkhash, the burgeoning center of the republic's copper-smelting industry.

In the exhibition's Science Pavilion are 120 specimens of minerals, including coal and iron, gold and silver, copper and lead, tin and manganese that geologists have found in Kazakh territory.

The 28 schools of higher education in the republic are training research specialists. Every fifth person is studying. Kazakh scientists are doing research in nuclear physics and probing the secrets of the galaxy; engineers are automating the factories and mechanizing farm work. In the past few years alone 62 million acres of virgin land have been broken to the plow.

The well-being of the population keeps improving with the growth in the republic's economy. More than 400,000 apartment units and hundreds of stores, restaurants, clubs and motion picture theaters have been built in the past four years in this regenerated land.

NEW SHOSTAKOVICH SYMPHONY

DMITRI SHOSTAKOVICH has just completed a new major work, his Twelfth Symphony. American music lovers probably best know his Seventh Symphony, written for the heroic defense of Leningrad, which was performed widely in the United States during the Second World War. The first radio performance of his Eighth Symphony in the Western Hemisphere was sponsored by the U. S. Rubber Company on April 2, 1944. The American National Institute of Arts and Letters elected the world-famous composer an honorary member.

The theme of Shostakovich's more recent work is the Russian Revolution. His Eleventh Symphony—the Symphony of 1905—recreates in memorable musical imagery the mood of the first Russian working-class revolution. It has been performed frequently by orchestras at home and abroad.

His newest symphony is, so to speak, a sequel to the Eleventh. Its theme is the 1917 Socialist Revolution, and it is dedicated to the memory of Vladimir Lenin. The symphony is written in four parts, to be played without interruption. It had its first public performances in Moscow and Leningrad this fall while the 22nd Congress of the Communist Party was in session.

ZOO SURGERY

THIS TIGER in the Kaliningrad Zoo is named Amur, and he comes from the Ussuri Taiga. Amur had an ulcer in his mouth near one of his canines that gave him—and the zoo people—no end of trouble. The ulcer would seem to close up for a while and then open up again, until it was clear that Amur would have to be operated on—a large-sized job with a tiger as patient.

He was put in a cage—the kind used for transporting big animals—with a hole cut in the side for his head. The zoo veterinarian succeeded in administering a soporific, but even with a dose five times that ordinarily given to people, the tiger only fell into a half-stupor. With great difficulty, the unusual patient was finally laid on his back, his four great paws tied to the bars of the cage, his head securely clamped, and an anesthetic administered.

Operating surgeons were Drs. Anatoli Pirogov and Ella Melts, chief stomatologist of the Kalinin Region. Osteomyelitis of the jaw had set in as a result of caries in a canine and had eaten right through the bone. The big tooth was completely hollow inside, only the enamel remained. The canine was extracted and the wound cleaned and stitched.

Every once in a while during the operation the half-doped tiger would roar and frighten the assisting nurses half to death. But all told, everything went off smoothly, and Amur doesn't seem to miss the canine. After all, for a zoo tiger it was more ornamental than functional.

Pyotr Seminenko, Yevgeni Loskutov and Maria Shmigora meet with Grigori Duboltsev (center), Chairman of the City Soviet.

DNEPRODZERZHINSK is called the City of Iron and Steel. Its mills, factories, and dwellings spread for ten and a half miles along the broad Dnieper River, the ancient artery of Ukrainian civilization.

This was once a neglected provincial town in prerevolutionary times, with only two schools and no library facilities. Today the city has about fifty schools and eighty-three libraries.

And the old-time civic lethargy and official corruption and incompetence also went out with the czar. Dneprodzerzhinsk is publicly administered in a very real sense. The citizens are working out a new and very promising experiment in municipal government.

Like every other Soviet city, Dneprodzerzhinsk is administered by the City Soviet of Working People's Deputies, elected for a two-year term. The day-to-day management and supervision of municipal transport, local industry, trade, housing, education, public health and cultural services are relegated to the Executive Committee of the Soviet and its various departments staffed by paid workers.

This is the usual method, and until recently Dneprodzerzhinsk was no exception. Now, however, the setup is somewhat different inasmuch as the inhabitants of Dneprodzerzhinsk have displayed great initiative in the work of city administration for the past three years. Thanks to their volunteer services, the Executive Committee of the City Soviet has been able to reduce its paid full-time staff from fifty to eleven.

But economy, as desirable as it may be, is not the major consideration here. What is more important is that the people of this city have become an active force in the various sectors of municipal administration through the standing commissions of the Soviet.

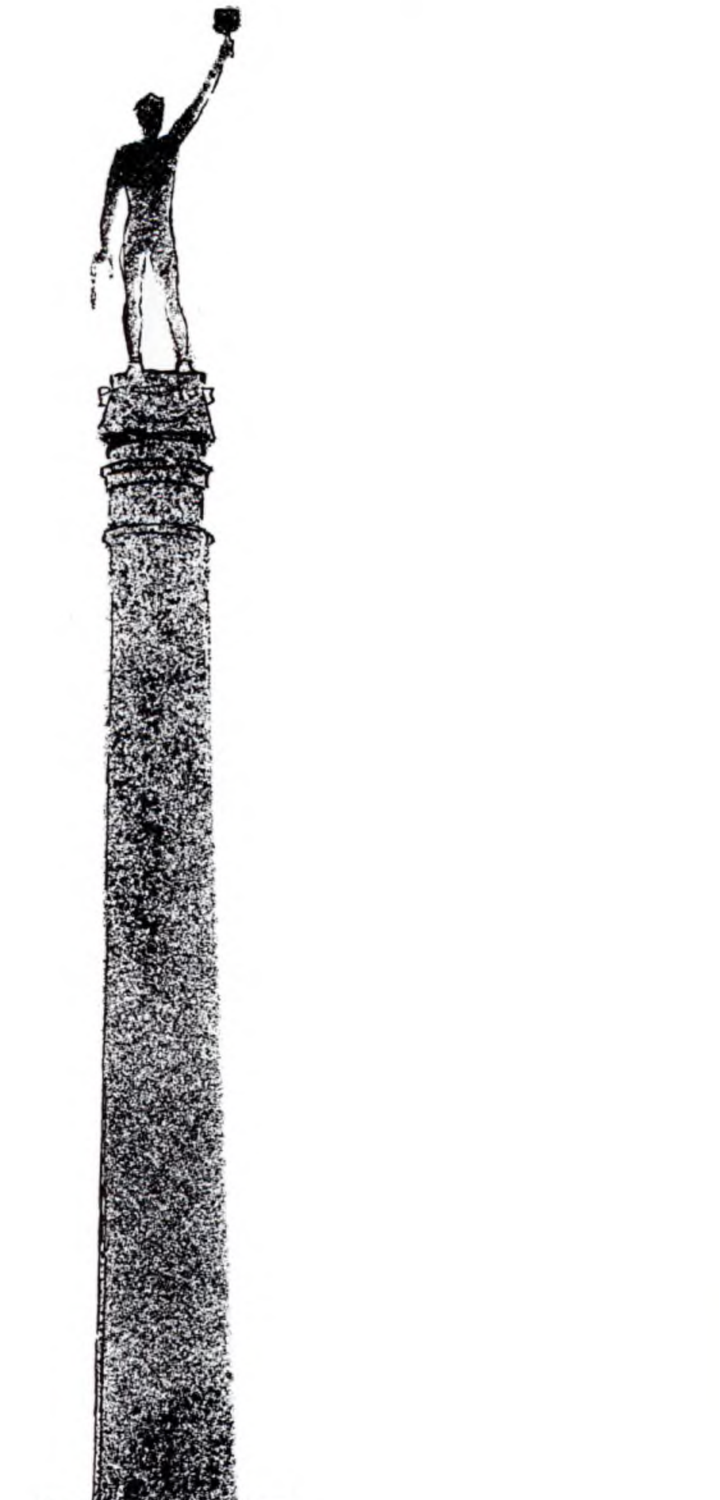
Such commissions are not new to the Soviet, of course. But whereas formerly their work was done mainly by elected deputies, today more and more volunteers are doing it. As a result, some of the departments of the Executive Committee have no paid employees at all.

Both the deputies of the Soviet and the volunteers, who are not members of the Soviet, do the work of the commissions without remuneration when their regular workday is over.

The people of Dneprodzerzhinsk have been

THE PEOPLE run the city

BY DMITRI PETROV
PHOTOS BY GEORGI PETRUSOV



performing their duties in aiding the Soviet in its administrative work with great enthusiasm, for each of them regards this as a matter of honor, of civic duty. This is one of the forms of communist self-government mentioned as far back as the time of the Revolution by Lenin, the founder of the Soviet state. In 1918 Lenin wrote that gradually the entire population would be drawn into the work of administering the state. The results of civic self-government on a voluntary basis, so successful in Dneprodzerzhinsk, visibly confirm Lenin's prediction.

We are visiting Dneprodzerzhinsk on a rather special Sunday—special because some 50,000 citizens, a quarter of the city's population, on their own initiative are contributing part of this day toward beautifying their city—planting trees and flowers, creating new park areas.

We are introduced to Yevgeni Loskutov, power technician and chairman of the Housing and Communal Services Commission. "Our object," he explains, "is not to save money on city improvement by using volunteer labor. The City Soviet has enough money on hand for the purpose; our municipal budget exceeds 14 million rubles this year. The important thing, as we see it, is that people are on their own initiative taking part in such projects, doing the work with their own hands. This voluntary labor for the benefit of all reflects most vividly the characteristic feature of the Soviet people—collectivism."

The commission that Loskutov heads is composed of the 13 deputies elected to the

Housing Commission Chairman Loskutov goes over plans for a new project with the architect.

City Soviet assisted by volunteers, each of whom is responsible for a definite part of the work. Cooperating with the City Soviet, the commission members and volunteers check on the progress of housing construction, the repair and maintenance of dwellings, the gas and water supply, sanitation measures, road repairs, etc.

The commission serves as the vigilant eye of the public, ever on the lookout for ways of making the city a better place to live in, an eye incidentally, much feared by slipshod city officials and apartment building managers unresponsive to tenant needs. A complaint brought in by a volunteer building inspector, for example, gets speedy action from the commission.

"And that's the way it should be," says Yevgeni Loskutov. "Our job is to see to the comfort of the citizens. We don't tolerate incompetence, bureaucracy, and unnecessary delay. And it's public pressure that gets things done. There's no substitute for active citizen participation, in my opinion."

At City Hospital No. 2 we are introduced to nurse Maria Shmigora, who serves on the Public Health Commission. The commission's function is to supervise the city's health facilities, and volunteer workers contribute in large measure to this job. The members of the commission carefully study the functioning of the city's hospitals, dispensaries and other medical institutions, and make suggestions for improvements.

When necessary, the volunteer workers, public health employees and hospital personnel cooperate on various measures to combat infectious diseases. One of the chief obligations of the commission is to provide good health protection for children and adolescents. It was on the initiative of the members of the commission, for instance, that steps to improve the infant food kitchens were recently discussed at the plenary session of the City Soviet. The recommendations of the commission, moreover, are binding on all medical workers.

"It's a good thing our people have come to handle all the affairs of the city themselves," said nurse Shmigora. "We're always ready and willing to do everything that has to be done, for we know that we are doing these things for ourselves. We have drawn everyone connected with medicine into the work of our commission. The protection of public health is our main point of concentration, and I think we are doing a good job of

Public Health Commission members Maria Shmigora and Dr. Yakov Guba talk to Nursery Director Shafran.

cooperating with the personnel in the medical institutions of Dneprodzerzhinsk."

Pyotr Seminenko, who teaches at the local vocational school, is chairman of the Educational Commission. Its chief task is to improve instruction, educational work and school discipline for the 25,000 city pupils and students.

In this work the commission relies largely on the aid of the teachers and the pupils' parents. And results are evident. The members of the commission widely publicize in the local press the best and most useful work done in the schools. Ways of developing pupil creativity, polytechnical training, teaching methods, and many other practical questions have been successfully dealt with by the commission members in their day-to-day activities.

Pyotr Seminenko is enthusiastic about the contributions the unofficial members of his school commission have made. "We've been getting some fine things done," he says. "So have all the commissions—on finance, on trade and public catering, and all the others."

Direct participation in government means added headaches and responsibility for these volunteer workers, but they feel—as do Soviet people generally—that activity in the public behalf brings its own moral satisfaction. Such volunteer workers are treated with respect and admiration in the Soviet Union, for everyone knows that their mission is a noble one. Everyone knows, too, that they are not out for recognition, for personal advantage or privilege. The people know that everything these workers do is done unselfishly and voluntarily with the single aim of serving the people and improving their well-being.

The public similarly plays an important role in other spheres of municipal life. At some of the city's enterprises, for instance, the pay is distributed by the workers themselves without the aid of cashiers. Each worker checks his name on the payroll, notes the amount of pay indicated, and removes that amount from the stacks of currency that represent the enterprise's payroll. Some theaters have no ticket collectors; many of the public vehicles have no conductors for collecting the fares. Public order has become the concern of the citizens, who no longer need the intervention of the militia.

These are the characteristics of some forms of public self-government, a method born in the Ukrainian city of Dneprodzerzhinsk on the initiative of its population.

BY VICTOR GRISHIN
CHAIRMAN, ALL-UNION CENTRAL COUNCIL OF TRADE UNIONS

MORE AUTOMATION—MORE JOBS

In any country with a highly developed economy the automation of industry and the resulting economic and social problems occupy the attention of the broad public and are a subject of passionate discussion as well as scientific research.

One of the problems which technical progress poses for society can be formulated in essence as follows: Is automation a boon or a burden to the working man? No one can deny that automation is a powerful lever for economic development and that it makes possible greatly expanded production and increased labor productivity, without which a rise in the people's standard of living is impossible. At the same time, depending on the way the economic system of a country is organized and what its social structure is based upon, automation may spell privation for the working people. It can be a disaster for them, inasmuch as it may be accompanied by a cut in employment with tremendous numbers of factory workers and office employees thrown "overboard."

Under the conditions in the Soviet Union, where all manifestations of a developing economy, including automation, are subordinated to the principle of planning, automation cannot lead to unemployment. In the Soviet Union one of the major problems raised by automation is the planned redistribution and most rational use of the labor resources. Much attention is paid to this problem in the USSR, inasmuch as the pace of the economic development of the country and the rise in the people's living standards greatly depend on its solution. It is especially important today since the Communist Party of the Soviet Union, in its Program to be adopted at the Twenty-second Congress, will indicate concrete ways for the Soviet people to advance toward communism, a society where there will be an abundance of both material and cultural values. The Soviet people well understand that the better each person works, the quicker the country will reach its cherished goal.

How are the economic and social problemes that are connected with the automation of industry solved in the Soviet Union? What role do the trade unions play?

In this article Victor Grishin, Chairman of the All-Union Central Council of Trade Unions, discusses automation in Soviet industry and its implications for the working people and for the economy.

INDUSTRY AND AGRICULTURE in the Soviet Union are developing under conditions of uninterrupted technical progress. The development of the Soviet economy is based on the broad introduction of the achievements of science and technology in industry, the all-round mechanization and automation of the production processes, and specialization and cooperation in all branches of the national economy. The Seven-Year Plan for the Development of the National Economy of the USSR (1959-1965) is permeated with the idea of further technical progress. It contains a concrete program for the further improvement of production, for the creation in the USSR of a material and technical base for a highly developed economy capable of ensuring an abundance of material benefits for all the Soviet people and the fullest satisfaction of their constantly growing needs.

The technical improvement of production is being effected on an ever greater scale and in all branches of the national economy. Last year 90 per cent of the country's pig iron was smelted in highly mechanized and, to a considerable extent, automated blast furnaces. The metal-rolling industry is also being automated. There are a number of automatic machine-building plants and shops. Automatic transfer lines have been created at many machine-building enterprises.

In the chemical industry considerable automation has been effected in the production of synthetic rubber, alcohol, hydrochloric acid, etc. In the oil refining, coal, light and food industries many processes have changed over to automatic and remote control. All state hydroelectric stations have been automated and most of them transferred to telecontrol. At thermoelectric stations the regulation of the combustion processes and the charging of the overwhelming majority of the boiler units have been automated.

Automation is being introduced in agriculture on an ever greater scale. We have experimental automatic tractors, and automatic production lines are being introduced for the processing of grain, the preparation of fodder and other such operations.

The seven-year plan provides for the automation of hundreds of plants, factories and mines, not to mention thousands of shops and units. At the same time the machines and equipment presently in use

are being modernized in all branches of the national economy.

The people of our country are very much in favor of mechanization and automation because they know that it means increased production with a higher standard of living and easier working conditions. It goes without saying that the Soviet trade unions are also vitally interested in all-round mechanization and automation.

Contact with foreign trade unions, however, shows that not everyone in the West understands that in the Soviet Union, despite the rapid technical progress and the ever greater automation of industry, the entire population is fully employed. This question arises first of all among the trade union representatives of those countries where there is mass unemployment and where automation is aggravating this problem even more.

In the Soviet Union unemployment was done away with for all time more than thirty years ago. Automation has not changed this fact, nor can it.

One of the most important features of the Soviet system of economy is planning. The national economic plan is drawn up by the state organs with the direct participation of the people. The expansion of production, its technical improvement and provision with manpower, the development of housing construction and trade, the improvements in living conditions and cultural services, and the rise in the living standards of the working people are all an integral part of this plan.

Despite rapid technical progress, the accelerated development of industry and construction in the Soviet Union is in constant need of manpower. The seven-year plan provides for an increase of 12 million factory workers and office employees in the national economy. Needless to say, in addition to these 12 million people many more will be needed to supplement the inevitable loss in manpower due to the retirement of workers and employees on pension. In the USSR such pensions are given to men at age 50-60, and to women at age 45-55. People are also needed to take the place of the hundreds of thousands of workers and employees who leave their jobs every year to study in specialized secondary and higher educational institutions, where they not only receive their education free of charge but also receive stipends.

Another reason for the increased demand in manpower is the shortening of the workday in keeping with the seven-year plan. This reduction in the length of the workday is accompanied by the preservation of, and even a rise in, wages, especially those in the lower-paid categories. By the beginning of this year the transfer to a 7- and a 6-hour workday was completed, and the workweek now averages 39.4 hours.

According to the seven-year plan, in 1962 the workweek will be shortened by an additional hour on days before free days and holidays, without, of course, any reduction in pay. In 1964 the transfer to a 30-hour week will be begun for those working underground or at hazardous occupations. All others will have a 35-hour workweek. Wages will be preserved at the same level and will be raised according to plan. The carrying out of these measures even under conditions of further automation will call for additional manpower, for in the Soviet Union the reduction in working time goes hand in hand with an uninterrupted, rapid rise in production.

It should be added that in prerevolutionary times the chief source of manpower for industry in Russia was the countryside. Most of the peasants had exceedingly small plots of land and could not extract even a meager living from the soil with their primitive implements. Impoverished and bankrupt, they were often forced to work for the landowner or abandon their farms for factory jobs in the city. The transfer of the land and all other natural resources to the people as well as the subsequent collectivization of agriculture put an end to the poverty in the countryside and to its causes.

Most of the enterprises in our country, especially the construction projects, need more labor. One can see advertisements for workers at almost every railway station and on the billboards in the streets of cities and villages. In the Soviet Union a person does not have to look for work; he is guaranteed the right to work, just as he is guaranteed the right to leisure, education and social security.

Stagnation, depression and economic crises are ruled out in a national economy that develops according to plan. In such an economy automation does not threaten the workers with unemployment. People who are released from their jobs because of the improvement of production processes in one section of industry receive work in another, frequently at the same enterprise, in view of the expansion of output.

For instance, take Spinning and Weaving Mill No. 2 in the city of Furmanov, Ivanovo Region (one of the oldest and largest textile regions in the country). In 1960 and 1961 much was done there in the all-round mechanization of laborious processes and in the automation of production. As a result, 119 workers in its various sections were released from their jobs. What happened to them? Ninety-four were given work in other sections of this mill, 37 of them filling places left open by retiring workers and 52 at jobs in the machine shop, where qualified workers were needed to expedite the job of further modernizing the equipment.

These textile workers did not have the required skill, but since the release from their jobs was anticipated, special study courses were organized where they were given free instruction in the trades of mechanic, lathe operator and electrician.

Thus the workers lost nothing through this redistribution of labor but rather benefited from it. The most experienced replaced assistant foremen who had retired on pension and now receive higher pay than formerly.

That takes care of 94 of the 119. The other 25 were transferred, with their consent, to other factories in the city which are expanding production and require additional labor. Not one of the people was without work for even a day.

Many such examples could be given. When any enterprise plans to change over to automation, it also takes measures to find jobs for the displaced workers. Whether it is an individual factory or an entire economic area or branch of industry that is involved, everything is decided in a planned way; nothing is left to chance.

Take the food industry, for instance. During the current seven-year plan period about 430,000 workers will be released as a result of automation in this branch of industry. But 2,000 new food enterprises will be built in this period. Although they will have the most modern equipment, it has been calculated that they will need more than 300,000 workers. The existing enterprises will also expand, which means that additional labor will be required. And people will be needed to replace workers who retire or leave for other reasons. The result is that not only will all those workers be provided with employment, but additional workers will be needed.

In our country job placement is one of the most important activities of the economic bodies and trade unions and is decided according to plan. For instance, the seven-year plan provides for radical changes in the fuel balance. Low-calorie and relatively expensive types of fuel, such as the brown coal found in the region not far from Moscow, are being replaced by gas and oil. The extraction of brown coal in the Moscow basin is being reduced, with the result that in the 1960-1965 period 30,000 miners will be released in the Tula Economic Area.

When they were planning to reduce brown coal extraction in this area, the planning and economic bodies simultaneously provided for the construction of 30 new industrial enterprises in the region that would employ about 40,000 workers, more than the total number of displaced miners.

It is true that not all of them will want to change their trades. Most of the miners like their work, and there is the force of habit to consider. Besides, Soviet miners are very well paid and enjoy special privileges. But that is no problem. Those who wish to remain miners can, if they choose, get jobs in other coal regions. The state will pay their moving and travel expenses to the new place, and give them a lump sum in addition. Housing at the new place of work is provided by the state. In 1960 about 4,000 families moved from Tula Region to other parts of the country under these conditions.

The Whole Country Is Studying

The pace of technical progress impels Soviet workers, young and middle-aged, to keep on studying. They know that in our age of automation, a worker must be able to handle modern lathes and machines, precision measuring and control instruments and be able to read technical specifications and blueprints.

The Soviet state is ready and willing to meet every educational need. It organizes courses of all kinds and on all levels. It keeps opening new tuition-free general education schools, technical schools and colleges. Those who study after work enjoy numerous priviliges, such as being excused from working the evening and night shifts, getting additional vacation time to prepare for exams, etc.

Large numbers of people are taking advantage of these educational opportunities. About 8 million workers annually acquire new vocational skills or improve those they already have. About 5 million study after working hours at evening schools and colleges. One out of every four citizens in the Soviet Union is studying, the percentage among workers is even higher.

Census figures show that 39 per cent of the workers have a secondary or higher education; the figure twenty years ago was 8 per cent. It is with this educational background that Soviet workers are entering this period of intensive automation.

The Trade Unions Favor Automation

Soviet trade unions actively participate in carrying out measures for the mechanization and automation of industry. They see to it that the new technology is of maximum benefit to every working person. The trade unions also take part in drawing up plans for the technical improvement of industry which are elaborated by the state and economic bodies. They draw the workers and employees into discussing these plans at meetings of the permanent production conferences elected at every enterprise and construction site.

The extent of active participation of workers in the struggle for technical progress and their interest in modernizing industry can be judged from the increased scope of the innovators' movement in the country. In 1960 about 2.4 million innovators and inventors, mostly factory and office workers, submitted more than 4 million proposals for the improvement of production. A considerable number of these proposals were carried out and saved a great deal of materials, time and money. It goes without saying that the authors of the proposals received proper remuneration. Many factory and office workers, engineers and technicians are members of the USSR Society of Inventors and Innovators and the scientific and technical societies in the various branches of industry organized by the trade unions.

The economic bodies and trade union organizations consult with the workers on questions concerning jobs for those who will be replaced by automatic machines, their re-education and instruction in new trades, so that everyone may benefit from the innovations in production techniques. The plans for technical improvement are corrected by the workers and in their interest.

To protect the interests of the working people, the trade union organization has the final word. In the Soviet Union no worker may be discharged, regardless of the reason, without the consent of the factory, plant or institution trade union committee. Its consent is also required if a person is to be transferred to another job. In labor disputes between a worker and management the factory, plant or institution trade union has the last and decisive word. Should the administrative head of an enterprise violate the labor laws, he is removed from his post on the demand of the trade union. Our country's labor legislation and the active participation of the trade union organizations guarantee that the workers' interests will also be protected when automation is introduced.

The working people of our country are confidently building a new society whose banner bears the words: "From each according to his abilities, to each according to his needs." "Figuratively speaking," Nikita Khrushchev explains, "this society will be like a bowl that is overflowing with the products of physical and cultural labor, a bowl accessible to all. For each—an abundance of foodstuffs, clothing, footwear, apartments and books. That is what we call communism. And in this society each will work according to his abilities, for all and for himself, and people will receive according to their needs. That will be joyous, creative work."

The Soviet people, inspired by their lofty goal, are successfully carrying out the seven-year plan to create an even better life for every working person. In our country we call automation the wings of the seven-year plan, which reflects the significance of automation for the country and the people's attitude toward it.

The automation of industry, which is directed by the wisdom and will of man who has created a planned economy, is a mighty implement in the building of a new society. In socialist countries it paves the way to abundance and a happy life for the workers.

QUERIES FROM READERS

QUESTION: Who builds the apartment houses in the Soviet Union and how are new apartments distributed?

ANSWER: Housing in cities and industrial communities is built by the local Soviets at state expense, and by state enterprises and various administrative agencies. The funds of public organizations and, through housing cooperatives, the savings of private citizens are solicited for financing the construction of large apartment houses and rural cottages. Individual citizens also build their own homes with state loans.

Housebuilding in the countryside is proceeding at an equally fast rate. The state farms build homes for their personnel at state expense, the collective farms use their own funds. Some collective farm members build homes using their own savings and receiving help from the collective farm.

Since all land in the Soviet Union is publicly owned, a person who wants to build a house applies to the local Soviet for a plot. He pays nothing for it.

In large cities housing construction is in the hands of special construction agencies of the local Soviet. The Moscow Soviet, for example, has several such agencies whose sole job is the construction of apartment houses and public buildings—theaters, stores, restaurants and the like.

Industrial plants, administrative agencies and housing cooperatives either do their own apartment-building or contract with one of the construction agencies for the job.

Individual home builders can buy prefabricated houses or building materials at lumber yards and in special building materials shops. Industrial plants and offices usually help their employees by providing transportation, materials and technical know-how.

The distribution of new housing is done as fairly and equitably as possible. Priority is given to families living in substandard apartments and those in houses slated for demolition. Then come families with inadequate living space.

The draft of the Communist Party Program sets the task of ensuring every family, including newlyweds, a comfortable apartment within twenty years. Families that need apartments file housing applications with the appropriate department of the local Soviet. The living conditions of the applicant are investigated, and if the request is warranted and the requirements met, it is approved by the Executive Committee of the Soviet. The applicant is then placed on the list. The Executive Committee of the local Soviet approves the list of citizens who are to receive apartments in the new houses, and the lists are posted for everyone to see. All citizens have equal rights to new apartments. The strict observance of priority, while meeting definite requirements, is obligatory for all.

The apartments in houses built by state enterprises and administrative agencies are distributed jointly by the management and the trade union committees. Each of the local trade unions has a housing committee which checks on the housing needs of its membership and makes recommendations for the distribution of new apartments. The recommendations are turned over to the trade union committee of the factory or office for decision which then goes over the list with the management. Both must approve the list.

Priority is given to the best workers. Applicants for apartments in houses built by state enterprises and administrative agencies must also be on the housing list of the local Soviet. The same rule of need applies.

The Executive Committee of the local Soviet has the final say. It can override the decision of the trade union committee and the management if it sees fit. Thus the Soviets in all cases have the decisive voice in housing distribution, an additional guarantee that new apartments will go to those who need them most.

The rent in houses belonging to the Soviets and those owned by state enterprises and administrative agencies are fixed by law. As a rule, they do not exceed 4 to 5 per cent of the family's earnings.

THE OCTOBER REVOLUTION ON POSTAGE STAMPS

BY ILYA ZBARSKY

THE GREAT OCTOBER 1917 REVOLUTION, which set Russia on its socialist course, is the theme around which many Soviet postage issues are designed.

The very first Soviet stamp, issued forty years ago, showed a worker trampling a dead dragon that symbolized the defeated exploiting classes.

A commemorative series was issued for the fifth anniversary of the Revolution in denominations of 5, 10, 25, 27 and 45 rubles. Each of the stamps showed a worker chiseling the anniversary date "1917-1922" on stone.

A pictorial seven-stamp series was put out in 1927 to celebrate the tenth anniversary of the October Revolution. The 3-, 5-, 7-, 8-, 14-, 18- and 28-kopeck stamps depicted episodes in the 1917 struggle of the revolutionary workers, soldiers and sailors for Soviet power. The 18-kopeck blue stamp pictured the people of the Caucasus and Central Asia who, together with the Russian people, were building a new life.

The fifteenth anniversary of the Revolution came at a period when the whole country was stirred by the great goals of the first five-year plan. The commemorative seven-stamp issue, in denominations of 3, 5, 10, 15, 20, 30 and 35 kopecks, bore illustrations of revolutionary scenes as well as of the first giant Soviet industrial projects in construction.

The 3-kopeck violet stamp commemorated Lenin's return from exile in April 1917. He is shown in Leningrad addressing the people from the top of an armored car. The 20-kopeck stamp has a red-purple background and a picture of the big Magnitogorsk Iron and Steel Mill put into operation in 1932.

The twenty-fifth anniversary of Soviet power fell in the grim war year of 1942. It was marked by an eight-stamp commemorative issue—in denominations of 5, 10, 15, 20, 30, 60 kopecks and 1 and 2 rubles—that pictured episodes of the 1917 Revolution and of the war against fascism.

On the thirty-eighth anniversary three commemoratives were put out—two 40-kopecks and a 1-ruble. One of the 40-kopeck stamps showed the people storming the Winter Palace, the seat of Russia's last bourgeois government.

The fortieth anniversary of the Revolution was celebrated with special ceremony. For the occasion 22 new commemoratives and two blocks were issued. The striking multicolored 40-kopeck stamp shows Lenin, leader of the Revolution, against a red flag.

In November 1958, for the forty-first anniversary, a 40-kopeck and a 1-ruble stamp were issued. The 40-kopeck carries bas-relief portraits of Marx and Lenin. In 1959 a 40-kopeck commemorative pictured a November 7 demonstration in Moscow's Red Square. The 1960 commemorative, for the forty-third anniversary, is engraved "Glory to the Great October." The stamp pays tribute to Soviet industry. A sputnik symbolizes the great horizons which the 1917 Revolution opened to the working people of Russia.

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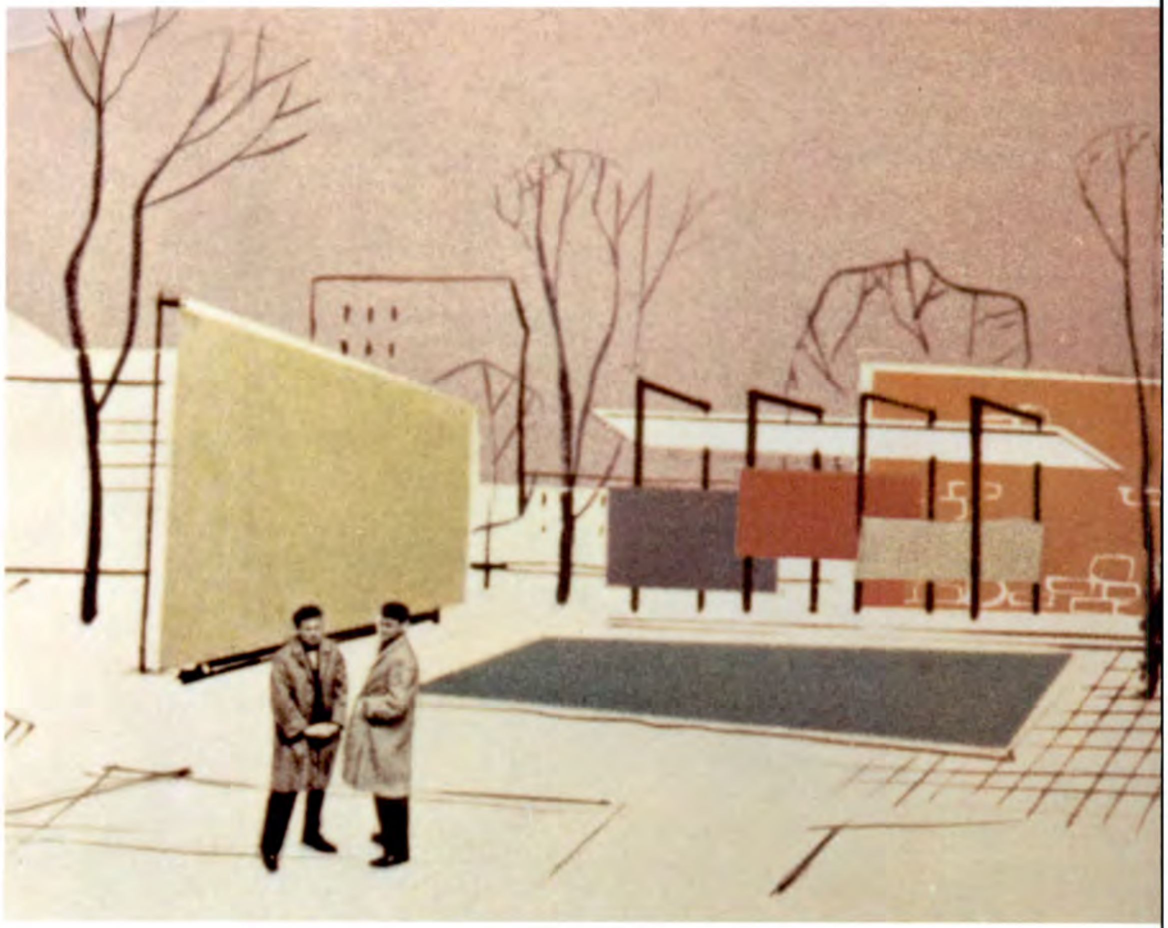


BY YURI TSENIN
PHOTOS BY IGOR VINOGRADOV

WHEN WE SAY every city has its own face, we generally mean its most striking buildings and architectural groupings, the layout of its streets and parks. But the modern city has another face—the ugly monotony of metal, brick and concrete that constitutes its mills and workshops.

How can a city's industrial district be beautified? How dress a shop with its row on row of steel-gray machines so it will please the eye? Soviet architects and industrial decorators have long pondered these questions. With color and modern design they have done much to make factory exteriors less forbidding, in some instances on a city planning scale.

Some time ago I visited Stalinogorsk, a city less than thirty years old. Here were pleasant residential districts set in the midst of greenery, separated from the North End with its big chemical mills, power stations and coal mines by a half-mile "health" belt.

But city planning of this kind, where residential and recreation areas are some distance removed from industrial plants, is only a partial solution of our problem. How about the working environment itself?

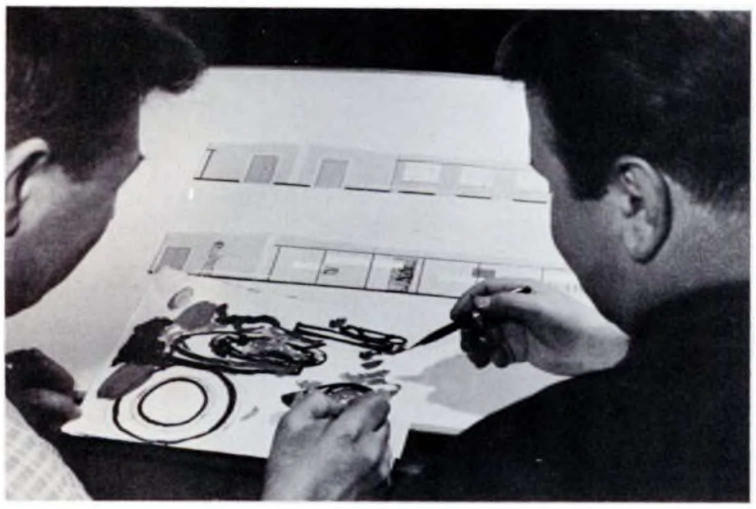
Stalinogorsk interior designers had done an interesting job there, too. I looked into the newly built main shop at the chemical plant. It is a very large shop flooded with light, the floor of white and colored tile harmonizing with the gleaming silvery sides of the converter's sixty-foot cylinders. The collectors and pipes are painted in rich reds, greens and yellows. A profusion of potted plants that soften the steel gray of the automatic machines, and the operators in white smocks completed the picture of the truly modern shop.

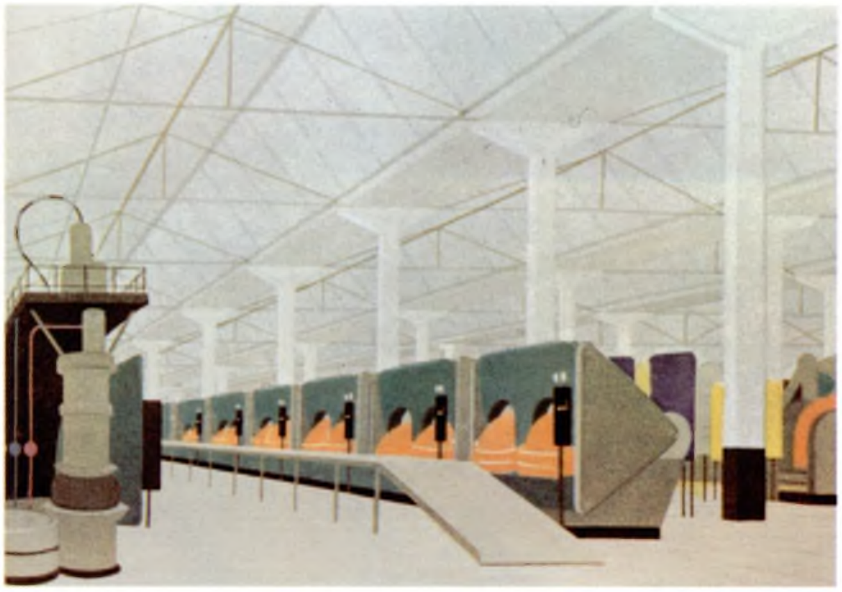
The shop was planned by an architect and interior designer working together, the architect's blueprints complemented by the artist's drawings. The sketches were gone over at a meeting of the mill workers who offered suggestions on lighting, machine arrangement and décor.

The Stalinogorsk chemical plant is no isolated example. Along with automation, beauty is a must in newly built or modernized Soviet factories. When surroundings are attractive and restful, say both workers and factory executives, productivity is higher.

Studio 7's head Yevgeni Rosenbloom (left) and artist Georgi Lutsky beautify factory interiors.

CTURE and...





Architect Natalia Roschina (right) and artist Anna Dobroklonskaya work together on the décor of a building materials plant.

A year ago ten large Moscow studios, employing hundreds of decorative artists and architects, formed a combine sponsored by the USSR Artists Union. They design and replan factory and office interiors and grounds for maximum comfort, utility and beauty. They have done a remarkable face-lifting job on some venerable eyesores.

I dropped in at the combine's Studio No. 7, a large, light workroom in a new building in the Southwest District of Moscow. The floor was crowded with drafting boards and models, the walls with sketches. A studio is the one place where clutter and commotion seem perfectly in order. It is in this kind of creative stir and confusion that designs are crystallized and take shape.

I asked to see the person in charge of the studio and was directed to a tall, lean man of forty or so wearing a sweater with the sleeves rolled up. He stood at one of the desks, rocking on his heels with his hands in his pockets, examining a sketch being worked on by one of the men. He made a comment and went on to the next desk. I wasn't the only one who wanted to talk to him, I found out. There were other visitors waiting, not to speak of his own artists. He seemed to be very much in demand.

I was introduced to Yevgeni Rosenbloom, an ex-major in the Engineers Corps and an architect by training, who went into designing interiors after the war. His fine work at large Soviet and international exhibitions won him admission to the USSR Artists Union.

He planned a number of the displays for the Soviet Pavilion at the Brussels World's Fair. Two of the largest sections of the Soviet Exhibition in 1959 at the New York Coliseum, "Science" and "Cosmos," were designed by this gifted man who is a civil engineer, architect and artist all in one—the three professions necessary to successfully solve the problems connected today with interior design.

"We live in a time when people have a real craving for beauty," says Rosenbloom, "and we artists try, wherever possible, to create a more beautiful environment for living and working. Relaxing colors, good proportions and attractive groupings in shops and offices give the people who work in them a sense of peace and order."

...DECORAT

Studio 7's artist Boris Milyukov helped design these very striking ceramic panels for factory club interiors.

The studio is constantly getting orders from factories and mills for replanning their interiors. Artists spend time on the scene exploring the physical possibilities and limitations. They try to plan a shop so that everything—floor, walls, machines, light fixtures—will please the eye. The most important element is color. Blue, yellow and the lush greens—the colors of nature—have been found to be particularly relaxing.

While working on plans for the interiors and grounds of individual shops and factories, the studio decided to produce standard designs that might be suitable for dozens of industrial plants.

In cooperation with the personnel of the Moscow Krasny Proletary plant, a group headed by Rosenbloom worked out one of these projects. The plant's trade union and Party organization set up a special Methods Council, made up of trade union and management representatives, to help the artists with suggestions. The design was discussed at shop meetings before final approval.

The plan turns the traditional cheerless pathway from the factory gates to the buildings into a bright roadway flanked by stands on which are posted the latest factory news—trade union announcements, orders from the management, club programs, wall newspapers. This at once creates a cheerful yet businesslike work atmosphere.

The plan also calls for a Square of Honor to be laid out on the factory grounds for open-air meetings and celebrations, to be decorated with portraits of the best workers.

A "Before" and "After" Shop

Natalia Roshchina is one of Studio 7's young artists. She graduated from the Moscow Architectural Institute two years ago, became interested in factory decoration and joined the studio. With another studio artist, Anna Dobroklonskaya, she planned the interior decoration for a chemical plant. Natalia talks of the plant as "*my* plant." She has every right to, I concluded, when she showed me the "before" and "after" sketches of the main shop.

"Before" was a long single-story structure with gray concrete floors and dark walls lined with boilers for colored polystyrene plastics, a mill for rolling linoleum, machines for making vinyl tiles—altogether a pretty cheerless place.

IVE ART

"After" will be a bright neon-lighted shop with walls of a restful and pleasant pale lavender highlighted by red, blue and yellow plastic wicker benches for the workers.

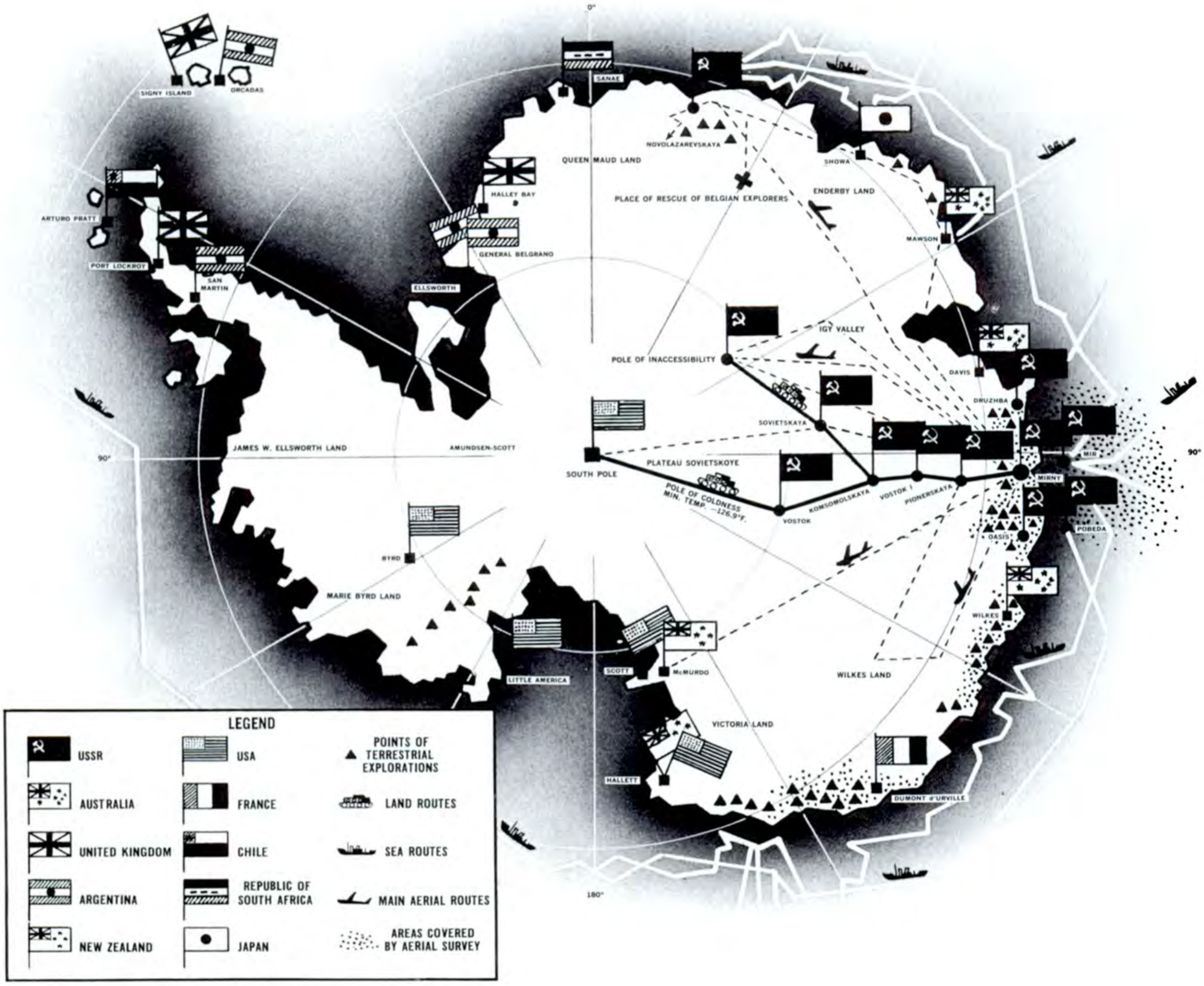
Natalia and the shop manager also redesigned the preparation shop, where the raw and processing materials arrive. They worked out a new and much more efficient unloading system, a storage setup and a sort of conveyor. The renovated shop is tidier, more orderly and much more productive.

Nor did the articles produced by the plant escape the eye of the decorators. Natalia Roshchina and Anna Dobroklonskaya suggested ways of making more artistic use of the natural beauty of the fabric itself in designing linoleum patterns. On their advice also, the color scheme was changed. The result was a better-looking linoleum and less paint used.

The plant is presently building three new shops and Natalia, at the same time, is redesigning the half square mile of grounds and buildings. Her plan calls for the conversion of a large part of the grounds into a recreation area for plant personnel with an artificial pond framed by trees and decorative walls of polystyrene plastic. Fronting the pond will be an open-air café under a large awning, with chess and ping-pong tables nearby and a secluded area for reading.

Natalia has been carrying on a private war against asphalt. She proposes to rip it all up, substituting it with lawns that reach to the very walls of the shops. The approach roads are to be circular, at no point crossing the recreation zone. At one end of the grounds, as far away from the shops as possible, are to be tennis, volleyball and basketball courts. Another corner of the grounds is set aside for the display of the plant's products. The side walls of the shops are to be covered by large, decorative panels and the windows shaded by light-colored awnings.

Factory clubs constitute another large area of activity for decorative artists like Boris Milyukov and Victor Markov, who are planning the interior of a miners' club near Tula. They are using such materials as stained glass, colored ceramics and metal for the lobby and the rooms. They work out their designs, as do all Soviet interior decorators, in collaboration with the architects and builders. Their new approach to this interesting field is bringing joy and beauty to thousands of Soviet workers.



WARM WIND ACROSS AN ICY CONTINENT

FIVE YEARS AGO the warm winds of international amity began to blow across the icy wastes of Antarctica with scientists of twelve countries cooperating in a study of the South Polar regions. These states subsequently signed and ratified an International Treaty on the Antarctic which declares that the continent is to be utilized only for peaceful purposes and prohibits military activity of any kind—the establishment of military bases, the building of forts, the testing of any type of weapon. The treaty specifically bans nuclear testing on the continent and the extraction of radioactive ores. Among the signatories were the USSR, the USA, Great Britain, France, Australia, Chile and Japan.

Recently, representatives of the twelve nations gathered once again, this time in Canberra, Australia, for the first International Conference of Countries Participating in the Treaty on Antarctica.

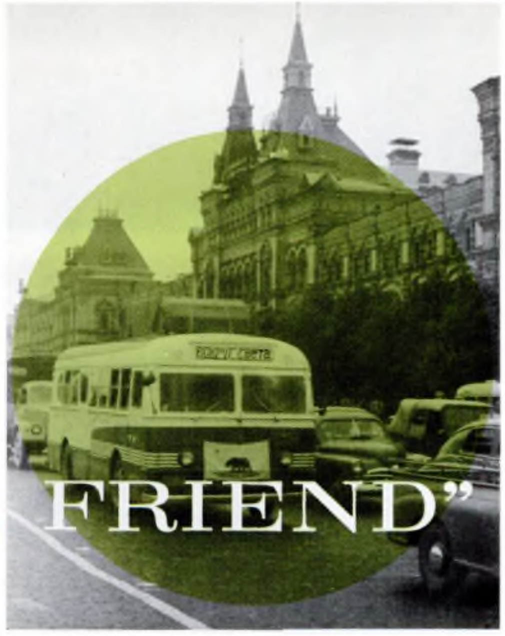
Reporting on the work of the conference, Alexander Afanasyev, Chief of the Central Board of the Northern Sea Route Administration of the USSR Ministry of the Merchant Marine and deputy head of the Soviet delegation, noted that the participants had unanimously adopted recommendations on cooperation in various fields of scientific research, provision of material and technical facilities, transport, and the preservation of the fauna and flora of the sixth continent.

The signatory countries also agreed to keep one another informed in detail about all expeditions to the icy continent, stations already set up or to be set up, the personnel of stations and expeditions and their research programs.

Polar expeditions from the participating countries have gathered a good deal of experience these past few years. Explorers have been devising improved types of transport, clothing, food, and living and working facilities for subzero temperatures. They have perfected station supply and radio communication techniques.

To make this experience generally available the conference scientists recommended that a meeting of experts be held to discuss problems of radio communication and to exchange information and experience on material and technical facilities and transport in Antarctica.

Other important proposals adopted concerned the preservation of historic sites on the continent, cooperation on postal service, and mutual assistance for field expeditions.



"Around the World" is the Johnson bus sign.

"GREEN LIGHT TO YOU, FRIEND"

BY PAVEL BARASHEV

A QUIET, gray-bearded man from Santa Barbara, California, was speaking: "I know what war is. . . . In the winter of 1944 I flew a Boeing to bomb the Nazis in Austria. An anti-aircraft shell hit the wing and the plane caught fire. The crew was wounded and couldn't bail out, so I had to make a forced landing in the middle of the night. I was the only survivor. After eighteen months in various hospitals, I came home minus my left foot. Now I have to wear an artificial limb to get around. I certainly know what war is . . ." Vernon Johnson repeated.

He smiled—the smile made him look like Hemingway—then added, "That's why I don't want *them* to have a taste of war."

"Them" are his eight children. Christie, the eldest, is 18; Anders, the youngest, is three.

When all of them started to pour out of the old bus crisscrossed with signatures and greetings in a dozen languages, I thought I had somehow landed in the middle of a big children's party at which gracious Mrs. Anna Johnson, mother of this huge family, was the hostess.

It was wonderful how she managed them all. In the several hours we spent with them the children gave her no trouble to speak of. We commented on it, and she said, "The children help us in every way they can. That is why our trip around the world is not nearly as hard as my husband and I had anticipated."

Mrs. Johnson whispered something in Anders' ear, stroked his flaxen hair, and off he ran to the bus. He came back in a few seconds wearing a sweater he had put on—it had started to rain—and carrying a small plastic bucket in which to fetch water for coffee.

Johnson got the idea of setting off on a mission of peace and friendship around the world in September 1959, when Nikita Khrushchev visited the United States. One day the Chairman's train stopped at the small Santa Barbara station and he walked out on the platform. Among those who greeted him was a friendly bearded man with a winning smile. Khrushchev smiled back and said, "I like you."

"And I like you too," Johnson replied.

He described the incident with evident pleasure, and went on to say, "Two years have since gone by and I'm not disappointed in Mr. Khrushchev. On the contrary. I've come to respect your energetic Prime Minister still more. After meeting Mr. Khrushchev I took out all my savings, bought an old bus, fixed it up and set off on this trip to carry the idea of peace everywhere. It's a year and four months now that we have been living on wheels. I don't have to do much talking about peace to people. The children are best proof of the fact that my family, like the majority of people in my country, is against war."

"What do you think about our country?" we asked him.

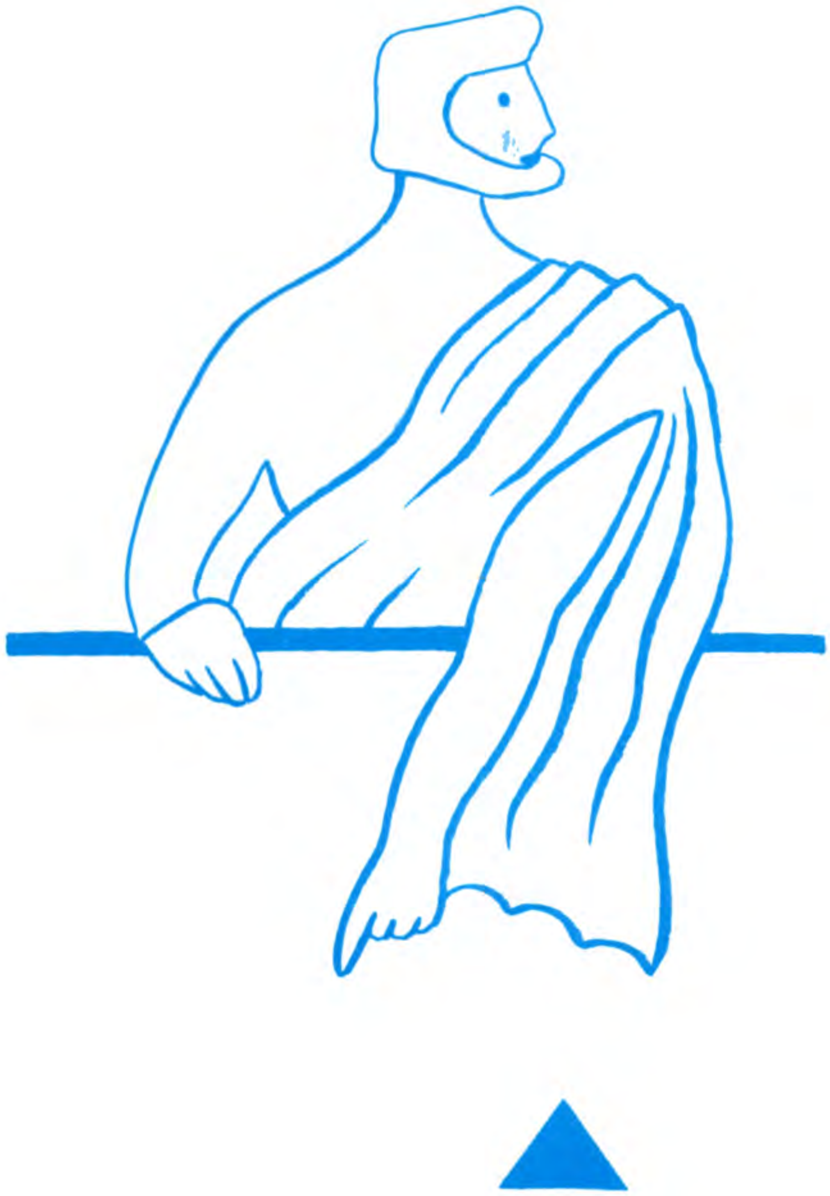
"As a builder I was struck first of all by the scale of your housing construction. I haven't seen anything like it in any other country. And, of course, I like the people very much. Your countrymen have written so many kind things on the bus that there won't be room for any more soon."

It was true. The sides of this bus with California license plate MRN 319 and an American flag in the rear window are crisscrossed with messages written in pencil, ink and paint by thousands of friendly strangers saying one and the same thing: "Peace to the world." "Long live the friendship of the American and Soviet people."

And someone had written: "Green light to you, friend."

We're driving through Siberia to the Far East and from there by boat to Japan.

We'll go broke, but we'll be carrying the idea of peace everywhere we travel.



THE SQUARE fronting Moscow University fills with students and teachers of physics and curious onlookers from other departments. The most adventurous clamber onto the pedestals of the monuments to Stoletov and Lebedev, famous names in science. The steps of the physics building are transformed into a stage on which Archimedes and Roentgen, Lomonosov, Einstein and the other great men of science pass in review before a festive audience. For this is no solemn convocation but the annual frolic of Moscow University physics students called "The Birthday of Archimedes."

A flourish of trumpets and the venerable Archimedes—with student Alexander Loginov in the role—makes his appearance and asks the crowd of assembled physicists: "So, my descendants, what have you achieved? Tell me!"

And one after another, representatives of the five courses of the university's Physics Department step onto the stage and report to the father of their science on the progress his Soviet offspring have made.

This year a huge clock of history counted off the centuries as the scientists of all ages came out to greet Archimedes. Lomonosov, the great Russian scientist, after whom Moscow University is named, came riding up from his statue on a rocket followed by strange visitors from other planets who took up positions alongside Newton, Copernicus and Giordano Bruno.

The revel mixes fable with fact, extravaganza with actuality. Last year one of the great men of science whom the students portrayed was Niels Bohr, President of the Danish Academy of Sciences. This year the eminent atomic physicist was there in person, standing beside Soviet academicians Lev Landau and Igor Tamm.

After Archimedes had spoken his last line and left the stage, Niels Bohr addressed the gathering. "My belief in the eventual success of the great work your university is doing," he said to resounding applause, "has been fortified by my get-togethers with your physics students.

The venerable Archimedes mounts the steps to the seat of honor.

THE BIRTHDAY OF ARCHIMEDES

BY VALERI KANER
MOSCOW UNIVERSITY STUDENT

The pageant opens with a parade and the arrival of a silver rocket carrying the great scientists of past and present.

There are more of them here, I venture to say, than in any other school of higher education in the world. The good cheer and humor of your yearly festival to Archimedes is something that my wife and I are not likely to forget soon."

"Eureka!" Archimedes exclaimed three times, and this triumphant cry of all researchers was echoed by the throng of spectators. Then began the carnival procession, led by Archimedes on a blue rocket, holding a torch. Behind him followed men of the future on motor scooters with banners flying. After them marched the great savants, fellow scientists of Archimedes of all epochs and all countries. Then came the academic procession of Archimedes' alma mater, Syracuse University, with third-year students in appropriate costume followed by marching robots, with a great crowd of cheering physicists bringing up the rear.

The parade over, everyone gathered at the University Club where a comic opera, called *Archimedes*, of course—written, acted and sung by the students—was presented. The scene was Syracuse; the time, every century preceding our own; the protagonists, Archimedes and the gods Mars, Venus, Apollo and Bacchus; the plot, the heroic struggle of Archimedes for the triumph of science; the applause, thunderous.

The Birthday of Archimedes presents endless possibilities for fun and inventiveness. Last year the carnival centered on a "Museum of Archimedes" that exhibited the bathtub in which he conceived his great law that an object immersed in fluid displaces its own weight, and a box of the sand in which he traced the design of his ingenious machines. All about the "museum" were placards and cartoons with the theme "Imitate Archimedes." On one of them the Greek ancient was shown doing setting-up exercises.

"The Birthday of Archimedes" is a traditional gala event. Historians and archaelogists may argue the precise day of his birth but not the physics students of Moscow University. For them it is the day they have everything set for the carnival.

Niels Bohr, President of the Danish Academy of Sciences, and his wife attended the gala birthday celebration with Soviet Academician Lev Landau.

The entrance to the Physics Department is transformed into a square in the Greek city of Syracuse.

Beaming with approval, Mikhail Lomonosov greets the gathering.

Fable and fact mix as a scientist from Swift's Laputka takes his place with Roentgen and Einstein.

Almost every student of Moscow University's Physics Department took part in the festival.

Lida Sergeyeva works behind the doll counter of the big Moscow department store called Children's World.

a Salesgirl

BY ANDREI SAKHAROV

Each customer requires individual attention. Her job is to find the right doll for each child—and parent.

LIDA SERGEYEVA's vital statistics? Twenty-one years old. Unmarried. Saleslady with a salary of 70 rubles a month and the firm conviction that the best in life lies ahead of her.

There are 4,000 salesgirls like Lida working in Children's World, a big department store, and many others like her in Moscow. They hurry to work in the morning, dash out at one o'clock for lunch. Almost all are unmarried and earn 70 rubles a month.

At first glance they all look alike in their gray, black or brown smocks with white collars. They're all of an age—20, 21 or thereabouts. But get closer and you'll feel that you've been gazing through the wrong end of a pair of binoculars. They had looked so small and so much alike. And here they are, closeup, as big as life and all different.

Lida will tell you, "We only look alike. The uniform we wear gives that impression. But each one of us is very much an individual."

Lida became a department store clerk four years ago. She left school in the ninth grade to earn her own living. Not much choice in the matter. Like many boys and girls of her generation, she had lost her father in the war, had suffered all the hardships and privation of the time. Her mother was a hospital attendant, and as the children grew up they had to leave school to go to work. They couldn't afford to study full time but had to earn a living first and qualify for some better position later. Lida went through commercial school and then took a sales job at the Children's World.

From 8 A.M. to 4 P.M. she sells toys. It's not very exciting, this kind of job and this kind of talk.

"No, dear, that toy isn't for you."

"Why do you think it isn't for him? Let me show it to him. Here, let me show you how it works. See how simple it is."

. . . But a job's a job. "How can anybody get excited about selling toys?" asks Lida.

It would be hard to find a pleasanter place to do evening-school homework than Sokolniki Park.

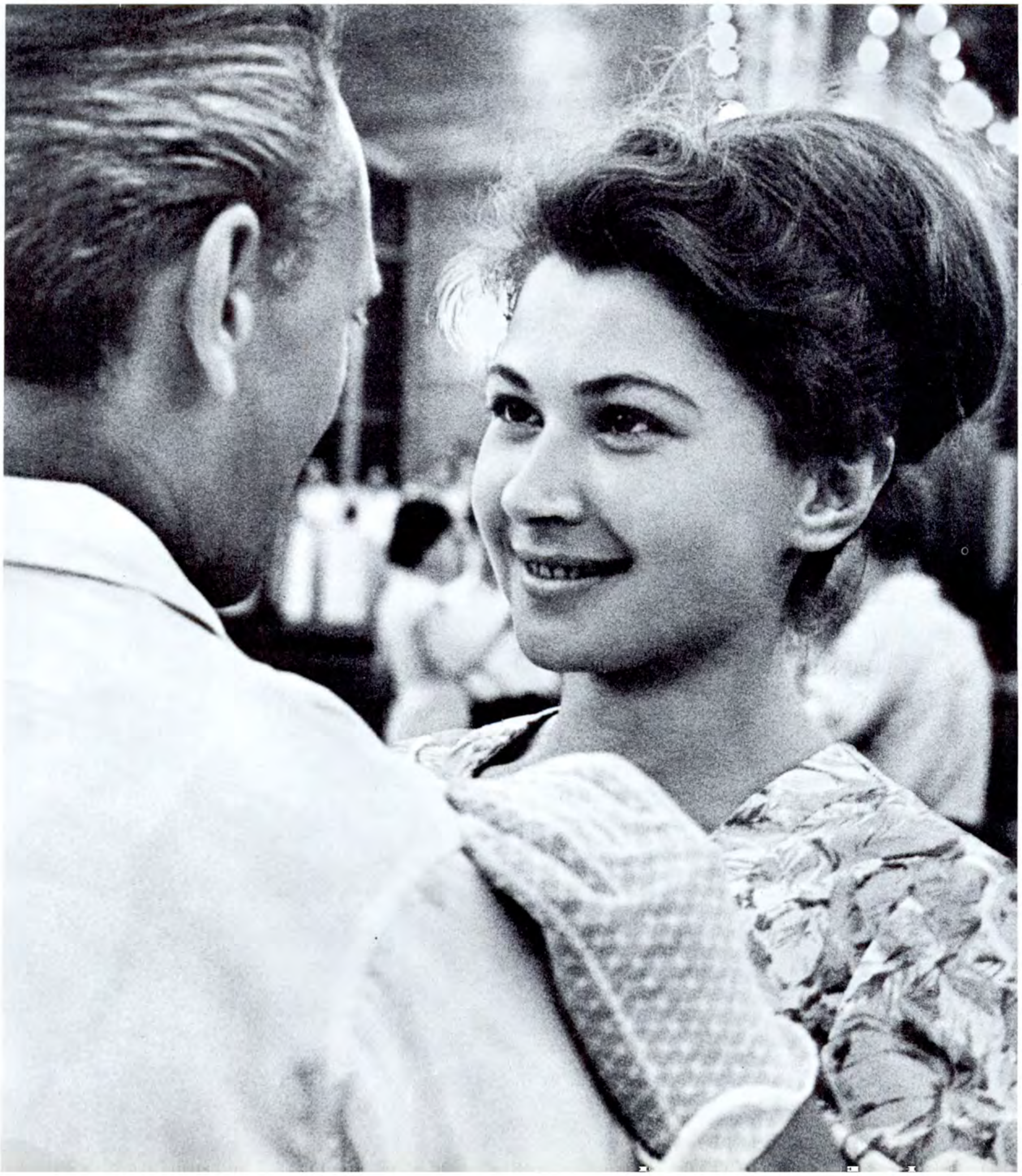
The break for lunch is long enough to sit outdoors and chat leisurely with a friend.

One of Lida's several extracurricular activities is this wall newspaper put out by the store personnel.

Lida has just graduated from secondary school and is preparing to enroll at a teachers' college.

She can't understand why people get so impatient. There's the whole day's news to tell Vladimir about . . .

. . . even if she's going to be seeing him that evening after work. Vladimir is one of the reasons Lida says, "I'm never bored, haven't time for it."



The recreation park is very popular with the young people. Lida and Vladimir often go there when the weather is nice.

A world of things to talk about—people and politics, the theater, music, art and, of course, themselves.

"I'd get pretty tired of it if I didn't like children so much."

Lida can earn sales commissions that run as high as 10-15 rubles a month, but her feeling is that sales aren't nearly as important as making children happy—even if it means suggesting that the parents reconsider their choice of toys. "It's worth it," she says, "to see the way the kid's eyes light up."

Real Work

Not surprising, is it, that Lida made up her mind to be a teacher. Then she would really be working in a children's world, helping them to grow up and mature. But to enter a teachers' training college you have to be a graduate of a secondary school. And so Lida enrolled in the evening school that adjoins the store. It's attended by so many of the salesclerks that they call it the Children's World School.

Glance into any of the classrooms and you find that almost every girl in the store has decided to become a doctor or teacher or scientist or even a department store manager. When they graduate, they go on to a college or institute for professional training, and their jobs are taken by other girls who repeat the same pattern.

"I'm halfway through and on the way to real work," Lida says. "It's impossible for anyone to be satisfied standing behind a counter when the world's moving ahead so fast."

Last spring she finished her evening school course and received a certificate making her eligible to enter an institute. She had a month's leave with full pay to prepare for her final exams and came to the store only on payday to pick up her pay envelope.

At the graduation party a radiant Lida in a new white dress listened to the congratulatory speech of the school director, danced till the early morning hours, and then greeted the sunrise in Red Square—a long-standing tradition of Soviet high school graduates.

Entrance exams for the teachers' training institute weren't given until the fall, so Lida returned to her job at the store and was immediately swept into a whirlwind of activity. She had to write an article about her graduation class for a youth newspaper. She spoke at a conference of salesclerks and representatives of Moscow's toy factories at which she told the toy executives that if they really wanted to know what children liked and didn't like, they ought to spend a few days behind a sales counter. And she organized some of her shopmates into a group who help take care of children. The girls baby-sit and help mothers with their shopping.

A Talent for Children

Lida and her mother share a pleasant one-room apartment crammed with books on art and music, reproductions of paintings, and recordings. Tchaikovsky is her favorite composer. "When I listen to one of his symphonies," she says, "I forget everything else in the world." She not only knows the music of this Russian composer but has read a great deal about him—his biography, correspondence and diary. She can talk about him for hours. "A wonderful person, he must have been—talented and hard-working." Lida's feeling is that a lazy person can never really be inspired.

You'll see her at the Moscow Conservatory Concert Hall frequently; she doesn't mind waiting in line for a ticket to hear a celebrated pianist or violinist.

Many of her friends are active in various amateur groups—art, dramatics, music. About herself Lida says, "I have no talent." But she has. Perhaps not for art or music, but she has a very decided talent for teaching children. She's demonstrated that at the teachers' training institute. She passed her entrance exams, needless to say. There's a new girl now behind the toy counter at the Children's World Department Store.

SCIENCE AND SOCIAL

WE ARE rapidly approaching the time when progress in science and engineering will make it possible for people the world over to free themselves from monotonous and unrewarding physical labor and the triple scourge of hunger, cold and homelessness; when creative work and the world's cultural wealth will be within everyone's reach.

In the past two or three decades science and technology have moved forward at such a dizzy pace that it is difficult to conceive the limit to man's mastery of nature. It has become possible for us to build the scientific-technical base for a good life for everyone on our globe.

If it were possible to place unlimited quantities of electrical energy at man's disposal in every part of the world, then, given the proper social system, the welfare of every person could be improved immeasurably. At present, however, we generate only enough electric power to give everyone on earth about one-tenth of a standard kilowatt—not very much. With this short supply hard physical labor is unavoidable, particularly in the underdeveloped countries.

But we do have the resources to multiply the present total many times over. The Soviet Union, which has increased its own electric power output 60-fold in 43 years, with an annual increase of approximately 10 per cent, proves the point. With the proper organization of the forces of society, the complete elimination of the war danger, the liberation of the colonial peoples and active assistance to them in building up their own industries, the world's power supply could very quickly be multiplied tenfold.

Assuming the Soviet Union's rate of electric power growth to be true for all countries, we could increase power production 40-fold by the year 2001 and raise the world per capita figure to four standard kilowatts. Population growth could be met by raising the efficiency of power stations, particularly of atomic power stations.

We have very considerable reserve possibilities with the development of fuel elements that burn oil or coal, whose chemical energy can, in theory, be converted into electricity with practically no losses. There are also reserve possibilities in the development of a magnetohydrodynamic generator with a probable fuel efficiency of 60 per cent.

Energy from the Atom

Nevertheless our coal, oil, uranium, thorium and hydropower resources are not infinite. Sooner or later they will be exhausted, no matter how large the present supply.

Controlled thermonuclear reaction would open incomparable potentialities for power. The possibility of achieving such reactions during an atomic explosion is proved by the very existence of the hydrogen bomb. However, it seemed at first to be impossible to achieve a continuous reaction. Such a reaction generates huge quantities of heat; the temperature in the reaction zone climbs to hundreds of millions of degrees, precisely what is required for the reaction to proceed with sufficient speed and to sustain itself. But with such heat the walls of a thermonuclear furnace, regardless of their composition, would immediately vaporize.

Soviet and foreign physicists have advanced a theory of magnetic insulation which solves the heat transfer problem, but there are many serious difficulties in the way of its practical application during an uninterrupted thermonuclear reaction. New ideas are required and will undoubtedly be forthcoming. For example, physicists are studying relatively new alloys that have superconductive properties and very large magnetic fields. Such alloys will perhaps make magnetic insulation by high frequency fields possible.

We do not know how soon we will learn to control thermonuclear reaction, but the likelihood is that it will be within this century.

The energy released in the thermonuclear process is formed by the transformation of light nuclei—chiefly the nuclei of deuterium (the heavy isotope of hydrogen) and lithium—into the more stable nuclei of helium. The energy of deuterium contained in one liter (1.056 quarts) of ordinary water equals that released in the combustion of 160 kilograms (352.7 pounds) of coal. This means that there is as much energy contained in a volume of 230 cubic meters (300.8 cubic yards) of water as in all the world's annual coal output.

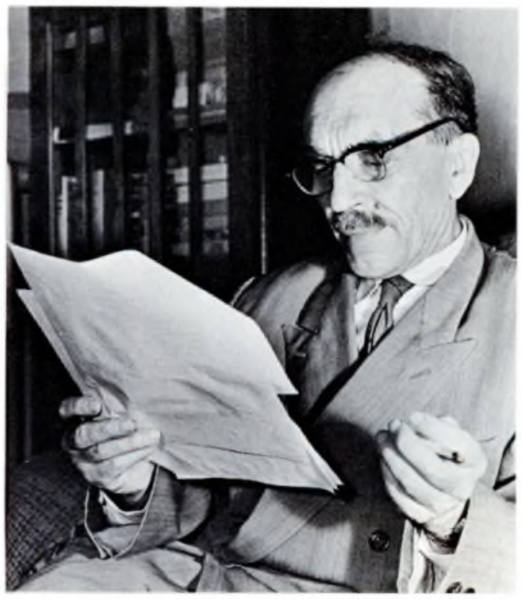
To obtain electrical energy from thermonuclear reaction we would have to build stations of very great concentrated capacity. Would the capacity be limited? It would, in spite of the seeming contradiction. The limit is set by the fact that the high temperatures at which the reaction takes place would overheat the earth's surface and atmosphere.

We estimate that the average earth temperature would rise by seven degrees if the heat released by the thermonuclear reactors equaled ten per cent of the solar energy that reaches the earth. This would be sufficient to quickly melt the arctic and antarctic ice. We would therefore have to confine our production of thermonuclear energy to about five per cent of the solar energy.

But this would mean that we could generate about 12,500 times the amount of power now being produced, so that even if the population of our planet multiplied ten times, we would have 125 standard kilowatts per capita. That is a great deal of electricity, 1,250 times as much per person as there is today.

We should qualify this statement since only about five per cent of the energy we now use is electrical. Therefore, the aforementioned limit

PROGRESS



BY ACADEMICIAN NIKOLAI SEMENOV
NOBEL PRIZE WINNER

of thermonuclear energy production will not be 1,250 times the present-day level of per capita consumption of all types of energy but approximately 60 times. But even this figure is tremendous, particularly in view of the immeasurably greater value of electric as compared to thermal energy.

Energy from the Sun

The prospects are even more promising once we learn to convert solar energy into electricity, assuming an efficiency slightly higher than in photosynthesis.

The greater part of the sun's radiation is dispersed and partly absorbed by the atmosphere, and only about 40 per cent reaches the earth's surface. But even if all the heat the earth receives from the sun could be converted into electricity with an efficiency, let us say, of no more than 20 per cent, we would still be able to produce more power than with the maximum use of thermonuclear energy. As little as one-tenth of the energy thus obtained would be enough to provide a world population dozens of times larger than ours with all the electricity it could use.

Solar energy has many advantages, except for the fact that it is so widely dispersed and has to be collected over huge areas. The only feasible way of collecting it would appear to be to cover the surface areas with a layer of light-sensitive liquid or water emulsion, with a thin plastic film on top. A central station would isolate the high-energy product and use it in electric elements, resembling fuel elements, with almost 100 per cent efficiency.

The technical problems involved are extremely difficult and need a great deal of study. Power catalyzers would have to be created to convert the solar radiation into the chemical energy of the reaction products with a sufficiently high efficiency. Green plants have such catalyzers in their chloroplasts that contain chlorophyll. They make it possible for the plant to obtain high-energy, oxygen-emitting organic substances from carbon dioxide and water with the help of sunlight. The efficiency of the photosynthesis process in plants is approximately 10 to 15 per cent. We need catalytic agents that operate on the same principle but with double the efficiency.

With well-organized and extensive research we can solve the problem of solar power. The rewards would be enormous. An irradiation surface of one square kilometer (.38 square mile) would give us an average 22,000 kilowatts of electricity, and in the southern latitudes the figure would be considerably higher.

With electric power in these great quantities we could have an unlimited supply of metals. We could transform metallurgy by the wide application of electrolysis and electrothermics and place all the elements in the earth's crust at our disposal. It is not too far fetched a possibility that at some future time we will be able to extract raw material from the very bowels of the earth, that we will be able to drill down to molten rock and guide its flow to the surface like lava from a volcano. We might even be able to obtain ore from the ocean floor.

Alloys of great strength, resistant to heat and corrosion, will be created. As output increases and basic modifications of our methods of producing cement and concrete are made, the variety of inorganic building materials will be considerably enlarged. Quarries opened anywhere will yield high-quality building materials.

The most typical materials of the future will be the polymers, the products of organic synthesis—plastics and synthetic fiber, rubber, leather and fur. All these materials, created by chemistry only in recent years, will largely replace natural materials in industry, construction and the home before the close of the century. They will also be replacing metals to a very considerable extent.

It will really be a technological revolution when we are able to produce inorganic polymers with specified properties. The raw material sources available are inexhaustible.

When we learn to tap thermonuclear and solar energy, our electric power resources will be large enough to enable us to use oil for the most part in the production of synthetic materials.

What all this implies is that with rapid development of new electric power sources we can meet all the material requirements of the planet's population, no matter how large it grows.

With electronics, telemechanics and automation taking over much of the labor, the workday need not be longer than, say, three or four hours, leaving that much additional time for creative expression, sports and entertainment.

In this connection the rapid progress being made in such fields as mathematical logic and computer mechanisms is especially important. The various kinds of machines we see every day relieve man of heavy, manual labor; electronic computers relieve him of mental jobs that are largely automatic—production-line work, traffic regulation, office procedures of many types.

But these electronic mechanisms do more. They are so designed that in a more or less narrow field of application their "memory" and the speed and precision with which they analyze information far exceeds human possibilities.

The computers of the near future will be able to provide information, systemized and partly analyzed, on vast amounts of data fed into them.

This will greatly expand human possibilities for creative effort since the researcher will not have to do the primary analysis of the enormous quantities of factual data that must be considered today in solving problems in science and other spheres of creative activity.

Our Daily Bread

Better cultivation, fertilization and irrigation, not to speak of expanding acreage, could yield a sufficient quantity of highly nutritive food for an even larger world population than we have at present. This could be done easily if countries would pool their efforts.

With efficient agrotechnics and adequate mechanization and moisture we can get about 6.5 tons of dry produce per acre. If the crops are grown for human consumption—grain, for instance—of the 6.5 tons about 2.6 will be edible. For livestock all 6.5 tons can be used with a return of about one-tenth—0.65 tons—in the form of meat, milk, butter, fat and eggs, all of this in dry weight figures.

The normal daily food ration for a man is about a kilogram (2.2 pounds) dry weight. Vegetable food accounts for about three-fourths of the total (750 grams—1.7 pounds), meat and dairy products for the remaining fourth (250 grams—one-half pound). So that in the course of a year a human being requires 270 kilograms (595 pounds) of vegetable food and 90 kilograms (198 pounds) of meat and dairy products. The three billion people on our earth need 881 million tons of vegetable food and 297 million tons of meat and dairy products in dry weight a year.

To grow this quantity—naturally under conditions where people know how to get large yields—would require only 321 million acres of land planted to food for people and another 445 million acres to fodder crops for livestock. All told, this is only 2.2 per cent of the land on our planet—Antarctica excluded. Actually, we would need even less, since the southern regions could grow two or three crops a year.

There is nothing to prevent us, assuming proper agrotechnics and adequate irrigation, from planting as much as 30 per cent of the earth's land to crops. If we generate enough power to water the fields and heat hothouses and learn how to make strong, low cost, plastic film for hothouses and soil covering, we can expand our sowing areas and obtain larger harvests. It is estimated that the maximum yield per acre can be five or six times the 6.5 tons of dry produce previously mentioned.

Two Basic Research Areas

As I see it, we have two fundamental research problems today. The first is in physics—to develop a theory of elementary particles and a field theory. This will give us an insight into one of the best kept secrets of nature, the molecular structure of the universe. Outer space research will play a vital part in solving this problem. In time it should be possible to set up laboratories, staffed with scientists and equipped with the most modern instruments, on giant sputniks and even on the moon.

The second is in biochemistry—to discover the molecular physicochemical principles that govern the processes taking place in the living organism; in other words, the secrets of organic activity. Proteins and nucleic acids are the most important components of living matter, not only quantitatively but for the active role they play in life—in the metabolic process, growth and fission of cells, heredity.

Proteins and nucleic acids are really large polymer molecules containing hundreds and thousands of monomeric groups. In the living organism the processes of the synthesis of the most complicated polymers proceed on quite different principles than those we apply in our laboratories. We cannot make such complicated syntheses.

More than that, there are many other, and simpler, reactions in the living organism that are influenced by catalytic agents called enzymes. These enzymes also work on quite different physicochemical principles than our laboratory catalytic agents to produce reactions we cannot duplicate.

An especially interesting example is the function of biopolymers as transformers of energy—for example, the conversion of the chemical energy released during the oxidation of food elements into the mechanical work of muscles. This is a machine quite different from any man has ever built, and it operates with an efficiency of almost 70 per cent.

Chemists and biochemists have been doing intensive molecular biology research for only a few years. We have the first data on the chemical structure and the external picture, but the mechanisms of the phenomena are still unknown. We must look into the mechanisms of stamping the molecules of proteins and nucleic acids, the catalytic effect of enzymes, the transformation of energy. Present work in this field by scientists all over the world is directed toward finding ways to influence the organism by chemical means, particularly in medical treatment.

Once we learn the physicochemical principles of the vital processes, we will be able to duplicate these processes in the laboratory. Observation of birds in flight helped us to develop the science of aerodynamics and then to design aircraft. Similarly, with a knowledge of the principle behind the functioning of proteins and nucleic acids, we will be in a position to elaborate a general theory on the processes that take place in highly organized matter. With the wealth of chemical compounds at our disposal, we will be able to create catalysts resembling enzymes, but with more potency, to use solar energy more effectively than plants, and to construct machines with more power than muscles.

Creative Work

For real happiness, man must live and work creatively. This is as true for the genius as for the man with ordinary endowments. But if the individual is to free his latent creative forces, he must have a certain level of education, aesthetic taste, and ethical judgment. And as a guarantee that people generally will have an opportunity for the widest possible creative expression there must be a suitable social and political environment.

The creativity of highly trained and gifted individuals will reach full development only if they identify with the people, only if the people are genuinely interested in their creative activity and only if the people's own cultural standards are high.

Note the remarkable efflorescence of sculpture, architecture, drama and philosophy in ancient Greece. A major factor responsible for the eminence of Hellenic culture was the high aesthetic level of its citizens. This accounts, too, for their insatiable curiosity about the secrets of the universe.

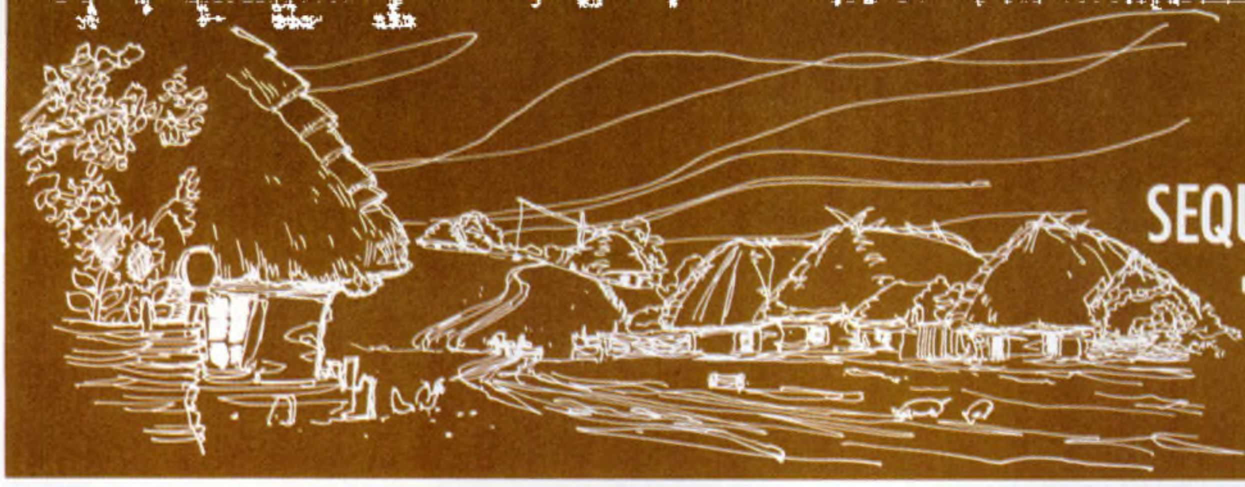
The great interest people show in the creative work of leaders in science, engineering and the arts always serves to inspire them. By the same token, it stimulates the creative impulses of the people themselves, inspires them to create not merely material but spiritual values. The talent of an outstanding scientist is enriched by the school he builds around himself and by the engineers and industrial workers who apply his theories. Without a large body of colleagues and disciples, the scientist today, no matter how talented, is hamstrung.

Since anyone who creates spiritual values is a member of the society in which he lives, it will be the society and its structure that essentially determines the direction and limits of his creative activities. Creativity will consequently have the greatest freedom where it is independent of the influence of self-seeking interests, where it is consciously subordinated to the public interest, and where it gets its material and spiritual support from the society itself.

We believe the Soviet social system guarantees the freest creative activity. The communist ideal is to make it possible for each individual to develop and use his creative abilities for society's benefit and his own. Our country is moving ahead at an extraordinary rate in realizing this ideal.

We have built a truly all-embracing educational system. Further, we are constantly searching for ways to improve the system—by stressing the creative elements in the secondary school and college curricula, by setting up evening and correspondence schools directly at factories and construction projects where workers can get higher schooling without giving up their jobs. Not only our scientists and engineers but larger and larger numbers of our factory workers are developing new processes and inventing new machines. With every passing year the labor of our industrial workers and farmers requires less physical and more creative mental effort and takes on richer meaning.

We are striving for a happy, prosperous life for everyone, a life in which every man can realize his creative capacities. This is our ideal of social progress. We find it embodied in the communist society we are building, a social system dedicated to peace, labor, freedom, equality and happiness for all people on earth.



SEQUEL TO THE STORY THE EARTH

Sixty years ago the Ukrainian writer Olga Kobylyanskaya described Dymka village as a dismal, poverty-stricken place. She wouldn't recognize it today.

BY OLEG SHMELYOV
PHOTOS BY VSEVOLOD TARASEVICH

FROM TIME immemorial Bukovina has been Ukrainian country. Its name derives from the beech woods—*buk* is the Ukrainian for beech—that grow thick on its hills and in its valleys. The bountiful sunshine, rich soil and crystal-clear mountain streams all seem to have been created for human happiness, for a free and beautiful life. But those who lived here knew no happiness.

Some sixty years ago the Ukrainian writer Olga Kobylyanskaya pictured Bukovina in her story *The Earth.* The scenes she paints, drawn strictly from life, are cheerless indeed. What different scenes she would witness today!

The village of Dymka that she describes in her story has changed beyond recognition. Where the dismal thatched huts with their tiny windows once stood, there are modern roomy houses open to sunlight and air. Dymka now has its own schools and libraries and, in one of the picturesque spots near the village, rest homes.

The changes are all of Soviet vintage. The Soviet Government gave the farmers land and helped them buy new farm machinery. The villagers of Dymka and other farmers in the surrounding countryside formed a collective farm and named it after their favorite writer.

The Olga Kobylyanskaya Farm is a flourishing collective enterprise. Its cattle herds and field and garden crops bring in high profits.

The once destitute peasants of Bukovina are prosperous today. Along with all the other Soviet people they are building a new communist society, a society of abundance of spiritual and material wealth for everyone.

A glance into Kobylyanskaya's book is instructive today. There is the past, long forgotten but for her poignant descriptions. The present we see through the camera eye—the sequel to her story *The Earth.*

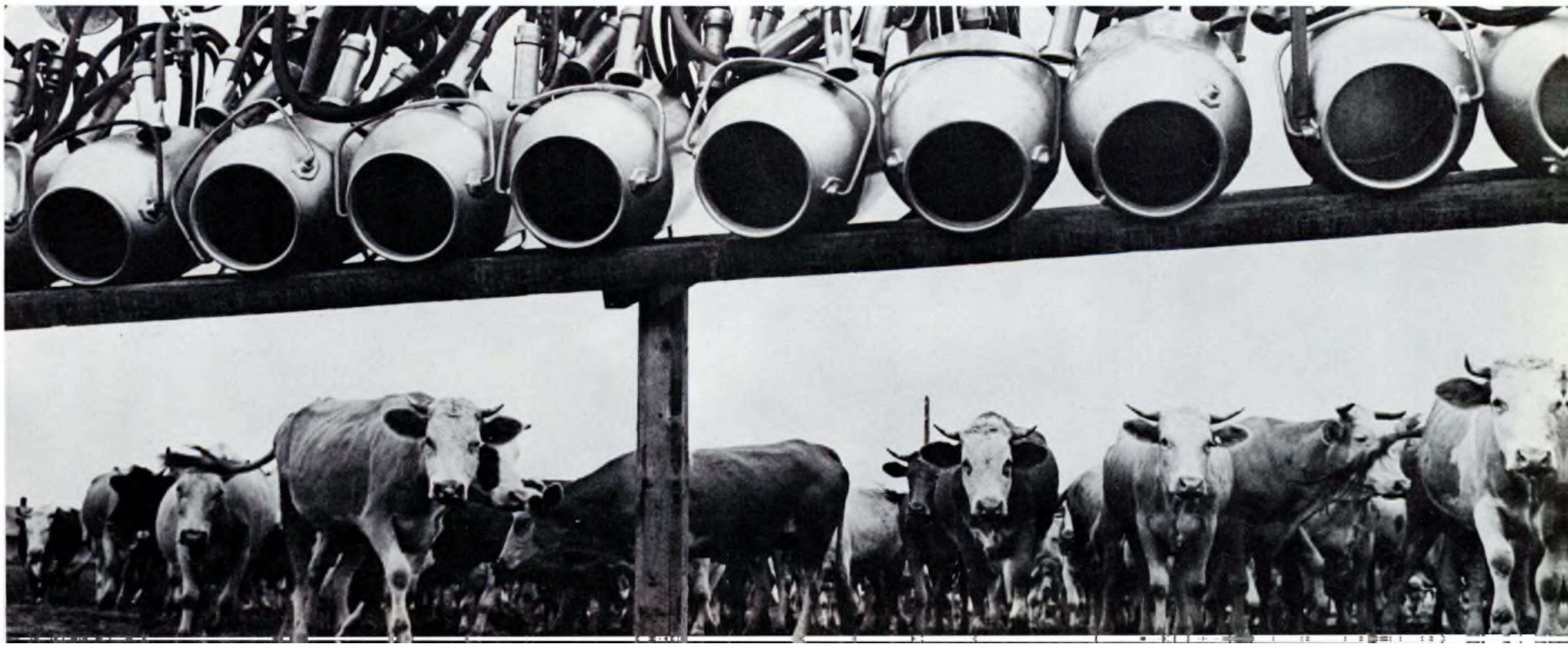
The villagers now use tank gas for cooking. Their cottages are a far cry from the bleak thatched huts that Kobylyanskaya wrote about.

This was a dirt road the villagers used to tramp looking for work to keep body and soul together.

The farmers no longer have to fight these bogs with their bare hands; machines do the work.

Candles went out a long time ago when electricity came in—except for birthday festivities.

Kobylyanskaya paints a cheerless picture—a dim memory now—of squalid barns and lean cattle.



A Dymka family with ten strapping children. Infant mortality was once incredibly high.

Physicist Kornei Tovstyuk would probably have been an illiterate Dymka peasant 60 years ago.

And Vanda Pavlovskaya, a college trained agronomist, would have learned only housework.

Vacations used to be an unheard of luxury for peasants. Now Dymka farmers spend their holidays at the farm's rest home.

The Chernovitsy State University, housed in a former palace, is where the young people of Dymka get free higher education.

YEVGENI YATSKO

Team Leader at a Textile Mill

I ENROLLED at the people's university to learn as much as I could about the theater and other arts. I'm interested in dramatics and take part in the amateur plays of our People's Theater. At the classes I learn about the theater generally and the actor's and director's craft as well. I lead the dramatic group at the mill and direct one-act plays. I feel, however, that I lack knowledge and experience, and that's what I get at the university.

GETA LYUBENKOVA

Music School Student

I DO NOT attend all the music classes at the people's university because I am familiar with much of the material covered from my school lectures. At times, however, I find the classes very helpful. The lecturers and performers are usually teachers and students from the departments of our school, and we always find listening to them worthwhile. We try not to miss any opportunity to increase our fund of musical knowledge.

YEVGENIA ZOLOTOVA

Director, Chernovitsy Drama Theater

WHEN we theater people organized the Drama Department two years ago, we were not quite sure about how listeners would react to our lectures. As the dean of this department, I was particularly concerned. Our anxiety, however, proved to be groundless. The people in our city have a very genuine love for the stage. For our first lecture, on the origin of the theater, we had a packed hall, and our audience grew as we went along.

People's UNIVERSITY OF

THE CHERNOVITSY People's University of Culture in the Ukraine holds classes twice a month. They are attended by more than a thousand factory and office workers, teachers, engineers, housewives and pensioners. Each person takes the course he prefers—music, literature, the fine arts or the performing arts.

The Chernovitsy University of Culture, which is two years old, is one of 7,000 in the country with a combined enrollment of 1,500,000 people.

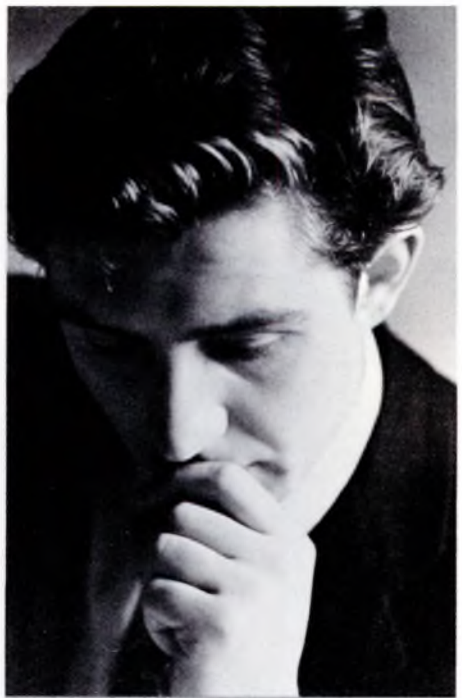
How did these universities get started? Why are they so popular? How do they function? What are the students like?

All of them originated in much the same way, as a result of popular initiative. The Chernovitsy university is the brain child of teachers in the local schools of higher education—artists, actors and musicians. They sensed the eagerness of people for cultural background, for a more appreciative understanding of the beauty to be found in the world around them, drew up a course of study and began teaching. There are no fees for classes. The only prerequisite is interest.

The day of our visit, the Music Department was conducting its classes, as usual, at the town's music school. We sat in at lecture-concerts on Beethoven and Mozart.

Vladimir Bedusenko, pianist and music teacher, gave the talk on Beethoven's life and work. It was apparent from the questions that the audience was most interested in the great composer's symphonies. Thereupon, the instructor suggested that the class listen to his Fifth Symphony and then analyze his characteristic musical style.

A tape recording of the symphony was played. We found the audience reaction fascinating. Some of the people followed the music with



OLGA GULIA

Professor at Chernovitsy University

THIS IS the second year I have been teaching the history of literature at the people's university. When I see how closely my students follow my lectures on Shakespeare or Rolland, I can't help but feel elated. It is a wonderful thing to see these young and middle-aged people so interested in literature.

I am always bombarded with questions after a lecture, and the more questions, the more pleased I am.

STANISLAV MAK

Physical Training Instructor

I AM GOING to music classes at the university because I think every person should have an understanding of music, art and literature, and not only understand but learn to love great art.

I look forward to every lecture. I'm very much interested in learning the structure of a musical composition and about the instruments. I get all this in the course I'm taking. When it ends, I plan to take classes in the Fine Arts Department.

CULTURE

BY SERGEI ANDREYEV
PHOTOS BY ALEXANDER MOKLETSOV

a score and, judging from the occasional movement of their hands, were conducting the orchestra for themselves. Others listened with heads bent and eyes covered, as though trying to block out all other sounds and impressions. Some were obviously making an effort to understand and like classical music.

The illustrative part of these lectures is not confined to recordings. Every so often live performances are given by musicians from the regional symphony orchestra and by talented music school students—pianists, violinists, cellists and vocalists.

The music courses consist of 24 one-hour sessions. This year the university is offering "Forms of Musical Composition" and "How to Listen to Music" for the beginner, and for the more advanced listener a series of lecture-concerts on the work of Glinka, Tchaikovsky, Scriabin,

"What is happiness?" Anatoli Radchenko shares his ideas with the class during a discussion of Arbuzov's The Irkutsk Story.

These students have stayed after class to show their work to artist Boris Kupnevsky, the instructor, and get the benefit of his expert criticism.

Rachmaninov, Chopin, Liszt, Verdi and other great composers.

Yura Gina, acting dean of the university's music department and director of the town's music school, told us, "We always include material in which our students are especially interested—'Ukrainian Music of the Nineteenth and Twentieth Centuries,' for example. On the centenary of the death of the great Ukrainian poet Shevchenko, in response to popular request, we scheduled a lecture-concert of his favorite music and its influence on his work."

The university's art classes, held at the town's House of People's Art, are taught by professors from the Chernovitsy State University and professional artists. The course material covers Russian, Ukrainian and West European classical and modern art. The lectures often result in heated debates on criteria for the beautiful in art and in life.

Included in the course of study is collective discussion and criticism of art work done by the students themselves. Many are ardent amateur painters, and professional artists help them master the techniques of the craft. Boris Kupnevsky, chairman of the local Artists Union, teaches drawing and composition; Vladimir Semankovsky, portraits; and Irina Beklemisheva takes her class outdoors for landscape painting.

Literature classes are held at the Chernovitsy State University. They include lectures on trends in Soviet and foreign literature, book discussions, meetings with writers, and writing workshops. Philologist Anatoli Volkov, head of the department, told us, "Our students want a deeper understanding of the books they read. They all are familiar with the work of Sholokhov and Hemingway, for example, but what they want to hear discussed is why and how their books were written, the world outlook of these authors."

Nearly all the members of the town's amateur dramatic groups, besides people who just like the theater, take the university's drama courses. There are lectures on theater history, visits to dress rehearsals and first nights and, for budding actors and directors, classes in stagecraft held at a professional theater.

Professor Leonid Chernets, the people's university rector, says, "Our students keep coming to classes not because they have to, but because they are interested. It proves to us that we are doing a necessary and useful job."

The work these universities of culture are doing is indeed useful and important. Founded by popular initiative, they are unique centers for aesthetic development of the general public, for educating the new man, who will be richly endowed spiritually, morally and physically. The new Program of the Communist Party of the Soviet Union, in the section devoted to the "All-round and Harmonious Development of the Individual," lays great stress on this very point. Soviet society, it notes, has reached a level of development where each of its members is guaranteed a free and equal choice of vocation. As the productive capacity of society grows and less and less time needs to be spent on the production of material goods, the individual citizen has more time to develop his abilities and talents in science, technology, literature, music and the arts. People will have increasing leisure for civic participation, physical development, cultural interchange and artistic endeavor.

THE PLAYS OF ALEXEI ARBUZOV

BY LEONID DUGAN
DRAWINGS BY ALEXANDER VYSOTSKY

ALEXEI ARBUZOV writes about young people. The major characters in his sixteen plays staged to date are all Soviet young men and women of twenty or thereabouts.

Granted that this time of life when a young person is finding himself—choosing a career, falling in love—is wonderful play material. Nevertheless, people ask this very talented dramatist who has been writing plays for three decades why all of them are about youth.

"First," answers Arbuzov, "because I was young myself and I know what it's like. Second, because when you write about young people, it helps you to forget that you are no longer young. Third, and most important, because I'm in love with youth. And when you are in love, you want others to be better and you do all you can to make them see and understand what you yourself have seen and understood, to teach them, without tedious moralizing, the things you yourself have learned. The time to do that is when a young person begins to strike out for himself, when he's on his own for the first time."

The trials and temptations, the ups and downs, the experiences of the young on the way to becoming what they will be—this is the recurring theme of Alexei Arbuzov's plays, whether serious or comic.

Tanya

It is the subject of his *Tanya,* written in 1938. To create his heroine, Tanya Ryabinina, in the round it was not sufficient for Arbuzov to imagine the character; he had to see her in life, and not only one Tanya but three, each one showing a different face but each one with the unmistakable mental and emotional features of Tanya.

In Act I his heroine believes in "Love, nothing but love!" She turns her home into a haven of love, isolated from life. Her husband, Gherman, begins to feel that all the things that make up his life—work, friends, ideas, dreams—are being choked in the close and narrow confines of his home. She loses his love.

In Act II her cry is "A child, nothing but a child." She gives herself up to motherhood in as all-encompassing a way as she did to love. But her child dies, and her life is once again shattered. Love and a child are big things, the playwright is saying, but they are not all there is to living, nor are they mutually exclusive.

"Work, nothing but work!" Tanya cries in the third act. She throws herself headlong into work, trying to forget everything else. But here, too, she comes to grief. Just as love divorced from life takes its revenge, so does work divorced from love.

Love, work, motherhood sustain one another; they are indivisible parts of living. This is what the play teaches.

"When I wrote *Tanya,*" Arbuzov says, "I realized what the function of a playwright really is. If we can draw two or three real and completely defined characters, we can help many people understand themselves. It seems to me that all the plays I have written are really parts of the same play, each new one saying things that I left unsaid previously."

Years of Wandering

Years of Wandering (1954), *The Irkutsk Story* (1959) and Arbuzov's other plays are variations on the Tanya theme. While Tanya picks out a single segment of life and tries to lose herself in it completely, Vedernikov in *Years of Wandering* wants everything. He has convinced himself that there are no obstacles he cannot surmount. That these obstacles are humans he destroys in the process does not trouble him. Tanya is the cause of her own unhappiness. Vedernikov causes the unhappiness of everyone around him—his mother whom he forsakes; Galya, Lyusya and Olga whom he deceives; Lavrukhin, whose life he ruins.

Vedernikov is a medical researcher working on a new drug. It is wartime, and every moment could mean the life of a wounded soldier.

But Vedernikov plods on alone, shuns help from others because to take it might mean sharing the credit for the discovery.

In the last act life catches up with him. He has abandoned Lyusya, the woman who loves him. He has let his mother die without a sight of him. Now, when he needs the sympathy and support of a friend and the tender love of a mother, he is alone in this empty world.

The Irkutsk Story

Arbuzov's most recent play is *The Irkutsk Story*. The plot is built around a real incident which occurred at the construction site of the Irkutsk Hydroelectric Station told him on a visit to Siberia.

"I had seen it happen before," he explains, "the way love changes people. Here is a man whose finer qualities, choked by various circumstances in his life, are suddenly freed to sweep away everything mean and petty. I wanted to portray characters moved by a deep and very real passion, one that would make people say, 'So that's what it can be like—it's poles apart from the love I know.'"

Valya, a cashier in a grocery, whom people consider a superficial, self-centered person, marries Sergei Seryogin, a serious minded excavator operator, very highly thought of by his comrades.

How could a person like Sergei tie himself to such a shallow girl? Because love to Sergei meant faith and understanding. He had seen past Valya's superficialities to the real person. He wanted to help Valya find herself.

He writes to her, "I suppose you don't care anything about yourself, or about anybody else for that matter."

It was true. "I get bored with people very quickly," she told him.

But somehow she does not get bored with Sergei. She does not believe in love. "Love," she protests, "isn't for the likes of me." But still she wants to be with him. Sergei helps her to see into herself, to discover feelings and depths of character she had refused to admit existed. "I love you very much, Seryozha," she tells him, but only after they have been married for some time. "Do you know why? Because the more I learn about you, the more there is to learn. Do you understand?"

Her happiness is short-lived, however. Sergei drowns while trying to save children who have fallen into a river. She is left with an infant on her hands. Her husband's friends bring her "Seryozha's salary" every month which they have earned by doing extra work. Valya is deeply moved. She is not alone, there are people who care for her.

But she does not want to feel dependent on others. She remembers Sergei telling her about a girl on the Volga in command of a whole ship's crew. It was his dream that Valya would mature to the point where her life would take in more than himself and their child, where it would encompass the whole world of productive work that meant so much to him. Out of love for Sergei and to honor his memory, Valya takes his place behind the wheel of the big excavator.

Sergei says to her at one point in the play: What does a man need to be happy? He needs for his work to be just a little bit better than he is himself.

Valya: What do you mean? I don't understand.

Sergei: You see, if a man does good work, work that's needed, he becomes better than he was.

The main idea of the play is expressed in these words.

At a discussion of *The Irkutsk Story* held at the Vakhtangov Theater in Moscow, director Ruben Simonov characterized it as a study of "the birth of new relations between people, relations based on friendship, trust and mutual help. It is a study of poetic love. This is a play in which the director has something to direct, the actors have something to portray and the spectator has something to see. It has that essential ingredient of drama—man's character in the making."

Five Plays in Progress

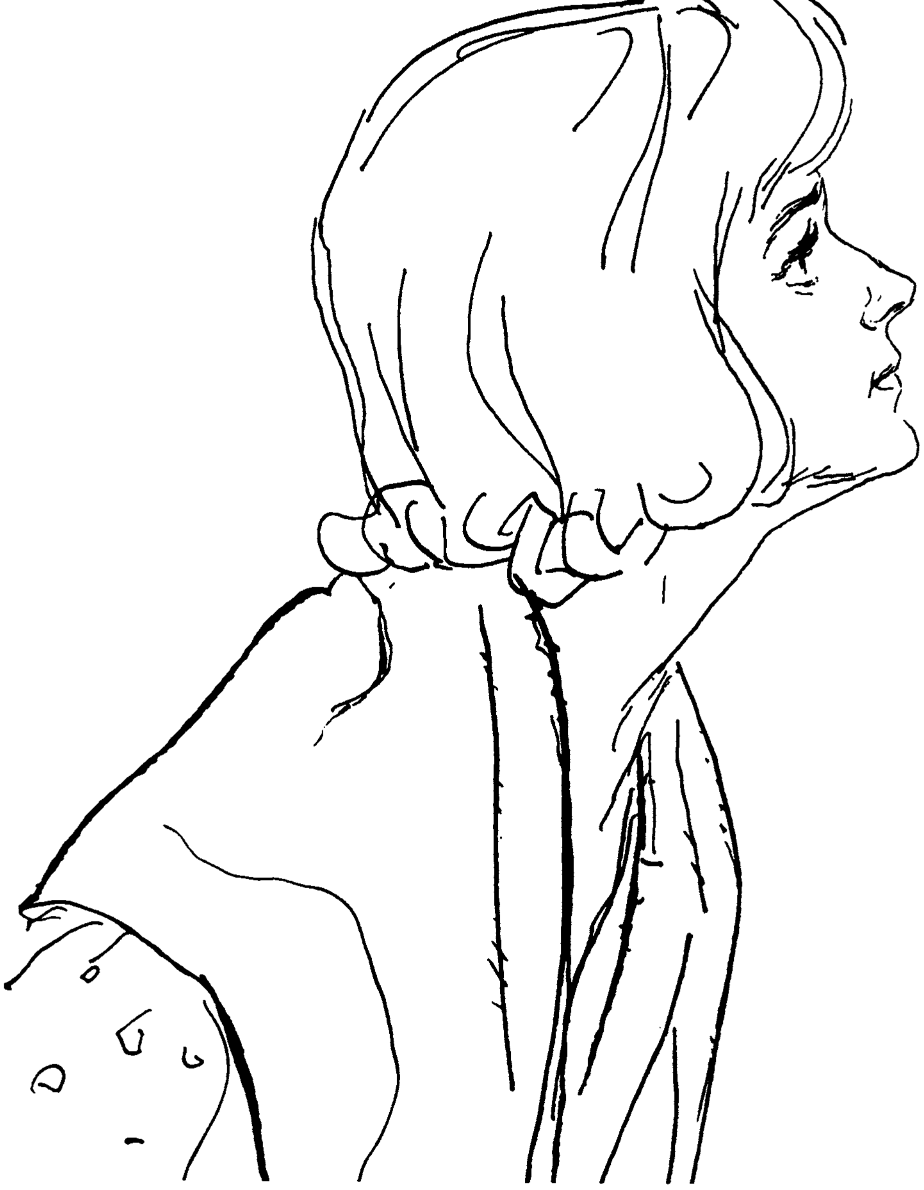
Alexei Arbuzov's plays are so popular that in 1960 they were shown in 50 of the country's theaters.

Asked about work in progress, Arbuzov says, "I've thought up more plays than are good for me—five of them, and they get in each other's way. I'm trying to write them simultaneously. When I get tired of one, I take a rest by working on another."

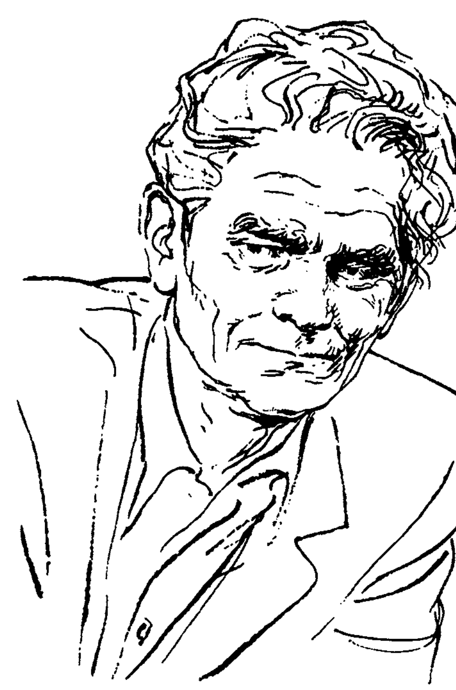
His working methods?

"I work four to five hours a day, then put aside what I have written, to do tomorrow what I could have done today. I never reread in the evening what I have written that day. I leave this pleasure—or chore—for the next morning when my eye is sharper and my brain is better equipped to pick out rough spots. I still consider, though, that I work from morning to night, for roaming the streets, talking to people, observing and thinking are all work for the writer."

Alexei Arbuzov is a provocative and thoughtful playwright who wants the stage to make audiences "think harder and feel more." He demands "for the theater of this latter half of the twentieth century cogency and poetry." These are the two most striking elements of his own plays.



Yulia Borisova in the role of Valya in the Vakhtangov Theater production of The Irkutsk Story.



Vladimir Solovyev as Lavrukhin in Years of Wandering, *staged by the Leninski Komsomol Theater.*

Yelena Rastorguyeva in the role of Savishna and Nikolai Malyshev as Semyorkin in Six Beloveds.

Anna Gunchenko and Yuri Yakovlev, the leads in the Vakhtangov production of The City at Dawn.

People's Artist of the Russian Federation Mikhail Astangov as Karetnikov in The Twelfth Hour.

Maria Babanova in the title role of Tanya, *the earliest Arbuzov play about youth's problems.*

BY EDWARD SARATOV

SOVIET READERS OF AMERICAN BOOKS

DO YOU KNOW our literature? . . . Which of our contemporary American writers are most popular in the Soviet Union? . . . What books by American authors can be bought in your book stores? . . .

I was plied with these and similar questions by Americans during my year as an exchange student at Yale. And my replies invariably evoked surprise and skepticism. My American friends found it hard to believe that Soviet people know so much about American literature.

Books by American writers stand high on the list of translated fiction in our country. As many as 243 titles by American authors have been published during the 43 years of Soviet government. Moreover, these books have been translated into 50 of the languages spoken in the Soviet Union and published in a total of 100,220,000 copies.

Low Prices and Large Editions

The eight volumes of the recently published *Collected Works* of Jack London in a handsome hard-cover edition cost eight rubles 80 kopecks—about ten dollars. Low prices and big editions make books accessible to the large reading public. Editions of the works of O. Henry, Upton Sinclair, Mitchell Wilson, Erskine Caldwell and Ernest Hemingway are bought up as soon as they appear in the bookshops. Hemingway is a favorite with Soviet readers for his consummate skill as a story-teller and his unique ability to convey emotion without ponderous moralizing. A two-volume edition of his works was published in 1959. John Steinbeck is also widely read.

As for Jack London, no other American writer can begin to compete with him for our readers' favor. His stirring, romantic tales of strong-willed and courageous men fighting nature single-handed are especially beloved by Soviet young people. Jack London's books have been published in 704 editions in a total printing of 22 million copies. After him comes Mark Twain, with 12 million copies; and Theodore Dreiser, with more than 11 million.

In the past few years the State Literary Publishers and Foreign Literature Publishing House have increased their editions of American literature. The State Literary Publishers put out a 12-volume edition of Dreiser's *Collected Works*, the *Selected Works* of Edgar Allan Poe, a two-volume O. Henry, *Main Street* and *Babbitt* by Sinclair Lewis, and eight volumes of the new 12-volume edition of Mark Twain's *Collected Works*, the largest ever issued in the Soviet Union or anywhere else.

The Foreign Literature Publishing House listed 74 titles by American authors in its 1960 catalogue. Included were William Du Bois' *Ordeal of Mansart*, Benjamin Appel's *Fortress in the Rice*, Millard Lampell's *The Hero*, and an anthology of poetry, *I Hear America Singing*.

Still Larger Editions Needed

Interest in American books has grown so much in the Soviet Union that even editions in the many thousands are insufficient to satisfy the demand. Varvara Volkova, who heads the Nekrasov Public Library — one of the 400,000 in the country—says: "In the past two or three years the demand for books by contemporary American writers has increased noticeably. We are asked to hold more frequent discussions on American novels. To help our readers orientate themselves, we have drawn up annotated lists of the best American fiction published since 1945. Included are Ernest Hemingway's stories; John Steinbeck's *The Pearl* and *The Grapes of Wrath;* Erskine Caldwell's short stories 'Savannah River Payday' and 'Saturday Afternoon,' and the novel *Georgia Boy;* John Killen's *Youngblood;* William Saroyan's *The Adventures of Wesley Jackson;* Albert Maltz's *A Long Day in a Short Life;* Sinclair Lewis' *Kingsblood Royal;* and William Faulkner's stories."

Readers of American prose and poetry in the original visit Moscow's Foreign Literature Library in ever-growing numbers. Some 20,000 English-reading subscribers borrowed books in 1960. The library receives five or six thousand books by American writers yearly. Of its 226,000 volumes in the English lan-

The permanent display of American books at the Moscow Foreign Literature Library is changed every month.

A two-volume edition of Ernest Hemingway, printed in 300,000 copies, sells for only 3 rubles 90 kopecks.

Upton Sinclair's novel Jimmy Higgins, *issued in a 300,000-copy edition, was priced at 63 kopecks.*

Theodore Dreiser's collected works in a 300,000-copy edition. The 12 volumes cost 14 rubles 40 kopecks.

guage, more than 113,000 are by Americans.

The library has had several get-togethers of Soviet readers with American writers—William Du Bois, Shirley Graham, Erskine Caldwell, Mitchell Wilson and others. It arranges monthly reviews of modern American literature and exhibitions in honor of such masters of the language as Mark Twain, Walt Whitman and Edgar Allan Poe. So do most other libraries in the country.

The Soviet people's interest in American literature is explained by their desire for firsthand knowledge of the American way of life. They want to know more about the men who fought valiantly for the freedom of the colonies under the banner of the Revolution, built modern industrial cities, were our allies in the struggle to rid the world of the fascist menace, and produced splendid works of literature and art.

Publishing Plans

This year Soviet publishers will be getting out the rest of the Mark Twain 12-volume edition, Stephen Crane's *The Red Badge of Courage,* Irving Stone's *Lust for Life,* Philip Bonosky's *Burning Valley* and *Magic Fern,* Harriet Beecher Stowe's *Uncle Tom's Cabin,* Albert Maltz's *The Cross and the Arrow,* and a collection of stories by Ambrose Bierce.

The Foreign Literature Publishing House is preparing a Russian translation of the William Faulkner trilogy *The Hamlet, The Town* and *The Mansion;* Ernest Hemingway's *Across the River and into the Trees;* a volume of *Best American Stories;* and the poetry of Carl Sandburg, Robert Frost, Langston Hughes and others. Yelena Romanova, noted Soviet scholar, has begun work on an anthology of American poetry.

The magazine *Foreign Literature* this year serialized Mitchell Wilson's new novel *Meeting on the Far Meridian.* The editors received Wilson's book in manuscript so that Soviet readers were the first to see it. The same magazine will be publishing several chapters from Hemingway's forthcoming *The Dangerous Summer.*

O. Henry's short stories, published in a two-volume 150,000-copy edition, priced at 1 ruble 63 kopecks.

An edition of Mayne Reid's collected works was printed in 300,000 copies. The six volumes sell for 9 rubles.

The 12-volume collected works of Mark Twain sells for 13 rubles 20 kopecks; 300,000 copies were printed.

Walt Whitman's Leaves of Grass *was published in an edition of 25,000 copies. It costs 4 kopecks.*

BY PYOTR RESHETOV
CHAIRMAN, COMMITTEE OF SOVIET YOUTH ORGANIZATIONS

THAT young people today are thinking, seeking and militantly striving for truth, reason and peace was amply confirmed by the World Youth Forum recently held in Moscow.

The international forum was conceived by Soviet youth organizations. Their thought was that the problems facing the world today are of vital concern to all young people, regardless of the land in which they live, the color of their skin or their political convictions. The younger generation, they felt, should make its voice heard.

Preparatory work for the forum took more than a year. During this period a veritable flood of letters from all parts of the world, from young and old, from world-famous personalities and modest working folk, poured into the offices of the Soviet Youth Organizations and the Soviet Sponsoring Committee.

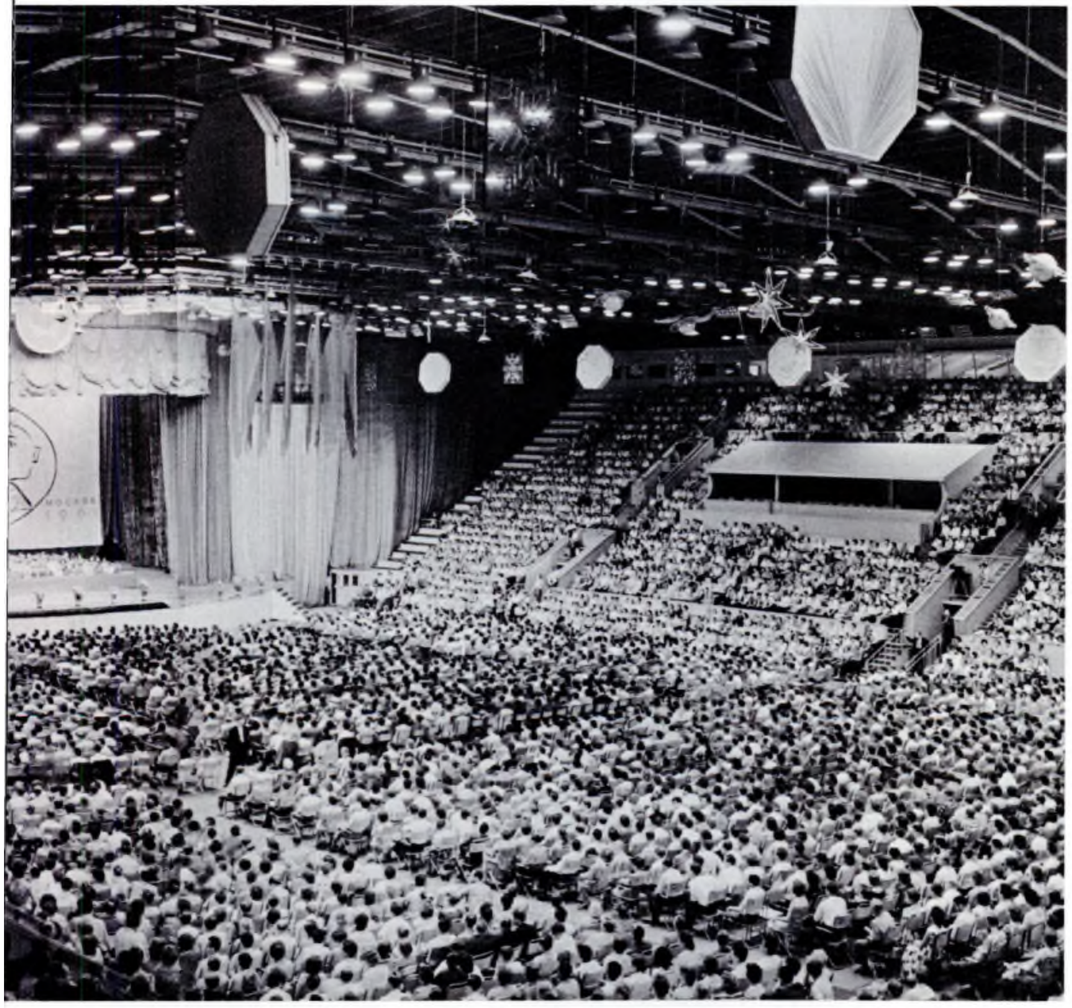
First Cosmonaut Yuri Gagarin was one of those who greeted the forum. He wrote: "How beautiful life on our planet could be if the young people of all the continents of the world felt close to one another, if they understood that their common interests could be a wonderful foundation on which to build peace and friendship. May the World Youth Forum be a major milepost on the road toward the closer association of all the young people."

Yuri Gagarin, himself a young man, was speaking for his generation when he wrote of the community of interests of youth the world over and of the universal desire of young people for mutual understanding, friendship and peace.

The theme of the forum, which attracted more than 800 young people of different political convictions, religious beliefs and racial and national backgrounds, was "Mid-Twentieth Century Youth and Its Problems." Represented were 330 national, regional and international youth organizations in 106 countries.

The delegates exchanged views on a wide range of problems freely, seriously, often critically, but always with mutual respect for differing opinions and a sincere desire for better understanding. Discussion centered on ways of preventing war and achieving peaceful coexistence, disarmament, national independence, the socioeconomic rights youth demands, young people's participation in public life, and many related problems.

The titles of the principal reports reveal the scope of the forum . . . "Youth—Understanding, Cooperation and Peaceful Coexist-



Young people from Yugoslavia, Ghana and the USSR at a World Youth Forum panel session. "Mid-twentieth Century Youth and Its Problems" was the theme.

The global gathering brought 800 young people from 106 countries to Moscow. They represented more than 330 national and international organizations.

The large number of seminars and panel discussions scheduled in the forum program made for a more informal exchange of the many points of view represented.

ence"; "Youth and Disarmament"; "The Social Rights and Obligations of Youth"; "Youth and Progress."

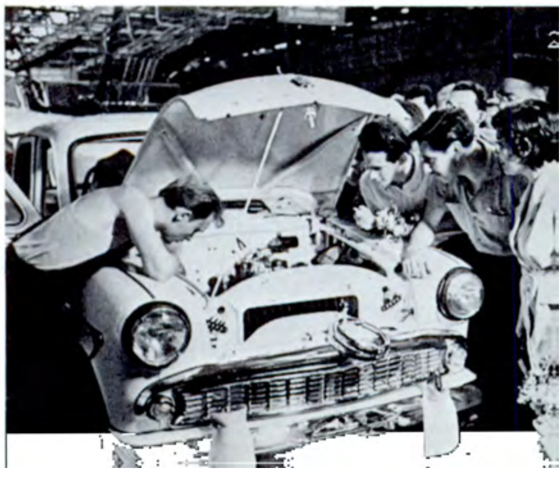
It goes without saying that these young speakers from different countries were not always in agreement. Among the delegates at the forum, representing millions of young people in all parts of the globe, were radicals and socialists, liberals and communists, Catholics and Moslems. But the Soviet youth organizations that sponsored the gathering were eager to have all points of view aired, to have the discussion frank and open. And it was.

The tone of the debate was set in discussion on the report "Youth—Understanding, Cooperation and Peaceful Coexistence" made by a representative of the Unione Goliardica Italiana, to which young people of different political views belong.

A quality of the international youth gathering was its warmth and informality. The words most often heard were friendship and understanding.

The delegates professed many different religious and political beliefs. The discussion, though friendly, was frank, critical and often heated.

1. Charles Salducci of France visits a factory.
2. Delegates go through a Moscow auto plant.
3. On a tour of a state farm near the capital.
4. Tunisian and Soviet delegates get together.
5. Just before the forum's opening session.



In the discussion a delegate of the Indonesian National Front cautioned that youth must not separate itself from the nation. "In our age," he asserted, "gigantic social, scientific and economic changes are occurring, and youth can play a great part in deciding the direction of these changes. By their demands and determination to improve life, young people can help society's advance toward social progress."

Youth Against War

The forum hall rang with youth's protest against war. We will not, reiterated speaker after speaker, sit back and wait for another world war to break out. Youth must turn all its energies and thoughts to uniting the peace forces of the younger generation. It must utilize every means and possibility to avert war. It must insist unequivocally that all controversial issues between states be settled by peaceful means. It must work increasingly to outlaw war. The forum declared itself for complete universal and controlled disarmament by all countries.

The statement on colonialism adopted by the forum reads: "We strongly condemn any attempt at armed suppression of the peoples' aspirations for freedom and independence. Colonialism is a malignant tumor, it must be excised once and for all. We affirm our wish and readiness to give all possible support and assistance to the youth of the recently liberated colonial countries."

From delegates of several African and Latin American countries the forum heard stories of the appalling poverty, hunger and injustice that are the lot of young people in so many parts of the world. Delegates from Italy, Japan, Argentina and many other lands told of chronic unemployment. Others from colonial and dependent countries told of the difficulties of getting an education.

More than 300 speakers took the floor at the plenary sessions and the panel meetings. As varied in tone and point of view as the speeches were, they were of a single mind on all the big and crucial issues—for peace and friendship, against colonialism and every other form of oppression and social injustice.

In addition to the official meetings there were informal get-togethers. One—and a particularly significant one—was a friendly get-together of young people from the Federal Republic of Germany, the German Democratic Republic and West Berlin. In spite of their political differences, these young people all agreed that the Berlin problem must be settled by peaceful means. The overwhelming majority of those attending the affair expressed approval of the Soviet Union's proposal to sign a peace treaty with Germany.

Not all the speeches at the forum reflected the prevailing sentiment. This was particularly true of the speech made by a Canadian students' representative who tried to justify the divisive stand of COSEK (Coordinated Secretariat of the National Students Union), as well as that of Belgium's Young Guard criticizing the communist and working-class movement for its attitude toward the colonial peoples and accusing it of not giving them proper support.

The speech brought a sharp rejoinder from some of the delegates. But an honest exchange of opinion, even when heated, is the prime condition for any discussion whose object is mutual understanding.

Not a "Lost Generation"

In recent years sociologists in many countries have leveled the charge that modern youth is passive, that it has lost its ideals. They say contemporary young people lack will, are listless, indifferent to social problems, that violence is their only active principal. The forum proves these charges utterly without foundation as does the youth in the Soviet Union with its optimism, its determination to build a better world, its unwavering faith in communist ideals, in the triumph of reason, justice and the friendship of people.

Some time ago the Soviet youth newspaper *Komsomolskaya Pravda* asked nearly 20,000 Soviet young people what they consider to be their goal in life. Ninety-six per cent of them replied—the phrasing was different but the idea was the same—to be a good human being.

Nikolai Artamonov, a concrete worker from Stalingrad, put it this way: "My life, every bit of it, to the last second, is given to my country and my people not so that people may say, 'Look, how good he is,' but because this is the way I want to live, the only way I can be happy and get satisfaction out of life.

"Neither age, disappointment, nor the arguments of philistines will make me change. My communist ideas, my socialist principles and my worker's conscience guarantee that."

The confidence Soviet young people have is derived from life itself, from the great goals the Communist Party has proclaimed in its newly-adopted Program—"Peace, labor, freedom, equality and happiness for all peoples."

The forum was evidence of youth's awareness of the critical problems the world faces today. It was proof of the fact that more and more young people all over the globe are throwing in their lot with the struggle for peace, disarmament, national independence, the defense of civil, social and economic rights.

We need only look around us to see that youth is becoming a more and more active force in our current world and is growing increasingly aware of its place in the common struggle of all people for peace and a happier future.

How, then, can one speak of the youth as indifferent to social problems, as a "lost generation." This is to deny all that youth has accomplished and achieved.

In his greeting to the forum Nikita Khrushchev said, "The young people are a mighty, dynamic, militant force playing an active part in mankind's struggle for a better future. In upholding the cause of peace, they defend their rights and interests against all encroachments by reactionary forces."

The forum delegates addressed a message to the youth of the world that reads in part: "The time has arrived for the youth of the world to unite its forces. The suspicion, lack of understanding and at times even enmity that unfortunately still divides our countries must be bridged by friendship. We shall carry on a tireless struggle and we shall win. We are proud of our duty and shall carry it out to the very end."


3.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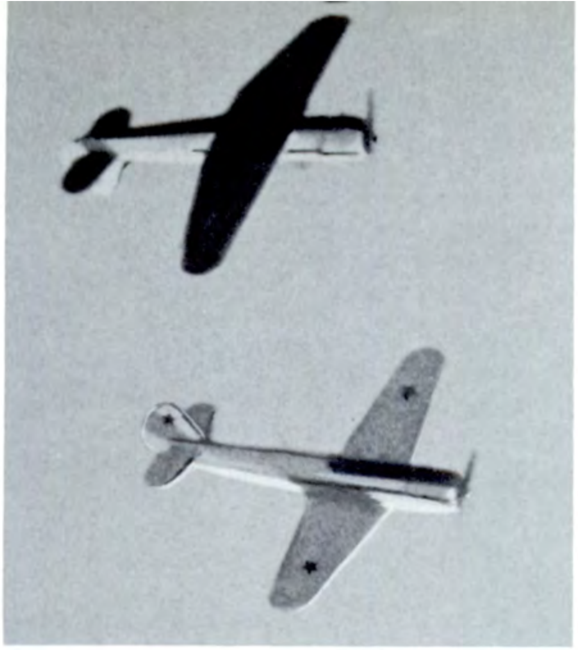
FLYING FOR SPORT



Members of the Moscow Air Club stunting at great speed. One is upside down, 50 feet above the other.

Voronezh Air Club members flying in perfect spiral formation after only one year of flight instruction.

Members of the Moscow Glider Club check their performance with instructor Maria Began after each flight.

Muslimat Kunbutayeva of Daghestan readying for her 25th parachute jump. Each republic has an air club.

BY PYOTR KORZINKIN

IT WAS the eminent astronomer Nikolai Morozov who suggested in the early twenties that air clubs be set up throughout the country. Lenin, founder of our socialist state, ardently supported this idea. Now all district and regional centers, as well as the capitals of the Union Republics, have their own air clubs.

They are financed mainly by membership dues. But since flying is an expensive sport, the state helps out with budgetary funds allocated for cultural needs. The result is that flying is a popular sport in the country, since anyone who is interested can afford to participate. Dues are quite modest—30 kopecks a year for secondary school and college students, 1 ruble 20 kopecks for wage earners.

Air clubs have for their members' use planes, gliders, helicopters, parachutes and workshops. Most of the paid instructors are old-time fliers, assisted by amateur birdmen who coach fledglings free of charge. Since anyone who tries flying once becomes a lifetime enthusiast, there are plenty of fans on all levels willing and eager to pass on their knowledge.

There are five types of aerial sports—flying, gliding, piloting helicopters, sky diving, and plane modeling. The newest addition is rocket modeling.

Air clubs use aircraft of various kinds—the sports piston-engined plane YAK-18 and the jet plane YAK-32 designed by Alexander Yakovlev, gliders designed by Oleg Antonov, helicopters by Leonid Mil, and dozens of other types of aircraft.

In the club workshops amateur sportsmen create their own original glider, helicopter, and plane model designs. Andrei Tupolev, Alexander Yakovlev and other famous plane designers started by building their own gliders. Many of the amateur-made machines do as good a flying job as those made professionally. The Lithuanian air sportsman Bronius Oskinis has designed a whole fleet of gliders in which several national records were made.

Most of the men and women who go in for aerial sports are young and represent the many Soviet nationalities and all walks of life. Nadezhda Pryakhina, for example, is a technician in instrument production. She went in for skydiving while still a technical school student and in three years captured the world skydiving crown. Victor Goncharenko, leading singer with the Kiev State Philharmonic Society, was the long-time undisputed glider champion of the USSR until this year when he lost the title to Vladimir Chuvikov, a lathe operator at a Serpukhov plant. Another factory worker, fitter Valeri Zagainov, holds the record for the Mari Autonomous Republic.

The clubs—individual members and teams—compete for regional, republic and national laurels. Contenders for international honors are chosen at these meets.

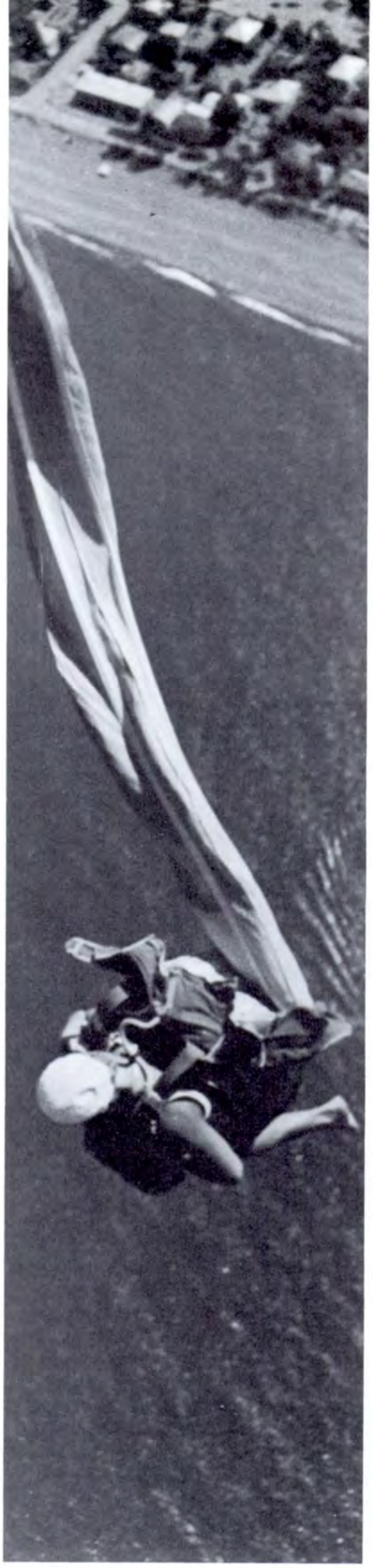
Soviet birdmen have been bringing home a large fraction of international aeronautical prizes. As of the end of last year the International Aeronautical Federation (FAI) registered a total of 412 world records in air sports; the Soviet Union holds 182 of them. It looks as though the fraction will be considerably larger by the end of this year.

Last spring Georgi Mosolov set a new world altitude record, raising the flight ceiling to 34,714 meters (113,861.9 feet) in a delta-wing jet E-66. The previous record of 31,513 meters (103,362.6 feet) was held by Joe Jordan of the United States. With the same plane Mosolov also shot the speed record up to 2,654 kilometers (1,649.1 miles) per hour beating the former high of 2,456 kilometers (1,526 miles) set by Rogers, an American.

The name of the Soviet flyer Ivan Sukhomlin figures 33 times on the FAI's achievement list—a unique record. Soviet flyers have topped several world marks with the turboprop liner TU-114. Soviet skydivers hold three-quarters of all global records and are now getting ready for the Sixth World Championship contests to be held in the United States in 1962.

Cosmic trail blazer Yuri Gagarin, a former member of the Saratov Air Club, set the first space records, registered by the FAI as world records. Some of them were topped by Cosmonaut Gherman Titov four months later.

Soviet air sportsmen always welcome foreign competition at home or abroad. These meets do more than match flying skills; they help strengthen friendship among nations.

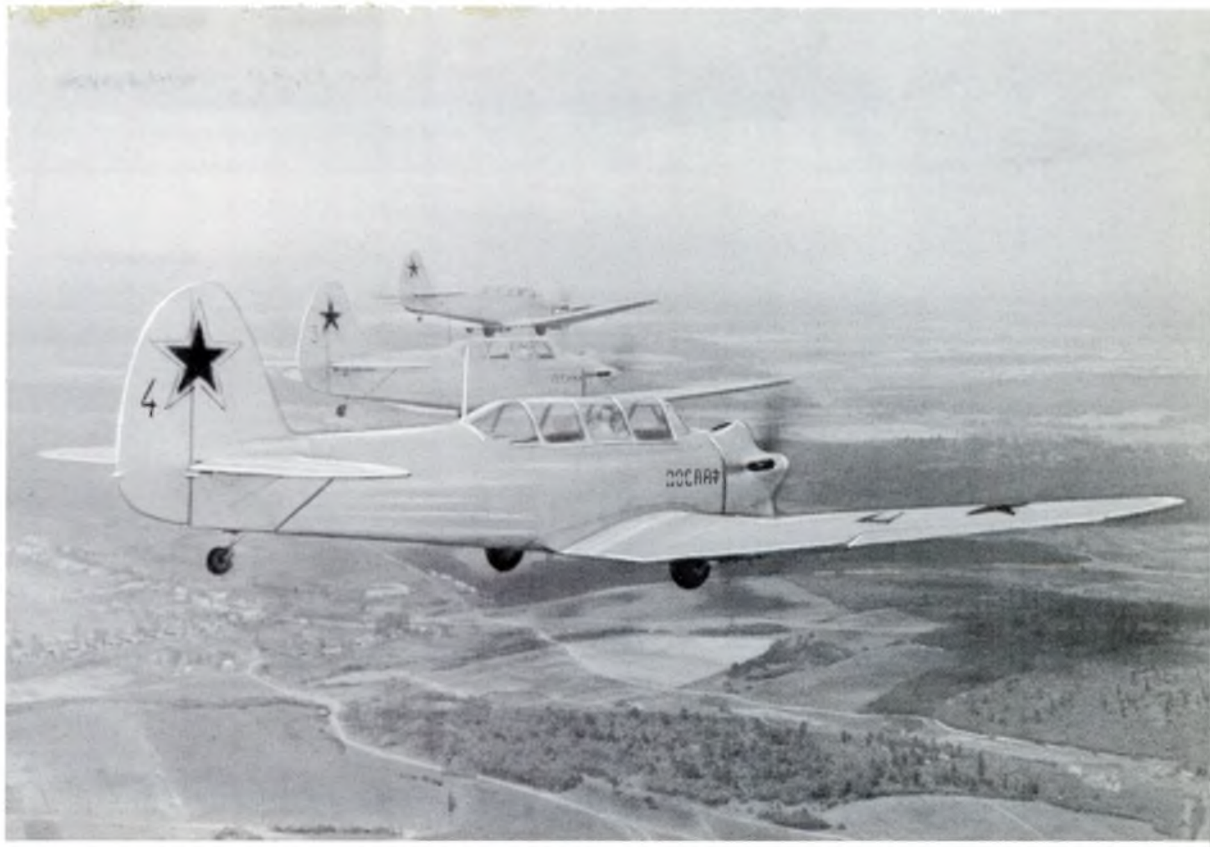


Soviet skydivers hold most of the world records. Over-water parachuting requires special skill.

Some of the thousands of gliders available to enthusiasts. Amateurs can build their own in club shops.

Helicopters of this design by Leonid Mil won Soviet airman 16 of the 36 registered world flight records.

USSR's Pavel Starchenko and USA's Jacques Istel trading pennants at the Moscow world skydiving matches.



Amateur flyers start training on piston-engined planes and then graduate to faster jet-powered sports planes.

Riga mechanic Andris Sprogis launching a radio-guided model plane he built at his local air club.

People of all vocations do skydiving. A Ukrainian physician and an Uzbek turner are republic champs.

President Jacques Allez presents the International Aviation Federation's 1961 gold medal to Yuri Gagarin.

Construction of a new chemical plant in Rustavi, Georgian Republic

USSR

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Front cover: Nikita S. Khrushchev delivers the report "On the Program of the Communist Party of the Soviet Union" at the Twenty-second Communist Party Congress on October 18, 1961.

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THE CONGRESS OF BUILDERS OF COMMUNISM

THE TWENTY-SECOND CONGRESS of the Communist Party of the Soviet Union will go down in history as the Congress of the builders of communism. It was a gathering of much more than national importance, and its decisions will influence the course of events far beyond the country's boundaries. The Congress adopted a new Program of the Party, a program for the construction of communist society, one that may well be characterized as the Communist Manifesto of our modern era.

The Program throws theoretical light on hitherto unexplored possibilities for the transition from socialism to communism and outlines concrete approaches and methods to be followed. It defines the tasks required to create the material and technical basis for communism, for transforming socialist into communist relations, for changing man's character consistent with the spiritual values of life in a new society.

This great theoretical and political document opens for the Soviet people the road toward the communist tomorrow. That future is not far off; it is already being shaped by the Soviet people.

Besides deliberating on the draft Program, the Congress discussed the Report of the Central Committee of the Party, which reviewed the period since the Twentieth Congress in 1956. During that period—a momentous one in the life of the Party and of the Soviet people as a whole—the Soviet Union began the construction of a communist society on a wide front. The Extraordinary Twenty-first Party Congress in 1959, which adopted the Seven-Year Plan for Economic Development, was an important landmark on the road of the Soviet people to communism.

During its two weeks of deliberation, the Twenty-second Congress also adopted new Party Rules and, at the last session, elected its leading bodies. The unity of the Party and people was demonstrated once again in the mass rallies held throughout the country at which the decisions of the Congress were unanimously endorsed.

In the following pages the Report of the Central Committee, the Report on the new Party Program, both of which were delivered by Nikita Khrushchev, and his concluding speech are excerpted.

OUR AIMS ARE CLEAR, C

Excerpts from Nikita S. Khrushchev's Speeches at the Twenty-Second Congress of the Communist Party of the Soviet Union

The material and technical basis of communism will be built in the Soviet Union during the next two decades. This is the principal economic task, the cornerstone of our Party's general line. . . .

Do we have all we need to build the material and technical basis of communism in two decades? Yes, comrades, we do. We have a social system of gigantic creative power, immense productive capacities and inexhaustible natural resources. We have a first-class technology and the most advanced science in the world. The Soviet Union has developed splendid qualified personnel equal to the tasks of communist construction. The Soviet people are led by a wise and battle-hardened Party.

The creation of the material and technical basis of communism will, naturally, call for tremendous funds. Capital investments in the national economy of the USSR over the coming 20 years has been set at approximately 2 trillion rubles. Just think of the scale our capital construction has now assumed, comrades! We have to figure in trillions!

Will the mobilization of such immense resources require the hardships and sacrifices of the period of industrialization? We have every reason to say that it will not. And primarily because a mighty industry has been built up in our country.

Now the role of heavy industry in the improvement of the people's welfare and in the solution of the problem of accumulation is a new one. We know that heavy industry has two categories of plants—firstly, those that produce the means of production for industries that also produce the means of production and, secondly, plants that produce the means of production for the light and food industries, for agriculture, housing construction and for cultural and public services. At the time when we were only building up our heavy industry, we had to concentrate our resources primarily on the development of plants in the first category and restrict investments in the second group of plants. Now we are able to increase our capital investments considerably in the second category of plants as well, which will step up the rates of growth of consumer goods. In 1980 the output of the first category of plants will have increased about sixfold over 1960, and that of the second category—13-fold. Besides, our heavy industry will produce increasing quantities of cultural and household goods to meet the growing demand. In developing heavy industry, we proceed from Lenin's thesis that "the means of production . . . are not manufactured for their own sake, but only because more and more means of production are demanded by the branches of industry manufacturing articles of consumption. . . ."

The aggregate social product is the most general index for all branches of social production. A fivefold increase is planned in the coming 20 years. Industrial output will grow no less than sixfold, and the aggregate agricultural output approximately 3.5-fold. This is tantamount to saying that five more industrial and more than two agrarian countries like the Soviet Union today will be created in our bountiful land.

In 20 years Soviet industry will produce nearly twice as much as is now produced by the whole non-socialist world.

Everything for the Benefit of Man

The new Program is a new milestone in the history of our Party and of Soviet society as a whole. Each of our Party programs relates to a definite historical stage in the country's development. Yet all our programs are interlinked. Taken as integral parts of a whole, they provide a clear-cut and time-tested Marxist-Leninist theory of socialist revolution, of socialist and communist construction.

The programs of the Party may be compared to a three-stage rocket. The first stage wrested our country from the capitalist world, the second propelled it to socialism, and the third will place it in the orbit of communism. It is a wonderful rocket, comrades! It follows the exact course charted by the great

JR PATHS ARE CHARTED

Lenin and by our revolutionary theory, and is powered by the greatest of all energies—the energy of the builders of communism.

What are the main features of the draft Program?

Its main feature is that ***it is a concrete, scientifically motivated program for the building of communism.*** The draft shows clearly how the bright edifice of communism is to be erected. We see how it should be built, how it looks from within and without, the kind of people who will live in it, and what they will do to make it still more comfortable and attractive. We can proudly tell those who want to know that communism is: "Read our Party Program."

The new Program means a complete realization in practice of the Party slogan, "Everything for the sake of man, for the benefit of man." It gives predominance to matters concerned with the further improvement of the people's material welfare and culture, the flowering of the human personality. And that is as it should be. The Bolsheviks hoisted the flag of revolution in order to make the life of the working people joyous and happy. The third Party Program ushers in a period when all the difficulties and hardships borne by the Soviet people for their great cause will be rewarded a hundred-fold. . . .

Our conception of the communist system is based entirely on the scientific conclusions of the founders of Marxism-Leninism. But we have an advantage over them in one very essential respect: We live in the latter half of the twentieth century and we have at our disposal the vast and invaluable practical experience of socialist and communist construction. And not on some small island of Utopia cast away in the ocean, as Thomas More pictured it, not in a City of the Sun, as depicted by Tommaso Campanella, and not on a strip of land in distant America, as Robert Owen planned. No, the new life is being built on an immense segment of the earth.

Today we are able not only to picture communist society more accurately but also, and this is most important, to define practical ways of building it, to give concrete substance to the principles of scientific communism. We see more clearly and distinctly much that was hidden from our forerunners by the veil of time, because the trends of development of socialist society which lead to the victory of communism have by this time become quite tangible. It stands to reason that even now, faithful to the example set by our teachers, we do not attempt to fill in all the details of a developed communist society.

The draft Program gives the following definition of communism:

"Communism is a classless social system with one form of public ownership of the means of production and full social equality of all members of society; under it, the all-round development of people will be accompanied by the growth of the productive forces through continuous progress in science and technology; all sources of public wealth will gush forth abundantly, and the great principle 'From each according to his ability, to each according to his needs,' will be implemented. Communism is a highly organized society of free, socially conscious working people in which public self-government will be established, in which labor for the good of society will become the prime and vital requirement of everyone, a necessity recognized by one and all, and the ability of each person will be employed for the greatest benefit of the people."

Let me go into some aspects of this description of communist society. Communism implies highly-organized production centered on society as a whole and managed along the broadest democratic lines. Communist society is not an association of self-contained, isolated economic organisms. By no means. Communist society, more than any other, will need unified economic planning, organized distribution of labor and regulation of working time. This need springs from the demands made by the development of the productive forces, from the far-reaching interrelation of the various branches of economy, from the interests of continuous technical progress and from the communist principles of distribution and consumption. Development of the communist economy is impossible unless all the people participate most actively in the management of production.

What does it mean—to build communism in the main? It means that:

in the ***economic*** sphere the material and technical basis of communism will be created; the Soviet Union will surpass the economic level of the most developed capitalist countries and move into first place for production per head of population; the world's highest living standard will be ensured; and all the conditions created for an abundance of material and cultural values;

in the sphere of ***social*** relations the distinctions still existing between classes will be eliminated; classes will fuse into a classless society of communist working people; the essential distinctions between town and country and those between physical and mental labor will, for the most part, be eradicated; there will be greater economic and ideological community among nations; the spiritual characteristics of the communist man will evolve, a harmonious combination of ideological integrity, broad education, moral purity and physical perfection;

in the ***political*** sphere all citizens will participate in the administration of public affairs, and society will prepare itself for the full implementation of the principles of communist self-government through a most extensive development of socialist democracy.

Competition Between Two Systems

The chief content of the period following the Twentieth Congress of the CPSU is the competition between the two world social systems—the socialist and capitalist systems. . . .

If we view the whole globe as the scene of this competition, we see that socialism has been winning one position after another from the old world. In the first place capitalism has been seriously cramped by socialism in a decisive sphere of human activity, that of material production. . . .

The industrial output of the socialist countries in 1960 was 6.8 times that of 1937, while the capitalist countries' was less than 2.5 times. The share of the socialist countries in world industrial production was 27 per cent in 1955, and in 1960 it had increased to roughly 36 per cent. . . .

The chief thing now is for the socialist world to achieve preponderance in absolute volume of production over the capitalist world by consistently developing the economy of each socialist country, and of all of them collectively. . . . We are confident that socialism will be victorious in the competition with capitalism. We are confident that the victory will be won in peaceful competition and not through war. We have taken our stand and shall always take our stand for the peaceful coexistence of states with different social systems; we shall do everything to strengthen peace throughout the world. . . .

Socialism results from the creative activity of the broadest masses marching under the banner of Marxism-Leninism. Communists are opposed to the forcible, artificial implantation of a particular socio-political system in other countries. We are convinced that in the end the socialist system will triumph everywhere, but this in no way implies that we will seek to achieve its triumph by interfering in the internal affairs of other countries. . . .

USSR-USA Industrial Competition

Peaceful economic competition is the chief arena for the contest between the socialist and the capitalist systems. The outcome of this competition will be determined in enormous measure by the competition between the Soviet Union and the United States of America.

The Party sets the task of converting our country, within the next decade, into the world's leading industrial power, of winning preponderance over the United States both in absolute volume of industrial output and in per capita volume of industrial output. By about the same time the USSR will exceed the present U.S. per capita level of agricultural production by 50 per cent and will reach the U.S. level of national income.

But that is only the first objective. We shall not stop at that. ***During the second decade, by 1980, our country will leave the United States far behind in industrial and agricultural output per head of population.***

You will recall that even at the time of the earliest five-year plans our rate of industrial growth exceeded that of the USA, but we lagged behind in absolute growth, to say nothing of the considerable difference that existed in the level of production. ***In recent years our country has continued to keep far ahead of the USA in rate of growth and has begun to outstrip that country in absolute growth in the production of many important items.*** The problem is now one of rapidly closing the gap in production levels, of the Soviet Union's winning the world's first place in output of a number of foodstuffs and manufactured goods.

I will cite some facts. The average annual rate of industrial growth in the Soviet Union in the 1956-1961 period was 10.2 per cent, that of the USA 2.3 per cent; the average annual output of manufactured goods per capita increased by 8.2 per cent in the Soviet Union and by 0.6 per cent in the USA; the average annual increase in investments in the past six years has been 12 per cent in the USSR, and in the USA there has been no increase, but, on the contrary, a slight decrease.

And how do matters stand with absolute production figures and bridging the gap in production levels? In six years the output of steel has increased by 26 million metric tons in our country and has decreased by 15 million metric tons in the USA; oil extraction has increased by 95 million metric tons in the USSR and by approximately 20 million metric tons in the USA.

Industrial output in the USSR today is more than 60 per cent of American output. . . .

I would remind you that some ten or eleven years ago Soviet industrial output was less than 30 per cent that of the USA. At the present time the Soviet Union has already outstripped the United States in the extraction of iron ore and coal, the production of coke, prefabricated concrete elements, heavy diesel and electric locomotives, sawn timber, woolen textiles, sugar, butter, fish and a number of other foodstuffs and manufactured items.

Our country now accounts for almost a fifth of the world's industrial output—more than Britain, France, Italy, Canada, Japan, Belgium and the Netherlands combined. These are all highly-developed countries with a total population of 280 million people. The fact that our country with a population of 220 million has surpassed them in total volume of industrial production shows how swiftly and surely the socialist economy is progressing.

The implementation of the seven-year plan will bring our country up to such a level that little more time will be required to outstrip the United States economically. ***By fulfilling this basic economic task the Soviet Union will achieve a historic victory in the peaceful competition with the United States of America.***

Boosting Agricultural Production

In the period under review the Party devoted special attention to the development of agriculture. This is understandable since, as a result of the war and also of errors and shortcomings in the management of collective and state farms, our agriculture found itself in a difficult position.

The Party was faced with a vital and most pressing task, namely, to speedily end the lag in agriculture and meet the food requirements of the people and the raw material requirements of industry. The September 1953 and subsequent plenary meetings of the Central Committee disclosed the causes of the errors and shortcomings in the management of agriculture and worked out a comprehensive program to promote its progress. . . .

The development of virgin and long-fallow lands is outstanding among the measures carried out by the Party. The Central Committee is happy to report to the Congress that this task has been successfully accomplished. In the boundless steppes of Kazakhstan, Siberia, the Volga region, the Urals and other eastern areas, 41,800,000 hectares (103,287,800 acres) of new land have been cultivated and placed at the service of the people. The new lands now account for more than 40 per cent of the grain purchased by the state. ***Their development is a great feat of communist construction which our heroic people have performed, an achievement that will live through the ages. . . .***

The value of the new lands goes beyond the many additional millions of tons of grain they give our country. Their development is radically transforming vast areas in the East. Large state farms, modern settlements, research institutions and educational establishments have sprung up on the steppes, where you can also see new railroads, highways and high-voltage transmission lines. The Party and the people have developed a vast industrial zone in the East. Thanks to the development of new lands, our eastern areas now supply enormous quantities of grain and livestock products. All the riches of the Soviet East will thus serve the great cause of communist construction. We have an example here of truly communist regeneration of the earth. . . .

For many decades, right up to 1954, the aggregate grain harvest in our country was about 82 million metric tons. It is only in the past few years that we began to harvest 130-138 million metric tons of grain by virtue of the virgin land development and the introduction of corn. For a long time, the state procured about 33 million metric tons of grain, and it is only in the past few years that the procurements were increased to 49.1-57.3 million metric tons. By 1980 grain production is to be raised to 290-310 million, and state purchases to 115 million metric tons. . . .

The problem of advancing livestock farming has a special place among the more urgent problems of agricultural development. It will be remembered that until very recently this vital branch was in a state of extreme neglect and was responsible for serious difficulties in supplying the population with food. Tremendous effort was required to do away with that protracted lag. It was first of all indispensable that the problem of increasing feed production be solved. The planting of corn was a most important prerequisite, along with the development of new lands, for a better feed supply. . . . In 1953 the area under corn was 3,485,000 hectares (8,611,435 acres), whereas today it is almost 26 million hectares (64,246,000 acres).

We now have every reason to assert that there have been ***radical changes in livestock breeding on collective and state farms.*** Take the livestock population. For a long time it remained at the same level, and only in the last few years has the situation changed noticeably. . . . The growing purchases of meat, milk and other products vividly illustrate the work that has been done in livestock farming. . . .

The measures carried out by our Party had a truly revolutionizing effect on the development of agriculture and the entire socialist economy. Total agricultural output has risen 43 per cent in the past five years as against the preceding five years. The output of grain, meat, milk and other farm produce has increased very considerably. Thanks to greater collective production, the money incomes of the collective farms and their non-distributable assets have doubled. The standard of living of the farmers has improved as a result of the gains made in collective farming. . . .

Our progress in agriculture is appreciable and indisputable. But the question arises: Why are we still short of certain products, particularly meat, and why, despite our important over-all achievements, do we still have considerable difficulty in supplying the population with livestock products?

This is due, first of all, to the fact that the rate of growth in agricultural production is still lower than that of industrial production and still does not meet the growing requirements

The lobby of the new Kremlin Palace of Congresses where the Twenty-second Congress held its sessions.

Congress delegates (left to right): Stephan Shchipachev, Alexander Tvardovsky and Mikhail Sholokhov.

Maurice Thorez, General Secretary of the French Communist Party, talks with delegates from Siberia.

Cosmonaut Gherman Titov and Hero of Socialist Labor Nikolai Mamai from the Donbas.

of the population. . . . The Party is working to see to it that the Soviet people eat better and that the general standard of living improves. Food consumption will continue to increase, and this means that we must always keep agricultural problems in the foreground and make sure that agricultural production is always ahead of demand. . . .

We have inexhaustible opportunities. We must be fully aware of our oppportunities and use them.

Toward the World's Highest Living Standards

We have set ourselves the task of outstripping the standard of living of the more advanced capitalist countries. We have in mind here those spheres in which our country must overtake and surpass the capitalist countries. In many respects the Soviet Union has already achieved indisputable advantages over the most highly developed capitalist countries. Free education, free medical services, no unemployment, not to mention many other benefits enjoyed under socialism, have long since become the customary thing for the Soviet people, something they take for granted. These, comrades, constitute ***the greatest of gains, and our people are justly proud of them. In this sphere we have long since left the capitalist countries behind.*** Much effort will be required of the working class in the capitalist countries; they will have to wage a stubborn struggle before they will be able to win such gains as these. . . .

The Party considers that we can and must, in the immediate future, achieve accelerated rates of growth in living standard while continuing to develop heavy industry and other branches of the national economy. The real income per head of the population will double in the next ten years and increase more than 250 per cent in 20 years. The rise in the real income of the population will come from the growth of the ***national income*** of the USSR. By 1980 the latter will amount to 720-750 billion rubles, *i.e.*, approximately five times that of 1960. . . .

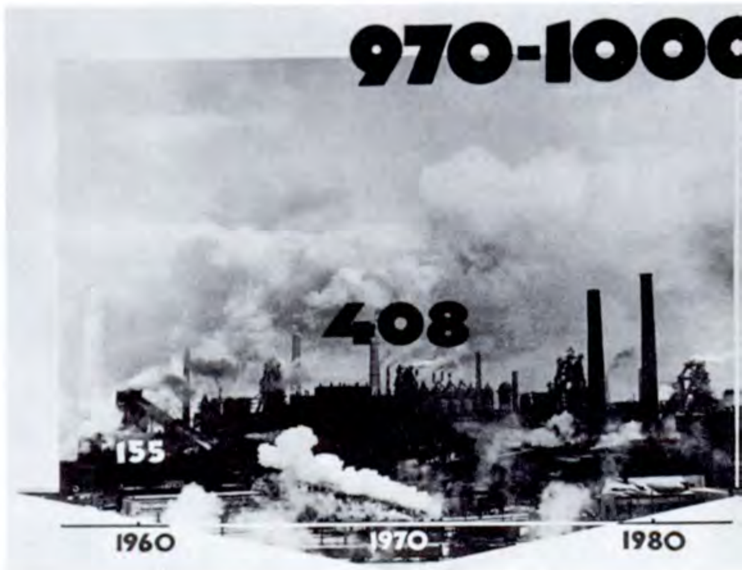
A task of historic significance will be fulfilled in the USSR within the next 10 years: ***The bracket of low-paid industrial and office workers will disappear.*** The process of raising wage standards has nothing whatsoever in common with wage-leveling because it is indivisibly connected with the replacement of unskilled labor by skilled labor. The wages of skilled workers must keep pace with the rising productivity of labor. At collective farms, where labor productivity will rise more rapidly, the average income in the next 20 years will climb at a faster rate than that of industrial workers. Wage increases are envisaged for such sections of the Soviet intelligentsia as engineers, technicians, agronomists, medical personnel, teachers and cultural workers. . . .

The working people are receiving a new, very tangible wage addition as a result of the law to abolish taxes. Beginning with October 1, 1960, when the first stage of tax abolition went into effect, this addition already totaled 360 million rubles a year. The second stage, which began on October 1 of the current year, will give the working peopple an extra 400 million rubles annually. By the end of 1965 the population will be tax free. ***The abolition of taxes will be an important social gain for the Soviet people.***

In 1960 all factory, office and professional workers went over to a seven- or six-hour workday. The workweek was thus reduced by six and a half hours with no reduction, and even with increases, in wages. The intention is to introduce a 40-hour workweek in 1962 for all factory and office workers and professional people now working a seven-hour day.

Important steps have been taken in the recent past to improve the pension system. The average old-age pension has more than doubled; disability pensions and pensions for loss of the breadwinner have been increased. State expenditure on pensions increased from 3 billion rubles in 1955 to 7.6 billion in 1961. In 1963 minimum pensions will again be raised. As the collective farm economy develops, pensions for collective farmers will be introduced on an ever wider scale.

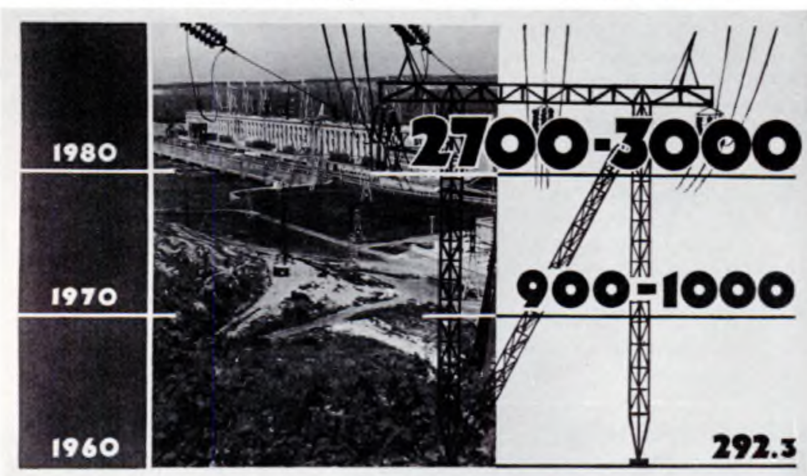
Housing in the Soviet Union is being built on a truly unprecedented scale. The building crane has indeed become the symbol of our times. The 1956-1960 state housing program has been fulfilled. More houses were built in the past five years than in

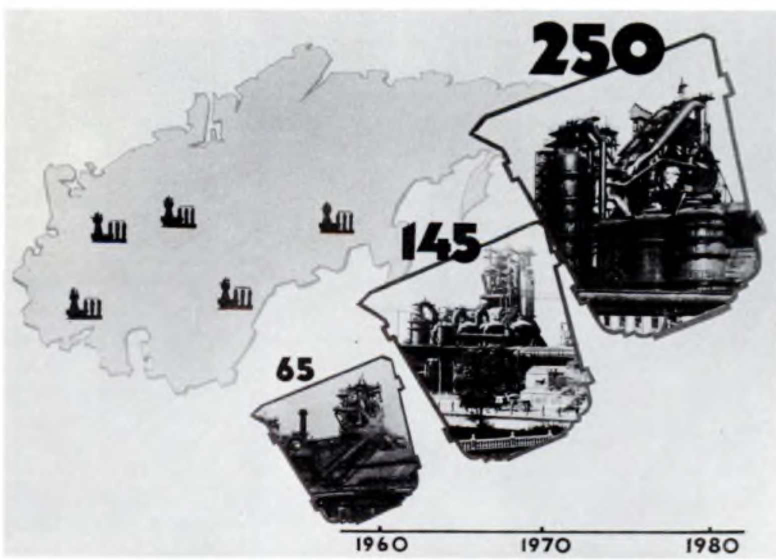


Gross Industrial Production *(in billion rubles)*

Workers, farmers, engineers and scientists reported to the Congress on their work, some of them backing up their achievements with material evidence.

Production of Electricity *(in billion kilowatt-hours)*





Steel Production *(in million metric tons)* the preceding fifteen. In other words, nearly 50 million people, or almost one-quarter of the entire population, have moved into new houses. ***In volume and in rate of housing construction the Soviet Union ranks first in the world. In recent years our country has been building twice as many apartments per thousand inhabitants as the United States and France, and more than twice as many as Britain and Italy.***

But we still have a housing shortage; the housing problem remains acute. The growth of the urban population in the Soviet Union during the past few years is considerably in excess of estimates. By the end of the seven-year plan the urban population will have increased by approximately 15 million people more than was expected, which means that more dwellings will be needed. The Central Committee and the Soviet Government are taking measures to accelerate housing construction. . . .

In the course of the next 10 years we must put an end to the housing shortage. At the close of the second decade every family will have a comfortable apartment of its own. This will involve an increase in the country's housing facilities by about 200 per cent in 20 years. Average annual housing construction will climb from about 135 million square meters (1.45 billion square feet) in 1961-1965 to 400 million square meters (1.35 billion square feet) in 1976-1980, a truly colossal program!

Will we continue to solve the problem of raising living standards only through direct wage increases and price reductions? Wages and salaries will, of course, for a long time to come continue to be the basic form of material incentive for the worker and will depend on his labor contribution to social production. But the Soviet citizen will, at the same time, be receiving an ever bigger share of material and cultural benefits through public funds.

Today the people's needs are to a great extent being covered by public funds. . . . At present more than 20 million pensioners are supported by these funds; nearly four million students in higher, secondary, vocational and technical educational establishments receive state scholarships and dormitory accommodations; more than 600,000 children in boarding schools are maintained for the most part by the state. More than seven million factory workers, collective farmers, office employees and their children spend their annual vacations in sanatoriums, holiday homes and Young Pioneer camps at the expense of social insurance and collective farm funds. About seven million mothers receive benefits from the state. That is how we use our public funds.

. . . Members of society receive these funds regardless of the quantity and quality of their labor, that is, free of charge. It is envisaged in the draft Program that these funds will rise more rapidly than wages, inasmuch as they are a direct part of communist distribution. A more than 900 per cent increase in annual public consumption funds is planned—from 24.5 billion rubles in 1960 to 255-265 billion rubles in 1980. At the close of the 20-year period they will comprise about half the total income of the population.

It is important that the growth of public funds be properly combined with the principles of material incentives and distribution according to labor. The draft Program projects the following major trends in the development of public consumption funds for the coming 20 years: the gradual transition to maintenance at public expense of children and all those incapacitated; free education and medical treatment for the population; rent-free housing, and free public utilities and transportation. Maintenance at public expense of children and the incapacitated is a lofty and humane undertaking consistent with the high ideals of the new system. . . .

At present the Soviet Union is still behind the United States in average per capita consumption and the general level of real income per head of the population. Two things should be borne in mind in this regard: the level at which we began, and the price that, unlike the United States, we had to pay for the war. . . .

The draft Program points out that the projected plans to raise living standards can be fulfilled successfully under peacetime conditions. Moreover, the easing of international tensions and an attendant reduction in military expenditures would enable us to raise the people's standard of living still higher. Our struggle for peace is an integral part of the struggle for communism, for the advancement of the Soviet land and the improvement of the people's well-being.

Policy of Peaceful Coexistence

The policy of peaceful coexistence follows from the very nature of our system.

I should like to recall the following fact. When our country was beating back the furious attacks of the Whites and foreign interventionists, the Soviet Government was discussing its coat of arms. The first sketch contained a sword. Lenin raised sharp objection. "Why the sword?" he said. "We need no conquest. The policy of conquest is utterly alien to us; we are not attacking but repelling domestic and foreign enemies; ours is a defensive war, and the sword is not our emblem." As everyone knows, the emblem of our country is the hammer and sickle, symbols of peaceful, constructive labor.

The principles of peaceful coexistence, laid down by Lenin and developed in our Party documents, have always been the central feature of Soviet foreign policy. The Soviet Government's foreign policy is convincing evidence of the fidelity of the Party and the Soviet people as a whole to the peaceful course charted by Lenin.

But it is hard to end the threat of war by unilateral action, just as it is hard to put out a fire if one person pours water upon it while another pours oil. The Western Powers, which should be interested in avoiding thermonuclear disaster no less than we, must, for their part, show readiness to seek ways of settling disputed issues on a mutually acceptable basis. . . .

Following the Twentieth Congress the Soviet Union proposed an extensive and realistic program of action that would ensure the maintenance and consolidation of universal peace. The purpose of that program is, in a nutshell, to deliver mankind from the dangerous and burdensome arms race, eliminate the remnants of the Second World War and remove all obstacles to a healthier international climate. . . .

In adopting our new Program, our great Party solemnly proclaims to all mankind that it considers the principal aim of its foreign policy to be not only the prevention of world war but its elimination forever from the life of society within the lifetime of our generation. . . .

Education, Science, Culture

We have every right to be proud of the fact that Soviet society has become the most highly educated society in the world and that Soviet science holds a leading position in the more important fields of knowledge.

When the first Soviet artificial earth satellite orbited our planet, a special committee was set up in the United States to look into the country's educational system. After comparing the two systems, the committee arrived at the conclusion that the Soviet system of education is superior. It was at that time, however, that our Party decided on measures to reorganize the school system with a view to giving the pupil a more thorough grounding in the fundamentals of science and linking the school more closely with life.

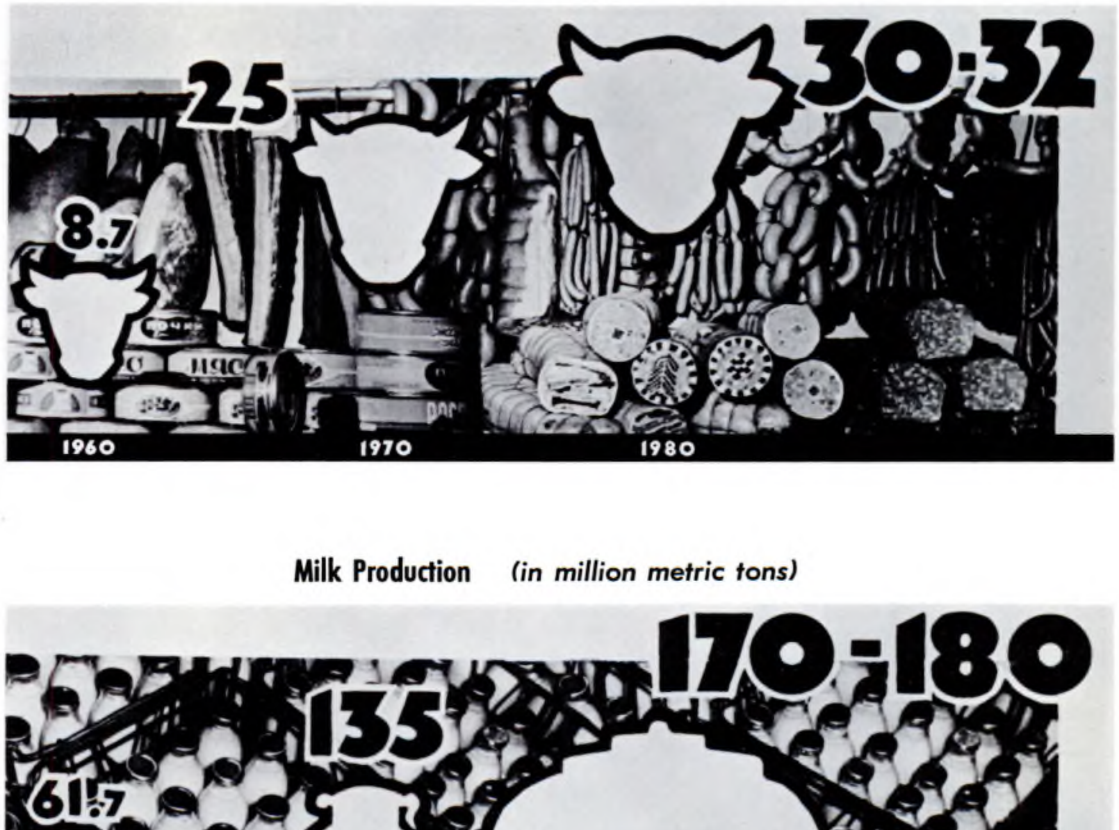
The experience of this reorganization has confirmed the timeliness and need for the Party's measures. On the whole, the school's ties with real life and production have grown stronger, the vocational training of pupils has improved. Secondary-school graduates are working successfully in the economy. The number of schools for young workers and the rural youth is growing from year to year. Hundreds of thousands of young people are studying in their spare time. . . .

The development of higher and specialized secondary education and vocational training is proceeding hand in hand with the reorganization of the schools. Here, too, the purpose is to bring training closer to life, to production. More than half of the full-time students enrolled in the country's higher educational establishments this year have practical production experi-

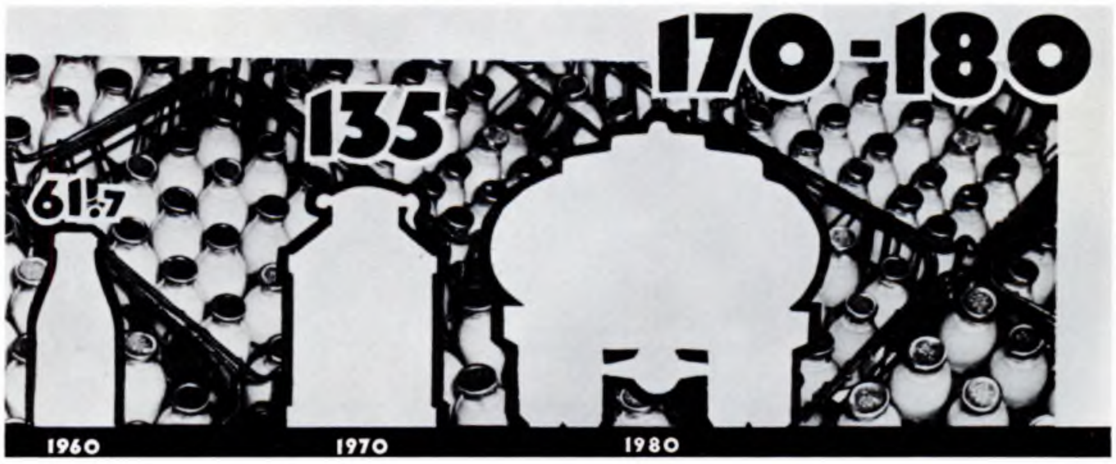
Delegates Pyotr Prozorov (left) of Kirov Region and Yevgeni Blazhevsky of the Ukraine, collective farm leaders, chat between sessions.

Grain Production *(in billion poods)*

Meat Production *(in million metric tons)*



Milk Production *(in million metric tons)*



ence. About half a million specialists with a higher education have been graduated by our evening and correspondence institutes during the past five years.

The Soviet Union trains three times the number of engineers the United States does; in all, there are more than 20 million professionals in our country. . . .

Communism gives knowledge to all; it draws the strength and confidence for its movement forward from the knowledge of the masses, from their high cultural level.

The flourishing of Soviet science is vivid evidence of this. We have more than 350,000 scientific workers. There are about 4,000 research institutions in the country, and what is particularly noteworthy is the steep rise in the past five to six years in the number of research institutions in the union republics. A major role in the development of research in the eastern part of the country is being played by the Siberian branch of the Academy of Sciences.

Soviet scientists are doing their country credit. The achievements of our scientists are widely known in the development of physics, mathematics and cybernetics; in the creation of high-speed computing machines; in the elaboration of the chemical theory of chain reaction and the chemistry of polymers; in biology; in the discovery and prospecting of huge mineral deposits; in the development of automation and remote control; in radio engineering and electronics; in metallurgy and mechanical engineering, not to mention other fields of science. Soviet scientists also have a number of achievements in the social sciences to their credit.

Soviet scientists are engaged in extensive research on one of the cardinal problems of our day, that of controlled thermonuclear reactions. Their investigations and cooperation with scientists of other countries have won wide recognition. Continued promotion of thermonuclear research in our country will accelerate the solution of the problem of the peaceful utilization of nuclear energy for the good of man. The successes scored by Soviet science in the exploration of outer space have ushered in a magnificent era in the advance of man's scientific knowledge. The Soviet Union launched the world's first artificial earth satellite. Soviet space rockets were the first to overcome the force of the earth's gravitation and orbit in interplanetary space. We were the first to place a pennant upon the moon and to photograph its hidden side. Soviet citizens Yuri Gagarin and Gherman Titov, delegates to the Twenty-second Party Congress, were the first to venture forth from their cradle, the earth, and make triumphant flights into space. . . .

Soviet literature and art have won immense prestige throughout the world for their rich ideological content. The art of the Soviet writer, composer and artist, of the motion picture and theater worker has won wide recognition. In the past few years new works of literature and art have been produced which give a faithful and vivid picture of socialist reality.

The achievements of our art and its traditions are of tremendous significance; they mark an important stage in mankind's aesthetic development. The experience of our country has proved that socialism offers the broadest scope for free creative endeavor in art, for the active participation of the masses in the creation of cultural values. Soviet art is enriching the spiritual treasure house of mankind, is blazing the trail to the triumph of communist culture.

Lenin said that the road to a common culture in a communist society lies in the fullest development of the national culture of each people. . . . Through association within the community of the socialist nations new features common to Soviet culture as a whole emerge and develop with mutual benefit. Our task is to give thoughtful support and encouragement to the promotion of the international unity of the socialist cultures. The people expect and are confident that our writers and artists will produce works in which they will fittingly portray the present heroic era of the revolutionary transformation of society.

Development of Soviet Democracy

The working class is the only class in history that does not aim to perpetuate its power. When the conditions that give rise to its dictatorship disappear, when the tasks that society can carry out solely with its help are consummated, the state gradually develops, under the leadership of the working class, into a nationwide organization of all the working people in socialist society.

With the victory of socialism and the country's entry into the period of full-scale communist construction, the working class of the Soviet Union has, on its own initiative, consistent with the tasks of communist construction, transformed the state of the dictatorship of the proletariat into a state of the entire people. . . .

It would be wrong to think that there is a separation between the dictatorship of the proletariat, which represents the interests of the overwhelming majority of society, and the state of the whole people. From the moment of its inception, the dictatorship of the proletariat contains features of universal socialist democracy. As socialism develops, these features are accentuated, and following its complete victory they become determinative. The state develops from an instrument of class domination into an organ expressing the will of the whole people. . . .

Our state is administered ***for*** the working people and ***by*** the working people. We set ourselves the task of drawing all citizens without exception into the administration of the affairs of society.

How are we going to set about solving this task?

Firstly, by steadily creating better material and cultural living conditions for every working man and woman.

Secondly, by continuously perfecting the forms of popular representation and the democratic principles of the Soviet electorial system.

Thirdly, by extending the practice of nationwide discussion of major matters of communist construction and of draft laws of the Soviet state.

Fourthly, by expanding in every way the forms of public control over the activities of the organs of power and administration and by making this control more effective.

Fifthly, by systematically renewing the composition of the governing organs; by increasingly consistent implementation of the elective principle with regard to leading officials of the state apparatus and public organizations and their accountability to the public, and a gradual extension of this principle to all leading officials of state and public organizations and of cultural institutions. . . .

Our Party has been working and will continue to work on the development of social relations in all spheres of life. Not only economics and politics, but also the everyday life, culture, psychology and consciousness of people offer a wide field for shaping the new relations—relations of friendship, fellowship, mutual assistance and collectivism. Real freedom and all-round development of the individual, the harmonious combination of personal interests and the interests of the whole society are possible only in a socialist society on the basis of the new relations between people. . . .

A word about ***the role of the representative organs of power.*** The role of the Soviets will expand. They will be, to a still greater extent, "the working corporations" that Marx and Lenin had in mind when they analyzed the nature of true popular power, performing the practical function of managing economic and social affairs. Many of the matters which are today the responsibility of the executive bodies of the government will be handled directly by the Soviets and their committees. . . .

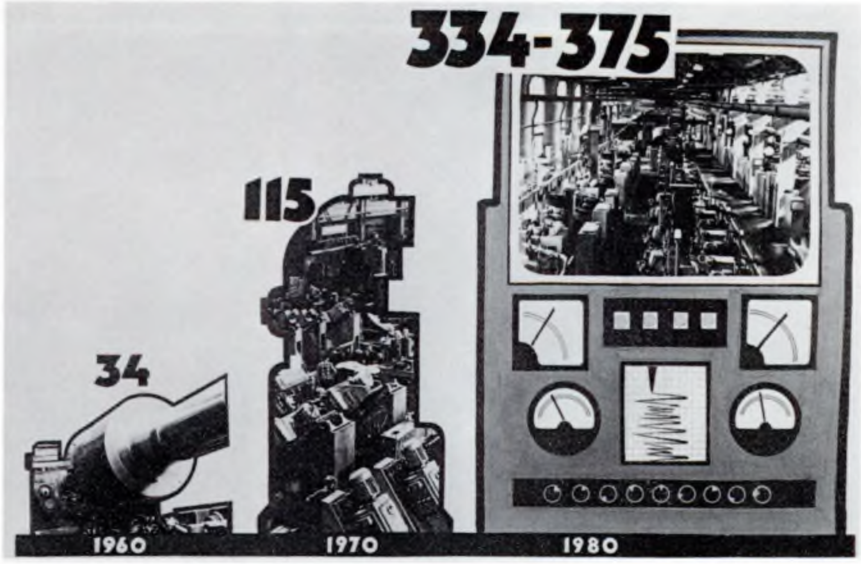
Born in the fire of revolution as organs of the people's struggle for power, the Soviets have now become an all-embracing organization of the people and the embodiment of their unity; they have become a school of public activity for the millions, the like of which mankind has never before seen in the entire course of its development.

The activity of the Soviets is the best confirmation of the highly democratic character of our society. The fact that the total number of deputies to the Soviets is now about two million speaks volumes. Besides these deputies, there are over two million people working actively on the standing committees of our Soviets. No other social system can give such proof of its genuinely democratic and popular character. The Soviets must still further strengthen their ties with the masses and give greater and wider attention to problems of state administration and the development of the economy and culture.

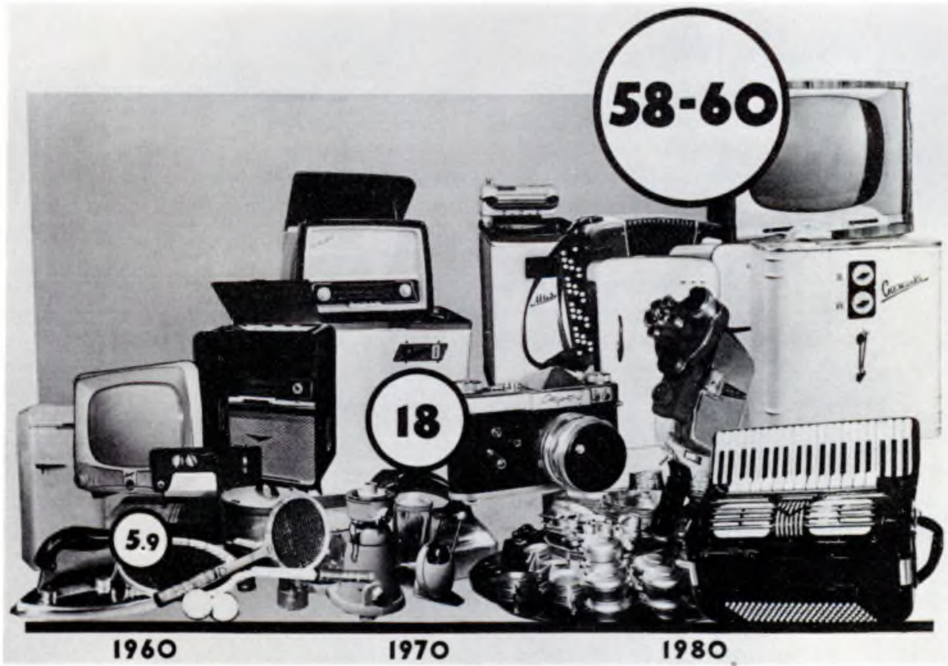
Great changes have taken place in our country in the 25 years that have passed since the adoption of the present Constitution of the USSR. The Soviet Union has entered a new stage of development, and socialist democracy has risen to a higher plane. The new Constitution of the USSR, on which we are about to begin work, must reflect the new features that have appeared in the life of Soviet society in the period of full-scale construction of communism. . . .

The transition to communism calls for continuous ***improvement in the work of the state and the economic apparatus, and for a greater extension of democratic principles and principles of public activity.*** The apparatus of the Soviets, economic and other organs must be made still simpler, more economical, and still more efficient, so that they can respond promptly and considerately to the citizens' needs and inquiries. It is essential that we completely eradicate such survivals of the past as officialism, indifference, formalism and red tape, and not only publicly censure, but strictly prosecute, administratively and legally, officials guilty of a bureaucratic

Textile Production *(in billion square meters)*



Engineering Development *(in billion rubles)*



Production of Cultural and Household Goods *(in billion rubles)*

Three of the 226 scientists who were Congress delegates (left to right): Academicians A. Topchiev, A. Palladin and J. Mamedaliev.

Delegate Alexandra Odrinskaya proudly demonstrates the glass doors her Avtsoteklo plant made for the Kremlin Palace of Congresses.

treatment of the needs and inquiries of the working people.

The progress of socialist democracy is bound up with ***an enhancement of the role of such social organizations*** as the trade unions, the Komsomol, the cooperatives and the cultural and educational societies.

Lenin called the trade unions schools of administration, schools of management, schools of communism. This fundamental appraisal by Lenin of the role of the trade unions has special significance during the transition to communism. Through the trade unions industrial, professional and office workers exert a mounting influence on economic affairs, help improve the work of enterprises and maintain control over production. Furthermore, the role of the trade unions is augmented by the legislative initiative given them and their responsibility for duties previously performed by state bodies.

The Party and the People

The Twenty-second Congress can in all truth be called the Congress of the Party's monolithic unity, the congress of complete unanimity and cohesion. . . . What distinguishes the Marxist-Leninist parties from all other political parties is that Communists do not equivocate; they boldly expose the shortcomings and faults in their work and eliminate them. Criticism, even the severest, helps us progress. This is a sign of the Communist Party's strength, evidence of unwavering faith in its cause. . . .

We stand for the solution of inner-Party affairs by Leninist standards, by methods of conviction and broad democracy, and we shall remain steadfast in this regard. . . . Is it possible for different opinions to be expressed inside the Party at various periods, especially at turning points in its activities? Yes, it is possible. What ought we to do with those whose opinions differ from ours? We are against repression in such cases; we stand for Leninist methods of persuasion and explanation. . . .

The restoration and promotion of Leninist standards of Party activity and principles of leadership have been the paramount aspect of our Party's work in the period under review. The Twentieth Congress, by condemning the cult of the individual as a practice alien to the spirit of Marxism-Leninism, provided vast scope for the creative energy of the Party and the people. It helped the Party extend and strengthen its bonds with the people and heighten its militancy.

The Twenty-second Congress has forcefully confirmed that the course of the Twentieth Party Congress to restore and further develop Leninist norms of Party and state life, to raise the guiding role of the Party and promote the creative initiatitve of the masses is the only correct one. The Twenty-second Congress has consolidated this salutary course. Further guarantees against recurrences of the cult of the individual are provided in the Program and Rules of the Party, and in the decisions of the Congress. The role of the Party as the great inspiring and organizing force in the building of communism is rising still higher. . . .

Not a single major measure was proposed nor a single responsible speech made on anyone's personal instructions. All were the result of collective discussion and collective decision. This concluding speech, too, was discussed and approved by the leading collective. Our great strength, comrades, lies in collective leadership, in joint decision on all matters of principle.

Whatever abilities one leader or another possesses, no matter how much energy he puts into the work, no real, stable success can be achieved without the support of the collective, without the most active participation of the entire Party and the broad masses in carrying out planned measures. That is something all of us must understand well and constantly bear in mind.

Communist leaders owe their strength to the activity of the masses they lead. If they correctly understand and express the interests of the Party, the interests of the people; if they struggle for these interests without stinting strength, energy, even life; if in large and small things they are inseparable from the Party as the Party is inseparable from the people, they will always have the support of the Party and the people. And the cause that such a leader champions will inevitably triumph. . . .

We Communists value and support the prestige of correct and mature leadership. We must safeguard the prestige of leaders recognized by the Party and the people. But every leader must bear in mind the other side of the picture—never to pride himself on his position, to remember that he holds his office by will of the Party, by the will of the people, who have invested him with power—even supreme power—but never do they surrender their control over him. The leader who forgets this pays severely for his mistakes. . . .

Our Marxist-Leninist Party, which arose as a party of the working class, has become the party of the entire people. In this is manifested the monolithic unity and might of Soviet society, welded by identity of interests and outlook. At all times, in fair weather and foul, in days of triumph and in days of stress, ***the Party is with the people and the people are with the Party.*** The Communist Party is the force that rallies the will, the efforts and energies of our people to the tasks that confront us in the new stage of historical development.

. . . Our Congress is a remarkable demonstration of the readiness and determination of the Party, the whole Soviet people, to achieve their great aim—the construction of communism in our country. And there is no doubt whatsoever that communism will be built in the Soviet Union. It is the will of the Party, the will of the people!

After the Twenty-second Congress the delegates will be returning to various parts of our great country, equipped with the Program for building a communist society. Our aims are clear, our paths are charted. And we shall start implementing our Program not in the distant future but at once.

Never before have our forces, the forces of world socialism, been as strong as they are today. The new Program opens before the Party and the people the most radiant, breath-taking vistas. The sun of communism is rising over our country!

THE PEOPLE AT THE CONGRESS

DELEGATES to the Twenty-second Party Congress came from the factories and the farms, from great metropolitan centers and sparsely settled regions of the country. The Party's close bond with the people guarantees its growing membership in every vocation and every part of the country.

Since the Twentieth Congress in 1956, membership has increased by 2,500,000—more than a third. The growth of the Moscow, Leningrad, Sverdlovsk, Gorky and Chelyabinsk organizations was especially striking. The Communist Parties of the Ukrainian, Byelorussian, Uzbek, Tajik, Latvian, Estonian and Moldavian Republics grew by more than half.

Represented at the Twenty-second Congress was the Party's present membership of 9,716,105. The figure includes 8,872,516 full members and 843,489 candidate, or probationary, members.

In the period between the two congresses the primary Party organizations were strengthened and their role increased.

The Central Committee of the Communist Party, further developing inner-Party democracy, had considerably enlarged the quotas of representation at the Twenty-second Congress. For previous congresses one delegate with vote was elected for every 5,000 Party members. For the Twenty-second Congress, one delegate with vote was elected for every 2,000 full members and one delegate—with voice but no vote—for every 2,000 candidate members.

This Congress had 4,408 delegates with vote and 405 with voice but no vote. The total of 4,813 is 3.5 times as many as were present at any of the three previous congresses.

Delegates were elected by secret ballot at regional and territorial Party conferences and at the congresses of the Communist Parties of the union republics. Those from the Moscow City and Leningrad Region Party organizations were elected at district Party conferences.

There were 65 nationalities represented, among them Russians, Ukrainians, Byelorussians, Uzbeks, Kazakhs, Georgians, Azerbaijanians, Lithuanians, Estonians, Moldavians, Latvians, Kirghiz, Tajiks, Armenians, Turkmens and the smaller indigenous nationalities of the autonomous republics, autonomous regions and national areas.

Its wide vocational composition was a demonstration in practice of the thesis in the new Program that declares the Communist Party of the Soviet Union a Party of all the people. Present at the Congress were the officials of the Party of the Soviets; trade union and Komsomol leaders; workers in industry, transport, communications, construction, agriculture, science, education, public health, literature, music and the arts; and members of the Soviet Armed Forces.

There were 1,391 delegates from industry, transport, communications and construction: 984 of them were workers, team leaders and foremen, making up 22.3 per cent of the total number of voting delegates. Many were people who had won nationwide fame as innovators, Communist Work Team leaders and shock workers of communist labor.

Among the 748 agricultural workers present were 469 collective farmers, state farm workers and farm team leaders, 10.6 per cent of the total number of voting delegates. In this group, too, were farmers who had earned the country's gratitude for their great efforts in providing consumers and industry with an abundance of farm produce.

It is generally acknowledged that the Soviet Union is first in the world in training specialists. Since 1941 the number of specialists with a higher education has multiplied 3.5 times, reflecting the general rise in the country's cultural level. As of July 1, 1961, there were 3,076,237 specialists with a higher, incomplete higher and specialized secondary education in the Party's ranks.

Of the 4,408 voting delegates at the Congress, 2,312 had a higher, 230 an incomplete higher, and 665 a secondary education—72.8 per cent of the total. There were 975 engineers and economists; 260 agronomists, veterinarians and zoo-technicians; 379 teachers, doctors, lawyers and journalists.

There were 226 scientists, among them 38 members and corresponding members of the USSR Academy of Sciences, 24 members and corresponding members of branch academies and academies of the union republics; 45 writers, artists, composers and theater people; and 305 servicemen.

The Twenty-first Congress had recommended that more young men and women be promoted to leading positions to obtain a better ratio of older tested cadres to younger people. That the recommendation was put into effect was evident in the age composition of the recent Congress: 22 per cent of the delegates were under 35; 16.6 per cent, between 36 and 40; 37.9 per cent, between 41 and 50; and 23.5 per cent were over 50.

These were the length-of-membership figures: 42 delegates had joined the Party before the October Revolution; 1.3 per cent had joined the Party between 1917 and 1920; 7.7 per cent, between 1921 and 1930; 22 per cent, between 1931 and 1940; 26.6 per cent, between 1941 and 1945; 23.1 per cent, between 1946 and 1955; and 18.4 per cent, from 1956 to date.

There are 1,898,759 women in the Party. The number elected as delegates demonstrates the important place they occupy in Soviet political and economic life. Among the 1,073 women delegates—22.3 per cent of the total number of delegates—were factory workers, collective farmers, engineers, doctors, scientists, Party and Soviet officials.

All these facts and figures about the Twenty-second Party Congress delegates demonstrate once again the continuous growth of the Communist Party of the Soviet Union.

CONGRESS DELEGATES SPEAK

THE NEW COMMUNIST PARTY PROGRAM, adopted by the Twenty-second Congress, was published in draft by newspapers throughout the country two and a half months before the Congress convened. It was discussed in detail at meetings of all primary Party organizations, at district, city, regional and territorial Party conferences and at congresses of the Communist Parties of the union republics. Over nine million Communists—the total Party membership—took part in those discussions.

Some 73 million people attended the more than 500,000 meetings at factories, collective farms, offices, Army and Navy units, and trade union and Young Communist League organizations to consider the draft Program. More than 4.6 million citizens took the floor in discussion at Party meetings and at meetings of working people. In addition to this the Central Committee of the Party, local Party bodies, newspapers, magazines, radio and television stations received more than 300,000 letters and articles commenting on the draft and proposing additions and changes.

Figures, however, are inadequate to measure the scope and the character of this national forum. The draft was the country's No. 1 topic of conversation—argued and debated at formal meetings and home gatherings everywhere. It may be said without exaggeration that the draft Program was discussed by the entire people and was accepted by the people as their own program, as the purpose of their life.

The Report of the Central Committee, the Report on the Program presented by First Secretary Nikita Khrushchev, and Secretary Frol Kozlov's report on the new draft Rules were discussed and approved at the plenary meeting of the Central Committee held three days before the Congress opened.

At the Congress sessions there were speeches by 88 delegates, each one in the nature of an accounting to the Party and to the people in general of tasks completed and those in progress.

The Congress unanimously approved the Central Committee's political line and practical activities as well as the draft of the Program, a program for communist construction, and discussed the concrete ways and means by which it would be most speedily and effectively carried out. It had every confidence that the Soviet people would bend their every effort to fulfill this third Program as successfully as the first and second Programs.

VASILI SMIRNOV
Team Leader at the Baltic Shipyard in Leningrad

We find our greatest satisfaction and highest duty in carrying out the Party Program. We must do more and better work today than we did yesterday. If we find new and improved ways of doing a job, we must pass it on to our comrades. That is our working rule. But the rule does not only hold for work. We have the task of rearing the new man, the man of communist society, and it is not a task for the future. This man is already here among us living, working, building, creating. He is maturing in work, getting rid of the survivals of the past, developing his qualities as a creator.

MSTISLAV KELDYSH
President of the USSR Academy of Sciences

The constant attention by the Party and the people to the development of science has moved our country to the forefront in all major fields. The Soviet Union leads the world in jet and rocket techniques. Soviet people made the world's first space flights and ushered in the era of interplanetary travel. Soviet science pioneered the use of nuclear energy for peaceful purposes. Our science holds a leading position in a number of branches of physics, chemistry, biology and geology.

Much has been done of late to develop research centers in the union republics and in a number of big cities. That should be done in outlying regions as well. We must not, however, try to develop every sphere of science in every republic or city. We have cases where duplicating computing centers are set up in the same city—one at an academy, the other at a university. As a result, neither is sufficiently developed.

We must set up joint scientific institutions so that we do not build costly reactors, powerful accelerators and astronomic observatories everywhere. It is certainly better to set up a well-staffed and well-equipped joint institute than to dissipate our resources among several weak ones.

MARIYA ROZHNEVA
Assistant Foreman of the Kupavna Fine Cloth Factory, Moscow Region

"The present generation of Soviet people shall live under communism!" How good that sounds. We ourselves are the generation the new Program speaks about. We can already see the new collective principles of the future in operation in our daily lives.

At our factory we have no time-sheets to check when people report to work, and we have no cashier to pay out wages. The workers do that themselves. Hiring and firing and disciplinary measures are handled by the team. We have a collective concern for each other, at work and outside. We help one another like good friends. The women look after each other's children. The team marks the birthday of each of its members, the birth of a child, admittance to the Party or Young Communist League, retirement to a well-deserved rest.

As a deputy to the Supreme Soviet of the Russian Federation who knows the demands of the electors, I want to ask the Congress to discuss the question of abolishing the night shift and, as a mother of two children, I suggest we begin with women working in textile mills so they can have more time for their children and for more active participation in public life.

ALEXANDER TVARDOVSKY
Poet
Lenin Prize Winner

If memory does not fail me, it was Suvorov who said that a soldier takes pride not only in his deeds of valor on the field of battle but in his privations on the march as well. When we describe the valorous labor of our wonderful people in our writings, we often say nothing about the hardship and suffering they endured on their great march. We do injury to the legitimate feeling of pride a man has when he overcomes difficulties and drives ahead toward a lofty goal. What we should do is strengthen people's pride, reward courage, endurance, patience, selflessness, and readiness to make sacrifices when necessary. This is what is called for by the words in the Program that speak of the need for closer ties between life and literature, for truthful and artistic portrayal of our society in all its diversity.

IVAN KAIROV
President, Academy of Pedagogical Sciences of the Russian Federation

"A happy childhood for every child is one of the most important and noble aims of communist construction," declares the draft Program.

Some people think that to rear a child and to love him is the same thing. But you have to love him wisely; a child is what parents teach him to be. There is no hiding the fact that some parents still think their children must be spared any kind of trouble. They themselves have worked hard enough, they feel, and have had their share of the bitter side of life. "We want our children to have a happy and easy life," they say. But these parents forget that there is a good possibility that children brought up that way will be spongers when they grow up.

Some people say that the lives of young people should not be clouded with sorrow. But we must not forget that people have hearts, and when a man has a heart, sorrow as well as joy will find its way in. Ours must be humanist education. We must teach young people to share the joy and grief of others, to remember that piece of folk wisdom that says, "Shared joy is double joy, and shared sorrow is only half sorrow."

GHERMAN TITOV
Cosmonant
Hero of the Soviet Union

The whole world knows that socialism was the launching pad from which spaceships **Vostok I** and **Vostok II** were shot. Socialism created the necessary conditions for cosmic flight.

My friends and fellow cosmonauts are getting ready for new ventures. The era of space exploration has only just begun. Yuri Gagarin and I are proud that we were given the honored assignment of ushering it in. But new and more complex flights lie ahead. More and more Soviet pilots will fly the unexplored routes of space, will study them, will help to unveil nature's secrets so that they can be used for man's welfare and in the service of peace.

ALEXANDER GITALOV
Tractor Drivers' Team Leader
Kirov Collective Farm, Voronezh Region

Generations of progressive people dreamed of a communist society; many gave their lives for this hope of a bright future. Communism is no longer a dream; it is a reality being created by millions of Soviet people.

The members of our collective farm are happy that they have a share in the gigantic achievements of the Soviet land. For the past six years our tractor team has been growing corn without having to resort to hand labor. All the work of sowing and harvesting is done by machine. I think that our labor expenditure per acre of corn is now probably lower than Garst's. He is the American farmer who taught me to cultivate this crop in 1958.

TURDAKUN USUBALIYEV
First Secretary of the Central Committee of the Communist Party of Kirghizia

Kirghizia, which had no industry at all in pre-Soviet times, is now exporting modern equipment to 25 countries. The republic's rate of industrial development is far higher than that of many countries. As for the Eastern countries—Iran and Pakistan, for instance—Kirghizia tops them many times over in per capita output of many important items.

Ours is a mountain republic. Only 3,750,000 of its 25,000,000 acres are plowland. More irrigation development is needed for their most productive use. Capital investments for irrigation allocated in the seven-year plan is not sufficient to meet our growing farm needs.

Our livestock growth will depend to a great extent on the use we make of our rich alpine pastures to produce cheap meat and wood. Our Party organization will have to cope with the big job of irrigating outlying pastures. We count on help from the Union government.

YULIYA VECHEROVA
Weaver at the Solidarnost Factory
Ivanovo Region

To be a Party member means to be a leading worker, and that again means knowledge and education. It is no accident that many workers, some of them well on in years, attend specialized secondary schools and general education schools and institutes. I myself am enrolled as a correspondence student at the Ivanovo Textile School. It's no simple business to be a student when one has a job and family, but there are things that can be done to make it easier.

I have this question I want to ask: Why has the Ministry of Higher and Specialized Secondary Education not given more thought to some important details of evening and correspondence school study—examination procedures, for example? Examinations are held at all schools only twice a year and in the same months. So that at examination time we always suffer from a shortage of help in shops where there are many correspondence students. The work has to be given to less skilled people, and productivity suffers. I think that evening and correspondence students ought to be allowed to take their examinations at any time of the year they are ready for them, or that different institutes should set different examination dates.

Fervent Support of the People

The Congress delegates unanimously endorsed the new Program and the new Party Rules, as well as the resolution on the Report of the Central Committee. These historic documents and the proceedings of the Congress as a whole were wholeheartedly approved by the people.

In his closing speech at the Congress First Secretary Nikita Khrushchev said, "Communism can be built only by the labor of millions."

At mass rallies everywhere the Soviet people pledged their firm resolve to fulfill this 20-year Program for communist construction, a program for a new flourishing of the national economy and culture, for the creation of an abundance of the good things of life for every man.

Year's GREAT EVENTS on Stamps

BY ILYA ZBARSKY

MANY of 1961's notable events were commemorated in Soviet postage issues.

A handsome stamp, with the portraits of Karl Marx, Frederich Engels and Vladimir Lenin against a background of fluttering banners, marked the Twenty-second Congress of the Communist Party of the Soviet Union.

A commemorative three-stamp series in denominations of 3, 6 and 10 kopecks was issued for the first manned space flight. The 3-kopeck carries Yuri Gagarin's portrait. On his left is a ship soaring into space; and on his right, the Hero of the Soviet Union decoration awarded the cosmonaut.

The 6-kopeck stamp shows the first sputniks and a spaceship in flight against a background of the Kremlin, Moscow University, an astronomic observatory, an iron and steel plant, and a radar installation. It also bears a quotation from a speech by Khrushchev.

The 10-kopeck stamp shows a ship speeding toward the stars and the cosmonaut in a space suit.

Gherman Titov's cosmic flight was commemorated in a two-stamp issue, of 4- and 6-kopeck denomination. The first pictures the cabin of the ship with the cosmonaut at the control panel, and the earth, encircled by symbolic sputnik orbits, framed in the porthole. The second bears Titov's portrait and *Vostok II* in flight against a starry sky.

Commemoratives were issued for the hundredth anniversary of the death of Taras Shevchenko, the beloved Ukrainian poet and artist. The 6-kopeck stamp bears his portrait and an open book of verse — *Kobzar* — in which Shevchenko glorifies his native Ukraine, some lines of his poetry and his signature.

A light-green, 6-kopeck stamp with the emblem of the World Youth Forum commemorates this international conference held in Moscow last summer (July 25-August 3).

The stamp issued in 1960 to mark the opening of Friendship University in Moscow was overprinted this year with its new price of 4 kopecks. It shows young people from Latin America, Africa, Asia and the Soviet Union, all studying so that they can make their contribution to their countries' growth.

A blue 6-kopeck stamp was issued for the Fifth Biochemical Congress in which nearly 6,000 scientists from 58 countries took part. The stamp carries the emblem of the congress, a conventionalized model of a living cell.

To mark the Soviet Union's participation in the International Labor Exhibition in Turin, Italy, two stamps, were designed: a 4-kopeck, which pictures a sculpture group *To the Stars;* and a 6-kopeck, with a portrait of Italy's national hero, Giuseppe Garibaldi.

A series of four stamps—2, 4, 6 and 10 kopecks—marks the fortieth anniversary of Soviet postage stamps. They carry reproductions of stamps issued during various periods of Soviet history.

And finally, a standard series of 1- to 16-kopeck stamps, illustrating in a variety of designs aspects of Soviet life, was issued early in the year.


5 БИС

Every man on this Donbas mine crew knows several skills so he can fill in where he is most needed.

Electric locomotives, coal combines and other mechanized equipment do most of the heavy work.

COAL MINERS

BY DMITRI PRIKORDONNY
PHOTOS BY NIKOLAI KOZLOVSKY

THE CAGE STOPS at the 1,620-foot level and the miners get off. They stride along in single file, their work clothes ballooning out in the strong underground air currents, their hand lamps gleaming in the dark. The crew winds through the piles of drift until it gets to the working face. There is good coal here, rock-free. The seam is 3.5 to 4 feet thick. Everything looks shipshape. They swing into smooth, rhythmic operation.

That's the way the shift begins in any section of the Trudovskaya Mine in the Donets Coal Basin—Donbas, for short.

A crew such as Ivan Strelchenko's can cut 19 tons per man in a regular six-hour shift. But that kind of high output day in and day out requires a lot of skill, speed and, most important, team work. Each man on the team has mastered two or three operations besides his own so that he can fill in where he's most needed. A while ago combine operator Leonid Gordienko fell ill. The team leader took over his job until he recovered.

Uncle Petya—that's what the younger miners call Pyotr Svistun—is the oldest man in the crew, just past forty, and the most experienced. He's worked in this mine for sixteen years, starting as a lamp boy, becoming a mechanic's apprentice, then a full-fledged mechanic and master miner. Now he's a combine operator, and a very good one. He knows whatever there is to know about mining, including its hazards, from personal experience. After the war he worked to rebuild mines that the Nazis had smashed and flooded, and survived a mine explosion.

Crew leader Ivan Strelchenko—or simply Vanya, as his friends call him—is much younger than Uncle Petya but a first-class miner, too. He has to be, as crew leader. His native Rybalche, a village in the Kherson steppelands of the Donbas, is far off—not so much in distance as in time. That was where he spent a carefree childhood until the death of his father, a Black Sea sailor, in the defense of Sevastopol. His mother was left with four small children on her hands.

Vanya went to vocational school and became a carpenter. He built houses, then ships. He served in the navy, also on the Black Sea like his father, was assigned to a school for junior officers, and after graduation taught new recruits the ABC's of sea duty.

After he was demobilized, Vanya came to this mine in the Donbas with eight other Black Sea sailors and there learned his new trade. He met Lida in the miners' settlement, and they got married.

But a miner's life isn't all smooth sailing—to mix a metaphor. It has its bad moments. There was the time when the roof of a new drift began to settle; the thick seam cracked and began to sink. Team leader Vanya didn't have time to be frightened—nor did the rest of the crew. They had to work fast to fix the props and shore up the roof.

Or another time, when they were celebrating a bonus. They knocked off work and threw a party where they tried to see who could drink whom under the table. They all won. But in the process they raised such a rumpus, they've been trying to live it down ever since.

Not long ago Strelchenko visited Czechoslovakia as a member of a miners' delegation. He traded experiences and working techniques with miners there and spent some memorable days sightseeing in Prague, Ostrava, Karlovy Vary and Brno.

Ivan does a considerable amount of traveling. His last trip was to Kiev, where he was invited to attend a plenary meeting of the Central Committee of the Young Communist League of the Ukraine. The crew saw him off with some lengthy parting words. Each one had some last-minute additions to their joint report the team leader was to deliver at the conference.

The people at the meeting followed Vanya's report with its detailed facts and figures very closely. The work of his crew was held up as a model in the competition for greeting the Twenty-second Congress befittingly. But thinking about it afterward, he wasn't altogether satisfied with the report. "Too much statistics," he told himself."It's true that you gauge a crew's work in tons of coal cut, but how about the things behind the figures—like teamwork, the way the men feel about one another, and so on? I should have said more about that."

Perhaps he should have, but apparently it came through anyway, judging by the number of times the word "teamwork" cropped up in the subsequent discussion of Vanya's crew.

A number of the younger men of the crew do after-work study. Kostya Klevtsov hopes to be an engineer.

Daughter Tatyana is a Donbas native. Crew leader Ivan Strelchenko settled there after service in the navy.

The workday is six hours, as set by law for those with underground jobs.

A soccer field is any place that has a level surface and two goal posts.

His workmates toast Pyotr Danilenko's very recent marriage. He was the last remaining bachelor in the crew.

EVENTS AND PEOPLE OF 1961

This is not the first time we have tried to select for our readers the most notable events of the past year. Each time we ask ourselves the same puzzling question—what is "important"? By what criteria do we decide that one event is "important," another "less important," "usual," or altogether "unimportant"? "As usual" there was no unemployment in the Soviet Union. "As usual" the target figures for the seven-year-plan were met ahead of schedule. And, "as usual," the world continued to be amazed by the successes of the Soviet Union in space exploration.

Granted the choice is somewhat arbitrary, still there are events that stand out against the background of the Soviet Union's over-all progress. We have chosen these for our year-end review.

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Early in the year the plenary meeting of the Central Committee of the Communist Party worked out measures of a radical and comprehensive farm development that would meet the country's fast-growing consumer and industry needs. The decisions of the Central Committee called for sweeping changes in agricultural management, reorganization of the sown areas, and procedures that would sharply increase livestock growth. The good results of the current year can be attributed very directly to these measures.

2
The year just ending is the third of the seven-year plan period. Results to date? The major target figures have been overfulfilled. Industrial output rose by 8.8 per cent in the first nine months. The production rise for the first three years of the plan was 10 per cent instead of the 8.3 per cent forecast.

3
The harvest this year was a good one. Compared with 1960 state grain procurements increased by 75 million metric tons, bringing the total to 550 million metric tons.

4
In late June the Soviet press published the new draft Program of the Communist Party of the Soviet Union. This third Program to be adopted in the Party's history was, as Nikita Khrushchev aptly described it, "the third stage of a remarkable rocket that will place the country in the orbit of communism."

For the three months before the Twenty-second Party Congress convened the Program was discussed by the nation. The entire Party—more than 9 million members—took part in the discussion. At 500,000 public meetings attended by 73 million people, 4,600,000 spoke from the floor. The newspapers, radio and TV received 300,000 letters with comments, proposals and amendments to the draft. By the time the Twenty-second Congress met to approve the draft, it had heard the expressed will and judgment of the whole country.

5
This year brought new laurels to Soviet science and engineering for outer space exploration. The Soviet cosmonauts Yuri Gagarin and Gherman Titov made the first manned flights in the spaceships Vostok I and Vostok II, thus realizing man's old dream. These historic launchings were prefaced by several preparatory flights, each of them a considerable space achievement in itself. During the year six heavy space vehicles were launched, one of them headed toward Venus; two others, with animals aboard, were returned to earth in the prearranged area.

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The reaction to the traditional air show held at Tushino, near Moscow, this summer echoed round the world. The new Soviet aircraft on display had brought home a good many of the world records. Pilot Fedotov, flying at 1,696.3 miles an hour, broke the absolute speed record; Kamov's heliplane—a plane with vertical take-off and landing—set a speed record; and the Soviet jet hydroplane set 12 world records for speed, carrying capacity and altitude for this type of aircraft. In 1961 also the famous TU-114 set a phenomenal record by lifting a payload of more than 30 metric tons to a height of more than 7.75 miles; pilot Mosolov set an absolute altitude record of 21.2 miles; and the YAK-32 sports plane broke the world high-altitude mark.

7
Early this year the Soviet Union switched over to the new ruble—the ratio of the new ruble to the old is 1:10. The change, purpose of which was to facilitate bookkeeping for domestic currency circulation and foreign trade, did not affect prices or wages.

8
The most important event of the year, in terms of long-range effects, was the Twenty-second Congress of the Communist Party of the Soviet Union. The Congress adopted a new Party Program and Party Rules and elected new leading bodies. It was attended by 4,813 delegates, elected by 9.7 million Communists. The delegates included representatives of 65 Soviet nationalities. The vocational composition of the Party membership, as of the opening of the Congress, was 40.7 per cent workers; 22.7 per cent collective farmers; 35.6 per cent specialists of industry, agronomists, doctors, scientists, businesss executives; and 1.0 per cent students.

9
On the initiative of Soviet public organizations, an Institute of Soviet-American Relations was founded on August 31 with the aim of expanding cultural and scientific exchange and developing personal contacts between American and Soviet citizens. The founding meeting elected a board and a president, the internationally known cancer surgeon and President of the USSR Academy of Medical Sciences, Nikolai Blokhin. Among the 16 vice-chairmen on the board are such distinguished figures as composer Dmitri Shostakovich, film director Sergei Gerasimov, Georgi Zhukov, Chairman of the State Committee for Cultural Relations with Foreign Countries, and Nina Khrushcheva.

10
In May a meeting of American and Soviet public figures was held at Yalta in the Crimea for a discussion of disarmament, peaceful coexistence and other problems important to the two countries and the world. This is the second meeting of its kind; the first was held in the United States in 1960. The participants all agreed that the conference was extremely fruitful.

11
This year the Party and the government took further steps to expand the virgin land program. More than 40 per cent of the total grain procurements now come from the virgin land areas, and the prospects for livestock development are good. In 1960 a special administrative territory was formed of the virgin areas in the eastern part of the country with a capital at Tselinograd (previously Akmolinsk).

12
In the summer of 1961 an international congress of biochemists met in Moscow, with large representations from many countries. More than 700 American and 1,650 Soviet biochemists attended.

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This was a busy year for the Soviet theater, dance and concert stage. Of the 1,114 plays staged by Soviet theaters during the 1961 season, 780 dealt with present-day themes. They were seen by more than 90 million people. The total movie audience for the year was about four billion. In the United States Soviet artists won new triumphs. The Moiseyev dancers made their second highly successful tour and the Leningrad Ballet won both critical and popular acclaim. The young Soviet violinist Marina Mdivani won first prize at the June International Violin and Piano Contest in Paris. During the year, Soviet musicians took 27 first and 35 second and third prizes at international competitions.

14
Soviet athletes set new records in 1961, notably Yuri Vlasov in weightlifting, Valeri Brumel in the high jump and Tamara Press in the discus throw. In July and August 14 million of the country's athletes participated in the 500,000 contests of the All-Union Spartakiad of Sports Societies, held in the various republics and regions, and chalked up 154 national records, 48 of which topped the world marks. It was also a banner year for American-Soviet sports exchanges during which several world records were set.

15
This is a picture of the new Academy of Sciences built this year in Moldavia, one of the union republics. Each one of the union republics now has its own academy staffed by native research scientists. Their studies of local resources are integrated with the national research program. The state is generous with funds for developing the academies of the republics.

16
Moscow Friendship University successfully completed its first academic year. This university is now being attended by students from 64 countries. The last day of this first academic year was celebrated with a student-faculty convocation in the Hall of Columns of the capital's House of Trade Unions.

17
In October the second phase of the tax abolition program went into effect. As of that month, taxes were no longer levied on earnings of 60 rubles a month or less and the tax on earnings up to 70 rubles was cut 40 per cent. The total sum of wages saved by the workers as a result of the second phase of the tax abolition program tops 400 million rubles.

18
This was a year marked by the exchange of trade fairs between the USSR and many foreign countries—an important and mutually rewarding form of international cooperation and peaceful economic competition. The most important of the fairs were the American Plastics Industry Exhibition, the British Industrial Fair and the national exhibitions of Japan and France. All were very successful. The British, Japanese and French fairs were held in Moscow's Sokolniki Park where the American Exhibition took place in 1959. This permanent fair ground has been enlarged considerably since then with many new pavilions.

19
In September the Volga Hydroelectric Station was officially opened and named in honor of the 22nd Communist Party Congress. This is the most recent of several gigantic power projects and the world's largest, with a rated capacity of 2,550,000 kilowatts—but only for a relatively short time, until bigger projects now under construction are completed. The first 225,000-kilowatt capacity unit—the most powerful in the world—of the Bratsk project in Siberia has already been assembled. When completed, Bratsk will have a 4.5 million-kilowatt capacity. Another Siberian hydropower station, now being built at Krasnoyarsk, will have a still greater capacity—5 million kilowatts. The new Party Program forecasts a whole series of very powerful thermal and hydropower stations. By 1980 the Soviet Union will be generating 1.5 times the power total now produced by all other countries in the world combined.

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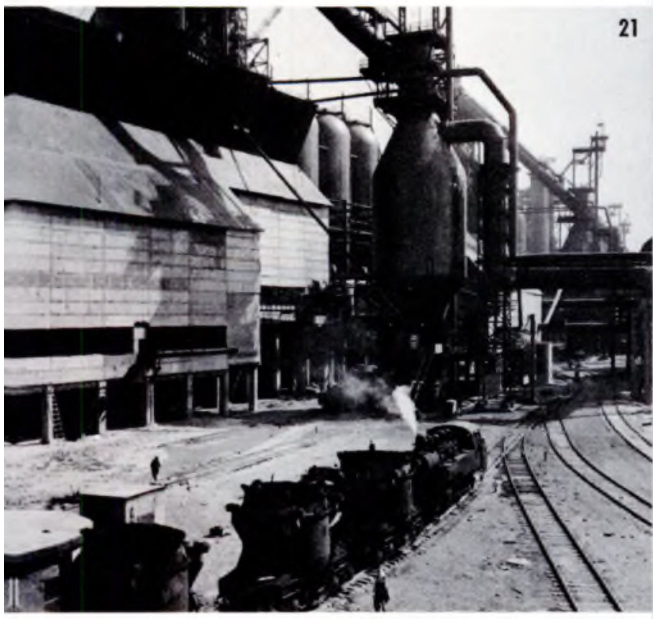

21

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23

20
The 1961 world chess championship match was held in Moscow. The duel between the world champion young Mikhail Tahl (USSR) and the ex-world champion Mikhail Botvinnik (USSR) returned the crown to Botvinnik. He played a brilliant game and won the world title for the fifth time with a 13-8 score.

21
In August the new and unique type of blast furnace shown in the photo was installed in the Krivoi Rog iron and steel mill. It uses natural gas and concentrated oxygen blast and has an extremely high efficiency factor—0.495. This huge blast furnace, the last word in smelting automation, works on local gas. It was built in a record eight months.

22
The year was memorable to citizen Sergei Nikitin and his family for a reunion with friends from France—the Nicolas Offmans. They met during the war. In 1944 Sergei Nikitin and his wife, imprisoned in the Ledigenheim nazi concentation camp, managed to smuggle their newly born daughter out of the camp to the Offmans. The child stayed with them through the war. On V-Day, when the Nikitins were liberated, the Offmans returned the child to her parents. The Offmans were invited to Moscow by the Nikitins and the State Radio and TV Broadcasting Committee to meet their foster daughter Alla, now a 16-year-old schoolgirl. To the Soviet people the reunion was a moving symbol of the unbreakable ties of friendship between ordinary people, who, although living on different sides of a state frontier line, know equally well what war means.

23
This year, as in the past, the Soviet Union strove to maintain contacts with the leading figures of foreign countries, regarding these contacts as a means for exchanging opinions on outstanding international issues in an attempt to find a common attitude toward problems on which the countries differ. At the same time contacts at government level were utilized for economic negotiations. In 1961 leading statesmen from many European, Asian, African and Latin American countries visited the Soviet Union. Official visits were made by Indian Prime Minister Jawaharlal Nehru, Italian government head Amintore Fanfani, Cuban President Osvaldo Dorticos, and government leaders from Ceylon, Indonesia, Argentina, Laos, Ghana and other countries. Soviet government and Party leaders, including Chairman Nikita Khrushchev, made a number of trips to foreign countries. In June, 1961 Khrushchev met President Kenedy in Vienna. In recent months members of the Presidium of the Central Committee of the Communist Party made 65 visits to 27 non-socialist countries.

24
The World Youth Forum, one of the outstanding gatherings of the year, held its sessions in July and August in the Soviet capital. The forum, sponsored by an international committee, drew 800 young people from 106 countries representing 330 youth organizations. The delegates affirmed their common interest in the maintenance of world peace and the settlement of problems by negotiations, and unequivocally rejected war as a means for resolving international disputes. They outlined their common view in an Appeal to the Youth of the World. The forum was covered by 500 foreign and Soviet newsmen. Messages of greeting were sent by Nikita Khrushchev and statesmen of several other countries.

25
The film studios of 50 countries took part in the Second International Film Festival held in Moscow in July. Thirty-three feature films and more than 40 documentaries and shorts were shown. Among the 700 participants were more than 100 directors and actors of world cinema stature. Grand prizes were awarded by an international jury to the Japanese film The Island, produced by Kaneto Sindo, and the Soviet film, Clear Skies, produced by Grigori Chukhrai.

26
While the Twenty-second Communist Party Congress was in session, a monument to Karl Marx, founder of scientific communism, was unveiled in Moscow. The ceremony was attended by leaders of the Party and the Soviet Government and by Congress delegates and foreign guests.

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GOVERNMENT BY ALL

THE BUILDING of the highest phase of communist society started by the Soviet people signifies a new stage in the development of socialist statehood.

The Soviet state was born of the Great October Socialist Revolution fought by the working class allied with the working peasantry. Its goal, from the first moment of its birth, was a society in which the land and material resources would be owned by all in common, a society that would do away with the factors that make man's exploitation by man possible, would end class antagonisms and would secure to those who create the material values all the fruits of their labor.

To carry through this great objective, the working class took political power into its own hands and established its dictatorship, the dictatorship of the proletariat, which served to guarantee the broadest democracy to the working people. It served, at the same time, as a means by which to establish and perpetuate the rule of the majority of the people over the minority—the exploiters, whether in town or country.

Force, however, was not the major weapon of the dictatorship of the proletariat. Lenin emphasized that "the essence of the proletarian dictatorship does not lie in force alone, or even mainly in force. Its quintessence is the organization and discipline of the advanced detachment of the working people, of their vanguard, their sole leader, the proletariat, whose object is to build socialism, to abolish the division of society into classes, to make all members of society working people, to remove the basis for any kind of exploitation of man by man."

The working class used its power to organize and rally the working people, to guide economic and cultural construction and defend the revolutionary victories of the people. From the very outset the Soviet state pursued constructive and peaceful goals. And if in the first days it had to crush its class enemies, it was only because it was forced into doing it by the counterrevolution.

The exploiters, overthrown by the Revolution, opposed the will of the majority and tried to hinder the successful building of socialism. To strangle Soviet power and restore their rule, they resorted to "white" terror, conspiracy and subversion, civil war and foreign intervention. That was when the Soviet state, to suppress the intrigues of hostile forces, was compelled to resort to dictatorial methods.

Socialism built firmly and solidly, and the resistance of the remnants of hostile classes weakened correspondingly. As the balance of forces shifted in favor of the working classes, the character of the dictatorship of the proletariat underwent a change. Its coercive function diminished and finally ceased. The socialist state thereupon entered a new stage characterized by vigorous development of its main functions—administrative-organizational and cultural-educational functions. This was the beginning of a continuing process—the evolution of the state of the proletarian dictatorship into a nationwide organization of the working people.

The new Program of the Communist Party of the USSR points out that the dictatorship of the proletariat, having secured the full victory of socialism, which is the first phase of communism, has completed its historic mission and is no longer indispensable in the Soviet Union. The victory of socialism led to the abolition of private ownership of the means of production and, with it, the economic basis for the existence of exploiting classes of any kind.

Public ownership of the means of production was established.

The working classes also underwent a change in the period of socialist construction. The working class, having freed itself of exploitation and consolidated its leading role, is no longer the proletariat. It has grown politically and culturally, has become more solidly organized and, by reason of the rapid industrialization of the country, its numerical strength is very much greater.

The social character of the peasantry has altered too with the merger of small private holdings into large collective and state farms. Collective labor is the source from which the Soviet farmer's prosperity derives. Last, though far from least, out of the working class and peasantry a new people's intelligentsia has emerged.

Community of interests was the foundation on which workers, collective farmers and the intelligentsia built their social, political and ideological unity. Today they are joined in one body of working people. Soviet society, free of class contradictions and conflicts, has become a society of free workers of town and country, and the Soviet state, a state for the whole of the nation, reflects the interests and the will of all its people.

But the transformation of the state into a nationwide organization of the people does not mean that the working class has resigned its guiding position. As the most advanced and best organized social group, it continues to play the leading role during the period of completing the construction of communism.

It does so for two reasons. First, by reason of its historical development the working class is the most consistent advocate of socialist ideology and communist morality and the most thoroughly organized and united class in Soviet society. Second, its relation with the backbone

"TO THE STARS AGAIN"

A SCENE only two men on our planet have witnessed, the earth from an orbiting spaceship, is already being viewed by millions in a documentary screened by the Moscow Studio of Popular Science Films. The motion picture *To the Stars Again* is a camera record of Gherman Titov's spectacular 25-hour cosmic flight and the preparation and training that preceded it.

Skillfully woven into the film are biographical episodes. Titov is shown in the isolation chamber, cut off from the sight and sound of men, training for the vast solitude of space. He re-creates in imagination scenes from his childhood in the Altai—the sky at evening over a cottage, the sound of the violin his father played, verses from Pushkin.

Like other boys, he plays, studies, dreams at times. He grows up to be a disciplined person with the courage and the physical, moral and intellectual strength needed for his hazardous mission.

The earlier sequences show the cosmonaut training for flight on the trampoline, centrifuge and catapult. He is pictured on the rotor, a special device that revolves in three planes to simulate the effects of a storm at sea.

The film shows for the first time a carrier rocket preparing for take-off, the starting crew at work in the cosmodrome, the coordinating computer center in action. Included are sequences from the television screening of Titov in flight.

To the Stars Again was shot by six professional cameramen and one amateur, Gherman Titov himself.

Electronic devices were used to check Titov's health prior to his space flight.

Titov is helped to don his space suit, itself a veritable laboratory.

THE PEOPLE

BY NAUM FARBEROV
DOCTOR OF LAWS

of the economy—industry, which represents public property—is most direct and immediate.

Its leading role is primary not only in the country's material production but in its social and political life as well. It is worth noting here that such great national drives as the Communist Work Team movement, which sets the pattern for communist work and communist living, was initiated by the working class.

The leading role of the working class today does not have to be established by legislation. It is confirmed by force of example, organization, the high level of political consciousness, of civic activity and achievement on the job. The working class will complete its mission as the leader of society only with the construction of the highest phase of communist society.

Thus, the dictatorship of the proletariat as the instrument for the revolutionary transformation of society is no longer necessary in the Soviet Union even before the working class has completely discharged its function as the leader of society. In other words, the chronological limits of the dictatorship of the proletariat and the leading role of the working class do not coincide. The working class continues its role as leader after the dictatorship of the proletariat has outlived its usefulness.

The dictatorship of the proletariat becomes unnecessary before the state withers away. But, declares the Communist Party Program, the state as an organization that takes in all the people of the country functions until the complete victory of communism.

The socialist state continues the work started by the dictatorship of the proletariat—the construction of communism. It continues the work to complete the material and technological basis for communism and, on that foundation, to make the transfer from socialist to communist social relations. In process, it continues to better the standard of living, to raise the general ideological and cultural level, to teach the people the communist attitude to labor.

During the period of full-scale construction of communism it is the responsibility of the socialist state to control norms of production and consumption, to protect socialist property, to maintain socialist law and order and to guard the rights and freedoms of the citizens.

Finally, the socialist state must guarantee the nation's defense and security, promote fraternal cooperation with the socialist countries, safeguard peace and maintain good-neighbor relations with all nations.

To carry through its domestic functions, the socialist state relies on organizational and educational means primarily. Coercion, which has never been the dominant enforcement instrument of the Soviet state, is used less and less frequently. It is still retained but no longer used as a weapon against antagonistic classes or social groups. It is used against spongers, speculators, hoodlums and other individuals who break the rules that the socialist community—the whole of the nation—has set up as standards of behavior.

The major trend of development of the people's socialist state is toward the expansion and perfection of democracy, the drawing of all citizens into the active administration of the state and the management of economic and cultural construction; improvement of the state apparatus; and the exercise of greater public control over its work.

At present there are about two million elected deputies actively serving in the various local, republic and national Soviets, and more than two million citizens who work actively on the standing committees of these legislative bodies. Thus the Soviets already combine the features of a government body and a public organization.

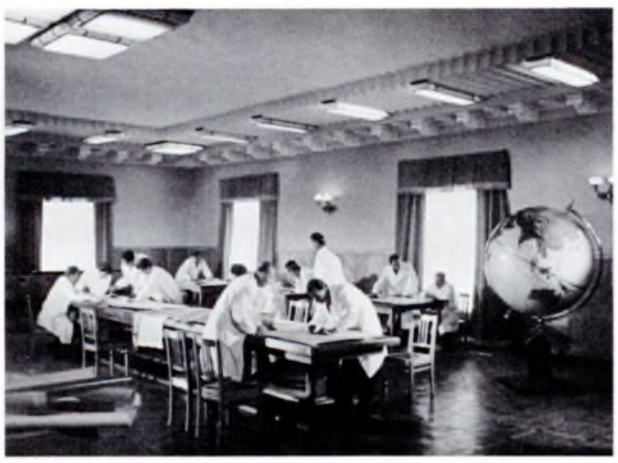
Another, and related, development is the growing part played by public organizations in every aspect of the nation's life. Both trends are to encourage the initiative of citizens as much as possible, to develop and improve their civic administration skill, and to have the public itself regulate social relations.

We can cite many practical applications. For example, such functions as the maintenance of public order, the prevention of acts harmful to the socialist society and the protection of citizens' rights are now exercised by volunteer squads and people's courts of honor together with official agencies. Public organizations are concerned with the distribution of new housing, with public catering and a variety of other services.

The Soviet trade unions, with their membership of more than 60 million, control the social insurance funds allocated by the national budget, maintain a close check on observance of labor protection laws, establish standards of safety engineering and industrial hygiene, and, jointly with state bodies, set wage levels and working conditions.

The people's socialist state thus leans more and more upon the public organizations. They play an ever more important and varied role in all aspects of the community's life, thereby laying the foundation for the gradual conversion of bodies of state power into bodies of public self-government. When communism develops to the point where it is the prevailing system of social relations on our planet, the state will wither away completely and communist self-government will be fully established.

The cosmonaut was observed during the whole flight via the television screen.



Information telemetered from Vostok II *was processed at a ground computing center.*

An enthusiastic crowd had gathered to greet Titov minutes after he landed.

BY LEV KOGAN
PROFESSOR AT URAL UNIVERSITY, SVERDLOVSK
AND YURI MELENTYEV
EDITOR OF *NA SMENU*
SVERDLOVSK REGION YOUTH NEWSPAPER

WHEN YURI GAGARIN saw our planet from the distant reaches of space, he involuntarily exclaimed, "How beautiful!" And when he was returning earthward, he sang, the way people always do when they want to express feelings too deep and too strong for words. Asked about his outside interests by newsmen who crowded around him shortly after he landed, the cosmonaut talked of his favorite writers and his heroes in literature.

Asked the same question, Gherman Titov said he was fond of music and that he liked Glinka and Tchaikovsky best among the Russian composers. And about his cosmic voyage he said, "I saw a remarkable sun and stars. Brilliant, unearthly colors. Space is awaiting its painters and poets and, of course, its scientists."

In the article "Space and a Lilac Sprig" in the June issue, *USSR* magazine reported a debate Soviet young people were having—whether there is a need for the arts in the space age. Here is life itself resolving the argument, declaring that in our era of space exploration, of atomic energy and self-regulating automatic devices, art has an even greater part to play than it has ever had.

For most Soviet young people books, music, the theater and films are vital necessities. What do Soviet young men and women like in literature, music, art? What sort of aesthetic choices do they make?

We, unfortunately, still have those who claim that Pushkin, Repin and Tchaikovsky are all "terribly old," that youth needs entirely new "space" rhythms, colors and sensations, and that the heritage of the classics should have been shelved long ago. These "annihilators" of classic art, advocates of "the modern," inventors of "atomic" art, take the liberty of speaking for today's youth without bothering to find out what young people think, feel or like.

Recently a group of teachers at the Ural State University and the editors of the regional youth newspaper *Na Smenu* sent questionnaires around to several factories, large and small, among them a steel mill, a machine-building plant and a textile mill. Anyone who cared to was asked to answer the questions—what writers, painters, and composers he favored, what films and plays he liked best.

Of the 336 benchworkers, 18 technicians and 4 engineers who filled out the questionaire, about 80 per cent were less than 30 years old. As for their formal educational background — 48 had less than seven years of schooling, 78 had seven years, 66 had eight or nine years, 134 had 10 years, 18 were graduates of specialized secondary schools, 4 of institutions on the college level, and 10 did not answer the question.

Who Is Your Favorite Author?

It may be a little incongruous to try to measure appreciation of literature, music and art statistically, but these figures do tell us a good deal about the aesthetic maturity of these young people and their interests.

Here is how their votes for "favorite writer" were distributed.

Russian Classics

Alexander Pushkin	183
Leo Tolstoy	168
Mikhail Lermontov	119
Nikolai Nekrasov	61
Sergei Yesenin	46
Anton Chekhov	37
Nikolai Chernyshevsky	18
Fyodor Dostoyevsky	15

Modern Soviet Writers

Mikhail Sholokhov	223
Maxim Gorky	107
Vladimir Mayakovsky	73
Alexander Fadeyev	64

WORKING YOUTH on THE ARTS

Alexander Tvardovsky	43
Alexei Tolstoy	43
Nikolai Ostrovsky	41
Vilis Lacis	31
Anna Koptyayeva	30

Foreign Classics

Emile Zola	37
Victor Hugo	34
Jack London	29
Mark Twain	28
Honoré de Balzac	23

Modern Foreign Writers

Theodore Dreiser	122
Erich Maria Remarque	35
A. J. Cronin	17
Ernest Hemingway	16
James Aldridge	15
Ethel Voynich	12

Also listed as favorites were Shakespeare, Prosper Mérimée, Goethe, Flaubert, Stendhal, Mayne Reid, Karel Capek and a few others. Among Soviet writers Furmanov, Gorbatov, Paustovsky, Nikolayeva, Granin and Vinogradov were most frequently mentioned after those we have listed.

The argument could be made that "perhaps the authors mentioned were not favorites at all but merely textbook celebrities." And some people did say just that. But the response to one of the other questions refuted that argument. The overwhelming majority of the young workers who filled out the questionnaire, 302 to be exact, borrowed books regularly from public libraries, and 236 had their own home libraries. We are justified in concluding that their "favorite writer" was not just a school memory.

These young people are moved by the beauty of Pushkin's verses, the impassioned dreams of Chernyshevsky, the profound truth of Sholokhov's stories, the authenticity of Dreiser.

The English novelist James Aldridge tells of a recent incident. "While I was in the Crimea (he spent his vacation there), a young mechanic—he was just a little over 20—asked me the name of my fishing boat. '*Commodore Trannion*,' I told him. My young interlocutor amazed me by saying: 'Is that from Smollett's *Peregrine Pickle?*' In England only one man out of a hundred thousand would have guessed it."

So great is the love for books that many libraries and palaces of culture of the Sverdlovsk Region have organized their own book-lovers' groups and clubs for the purpose of making a deeper study of the world's literature and systematically recommending good books to the workers.

We are convinced from the questionnaire and our talks with young people that their reading is by no means exclusively for entertainment. They read to find answers to questions they ask themselves about the present and past, and about the shape of the future.

In this connection it is worth recalling the words of that great Soviet educator, Anton Makarenko: "The Soviet reader is a man with refined taste who makes great demands on literature and has the capacity to understand it. What is more, he approaches a book as he would a friend, for a discussion of ideas, not as something that must necessarily entertain him. The Soviet reader is a man who looks for wisdom, knowledge and ideas in books."

Serious or Light Music?

Soviet young people are fond of good music. Step into a college dormitory any evening and you will hear a guitar, an accordion, a record player—or an argument about music.

There are no longer any discussions as to whether we need serious or light music. Of course we need both! The line drawn between the two forms of music has become so fine that it is often impossible to distinguish between them.

Vladislav Chulochnikov, a 24-year-old fitter at the aluminum works in Bogoslovny, amplified his answer to the question "Who is your favorite composer?" He wrote, "I happen to be fond of both light and symphonic music." He was not the only one who said that.

Tchaikovsky received the largest number of votes—195—followed by Johann Strauss with 99, Glinka with 47, Beethoven with 37, Verdi with 30, light opera composer Emmerich Kalman with 20, Moussorgsky with 16 and Bizet with 11.

Among the Soviet composers, Dunayevsky headed the list with 60 votes. Then came the Sverdlov songwriter Rodygin with 55, Solovyov-Sedoi, who wrote the very popular "Moscow Nights," with 40, and Khachaturyan with 23.

Twenty-one people said they liked only light music—a pity there are so many who have not yet learned to appreciate symphonic, operatic and chamber music.

Only Good Films Wanted

Looking through the questionnaires, we were reminded of a well-known movie critic who was lecturing to workers of the Ural Machine-building Plant in Sverdlovsk during a ten-day festival of Soviet films in 1960. He had kept his talk on a very simple level and was somewhat nonplussed when the questions made it embarrassingly clear that his audience was very well up on film trends the world over.

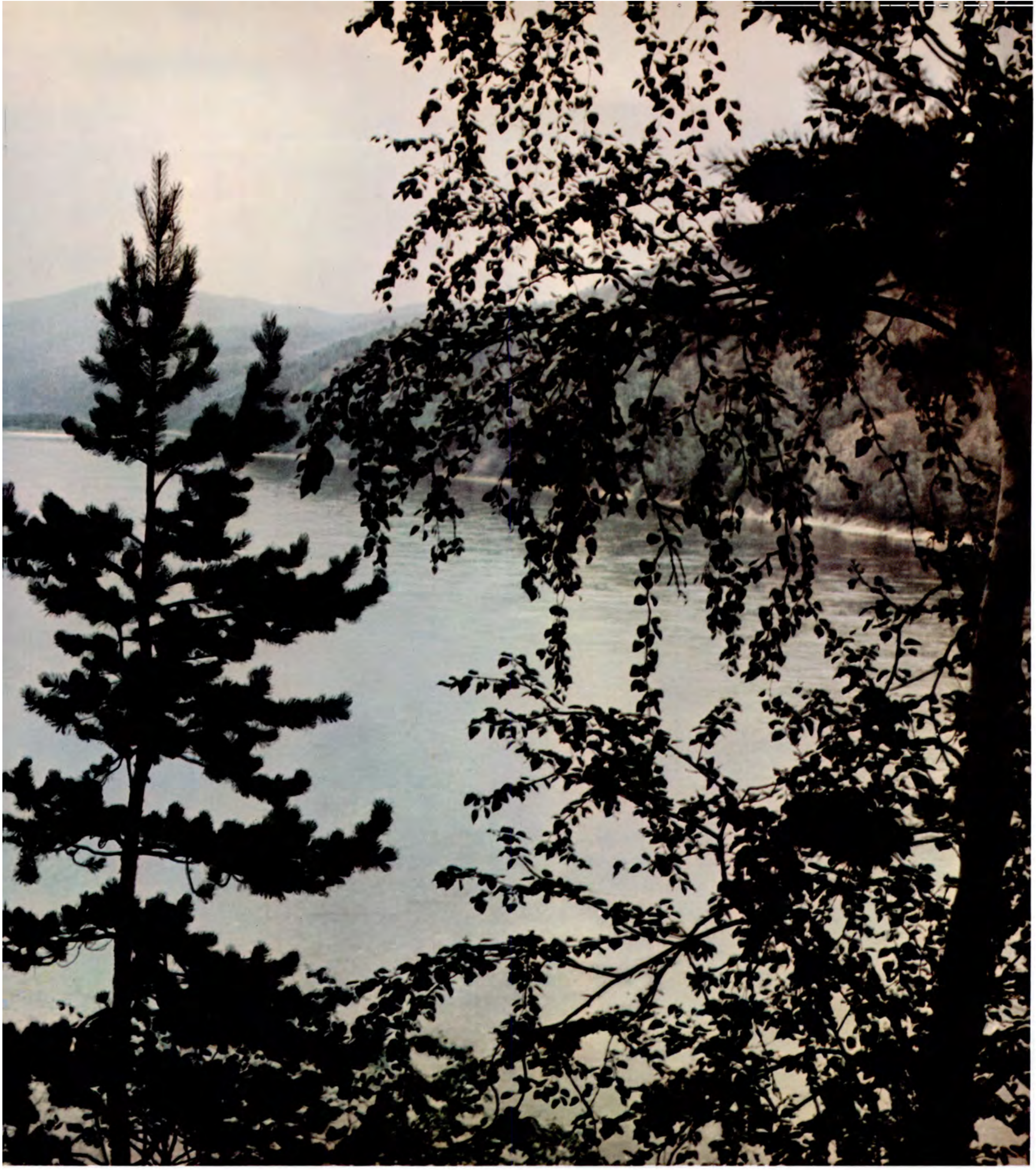
The replies showed that our young workers were not only well informed but very exacting when it came to films. They wanted their pictures true to life, interesting and well produced. About the movie *It Happened in Spring* they said, "The idea was good but it was badly directed and acted." And about *Russian Souvenir*, "It turned my stomach. Everything was so artificial. I could hardly sit it out."

A comment like the last one is the only answer to producers who excuse their empty, meaningless films with the claim that this is what the movie-going public likes. There are, of course, people who prefer imitation to real art, but their number, fortunately, grows smaller with every passing year.

Although Soviet young people have varying levels of artistic taste, what they all look for is realism, meaningful content and aesthetic truth. Art, we say, reflects the world's beauty. But besides reflecting beauty, art also creates it. The beautiful building, sculpture, paintings, music and literature that man creates to embellish his life help to make man himself beautiful.


Ports
Lumber Mills
Iron Ore Mining
Coal Deposits
Young Pioneer Camp
Machine-Building Center
Textile Industry Center
Hydroelectric Station
DUDINKA
IGARKA
KUREIKA RIVER
TURUKHANSK
YENISEI RIVER
LOWER TUNGUSKA RIVER
PODKAMENNAYA TUNGUSKA RIVER
YENISEISK
TAYEZHNY PIONEER CAMP
KRASNOYARSK
ANGARA RIVER
KANSK
BRATSK
MINUSINSK
YENISEI RIVER
BAIKAL LAKE

THE YENIS



EI

TOWARD THE CLOSE of the last century a reticent, self-effacing man was traveling through Siberia to the Far East. He had volunteered for census work on Sakhalin Island. From Siberia he wrote, "No river I've seen is as magnificent as the Yenisei . . . a mighty, tempestuous giant who does not know what use to make of his youth and vigor. . . . What an abundant, satisfying and courageous living these shores will in time provide. . . ."

This is Anton Chekhov, the great Russian writer, speaking. Prophetic words, these were, for the shores of the Yenisei have come to life. It is this life—the people and the activity on the banks of this great river—that we will be describing.

Krasnoyarsk, hub of Siberia, is a booming industrial metropolis.

The once quiet trading town on the Yenisei is a major inland water port.

BY YURI GRAFSKY

PHOTOS BY ALEXANDER MOKLETSOV

Alexander Marshalov's excavator is breaking ground for a big power project.

THE HUB OF SIBERIA

KRASNOYARSK, our point of departure, is the center of a vast territory in which two countries the size of France and three as large as West Germany could be set down, with room left over for Belgium, the Netherlands and Luxembourg. The city is situated at the great Siberian hub. The Trans-Siberian Railroad divides the country longitudinally as it runs west to east; the Yenisei, running northward, cuts across the country transversely—two reasons timber and automobiles, oil and machine tools, ore and turbodrills from all parts of the Soviet Union are found in Krasnoyarsk.

Soviet engineers, construction workers and geologists made the city what it is. They pioneered the wild taiga that Siberia used to be. Today large cities like Norilsk, Igarka, Yeniseisk and Minusinsk are rising on the river banks like beacons of a new life.

Krasnoyarsk, once a quiet trading town, has grown into a center of heavy industry. The Siberian Heavy Machine-building Plant that turns out building cranes and dredge equipment, the paper mills and the self-propelling farm combine works are all of Soviet origin. The city is also Siberia's major source of building materials.

Diesel ships by the hundreds drop passengers and freight at Krasnoyarsk, one of the country's largest inland water ports. The city draws people from the backwoods, former hunters and trappers, besides settlers from all parts of the nation who come to develop Siberia. This is the new frontier, the migration of Soviet people is eastward. Krasnoyarsk's population increased by nearly two and a half times in the two decades between 1939 and 1959. Thousands of modern buildings have changed the city's skyline—apartment houses, theaters, clubs, libraries, schools and colleges. Krasnoyarsk has become the heart of this rich and civilized land, the symbol of a new, socialist Siberia.

Site of the future Krasnoyarsk Hydroelectric Station on the Yenisei. The foundation pit has been built and is being prepared for the first concrete pour.

A MARVEL OF MODERN ENGINEERING

A HYDROPOWER STATION—people who should know call it a marvel of modern engineering—with a capacity of 5 to 6 million kilowatts is now under construction 40 miles from Krasnoyarsk. Its dam will rise 430 feet above the Yenisei, and a stream comparable to the German Rhine will flow through each of its turbines.

Each of the ten assemblies designed for this project will have a capacity of half a million kilowatts—that of the average European station. The eleventh and twelfth turbines will have the cyclopean capacity of 700,000 kilowatts. These assemblies will generate the world's cheapest electricity—0.03 kopeck a kilowatt-hour—twice as cheap as the power produced by the station on the Volga named for the Twenty-second Congress, the biggest now in operation.

The Krasnoyarsk power project is linked with the city by a road high in the mountains, but the fastest and most interesting route is by water. The Yenisei here is squeezed by the spurs of the Sayan Ridge. The knolls are overgrown with pines, their shaggy tops climbing the slopes in serried ranks that look like attacking Mongol hordes. From time to time the trunk of a white birch glimmers from a sun-drenched clearing.

At the project site, the building cranes with their great buckets of cement tower above the treetops. These days building cranes and excavators are as much a part of the Siberian landscape as the wooded hills on the high river banks.

The people working on the project live in Divnogorsk. A few years ago there was nothing here but primeval forest and a monastery. Now there is a new, prosperous and thriving town with shops, a restaurant, and a movie theater on the river bank, and neat rows of houses and trees some distance away on the hill. There is a settled quality about the town and the houses. They're here to stay.

CONSTRUCTION MEN

THE COUNTRY'S most experienced construction men are working on the Krasnoyarsk station. Andrei Bochkin, who is over-all supervisor, has helped build nearly every major project in the country. He supervised the building of the Irkutsk Hydroelectric Station and the Kara-kum Canal. His hair has turned gray and his eyes have faded, but the years have given him the invaluable experience and knowledge needed for these mammoth construction jobs.

Chief engineer Kirill Smirnov, a gray-haired sun-tanned man with a strong chin, built the Lenin station on the Volga near Kuibyshev and worked on the Bratsk hydropower project.

You look at these men—neither of them young any more—and wonder what it is that makes them travel from project to project. They could have an easier living—city comforts, a university professorship. But this is what they prefer doing. Their trade is to change the earth's face, and before they finish one job, they are already looking forward to the next. "Until every single river in the country big enough to build a power station on, has one, I'll have somewhere to go," says Smirnov.

Excavator operator Alexander Marshalov looks the part of a builder, a broad-shouldered, heavy-set man. His excavator was one of those that cut the road from Krasnoyarsk to the foundation pit. Now he's clearing the ground for the first batch of concrete.

When he first came to the site, there was no Divnogorsk and not much of anything else; the men lived in tents. Now he has an apartment in the town, his son is at school and his daughter goes to kindergarten.

His boy Vadim comes to the foundation pit whenever he can for a ride in the cab of his father's excavator—contrary to safety regulations, of course. Asked what he wants to be, Vadim has a ready answer, "A builder like Dad."

CHILDREN'S TOWN

OUR LAUNCH SKIMS down the Yenisei, leaving long greenish swells in its wake. The undulating green of the taiga spreads out on both sides of the river as far as the eye can see. Once the taiga was desolate, gloomy and forbidding. Now it's alive, full of movement. Everywhere you see signs of man's struggle against nature: here, a bald slope with a few sparse trees looking like pins stuck in a pin cushion; there, piles of rocks. This is a railroad spur in construction. We could hear dynamite blasting and see fountains of dirt and broken rock bursting into the air.

As we sail on, there are more signs of civilization. On an embankment along the river front we see freight and passenger trains shuttling back and forth. The pines become sparser, and we notice an occasional red bus flash by. Off in the hills smoke curls skyward from factory stacks and a large settlement is visible.

The forest ends abruptly. A row of two-story houses is strung out along the high shore. The windows are stained glass and the walls are decorated with mosaic squares, triangles and rhomboids. What sort of town is this? You might call it a children's town.

We go ashore and find a cluster of Young Pioneer summer camps—eight of them—for children from the Arctic city of Norilsk. They were set up by the city's trade unions—miners, coal cutters, power workers, builders and metallurgists. The one we are in accommodates 450 power workers' children, ages 7 to 15.

The children tell us we just missed their celebration of Soviet Navy Day. We see the signs of it. The high-roofed wooden cabins have been transformed into lifebuoys and ships with masts. White streamers along the walls are lettered *Mirny, Aurora, Vostok,* for a famous Arctic exploration ship, a battleship, a spaceship. The campers had been awakened by a ship's bell and had staged an exciting water tournament.

The director is Lyudmila Krokina, a teacher of mathematics in one of the Norilsk schools. She tells us that the boys and girls are divided into age groups, each with its own play program and its own counselors, usually older students from a teachers'training college. Lyudmila's guiding principle for running the camp is to see that the children have fun. And that they do—with a continual round of games, sports, singing, sunning, modeling airplanes and ships, and dancing, not to speak of swimming and boating on the Yenisei.

(Above) Two young counselors at a camp on the Yenisei shores for childen of the Arctic city of Norilsk.

(Right) This is majestic country that borders the big river, with the pine forests growing to the water's edge.

The Tayezhny Young Pioneer Camp is one of eight set up and maintained by the Norilsk trade unions for 5,000 children between the ages of 7 and 15.

These great islands of logs are made up at the mouth of the Angara where it joins the Yenisei. They are then floated downstream to the Maklakov lumber mills. Millions of feet of timber, the "green gold" of Siberia, are rafted every year.

The Yenisei rafters are no longer the ragged, emaciated, weary workers described by old Russian writers. The modern-day rafters are men like mosquito tugboat captain Alexander Monogarov (right) and pilot Grigori Linovitsky of the Yezagash.

YENISEI LUMBERJACKS

OUR LAUNCH CUTS through the water again—this time in a diagonal from one bank to the other. At the mouth of the Angara where it joins the Yenisei we see a small tug pulling a neatly ordered island of logs and catch a glimpse of the Yenisei's rafters. The old Russian writer Dmitri Mamin-Sibiryak describes their "rags, emaciated and despondent faces and weary movements." In his stories they are dressed in "rough short coats, gray shirts, bast shoes."

We board the tug *Yezagash* and are met by a man in an immaculate uniform and cap with a gold emblem—"Captain Alexander Monogarov," he introduces himself with a salute. He is very young, despite the mustache obviously cultivated to age a youthful and somewhat bashful exterior.

The captain had spent five of his twenty-six years on the river, tugging rafts from the mouth of the Angara down the Yenisei to Siberia's biggest lumber mills at Maklakov. He told us, "People think of the Angara as an unruly turbulent river. But that's true only for its upper reaches. Elsewhere it's broad and sleepy, with marshy, silty banks. Just think of it—the river is half a mile wide but there are places where only 60-odd feet are navigable. Our tugs and rafts have to squeeze their way through."

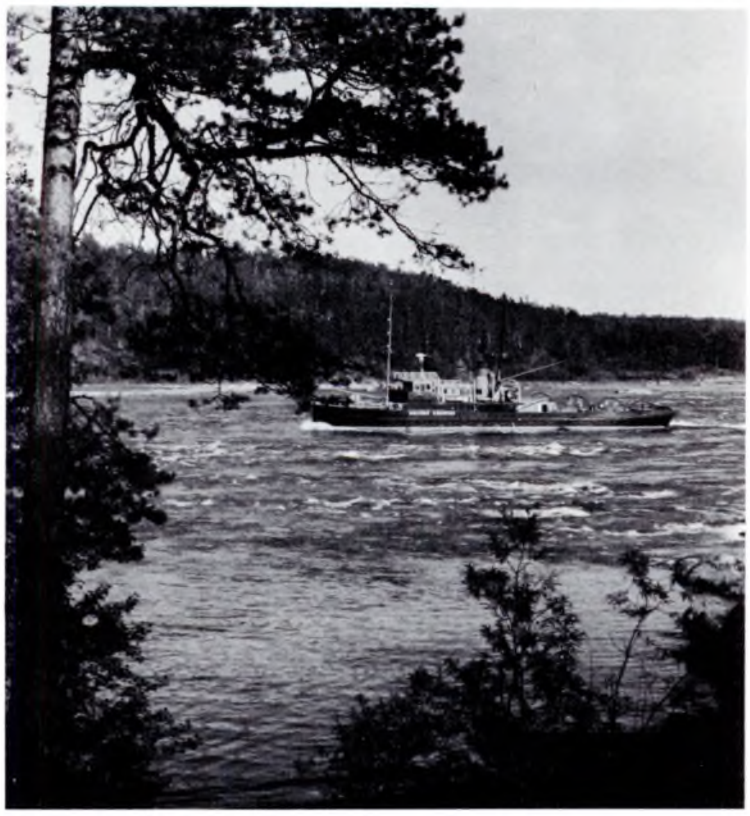
As he talks of his job, you wonder why the captain had impressed you as so youthful and calm a moment ago. Now you are looking at a weather-beaten face with gray-green eyes, the color of water in a storm.

His friend and shipmate in this tough business of rafting is pilot Grigori Linovitsky, a broad-shouldered and soft-spoken man. Like the captain, he is young—23—and also cultivates a mustache.

Linovitsky, a Ukrainian, is a graduate of an inland water transport school and has worked on the Dnieper. A sailor he met interested him in the Yenisei and Siberia with his stories about this fast-growing country that needed people. He went east like a good many others his age and has been piloting a tug for the past three years on the lower Angara River. Grigori is studying at the Novosibirsk Institute of Water Transport. He hopes to captain a big ship eventually.

Helmsman Semyon Gusakov is also a student at an inland water transport school in Krasnoyarsk, and he too sports a thick mustache the color of ripe wheat. Semyon is the youngster of the lot, a mere 21. Born in sun-drenched Tbilisi, the Georgian Republic's capital, he came to the Yenisei to visit his brother, and on the Yenisei he stayed. He got married, found a good house and a job he likes, and his present and future is with this great Siberian river.

This is Yenisei rafting today. During the peak navigation season, the men are away from home and family most of the time. The tugboat becomes hearth and home then, and shipmates the family. But there is nothing melancholy about these modern-day rafters; they have high hopes and large goals.



The tugboat Mikhail Kalinin *inches its way through the Kazachinsk Rapids. The Yenisei here is milky with foam, the flow 65 feet a second.*

RAPIDS AND UNDERCURRENTS

TIMBER is only one of many river-hauled articles. The Yenisei is navigable for 150 to 170 days a year and millions of tons of cargo are shipped in a season—lumber and wood products, oil, furs, and ore of all kinds.

The Yenisei is a treacherous river. On fine, sunny days it is serene, and the water takes on the warm colors of the South. Then it looks like the Black Sea or the Gulf of California. The deep blue sky, the milky clouds and the emerald green of the shoreline are mirrored in the river. But the serenity is deceptive. The Yenisei's innumerable rapids and undercurrents lie in wait, and the navigator must be very skillful indeed to steer his craft through these ever present hazards.

We watch the tugs inching their way through the Kazachinsk rapids. These are not the most formidable of the Yenisei's rapids; nevertheless the flow speed hits 65 feet a second and the river is all foam, all dents, pits and hollows.

Some 50 years ago sections of the river like this one were considered almost impassable. Steamers and barges sailed downstream somehow, but there was no getting upstream.

Today three tugs—one pushing, two pulling—haul loaded barge caravans through the rapids. The tugs move so slowly you have to look at the shore to make sure they are not standing still.

Below the rapids we sight the flagship of the Yenisei fleet, the *Vladimir Lenin,* a 1600-horsepower tug. From a distance it looks as though the tug is pulling an ancient wooden town behind it, with houses, ramparts and belfries—a caravan of ten barges, we see on closer view, with a cargo of some 10,000 tons of logs and sawn timber. The fresh, yellow boards leave the air fragrant with the heady, pungent smell of resin.

The captain, tall and trim, stands on the upper deck. His confident bearing and smile seem to be saying: "We're doing fine. We have a handy boat and a good crew." His name is Nikolai Alexeyev, his age 34, and he has been sailing the Yenisei for 20 years, first as a sailor on ships captained by his father, then as helmsman and mechanic. He learned the ABC's of navigation, then studied at the Krasnoyarsk Inland Waterway School and earned a pilot's license. He was appointed captain of the tug fleet flagship two years ago. He knows the Yenisei broadwise and lengthwise, all of its whims and fancies. In one navigation season he makes as many as 50 to 60 trips up and down the river.

Norilsk mine worker Galei Kasakov and his son homebound after a month at an Altai resort.

Drillers Yuri Rats (left) and Boris Morozov on their way to a Krasnoyarsk Region oil conference.

Alexander Yefremov quit his floor-polisher job in Moscow to become a Siberian construction worker.

Leningrad vacationers Dr. Alexei Loktev and Mikhail Meilakh on a cruise of the scenic river.

iiberian Veronika Rozhina teaches English in Kuriika, a small village on the shore of the Yenisei.

The lumber exchange on the shore of Igarka Bay. The sawn boards are stacked 15-20 feet high, waiting to be loaded on the vessels in port.

IGARKA—GATEWAY TO THE OCEAN

ONCE AGAIN we get under way. The water slaps the side of the boat and the banks float by. Now they look different, ash colored and low, as though they were flooded. It drizzles on and off and the morning mist keeps hanging over the river. From time to time we make out baldish pink patches of rock.

The Yenisei broadens with every mile. Near Igarka the river is so broad that we see the sun pouring down on one side while it's still drizzling on the other.

Igarka is a port for ocean-going steamers. We see them riding at anchor as we sail into Igarka Bay—the *Heinrich Schulte* and *Tinsdal* of West Germany, the *Bahia* of Norway, the *Atlas* and *Augusta Paulin* of Finland, the *Manestone* of Britain. These are merchant ships arrived for timber cargoes and waiting patiently at the roadstead.

Igarka and wood are synonyms. Everything in this northern oceanic gate of the country is related to timber. The city itself is all wood—houses, sidewalks, pavements—not because of backwardness or poverty but because wood is the cheapest building material around, for one thing. For another, the permafrost buckles and cracks everything on top of it. Wood, lighter and more flexible, withstands strain better than any other type of building or paving material.

We stop at one of the country's largest lumber mills in Igarka. The

His ship loaded and ready to sail, Captain Reuben Hodges (left) of the British Manestone *says good-by to Soviet export agency officials.*

Some 60 to 70 Soviet and foreign ocean-going vessels load at Igarka port with timber during the short navigation season of four months.

river is jammed with huge brown logs banging against each other. The thicker logs are pulled out by hoists and piled up on the bank. Mountains of logs tower on the banks—Himalayas of timber with lumberjacks on top looking like mountain climbers in their heavy overalls, high boots and gloves.

The thinner logs are handled by a carrier that sinks its steel claws into them, pulls them up and conveys them to the lumber mill. The sawn lumber is hauled to the burse. Situated right on the shore of Igarka Bay, this timber market is a town all by itself, with streets running between great piles of bright yellow boards 15 to 20 feet high. The boards are stacked with geometrical precision to let in enough air so they'll season properly.

Log carriers rush through these "streets" at a furious speed hauling logs from the burse to the docks where the ships are loaded. A log carrier is a cab on stilts. The cab is raised aloft by pneumatic pistons and the logs piled in under it.

Foreign vessels move heavily, sluggishly through the water when they leave the port, their loads of fresh lumber, stowed with great care, reaching almost to the upper deckhouse.

We watch Sanf Söderlund of the Finnish *Augusta Paulin* check the loading on his boat. He goes through the hold carefully, strides across the upper deck with his hands in the pockets of his blue suit—a stocky, strong-looking man—runs down the ladder briskly, and says "Excellent job."

Britisher Reuben Hodge of the *Manestone* was worried at first that the loading on his ship would take longer than it did because Soviet stevedores now work a seven- instead of an eight-hour day. But he had to admit that they did a faster job than those in any other port he had loaded at.

These Igarka people who take care of foreign ships so admirably do as well with their crews. The waterfront club for foreign sailors has a big "Welcome" inscribed on its façade. This is not just a well-meant phrase. Foreign seamen really feel at home in the club. Some play billiards, others ping-pong, and there usually is a group around the table soccer game, watching the tiny players kick a metal ball around.

The dance floor is always crowded. When it isn't, it's because a new film is being shown. Current magazines, Soviet and foreign, are on hand. Foreign currency can be exchanged. There are lounge rooms, a restaurant, a barber shop and a post office branch right there.

Waterfront workers and other young people from Igarka make the club a lively place. There is a great deal of talk, of course, in spite of language difficulties, against a mixed background of music, singing and laughter. Amateur evenings—with everybody participating—are always a success. You see Soviet and foreign seamen exchanging mementos and addresses, or an English sailor dancing with a Siberian girl and you think what a boon it would be if the scene could be enlarged to take in all the people on earth.

AT IGARKA we end our more than one thousand mile voyage up the Yenisei through a Siberia that in the past few decades has changed beyond recognition. The Soviet people have awakened this dormant land, speeded up its pulse, begun to harness its energy and tap its natural wealth.

What has been done thus far is prologue. In the next 20 years, declares the new Communist Party Program, industry east of the Urals, with its incalculable riches in energy sources and raw materials, will be given new impetus. For Siberia this means tens of thousands of well-trained specialists to open new industrial frontiers in this northern land of promise.

A HUNDRED FLYIN

Vladimir Kokkinaki returned from a record USSR-USA speed flight in 1939 to this hero's welcome.

He was awarded the Hero of the Soviet Union star for a Moscow-Vladivostok 24-hour nonstop flight.

The famous Soviet pilot was given a big welcome by the American public at the end of his flight.

The test pilot's job is not the easiest or the safest. There's no way of predicting upsets.

G YEARS

PHOTO STORY BY YURI KOROLEV

LIKE the youth of every generation, the Soviet youth of the thirties had its heroes—characters in books, plays and movies. But those that left the most indelible impression were the contemporaries that these young men and women looked to as their ideals. Some of their names have passed into legend. Many still continue to touch the minds and hearts of young people today. Among them the name Kokkinaki stands high.

Those of us who were born around the time of the 1917 October Revolution were still learning to walk when Soviet aviation was already making the world sit up and take notice. When we were in the first grade, our pilots were breaking international records. As we grew older, we dreamed of becoming flyers like Chkalov and Gromov, who flew from Moscow to California via the North Pole, or famous test pilots like the Kokkinaki.

In our arithmetic homework we skipped over the problems about gallons of water and yards of cloth to those in which "a plane flies from town A to town B at the speed of . . ." We learned our geography, and our current history, not only from textbooks but from newspaper and radio reports of the foreign cities our record-breaking nonstop pilots flew over and the thrilling ovations they received in France, Germany, Italy and the United States.

About the Kokkinakis–we thought of them as a sort of composite hero—we knew everything there was to know. They had had a hard

The 56-year-old pilot has flown almost every type of Soviet-designed aircraft, including the latest turboprop liner. Brother Pavel is his flight engineer.

childhood in Novorossisk before the Revolution, they had worked on the docks, had wandered over the seas and ports of half the world, liked sports, learned to fly at an air club and an aviation school, had test-flown practically every kind of plane made.

It wasn't many years before we ourselves learned at what cost they had become heroes. We fought alongside our childhood heroes in the Second World War, followed them into battle. Some of us died with them. We were faithful to these demigods of our younger days who had become our senior comrades-in-arms. And among them, somewehere in the war-torn skies above us, flew the Kokkinakis.

With peace began the long and hard job of reconstruction. We were building for our own children now, already growing up, and for everyone else's children. It was a hard struggle but a rewarding one. We learned about heroism of another kind, self-denying service for the people. Each of us found his place, his work for the common good. We built the cities and factories, the roads and machine tools, the planes that are now blazing peaceful trails to the ends of the earth.

Many of these planes were first flown by the Kokkinakis. There were five Kokkinaki brothers before the war, all pilots. Alexander died a hero's death in an air battle with the facists; Valentin died several years later when a new plane he was testing went out of control. The remaining three are still flying.

Vladimir, the eldest and most famous, has been testing aircraft of all types for the past 33 years. He is a Merited Test Pilot of the USSR, was twice awarded the title Hero of the Soviet Union, is a Lenin Prize laureate and a general in the Soviet Air Force. He is 56 now and is up every day, testing a new machine or trying for a record. On all these flights he is accompanied by his 54-year-old brother Pavel, an aeronautical engineer and his copilot. The youngest, Konstantin, celebrated his fiftieth birthday recently by setting an absolute world speed record in a plane traveling at twice the speed of sound.

I attended the birthday party. Everyone present was a relative or close friend, all of them quite gray, and yet I felt myself surrounded by youthful, jolly and witty people. When all the toasts had been drunk, the men settled down with pipes and cigarettes for talk of old days and comrades, many of them no longer alive.

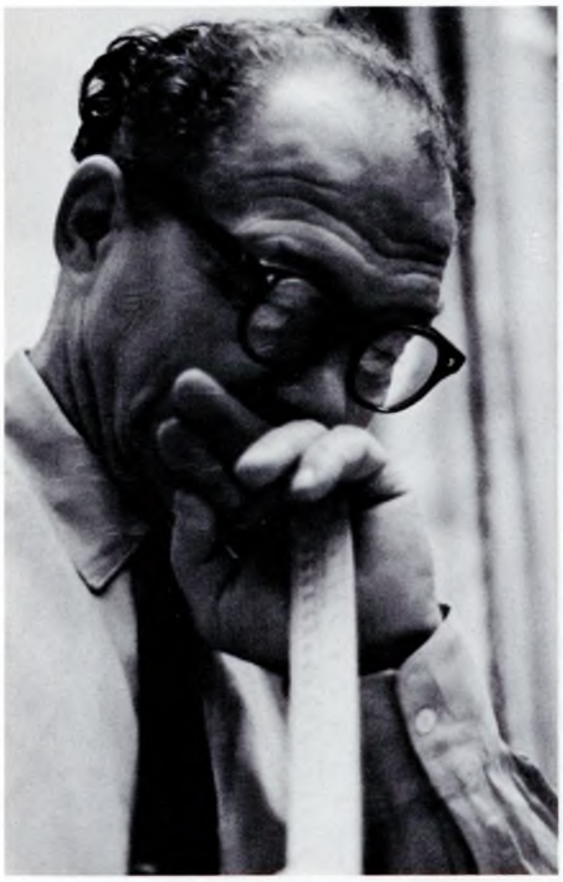
Vladimir Kokkinaki reminisced, "When we were children, my brothers and I wanted to be freight-weighers for the railway, like our father. What else was there to hope for in a poor provincial town where there was nothing but a factory, a flour mill, a few broken-down piers and a railroad station? We saw our first plane only after the Revolution."

And as I listened, I thought: Here are three men who have spent a total of more than a hundred years in the air, men who had nothing more to look forward to in childhood than an unskilled workman's job. But the country gave them powerful wings and room in which to fly them. They became heroes to millions of my generation and to more millions of my children's generation.

Kokkinaki has a large collection of the works of the Russian masters. His favorite is Ivan Aivazovsky, the noted marine painter.

He takes time from his obligations as a Soviet Air Force general for water-skiing. In his youth he was a champion shot-putter.

A get-together of the fun-loving Kokkinaki brothers. Vladimir with his wife.



Pavel Kokkinaki is 54. He and his brother Vladimir have set 14 world flight records.

Konstantin Kokkinaki flew the E-66 delta-wing jet at twice the speed of sound.

Vladimir's son Alexander is an excellent player, but he can't beat his father.

Foreign EXHIBITIONS in

This was the largest trade fair ever held by France abroad. The machine industry display drew especially large crowds.

Moscow

BY GALINA VASILYEVA

"GOING to the exhibition?"

"Yes."

"I am, too. Let's go together. I wonder what the Americans are showing?"

"The Americans? You mean the Italians, don't you?"

They mean both. The same day the American plastics exhibition opened in Moscow, an Italian exhibition of typewriters and adding machines closed. Not an uncommon coincidence these days.

Several Muscovites stop before an Olivetti display.

"Fine machines for bookkeeping," comments an elderly, stoutish viewer with a portfolio crammed full of advertising folders he has picked up at the various displays.

"I like their portable typewriters," remarks a tall young man in a bright sweater. "They are excellent."

A typical conversation.

Foreign exhibitions have become a Moscow tradition as the list of countries expanding their trade and cultural exchanges with the Soviet Union grows. Similarly, Soviet industrial and consumer goods are on display in many cities abroad.

Traveling through a new country is like leafing through an exciting book. Roads, fields, factories and houses flash by like paragraphs; and big cities, like chapters the tourist hopes to read more closely at a later time.

The visitor to a foreign exhibition does very much the same. He goes through one pavilion after another, past one exhibit after another, as though they were pages in a book about a strange land. Little by little he begins to feel the spirit of the country, to understand its people, customs and way of life.

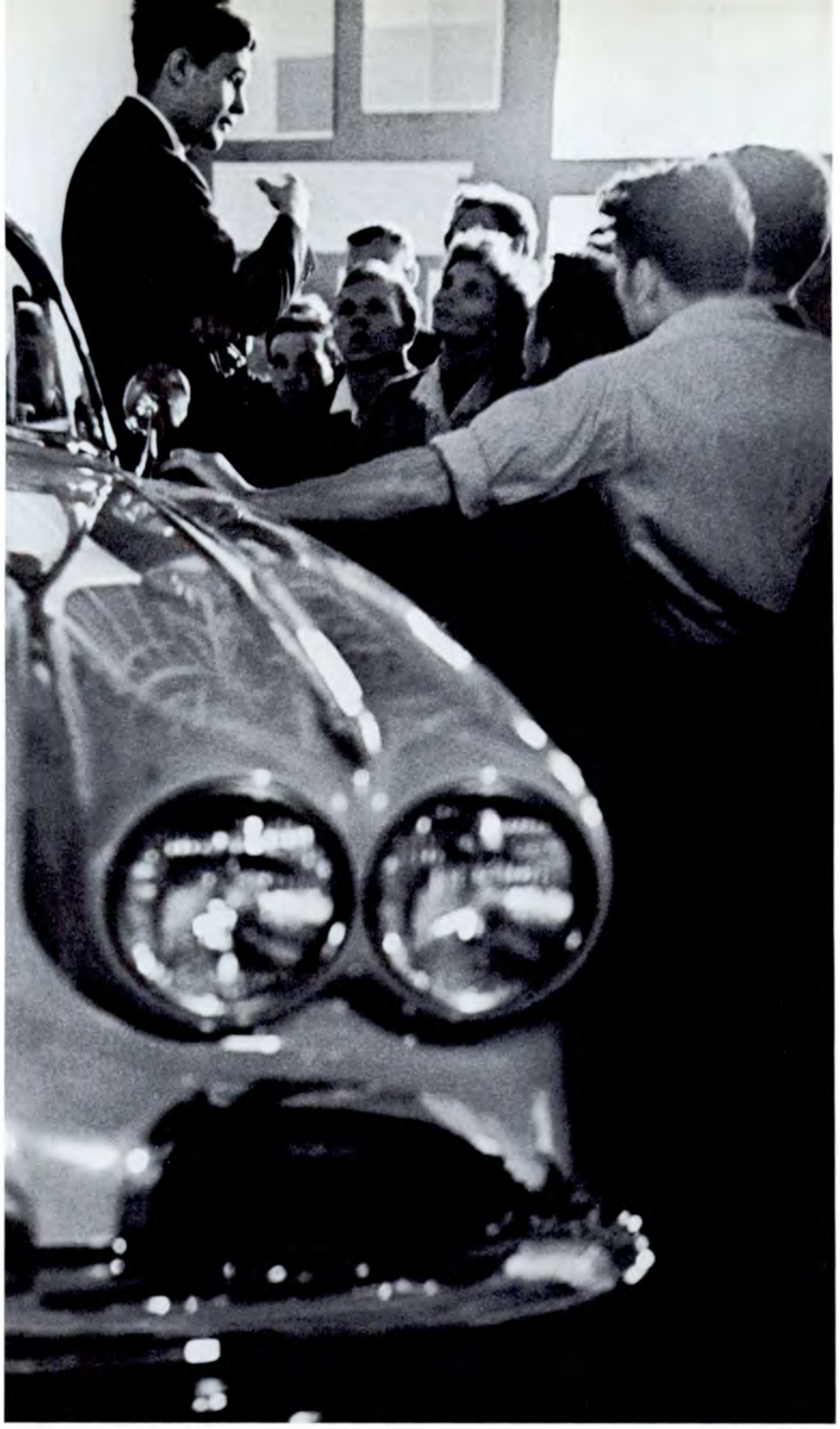
The British Trade and Industrial Fair held in Sokolniki Park near Moscow was especially interesting for that very reason. Without unnecessary ballyhoo, the exhibition gave the visitor an insight into English economic and cultural life.

Soviet people, themselves engaged in building the technological foundation of a communist society, can appreciate the high standards of Britain's chemical, machine-building, electronic, shipbuilding and instrument-making industries. Workers, engineers and technicians from the Dynamo and Krasny Proletary factories and the Likhachev Auto Plant in Moscow spent many hours studying the displays of Imperial Chemical Industries, the English Electric Company, Marconi, Vickers, SIMA and others.

They were interested, too, in the work British physicists are doing at Harwell, in the radiotelescope at Jodrell Bank, in the air supply system used in the blast furnaces of Scanthope.

The exhibition organizers were astonished at the interest of the Soviet public in engineering matters. The representative of a large British electrical firm remarked, "I've been all over the world and have never seen such a general interest in engineering. We had many interesting talks with engineers and researchers, but what impressed me most was when a young lady with a shopping bag or a child in her arms would carefully study our exhibits.

Nikita Khrushchev at the opening of the British Trade and Industrial Fair. The Soviet Union contracted for ten million pounds' worth of the items exhibited.



A plastic automobile body, one of the 2,000 products displayed in Moscow, Tbilisi and Kiev at the American exhibition representing the 20-year development of its synthetics industry.

It wouldn't have been surprising if these were washing machines or refrigerators, but one such lady, to judge by the questions she asked, was interested in radar and mass spectrometer parts. It makes you realize that technical interest is very widespread."

When Director-General Sherren closed the British exhibition, he noted that it had been highly successful. During the month's run British industrial firms signed contracts with Soviet foreign trade agencies to the tune of ten million pounds sterling.

Muscovites have a reputation for being interested in everything, especially if it's happening in their city. There was talk about the French exhibition long before it opened in Sokolniki. Those who could go more than once, did, and those who couldn't, traded notes. How else could a person with only one pair of legs and one pair of eyes get around to the thousands of exhibits in the many pavilions? The 12-minute cinerama trip around Paris helped acquaint Soviet visitors with the French capital, even though, as Parisians themselves admit, Paris isn't the whole of France. But the exhibits sent by 800 industrial firms represented a complete picture of French economic life.

At a display of hydropower stations that

Shown were the various uses of this indispensable material in household products, construction, medicine, space research and innumerable other areas of today's technology and industry.

used energy derived from sea tides the guides were kept especially busy with questions. The reason? A Soviet station of this type is to be built on the shore of the Barents Sea. The design is now being completed.

An electric locomotive that can develop a speed of 198.6 miles an hour was also the object of much attention from Soviet engineers who expressed great admiration for the ability of their French counterparts.

The art pavilion was the scene of spirited discussion between visitors and the French guides. Soviet people do not care for abstract art, but they do not dismiss it arbitrarily. An iron statue of Don Quixote by G. Richier had visitors pausing for a longer look. Though the manner in which this statue is executed is far from realistic, one can nevertheless recognize the features of the Knight of the Rueful Countenance. Muscovites liked the multicolored rugs of abstract design that were shown.

Most of us are hardly aware of the place that plastics occupy in today's living. If we were to wake up one fine morning without them, not only would consumers be seriously inconvenienced but whole areas of industry would have to stop functioning. This fact was brought home to visitors at the United States plastics exhibition held in Moscow this year that showed the work done over the past two decades by 400 American producers.

In addition to the exhibition at the Central Recreation Park the firms represented held weekly consultations for interested Soviet chemists. American and Soviet scientists both profited from the experience shared.

The Netherlands sent its latest fashions to Moscow in the fashion show held at the Krylya Sovetov Club. Under floodlights Dutch models in winter wear for the 1961-62 season paraded down the carpeted aisle before an audience busily taking notes on the details in the clothes shown. Colors were so carefully matched that most of the ensembles brought forth spontaneous applause.

That fashion is a universal feminine predilection was also evident to anyone who overheard visitors' remarks at the ladies' footwear and make-up displays in an exhibition of consumer goods of the German Democratic Republic. The center of attention was a new synthetic fabric called dederon and a great many items—very elegant ones, it should be noted—of women's wear made of this new fabric.

On exhibit were the products of several hundred enterprises and producers' cooperatives—knitwear, the famous Plauen lace, furniture, sporting goods, cameras, radios, refrigerators and numerous other items bearing the trade mark "Made in the GDR." The porcelain display, including some lovely antique Meissen, was especially popular with the hundreds of thousands of Mucovites who visited the exhibition.

Moscow had hardly said farewell to the organizers and guides of the Italian office machines exhibition when crates began arriving for another trade fair. The Italian flag over the Polytechnical Museum was replaced by the flag of the People's Republic of China, and a poster at the entrance announced the opening of an exhibition of ceramics and porcelains from that country. And once again we hear this conversation on the streets and in the Metro, "Going to the exhibition?"

"Yes."

"So am I. I wonder what the Chinese will be showing."

"The Chinese? And what about the Czechs?"

About 40 foreign exhibitions were held in Moscow this year. The Soviet Union is always pleased to arrange for these exchange fairs that help stimulate both trade and better understanding.

One of the booths at a Czech exhibition in Moscow of modern design furniture and musical instruments.

Italian office-machine firms displayed their typewriters and computers to interested Soviet viewers.

A British fashion parade. French, Dutch, German and Hungarian style shows were also held this year.

The Cafés of TALLINN

A coffee house for a tête-à-tête is more than a tradition in Tallinn, it's a habit.

BY NINA KHRABROVA
PHOTOS BY RIMMA LIHACH AND VICTOR RUYKOVICH

NO VISITOR ever forgets that special fragrance of freshly made coffee and hot buns that permeates the streets of Tallinn in the early morning—aromatic notice that the city's many cafés will soon be opening their doors. The cafés of the Estonian capital have a charm and intimacy one finds nowhere else.

After he has been in the city a week or so the tourist finds that he has acquired the genial Tallinn habit of dropping into some café of an evening to talk or listen to music.

Every Tallinn resident has his "own" café where he goes at least once a week—generally more often—for breakfast or dinner, or for a drink of wine or fruit juice—no hard liquor is served. These are family cafés, and people come alone or with friends, with wives or wives-to-be, or with children.

Tallinn's very pleasant café tradition dates back no one knows how far. One of the towers in the city has the curious name "Kik in de kek"—it means "Look into the kitchen"—because, so local folklore has it, that was where custom inspectors in the Middle Ages used to watch from loopholes for the smoke of roasted contraband coffee.

In the crowded little medieval coffee houses enterprising merchants from the South warmed themselves after being buffeted by the icy winds that blow off the Gulf of Finland. Over coffee cups imposing Novgorod merchants in fox-skin coats made their business deals with close-mouthed tradesmen from the Hanseatic cities.

Each of the Tallinn cafés has its own character and its own clientele. The habitués of the tiny Gnome—many of them drop in three or four times a day—swear by its coffee. But the Gnome is too small and too busy for a long afternoon or evening stay. For that, one goes to the Kardiorg after a stroll through Kardiorg Park.

Downtown, where the municipal offices, newspaper buildings and big stores are located, the best cafés are the Pearl, the Harew, and the recently opened Old Thomas, named after Tallinn's patron saint. He stands, bearded and armed with a pike, on the town hall spire.

The Tallinn Café is noted for its elegant décor. Armchairs around low coffee tables and mellow lighting create a perfect setting for unhurried and relaxed conversation.

For wedding parties and birthday celebrations one goes to the Moskva Café, famous for the pastries of Johannes Kallas. He is the creator of the incomparable *Lux* and *Vylu* (Enchantment) cakes, of little pies stuffed with spiced sprats and chopped eggs that are a gourmet's dream, of 15 kinds of buns, 20 kinds of fancy cakes and dozens of other mouth-watering goodies.

Tallinn, of course, has cafés patronized by students and those that artists and writers frequent. There are cafés at the beaches and cafés in the suburbs. And in every one the coffee is strong and fragrant, the pastries tasty and the talk lively and gay.

Tallinn women prefer the light, sparkling Soviet champagne to other wines.

Each café has a specialty of its own. One serves the best coffee anywhere, another luscious tarts, this one delectable ice cream.

There is music of some kind in every well-frequented coffee house at night. Dance music sets the mood in this café.

The Old Thomas is a rendezvous for the writers, photographers and cartoonists of Tallinn's thirty newspapers and magazines.

LUSYA WANTS TO BE A DOCTOR

TEXT AND PHOTOS BY ANATOLI RUSSOV

LUSYA DVINYANINOVA is in the graduating class of the Moscow First Medical Institute. "All my life," says Lusya, "I have dreamed of becoming a doctor." "All her life" thus far is a relatively short period—she is less than twenty, but she has spent about half these years preparing to make the dream a reality.

While still a schoolgirl and a Young Pioneer, Lusya chose such extracurricular activities as "assistant to the school nurse." In the upper grades of secondary school she wavered between general practice, pediatrics, surgery, but there was never any question that her field would be medicine.

At the institute there is no separation of theoretical and practical training. Even during their first two years of lectures and laboratory work students spend considerable time in hospitals and at sanitary-epidemiological stations as nurses and attendants.

In the third year they work as doctor's assistants. The entire last year is devoted to daily practice in a wide range of medical specialties—general therapy; children's ailments; eye, ear, nose and throat diseases; and gynecology and obstetrics.

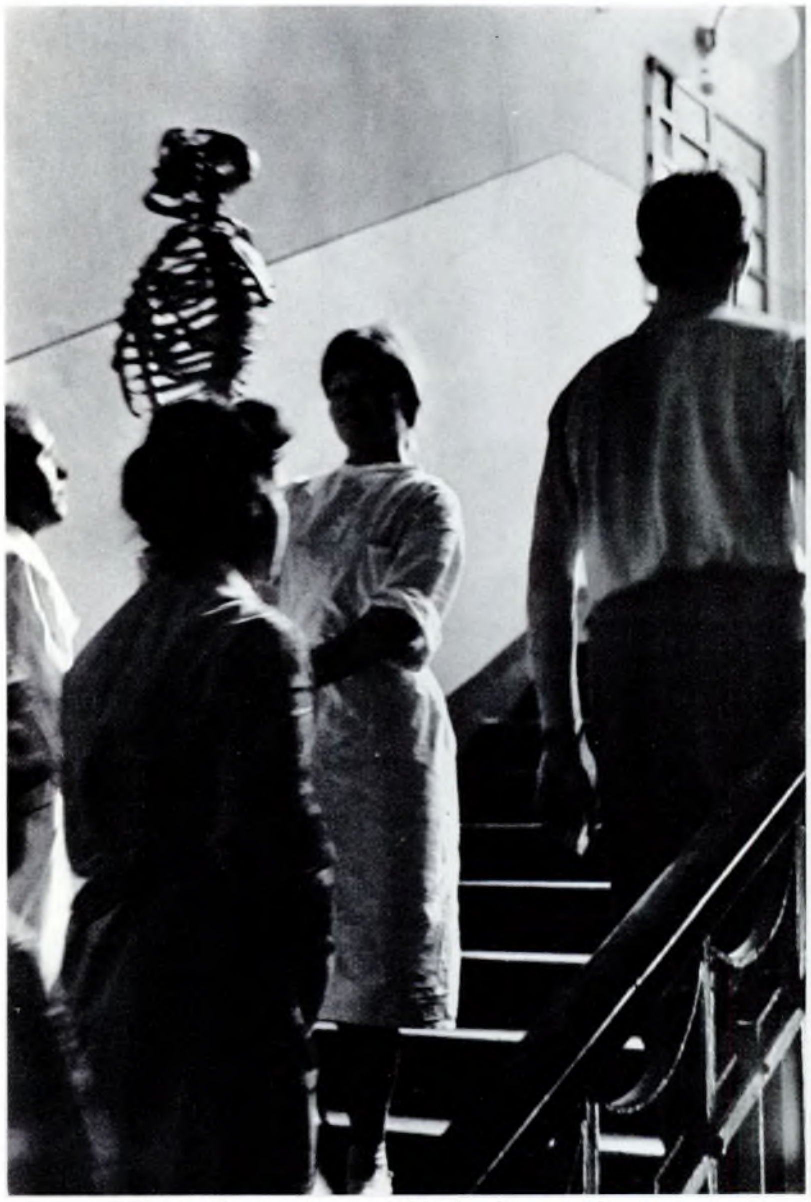
The course is intensive and demanding. In the five years Lusya has passed 32 examinations in basic subjects and has taken 70 tests in special courses. She studied anatomy, biology, organic chemistry, bacteriology, embryology, physiology, neurology, general therapy, surgery and infectious diseases. On an average she attended 14 lectures and did 40-45 hours of practical work each month.

Students do their practical work in the institute's 11 clinics with a total of 1,385 beds, and in four specialized city hospitals.

Library of the Moscow First Medical Institute where Lusya Dvinyaninova is in her fifth, and final, year of study.

YCL members liked Lusya's talk on student participation in running the institute.

Besides lab work, she has 14 lectures and 40-45 hours of hospital training a month.



The students are responsible for keeping the equipment, lecture rooms and medical museum's exhibits in order.

Grandma Praskovya gets a capsule lecture on dietary principles.

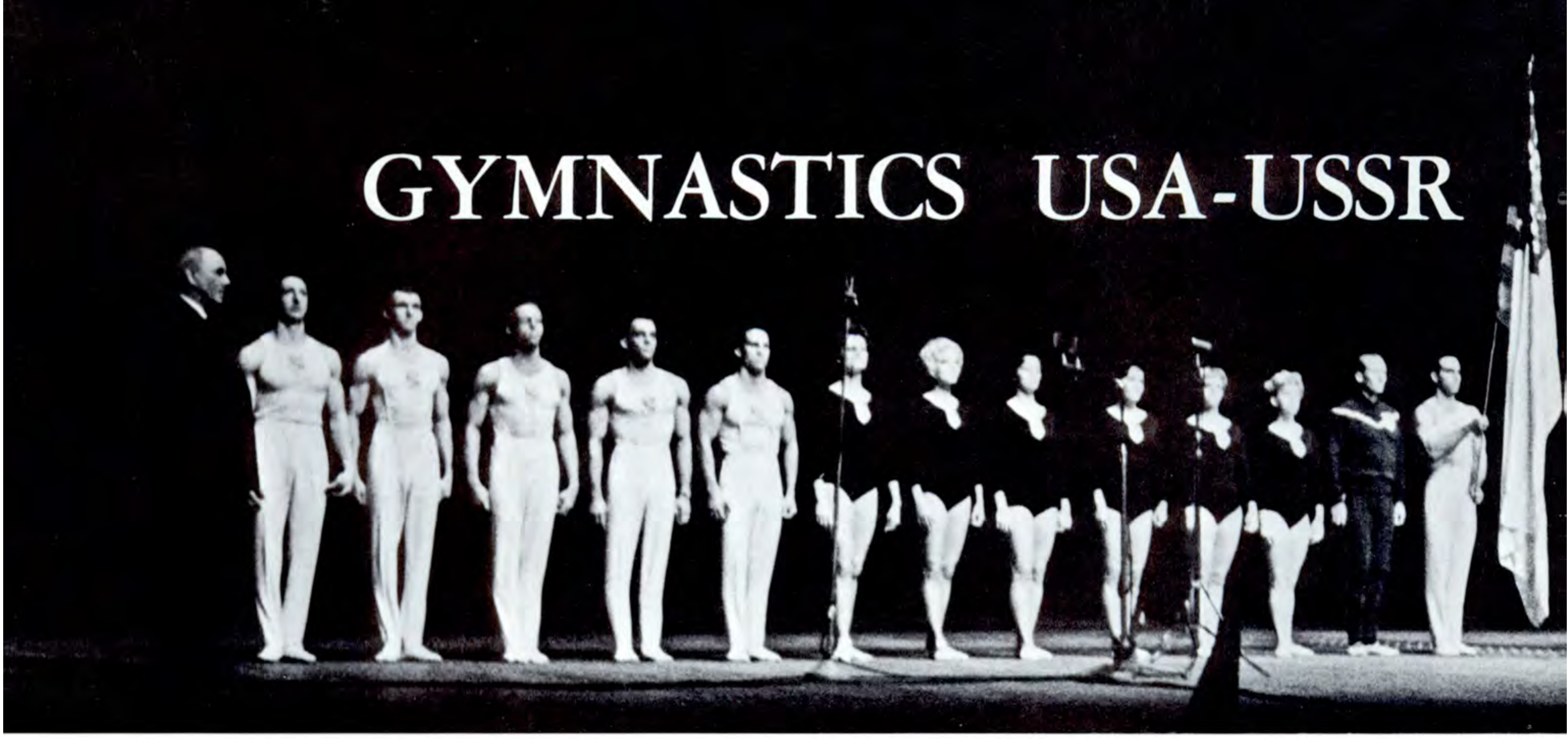
The book fair is one of Lusya's extracurricular activities. She also talks on health to neighborhood groups.

Discussing plans for the evening at the snack bar after classes.

Students get their training at all of the institute's 11 clinics and in four of the city's specialized hospitals.

The professors actively encourage student research. Lusya is a member of one of the student research groups. This is just prior to a meeting.

GYMNASTICS USA-USSR



MUSCOVITES are offered so many outdoor sports events that it's hard to lure them indoors on a fine summer evening. But the USA-USSR gymnastics match did just that. The famous Sports Palace was filled to capacity.

Fans did not expect keen competition; they figured a sure win for the home team. What they were curious about was whether the U.S. contenders had improved, and how much, since the 1958 world championships in Moscow. The Americans had scored rather low but had moved up to sixth place in the last Olympic games. American gymnasts had also won high praise from the Soviet team that toured the United States last January.

The very first event, women's vaulting, had an unexpected close, with three ties for first place—all-round world champion Larisa Latynina; her team mate Margarita Nikolayeva, Olympic vaulting champion; and Betty Maycock—a great victory for the 19-year-old American girl.

A storm of applause greeted Muriel Grosfeld's performance on the uneven parallel bars. She literally flitted from bar to bar, but failed to show sufficient precision throughout the combination. Then Doris Fuchs put on a daring performance, and only a faulty dismount lost her the highest score. She finished 0.15 points behind Larisa Latynina and 0.05 points behind Polina Astakhova.

On the balance beam, the most difficult piece of apparatus, U.S. champion Muriel Grosfeld scored 9.6 points in a tie with world gymnast queen Larisa Latynina. But Polina Astakhova outstripped both of them by two-tenths of a point.

In the free exercise the Americans demonstrated fine tempo. Doris Fuchs drew a big hand for her performance, but Muriel Grosfeld and Betty Maycock showed better form, which earned them 9.75 points each.

They were followed by the graceful Polina Astakhova. Her movements were lyrical, completely feminine. It was a fascinatingly beautiful gymnastic performance. The stands roared for a perfect mark of 10, but the judges found some imperfections and gave her 9.8, the same score they awarded Latynina.

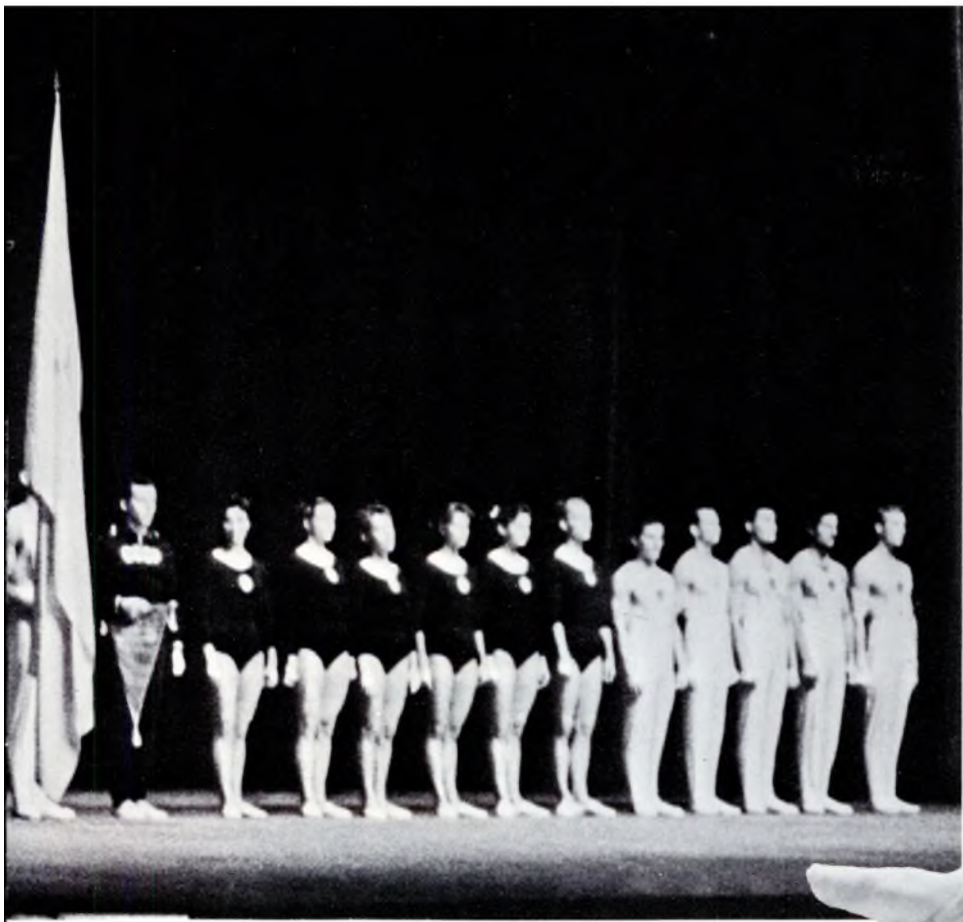
In the men's competition the Americans figured hopefully on the absence of all-around world and Olympic champion Boris Shakhlin and his close runner-up, Yuri Titov. The guests put on a good show in the free exercise, but the high score went to Moscow's Valeri Kerdemelidi. U.S. champions Armando Vega and Abraham Grosfeld placed second and third respectively. As a result, the U.S. men's team finished 0.2 points ahead in that event.

With this auspicious beginning the Americans attacked the pommelled horse exercises with enthusiasm. Arthur Sherlock mounted the apparatus as though it were a bucking bronco. But gymnastics is not for daredevil riders, and the horse threw him—and there went his hopes for first place. The event went to Valeri Kerdemelidi.

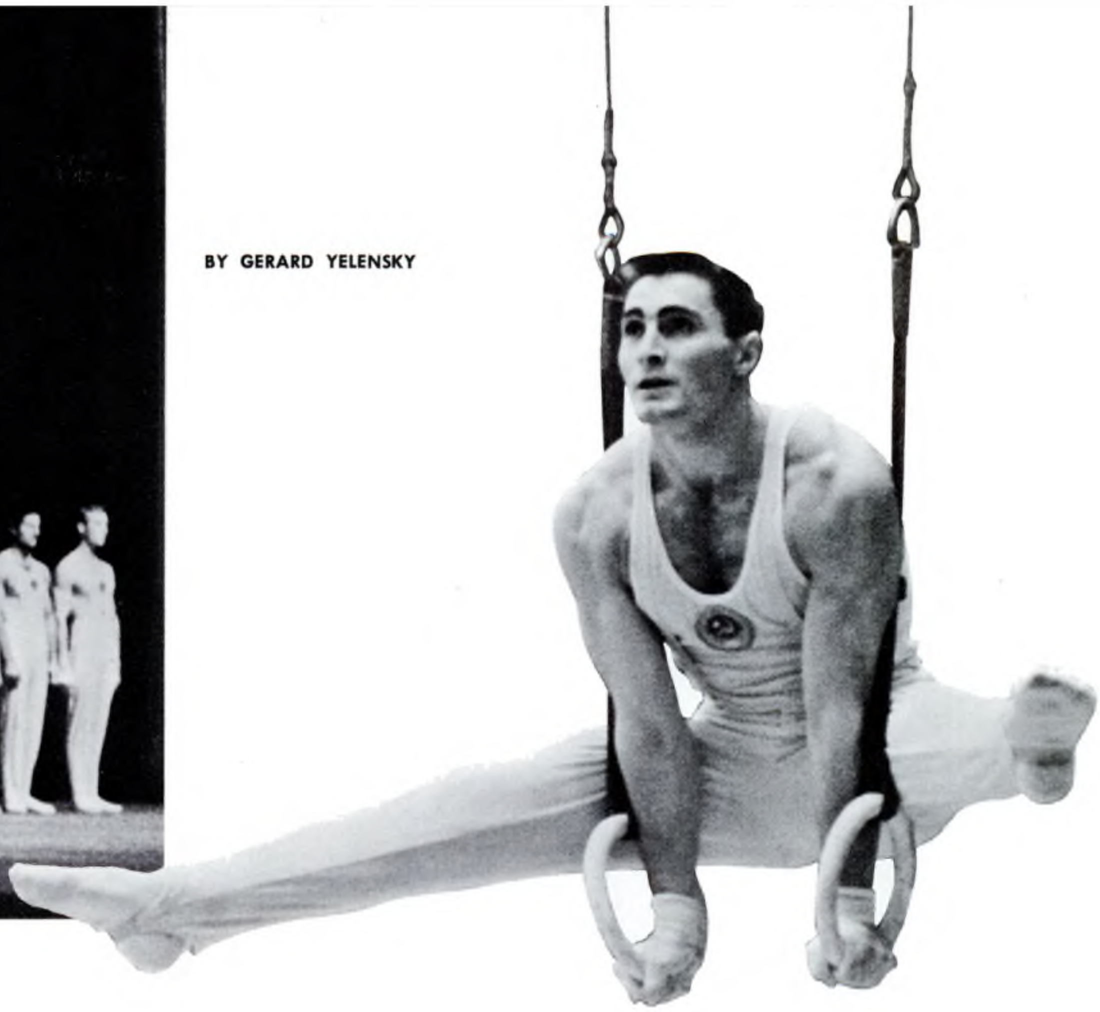
The Soviet contenders showed real class, each one better than the previous one. The best performers were Pavel Stolbov of Moscow; Albert Azaryan from Armenia, world and two-time Olympic champion in the flying-ring exercises; and Valeri Kerdemelidi, rising star from Georgia. They demonstrated top gymnastic form, and their rivals often joined with the audience in applauding them.

At the opening ceremonies President of the U.S. Gymnastics Federation George Goulak said: "We are glad to be meeting Soviet gymnasts in a friendly return match. The first match was held in a cordial atmosphere. Let the spirit of mutual understanding and friendship be strong this evening, the next and every evening thereafter." Participants and spectators both heartily endorsed these sentiments.

A graceful display by world gymnast queen Larisa Latynina, the mother of a two-year-old.



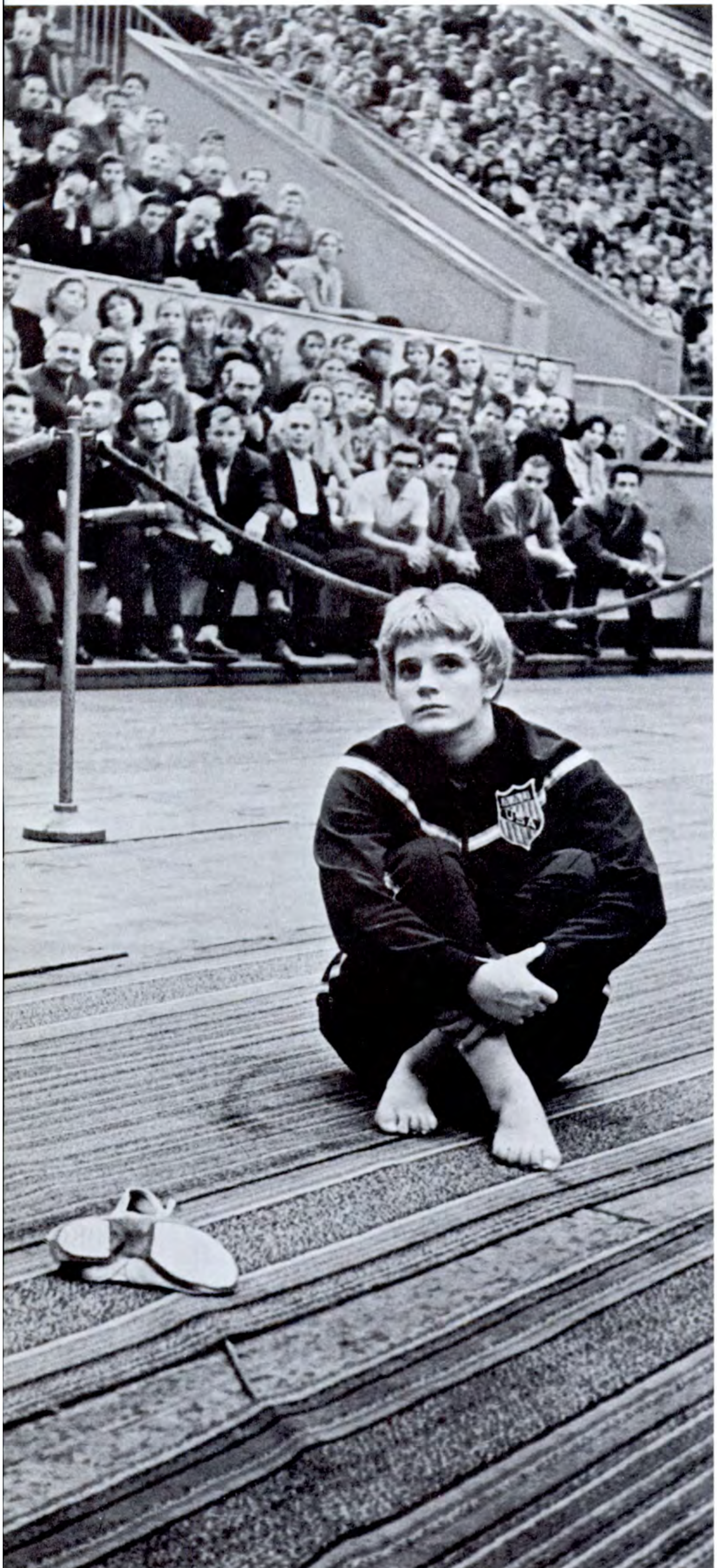
BY GERARD YELENSKY



Bad break for USA's Arthur Sherlock. A fall from the horse lost him a likely first place.

Armando Vega, all-around champ of the United States, won a silver medal for a fine show in the free exercise.

Top-flight 19-year-old American gymnast Betty Maycock brought home a gold medal for vaulting.



A star trio: Muriel Grosfeld, Margarita Nikoleyeva, Judy Klausner.

Harold O'Queen finds language no bar to Soviet-American friendship.

Elfish Doris Fuchs charmed spectators with her daring performance.

The judges—American and Soviet —had no differences on winners.

BY ANDREI NIKOLAYEV
PHOTOS BY YEVGENI TIKHANOV

SCHOOL NO. 739's THEATER

WHEN friends told me I would find the play that Moscow School No. 739 was putting on interesting, I was skeptical. After all, a school play is a school play, and although I knew that the youngsters took their dramatics very seriously and had a commendable amateur company, I hardly expected anything exciting. Yet, to my amazement, it turned out that they had picked no less ambitious a project than a dramatization of Leo Tolstoy's *War and Peace*.

After the performance I went backstage where the cast filled in the background for me. It was while they were studying Tolstoy's works that someone suggested the group put on *War and Peace*. The idea seemed a little farfetched at first because of the production problems involved. But the more they talked about it, the more it appealed to them.

The group, led by Natalia Gyune, a former actress, had previously put on scenes from Soviet as well as foreign plays.

The children plunged into the project with such interest and enthusiasm that they actually created a theater company. Each part was learned and rehearsed by two or three students to see who would be best in the role. Later on this proved to be a wise move for another reason—if a ninth-grade member of the cast had to study for a test the night the play was on, his part could be taken by his understudy in the eighth or tenth grade, and

Just before curtain. A last-minute pointer from Natalia Gyune, who coaches the dramatics group.

"Didn't you notice the way I muffed my lines?" "No, I was too busy trying to remember my own."

vice versa. Lowerclassmen sewed the costumes and painted the sets. Even those who considered dramatics frivolous accepted responsibility for the lighting.

Everthing was done in real theatrical style—auditions, rehearsals, last-minute changes, and even the unexpected "catastrophes" at dress rehearsal. Then came first night. Someone backstage cried in a panic, "Where's my wig?" And there was a whispered, "Pipe down, will you!"

They told me the first-night audience of proud parents and excited fellow classmen of the youthful actors packed the auditorium. And there was the complete silence of a captivated audience.

When I went through the script I realized how much work it had entailed. The children had prepared the outline, discussed it in their literature class and then written out the lines for each character. They had covered the entire book in a series of episodes.

They have had several productions since. One of the most recent was Nikolai Pogodin's *Kremlin Chimes*, a play about Lenin, the October Revolution, and how the Russian intelligentsia had supported the proletarian revolution. The group has also staged scenes from Shakespeare's plays.

Activity was suspended during the summer vacation, but the group picked up fresh vigor at the start of the new fall term. Many of the former actors graduated from the school into college or a job in industry, since School No. 793 stresses the technical vocations.

As always, the drama group has fresh talent—stage-struck boys and girls who have become upperclassmen and are just as eager as their predecessors to spread the fame of their school's theater company.

(Right) Galya Amentova and Nikolai Vereshchenko in the leading roles of War and Peace.

The students sewed the costumes, did the lighting, painted the sets and wrote the script.

Vadim Radetsky (left) played Pierre Bezukhov. This is the night before the Battle of Borodino.

The idea of staging War and Peace *grew out of a senior literature class discussion on Tolstoy.*

The critical cast and captivated audience considered Bolkonsky's death scene the play's best.

what are you doing new year's eve?

BY ZINOVI YURIEV
DRAWINGS BY ALEXEI KOLLI

I'VE CELEBRATED New Year's Eve 36 times already, but frankly I've never given serious thought to the "theory and practice" of this holiday in the Soviet Union. Therefore when I was asked to write on the subject for American readers, I decided, first of all, to poll my acquaintances. My question was how they planned to see the New Year in.

Here are several answers which should indicate what a difficult problem this can be.

Irina P., 31 years old, a biology teacher, married, and mother of one child, wrote: "You must be out of your mind to ask such a question a full month before New Year's Eve. I'm afraid I won't have an answer for you even on December 30!"

Pyotr G., 42, an engineer, married, father of two children, had this to say: "I can tell you where we'll be welcoming in the New Year only after my wife and I reach some sort of agreement, but we had an argument yesterday over this very matter and we're not an speaking terms. I'm sorry, old chap, but I can't tell you anything definite."

After reading a few more replies in the same vein, I called my relatives together, including those I hadn't seen for 20 years or more, and told them that I was a one-man Gallup pollster and they were going to be my interviewers.

Then I explained what the Gallup Poll was. The interviewers' job was to go from house to house and find out what their neighbors intended to do on New Year's Eve. They listened carefully and then declined. I finally convinced them that it was highly important for Soviet-American understanding. My relatives realized that they couldn't back out, because they were all for such understanding.

The result was that several days later I had sufficient data to write this article.

You Call That a Fir Tree?

At first I thought the Russian winter, with its snow and frosty nights, was the reason New Year's was so popular with Russians, but then I remembered that there were many places in the Soviet Union where snow never falls on New Year's Eve and the stars are blotted out by rainclouds instead.

I'm inclined to believe that the main reason for the popularity of New Year's is the prospect and hope for a bright future associated with this occasion. We somehow look to the future trustfully, convinced that it looks upon us favorably and holds something pleasant in store for us, be it a new apartment or a new space flight.

But whereas we all look forward to New Year's, we celebrate it in different ways. A good many people, and particularly families with several children, usher in the New Year at home. Fathers rush feverishly around town a few days before New Year's looking for just the right tree. There are so many fir trees in special markets at that time that it is hard for perspiring heads of families to make a choice. But by December 30 they're desperate. Their kids are crying—as though the absence of a tree were the greatest tragedy—and their wives are saying that they made a fatal mistake years ago getting married in the summer, ignorant of the fact that their husbands had no idea how to buy a decent tree, and in time.

Fathers dash out of houses in a last-minute effort to pick up a tree and put an end to their misery. But now there is hardly anything to choose from. Finally, they return home, weary but happy, with something remotely resembling a fir-tree. The children stem the flood of tears and burst out in ear-splitting delight as the fir-tree is set up in the middle of the room and trimmed with store-bought ornaments and home-made toys—animals, cars and, of course, Gagarin's and Titov's rockets.

Papa pulls out strings of miniature electric lights from somewhere, arranges them on the branches and plugs them in. There's a crackling noise, and all the lights in the house go out. While Papa is letting loose with a torrent of electrical engineering terms, Mama replaces the burnt-out fuse. We can understand her haste in getting the lights on in the apartment, and especially in the kitchen: The pies are ready for the oven and precious time is being lost.

Pie is a staple at New Year's parties. If many guests are expected, Mama sends out an SOS for her friend to come to her aid. That's when real bedlam breaks out in the kitchen. Although the menu has been settled beforehand, arguments spring up every minute.

The Stroke of Twelve

Finally, December 31 is here. The tree sparkles in all its splendor. The guests arrive, their cheeks rosy from the frost. The table sags noticeably under the weight of the food; the Russians are known for their appetites.

The Kremlin tower clock rings out the magic hour. At that moment in every home, without exception, corks are popping out of champagne bottles. It is the beginning of the New Year. Everyone gets up to congratulate everyone else, and on the radio the President is extending his congratulations to the whole nation.

The parties continue, grow noisier; the sound of laughter and dance music fill the night air. As the merrymakers rise to drink to happiness, to peace and good will on earth, we reluctantly take our leave so we can tell the reader how others are celebrating New Year's.

As I have already said, large families invite their friends to celebrate with them at parties in their homes. It costs a bit, but New Year's is no time for pinching kopecks. As for the get-togethers of the younger folks and parties with a great many guests, these are cooperative affairs. The discussion among the sponsors about whom to invite can be compared with the debate in the Security Council over the acceptance of new United Nations members, but without the right of veto. Finally, the list is ready and a realistic budget is fixed for the sweets and drinks. The men, naturally, insist on more of the latter while the women want to have more of the former.

Those invited contribute their share of the cost ahead of time, and from the women appointed to kitchen duty noise is heard continuously until a minute or two befqre the party begins.

The guests don't necessarily have to have known each other before the affair, it's easy to get acquainted at a New Year's party. Some bring along friends, others come with their fiancés, sisters or brothers.

The younger the participants, the noisier. Everyone dances, and occasionally someone who has had a little more than he can hold leaves the party for a while to sleep it off in a bedroom. In another room a tape-recorder or record player blares out fox-trots, tangos and—oh, my goodness!—rock 'n' roll numbers: Youth certainly has unconservative taste!

In lulls between dances there is fortune-telling and games—the payment of forfeits being in kisses. It's hard to tell who is the winner and who is the loser.

You can believe me that I hate to leave these people, but I'm much older than they are. Besides, I'm a journalist and duty calls me. I have to write a story telling you something about New Year's Eve elsewhere.

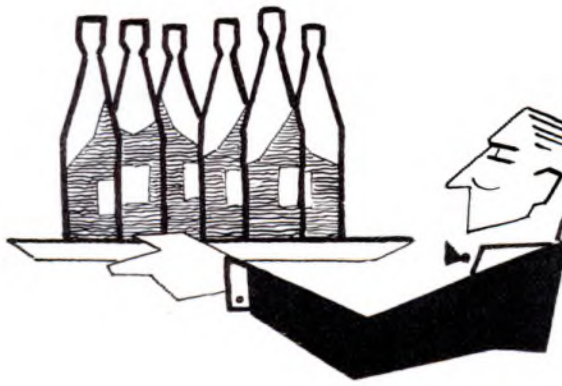
Table Reserved

You've got to be on your toes if you want to see the old year out and the New Year in at a restaurant, because unless you reserve a table weeks in advance, you may be in for a big disappointment. Although the charge for a table is as much as 15 to 20 rubles, there are never enough to go around. The atmosphere is somewhat restrained, but after you've had a few drinks and tangled with paper streamers and bobbing balloons, you begin to feel less inhibited, especially when a flushed, energetic young lady pulls you out of a chair and persuades you to join in a circle dance. You find yourself surrendering to such force not unwillingly, and you wonder later where you got the strength to dance an hour non-stop. In addition to the dancing there is the floor show.

Getting inside a restaurant New Year's Eve is hard enough, but trying to crash a club party—be it a factory or film actors' club—is still tougher. Club members have priority, and since people know one another, the stage show and the master of ceremonies are particularly funny.

What I have given you up to now are, what you might call, the traditional ways of welcoming the New Year. But I have learned, to my surprise, that there are some "odd balls" in Moscow, people who, for instance, celebrate the holiday at an ice rink, also decorated with giant trees, where people seem to have a gay time just moving around. You don't necessarily have to have downed a few drinks in order to be unsteady on the ice, particularly if your skates aren't too sharp.

Then there are those who go to a play or a concert. They are what you might call advocates



of passive merriment, prefering that actors make them feel gay instead of doing it themselves.

There is one more category of merrymakers, those who happen to be traveling on New Year's Eve. But it is hard to believe that they deliberately buy a plane ticket, say, to celebrate with a glass of champagne at an altitude of 30,000 feet.

On all invitations and in newspaper and magazine cartoons the New Year is pictured as a perky little boy, arriving either on skis or by space rocket, always gay and smiling. Our entire country smiles with him on New Year's Eve, looking toward the future.

We move with faith and assurance into the New Year as though it were an unfamiliar but completed house, built according to our blueprints. To us each New Year opens another door to this house. These may be high-flown sentiments, but—you can believe me—they are sincere. Should a sad thought cross your mind on New Year's Eve, it is only because for a fleeting second you realize that the day must come when you will not be here to celebrate the New Year. I don't know about other places, but the Soviet Union hails the incoming year with laughter and gaiety.

I know that you celebrate Christmas and New Year's both. Your Santa Claus is very much like our Grandfather Frost, although Santa arrives a week earlier. But that's not important. What is, is that the same New Year bring with it peace and friendship for us all.

HAPPY

NEW

YEAR!

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