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# USSR

**SOVIET MAN  
IN  
SPACE**

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MAY, 1961 — 20 Cents



# THE FIRST MAN

APRIL 12, 1961

## AROUND THE WORLD IN 108 MINUTES

9:07 a.m. MOSCOW TIME. THE SOVIET SPACESHIP VOSTOK WITH A MAN ON BOARD IS LAUNCHED INTO SPACE.

9:52 a.m. MOSCOW TIME. FLYING OVER SOUTH AMERICA, ASTRONAUT GAGARIN REPORTS: "THE FLIGHT IS PROCEEDING NORMALLY. I FEEL WELL."

10:15 a.m. MOSCOW TIME. FLYING OVER AFRICA, MAJOR GAGARIN REPORTS: "THE FLIGHT IS PROCEEDING NORMALLY. I AM WITHSTANDING WEIGHTLESSNESS WELL."

10:25 a.m. MOSCOW TIME. AFTER A ROUND-THE-EARTH FLIGHT FULFILLING THE PRESCRIBED PROGRAM, THE BRAKING ROCKET IS FIRED AND THE SPACESHIP CARRYING ASTRONAUT GAGARIN BEGINS THE DESCENT.

10:55 a.m. MOSCOW TIME. THE VOSTOK LANDS SAFELY IN A PREARRANGED AREA IN THE SOVIET UNION. MAJOR GAGARIN REPORTS: "PLEASE TELL THE PARTY AND THE GOVERNMENT AND NIKITA SERGEYEVICH KHRUSHCHEV PERSONALLY THAT THE LANDING WAS NORMAL. I FEEL WELL AND HAVE NO INJURIES OR BRUISES."

SPACESHIP:  
Vostok (East)

WEIGHT WITH PILOT:  
4,725 kilograms (10,419 pounds)

PILOT:  
Major Yuri Alexeyevich Gagarin, age 27

TIME IN FLIGHT:  
Total time from blast-off to landing — 108 minutes, or 1 hour 48 minutes. Time in orbit around earth — 89.1 minutes

HEIGHT ABOVE EARTH:  
Minimum, 175 kilometers (110 miles)  
Maximum, 302 kilometers (188 miles)

SPEED:  
Average speed: 28,000 kilometers (17,000 miles) an hour





# ANN SPACE, YURI GAGARIN

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

**A GREAT EVENT** has taken place. For the first time in history man has made a flight into space.

On April 12, 1961, at 9:07 A.M. Moscow time, the sputnik-spaceship Vostok was launched into space with a man on board, and, having flown around the globe, returned safely to the sacred soil of our homeland—the Soviet Union.

The first man to penetrate space was a Soviet man, a citizen of the Union of Soviet Socialist Republics.

This is an unparalleled victory of man over the forces of nature, a tremendous achievement of science and technology, a triumph of human intellect. The beginning of manned space flights has been made.

In this achievement, which will go down in history, is embodied the genius of the Soviet people, the powerful strength of socialism.

The Central Committee of the Communist Party, the Presidium of the Supreme Soviet of the USSR and the Soviet Government take great joy and legitimate pride in the fact that this new era in the development of mankind has been inaugurated by our country—the country of victorious socialism.

In the past backward czarist Russia could not even have dreamed of accomplishing such exploits in the struggle for progress or of competing with the more technically and economically developed countries.

By the will of the working class, by the will of the people, and inspired by the Communist Party under Lenin's leadership, our country has become a mighty socialist power and has reached unprecedented heights in the development of science and technology.

When in October 1917 the working class took power into its own hands, many people, even honest ones, doubted that it would be capable of governing the country and of maintaining even the economic, scientific and technical level reached at that time.

And now our working class, Soviet collective farmers and Soviet intellectuals—the entire Soviet people—are showing the whole world an unprecedented victory of science and technology. Our country has surpassed all the other states in the world and has been first to blaze the trail into space.

The Soviet Union was the first to launch the intercontinental ballistic rocket, the first to send up an artificial earth satellite, the first to send a spaceship to the moon; it created the first artificial satellite of the sun and sent a spaceship flying toward the planet Venus. One after another, Soviet sputnik-spaceships

with living creatures on board have made flights into space and returned to the earth.

Our victories in the conquest of outer space are crowned by the triumphant flight around the earth of a Soviet man in a spaceship.

Honor and glory to the working class, the Soviet peasantry, the Soviet intelligentsia, the whole Soviet people!

Honor and glory to Soviet scientists, engineers, and technologists—the creators of the spaceship!

Honor and glory to Comrade Yuri Alexeyevich Gagarin, the first space traveler—the pioneer in space conquest!

We Soviet people who are building communism have had the honor of being the first to penetrate outer space. We regard the victories in space conquest as belonging not only to our people but to all mankind. We are happy to place them at the service of all nations, for the sake of progress, happiness and the well-being of all people. We place our achievements and discoveries not at the service of war but at the service of peace and the security of peoples.

The development of science and technology presents infinite possibilities for mastering the forces of nature and using them for the benefit of man; to bring this about it is necessary, above all, to safeguard peace.

On this memorable day we again turn to the peoples and governments of all countries with an appeal for peace.

Let all people, irrespective of race, nationality, color, creed or social standing, exert every effort to ensure lasting peace in the world. Let us put an end to the arms race! Let us carry out general and complete disarmament under strict international control! This will be a decisive contribution to the sacred cause of peace.

The glorious achievement of our homeland inspires all Soviet people to new heroic deeds in the building of communism!

Forward to new victories in the name of peace, progress and the happiness of mankind!

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

Moscow, the Kremlin, April 12, 1961



## A DAY TO REMEMBER

**A**PRIL 12, 1961, is a date that has entered the chronicles of world history. On that day man for the first time made a flight into the cosmos. The cosmonaut is our contemporary, a citizen of the Soviet Union—Major Yuri Gagarin. A centuries-old dream has come true.

Thousands of cables have been received in Moscow. Congratulations on the success of the greatest feat in history have come from heads of state and simple workers, from outstanding scientists and schoolboys of all the continents.

On April 14 millions of people of many countries listened to the broadcasts from Moscow, and TV spectators of 14 countries of Europe saw Moscow for the first time, saw how the Soviet capital honored the world's first cosmonaut, Major Yuri Gagarin.

On this day in Red Square hundreds of thousands of Muscovites participated in meetings held in honor of the successful cosmic flight. Muscovites and guests from all over the world listened with great attention to the speech of Nikita S. Khrushchev, Chairman of the USSR Council of Ministers, addressed to all the people of the world. The head of the Soviet Government noted with pride and joy that for the first time in history a Soviet citizen, in a Soviet spaceship, "has penetrated outer space, making the first unparalleled trip to the stars."

"Yuri Alexeyevich Gagarin," said Nikita S. Khrushchev, "is our pioneer of cosmic travel, the first man to orbit the globe. If the name of Columbus, who crossed the Atlantic and discovered America, lives through the ages, what can be said about our outstanding hero, Comrade Gagarin, who penetrated outer space, circled the entire globe, and returned safely to earth? His name will be immortal in the history of mankind."

Khrushchev greeted and congratulated the scientists, workers, engineers and technicians who created the *Vostok* rocket ship as well as the entire Soviet people, who ensured the conditions for the successful manned flight to outer space. "By this flight we have once more demon-

strated to all the world what can be accomplished by the genius of a free people," the head of the Soviet Government declared.

Turning to the history of the country, Khrushchev recalled "the haughty strategists," "the sorry theorists" who had prophesied that the horse-and-buggy Russia would never become a great industrial power. "Where are they now, those sorry prophets?" Khrushchev asked.

"The socialist state," he went on to say, "made it possible to carry into life, in the course of industrial and collective-farm construction, the dreams and plans of many scientists, engineers and technicians who in czarist Russia could not even think of using their brains and hands."

The Chairman of the Council of Ministers paid tribute to the memory of Kibalchich, Mendeleyev, Zhukovsky, Timiryazev, Pavlov and many other great scientists whose names are associated with outstanding exploits of the Soviet people. "We now recall with particular respect Konstantin Eduardovich Tsiolkovsky, the scientist and dreamer, the theoretician of cosmic travel.

"We are proud of the fact," Khrushchev went on to say, "that the dream of conquering outer space, this indeed most daring of all daring aspirations of man, this fairy tale, has been made a reality by the Soviet people.

"Citizen of the Soviet Union—this has a proud ring to it," Khrushchev declared. "But it is not because we believe that other peoples and countries are incapable of similar accomplishments that we are proud. We are internationalists. Every Soviet citizen has been brought up in the spirit of socialist patriotism and, at the same time, is ready to share generously his scientific know-how, his technical and cultural knowledge with all those who are prepared to live in peace and friendship with us," Khrushchev emphasized.

"Socialism has given our country the broadest scope for development. Within the 43 years of Soviet power, the once illiterate Russia—about which some spoke with contempt, regarding it as a barbarous country—



has traversed an immense path. Our country was the first to create a satellite spaceship, the first to break through to outer space. Is this not a most striking demonstration of the genuine freedom of the freest of all the free peoples of the world—the Soviet people!" Khrushchev exclaimed.

"Our conquest of space is a magnificent landmark in the development of mankind," Khrushchev declared. "It is a new triumph of Lenin's ideas, a confirmation of the correctness of the Marxist-Leninist teachings.

"The glorious results of all that has been achieved by the peoples of the Soviet Union in conditions created by the October Socialist Revolution have found embodiment and graphic illustration in this victory of human genius. This exploit signifies a new upsurge of our country in its steady onward movement to communism," Khrushchev emphasized.

He declared that there is no force on earth "that could make us swerve from this road. We shall triumph, and this will be the noblest and the brightest triumph. It does not lead to the rule of one group of men over another, the rule of one country over another country or group of countries, one nation over others, but benefits all the people of the world."

"At this hour," Khrushchev said, "we greet the scientists of the world, to whom this space flight is a source of great joy and great satisfaction. Soviet science is developing in close contact with world science. The flight of the spaceship *Vostok* is, so to speak, the first swallow in outer space. It soared into the sky in the wake of our numerous sputniks and spaceships. It is a logical result of the tremendous amount of scientific and technological work done in our country to conquer outer space.

"We shall go on with this work," Khrushchev continued. "More and more Soviet people will soar into the cosmos over uncharted routes, explore it, continue to solve the secrets of nature and make them serve man, his welfare, make them serve peace.

"We emphasize—to serve peace!" Khrushchev declared. "The Soviet people do not want rockets, fulfilling with such amazing accuracy the program set by man, to carry lethal payloads.

"We once again address all the governments of the world," Khrushchev went on. "Science and technology have moved ahead so far and are capable of committing by ill will such destruction that all measures should be taken for disarmament. General and complete disarmament under the strictest international control is a way toward the establishment of lasting peace among nations."

The head of the Soviet Government announced that the Presidium of the USSR Supreme Soviet had conferred on Yuri Gagarin the high title of Hero of the Soviet Union.

"In commemoration of the first manned flight into space, a bronze bust of the hero will be erected in Moscow and a commemorative medal will be instituted," Khrushchev said.

Khrushchev cordially congratulated the parents of the first Soviet astronaut—Anna Timofeyevna and Alexei Ivanovich Gagarin. He expressed his admiration for the bravery of Yuri Gagarin's wife—Valentina Ivanovna. "She knew that Yuri Alexeyevich was going into outer space and she did not dissuade him, she supported and wholeheartedly encouraged her husband, the father of two babies, to accomplish this glorious deed," the head of the Soviet Government said.

"This is a real Soviet woman," he added.

"The people of the Soviet Union," Nikita S. Khrushchev said in conclusion, "are celebrating their new victory, a victory of labor, science and intellect. It has been attained by the peoples of our country through persistent and intensive work. The Soviet people have traversed a great path in the struggle for the development of the national economy, for the development of technology and science, and have been remunerated in a worthy manner by being the first to launch a satellite ship with a man on board into outer space. This immortal exploit, this outstanding feat, will live through the ages as mankind's greatest achievement."













# YURI GAGARIN'S OWN STORY

**M**Y PARENTS were poor peasants before the Revolution, and the older generation, my grandfather and grandmother, were also poor peasants. Therefore I express my regret concerning my relatives mentioned [that he came from a princely family] but I have to disappoint them.

After graduating from the technical school in 1955, I graduated at the same time from the Saratov Aeroclub. I was then enrolled in the Orenburg Flying School, from which I was graduated in 1957 as a fighter pilot. I then entered the Armed Forces of the Soviet Union.

Later, at my earnest request, I was included among the candidates from whom cosmonauts of the Soviet Union were to be selected. I finished my training and, as you see, I have become a cosmonaut.

I received the necessary training worked out by our scientists.

I finished my training successfully, mastered the machinery and instruments well, and was ready for the cosmic flight.

I am very happy and extremely grateful to our Party and our government for entrusting me with this flight. I carried out this flight in the name of our country, in the name of the whole heroic Soviet nation, in the name of the Communist Party of the Soviet Union and its Leninist Central Committee.

I felt excellent before the flight and was confident of its successful outcome.

I have a good knowledge of the machinery and instruments involved—very good machinery and instruments—and I, all my colleagues, all the scientists, everyone, had complete confidence that the flight would be a success. During the flight I also felt excellent.

During the boost stage of the flight, that is, when the spaceship was going into orbit, the accelerating forces, the vibration, the noise and the other factors of this part of the flight did not distress me, and I was able to work fruitfully, in accordance with the program of the flight.

Once I was in orbit, once I was separated from the carrier rocket, I experienced weightlessness. At first this sensation was somewhat unusual, even though I had experienced it before for short periods. But I quickly became accustomed to this sensation of weightlessness, adapted myself to it and continued to carry out the program expected of me during the flight.

In my opinion weightlessness does not affect the functioning of the organism, the

performance of physiological functions. During the whole flight I went on doing the fruitful work required of me under the flight program. During the orbital flight I took food and drank water, I maintained constant radio contact with the earth along several channels both on telephonic and telegraphic signals. I made observations of the conditions of my environment, of the functioning of the equipment of the spaceship. I made reports back to earth, made entries of these observations in my log book and recorded them on a tape recorder.

My feelings during the entire period of weightlessness were excellent and my capacity for work was fully maintained.

Then, according to the program of the flight, at a predetermined time, the signal was given for the descent. The ship was oriented in the appropriate way, the braking engine apparatus was switched on and the speed reduced to what was necessary for the descent to earth. The descent took place as anticipated in the flight program, and, back on earth, I was very pleased to meet our own Soviet people. The landing took place in the prearranged area.

I would like to say a few words about my observations while in space. The earth, from this height, 175 to 300 kilometers (110 to 185 miles), looks very good. The appearance of the earth's surface is roughly the same as we see in flights to great heights in jet aircraft. It is very good.

Large mountain areas, large rivers and forests, the coastline, islands were easily distinguishable. During the space flight I was fully able to adhere to what we pilots call navigation by geographical locality. The clouds covering the surface of the earth could be seen very well, the shadows of these clouds on the earth. The sky, however, was quite black. The stars in the sky look brighter and can be seen more accurately against this black sky.

The earth has a very characteristic and very beautiful blue halo. The aureole becomes distinct at the horizon when a gradual transition in color takes place. The sky gradually becomes blue, violet and finally black. The transition is very smooth and very beautiful. When emerging from the shadow (of the earth) the sun fell on and penetrated the atmosphere, and here this halo took on a slightly different color.

On the surface itself, on the very horizon of the surface, one could see a bright orange

color which then merged into all the colors of the rainbow, giving the sky light blue, deep blue, violet and black colors.

The entry into the earth's shadow occurs very quickly. Darkness comes at once and nothing is visible. At this time on the surface I saw nothing was visible since, obviously, I was passing over the ocean.

The emergence from the earth's shadow also occurs very quickly and abruptly.

I endured the effects of the factors of space flight very well since I had been trained for it. At present I feel very fit.

I am very grateful to our Soviet designers, engineers and technicians, to all the Soviet working people who created this wonderful ship *Vostok*.

I am boundlessly happy that my beloved motherland has been the first in the history of man to break through to outer space. The first airplane, the first satellite, the first spaceship and the first flight by man to space—such are the stages on the great road of my homeland in the conquest of the mysteries of nature.

To this aim our people are being confidently led by the Leninist Communist Party.

At every step of my training, life and work in the trade school, in the industrial technical school, in the aeroclub, in the aviation institute, I have constantly felt the solicitude and attention of the beloved Party of which I am today a member.

I should like to mention especially the loving human care which is being shown in our country toward ordinary people by the Central Committee of the Party, the Soviet government and our dear Nikita Khrushchev.

We are always pleased at successes in the development of science in other countries and shall be pleased to welcome into space the cosmonauts of other countries, to wish them good success in the peaceful conquest of outer space and to cooperate with them in the peaceful use of outer space.

Literally a few minutes after landing on earth I received a very warm telegram from Nikita Sergeyevich congratulating me on the successful accomplishment of my space flight. We have dedicated this flight to the heroic Soviet people, to our government, to our dear Communist Party and to the Twenty-second Congress of our Communist Party.

Personally, I would like to do a lot of flying in space. I like it.

I would like to go to Venus, to Mars, to do some real flying.

# USSR

## ILLUSTRATED MONTHLY

1706 Eighteenth Street, N.W.

Washington 9, D. C.

ADams 2-3426

The magazine *USSR* is published by reciprocal agreement between the governments of the United States and the Soviet Union. The agreement provides for the publication and circulation of the magazine *USSR* in the United States and the magazine *Amerika* in the Soviet Union.

May 1961

No. 5 (56)

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**Front Cover:** Nikita Khrushchev with Yuri Gagarin and his wife Valentina driving along a street in Moscow on their way to Red Square on April 14.

Anything in this issue may be reprinted or reproduced with due acknowledgement to the magazine USSR.

### Subscription Rate:

6 Months .....	\$1.00
1 Year .....	1.80
2 Years .....	3.00

Published by the Embassy of the Union of Soviet Socialist Republics in the USA.  
Second-class postage paid at Washington, D. C. and at additional mailing offices.

Printed by Haynes Lithograph Co.  
Rockville, Md.

"We scientists will help carry out the great irrigation projects planned," says Boris Shumakov at the plenum of the Communist Party Central Committee.



Tractor operator Vladimir Svetlichny: "Last year my tractor team got a record yield of sugar beets per acre. With more machines we'll do better this year."



Khanam Izakson, farm machine designer: "Our new models incorporate the latest ideas in farm automation to help our growers produce more with less work."



Vasili Kavun, chairman of the Stalin Collective Farm in the Ukraine, pledges a sizable increase in the farm's target production figures for meat and milk.

# PEOPLE'S CONVERSATION









*We have everything we need, says Khrushchev, to raise our standard of living to a level never yet reached.*



*On his tour of the country following the plenum Nikita Khrushchev spoke at several meetings of leading farm workers. This is one in Tbilisi, Georgia.*



**By Georgi Radov**

**I**T is some months now since the new Soviet farm development program was hammered out at the January plenum of the Central Committee of the Communist Party of the USSR and the several meetings that followed. One was a plenum of the Central Committee of the Communist Party of the Ukraine, seven were regional conferences, and one was held on the republic level. The debate at these meetings was sharply critical, sometimes heated but always objective and always constructive.

Some 25,000 farm leaders took part in these conferences in Kiev, Rostov, Tbilisi,

Voronezh, Moscow, Sverdlovsk, Novosibirsk, Tselinograd and Alma-Ata. They are leaders not by virtue of title but by reason of the respect they command from the people with whom they work. Here were heads of government ministries and dairymaids, directors of state farms and tractor operators, secretaries of regional Party committees and shepherders discussing matters of national import.

The discussion ranged through hundreds of farm matters, large and small. There had never before been so thoroughgoing an analysis of Soviet agriculture attacked from so

many different angles. Considered in detail were such problems of national scope as irrigation and such a relatively local and restricted matter as the best method of sowing soybeans in Altai Territory.

At these meetings the hard-headed experience of the working farmer was fused with the foresight of the statesman and the erudition of the scientist. The result was a carefully considered and concrete program that took all the manifold local factors and special circumstances into consideration.

There was one guiding point of approach at all of these conferences that served to

A

Some of the people who raise the nation's food, at a regional conference after the Party Plenum.

B

Hog breeder Zinaida Teryaeva will be reporting on the conference when she gets back to her farm.

C

Trading ideas on the Central Committee's farm plan calling for big additional capital outlays.

D

At a farm machinery exhibit in Rostov-on-Don. This is a new electrically operated sheep shearer.



shape the farm program. Simply put, that point, addressed to farm leaders, national and local, was: "Don't command. Direct, lead! Don't order. Show the way. Teach by example."

The Ministry of Agriculture was transformed from a directing into an advisory body. Its function will not be nearly so much to administer on the local level as to develop research stations and experimental farms.

The state procurement apparatus was also reorganized to stress this same approach—leadership through teaching rather than command. The state purchasing agent's function is now not only to buy the products of the collective farm but to help the farm develop so that it will have a large crop to sell the following year. Nikita Khrushchev made that point at one of the conferences when he noted that the procurement official "must remember when he buys the product not to cut the roots of the farm."

One of the most notable things about the conferences, aside from the concrete programs worked out, was the character of the discussion from the floor and the men and women they brought to public notice—people of extraordinary integrity and moral force who taught the whole country a lesson in communist ethics.

Without any fanfare and without the word even being mentioned in any of the speeches, the conferences demonstrated the essential democracy of our society. It was evident in the 25,000 participants at the meetings. It was evident in the presence of all the republic's collective farm chairmen at the plenum of the Central Committee of the Communist Party of the Ukraine held in Kiev. It was demonstrated by the proposals sent in to the Central Committee from rank-and-file farmers that were read at the plenum and immediately acted upon. These actions speak more eloquently than a bookful of pompous declarations.





# SOVIET DIARY

## WORLD YOUTH FORUM

A WORLD YOUTH FORUM is to be held in Moscow during the summer of 1961 (July 25-August 13). The theme of the international gathering, "Youth and its Problems in the Mid-Twentieth Century," embraces the most critical questions of our time—peaceful coexistence, disarmament, national independence, the development of the newly independent countries.

The manifold social and economic problems of young people today will be discussed—their participation in community life; the rights of the young woman; child care; youth education; the organization of recreation, sports and tourism.

Seminars are planned on the training of national personnel, elimination of illiteracy, development of a national culture in the newly freed countries, and the eradication of the vestiges of colonialism.

Conferences will be held with students, young teachers and leaders of children's organizations on the problems of democratizing education, on student self-government and the training of socially-conscious citizens. "Scientific and Technical Progress in Modern So-

ciety and the Youth" and "Culture, Education and Youth" are among the subjects for panel discussion.

The initiative for the youth forum came from young people in the Soviet Union. It evoked warm and enthusiastic support at home and abroad. The sponsoring committee, made up of Soviet youth organization leaders; representatives of young workers, farmers and students; and prominent public figures in the arts and sciences was veritably flooded with letters of support which also included suggestions for topics of discussion and conditions for participation.

Although they came from various parts of the world and from people of widely different vocations, interests and political leanings, they all stressed the idea that the young people have to consider ways of insuring lasting peace and strengthening friendship and understanding among the youth of all countries.

This was the essence of letters sent by Indian civic leader Sahib Singh Sokhey; Soviet composer Aram Khachaturyan; the French Senator, General Ernest Petit; Pierre Gaudez, a representative of the National Students

Union of France; Czech youth leaders; the Young Friends Committee of North America; students of Honduras; and many others.

The Constituent Congress of the International Committee of the World Youth Forum met in Moscow not long ago. It was attended by 142 delegates and observers from 60 countries. Represented were organizations of young Christians and Moslems, workers' and farmers' groups, and such national student groups and international youth bodies as the World Federation of Youth, the International Students Union, and the International Students Movement for the United Nations.

The Constituent Congress set up an international committee to promote the forum made up of representatives from 60 countries. The committee's Council and Permanent Secretariat are composed of representatives of youth organizations in Guinea, Italy, the People's Republic of China, Cuba, the Soviet Union, France, Japan, Ghana, Brazil and the Confederation of North African Students.

Preparatory work for this important international gathering of world youth is now entering its final stage.

## YOUNG PIONEERS

THE VLADIMIR LENIN Young Pioneers, the organization all Soviet children aspire to join, will be celebrating its 39th birthday on May 19. School children between the ages of 10 and 15, those in the third to seventh grades, are eligible for membership. The Young Pioneers consider it their primary duty to help the adults in making life better and happier for everyone.

The organization grew out of the Young Communist Detachment, a group of boys and girls in a Moscow District formed in 1919 to help their fathers, mothers and older brothers and sisters build the young Soviet Republic. In May of that year, while the Civil War was raging, Lenin took the time to meet with the children, ask them about their studies and interests, and wish them luck with their club.

The newspapers reported the meeting, and soon Young Communist Detachments, or Young Pioneers—as the children later called their organization—began springing up everywhere; by 1922 the movement was country-wide. At its all-Russian conference on May 19, 1922, the Komsomol (Young Communist League) decided to sponsor the movement, foster it and assist it. The date is regarded as the organization's official birthday.

Many years have passed since then. The Young Pioneers of yesterday have become workers, scientists, doctors and teachers. The organization's history shows that every gen-

eration of Young Pioneers worthily bore the great name of Vladimir Lenin.

The first Young Pioneer detachments taught people to read and write—it was the time of the country's great drive to end illiteracy—and worked on town and village improvement. Later, Pioneers helped out in the five-year plan to industrialize the country by collecting scrap metal for the factories and distributing subscriptions to the Industrialization Loan among the population.

During the Second World War they made gifts for the men at the front and helped their families. There were Young Pioneers who did heroic duty as scouts for guerrilla troupes operating behind the enemy lines.

In the occupied areas, with school buildings requisitioned and teachers either in the army or shipped off to slave labor in Germany, it took courage and perseverance to keep studying. Groups of children would get together to study in a deserted house, in the woods or in an abandoned stone quarry.

Today's Pioneers carry on the organization's four-decade tradition of service. Each boy and girl wears a red scarf, symbolizing the Red Flag which their fathers and grandfathers bore aloft when they made the Great October Socialist Revolution.

Together with the Komsomols, the Young Pioneers set up school workshops, radio centers and stadiums. They help collective farmers

tend cattle and raise rabbits and poultry. Young Pioneers have planted thousands of acres of orchard and transformed many bare roads into flower bordered, tree-shaded thoroughfares.

But they are not only the busy little beavers the above would seem to indicate; there is also plenty of fun and excitement. Many an adult remembers with a warm glow the get-togethers of his Pioneer days, the meetings with old revolutionists, and with famed heroes and explorers whom he strove to emulate, or the campfires in the woods and the singing that went with it.

Hikes and sports, hobbies of all kinds, excursions to interesting places, correspondence with pen pals all over the world—these are Young Pioneer activities, for fun and for learning too. There are Pioneer camps where city children spend their summer and winter school holidays close to nature. Young Pioneer Palaces in towns and villages provide facilities for all sorts of activities, from woodcarving and chess to stamp collecting and basketball. In many cities where there are miniature children's railroads and shipping fleets the Pioneers run the trains and river boats.

And needless to say, they have the love and care of their elders. One sees it in the affectionate welcome they receive when they visit factories, rallies or Party meetings to bring their Pioneer greetings.



By Arkadi Vasilyev

# MAY DAY

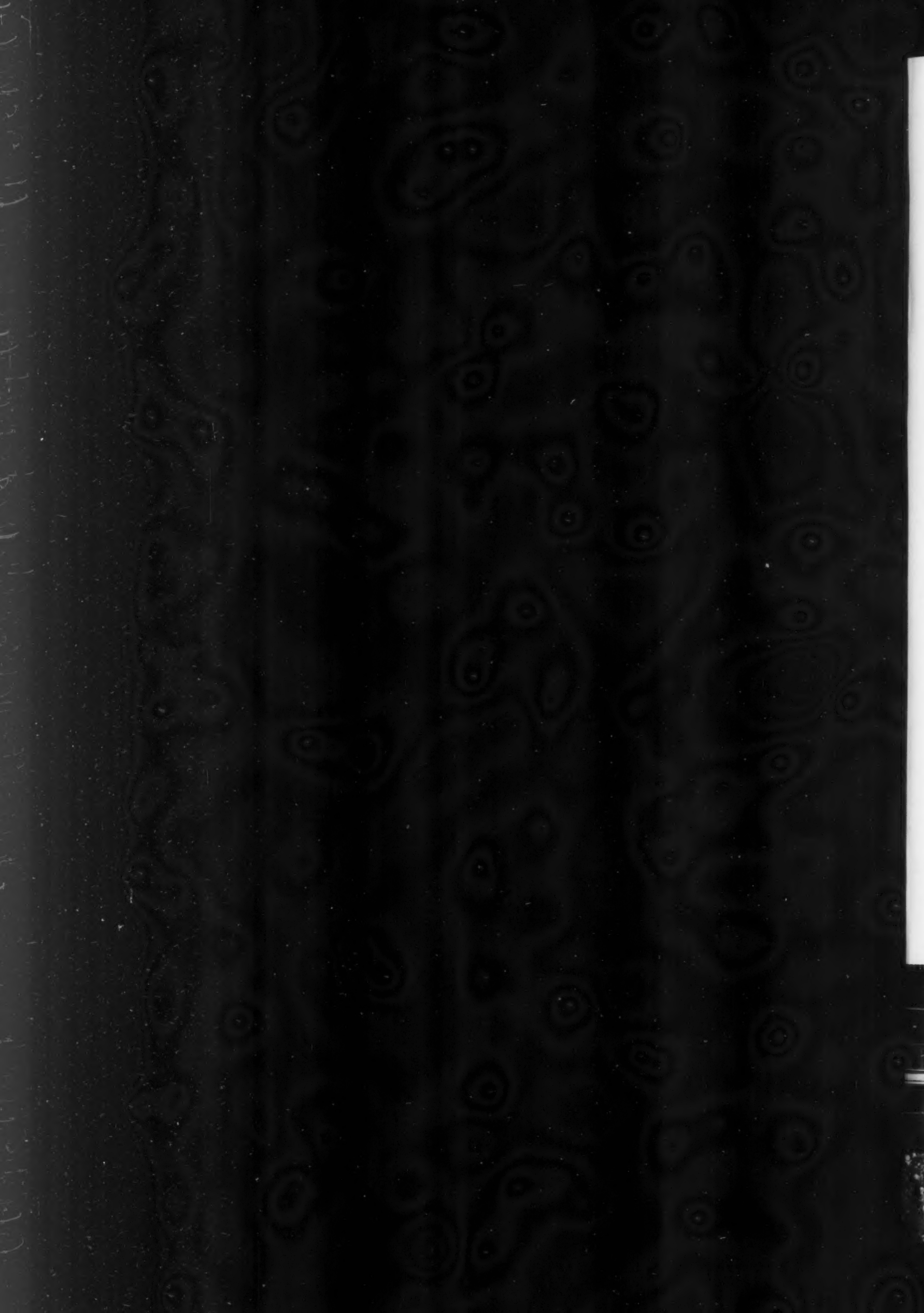
*This could be any street in any Soviet city on the First of May*



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**R**ED SQUARE is splendid at any time of year, but it is never so lovely as on a spring morning when the whole great expanse is touched with the rosy tint of dawn. The ancient Kremlin walls still give off a chill, but it is pleasantly invigorating. The pavement shines like polished granite, and high above white doves flutter lazily round the ornate domes of St. Basil's Cathedral.

There is one spring morning when Red Square is especially radiant, bedecked with flags and bunting of many colors and bright with flowers—the First of May.

I have seen Red Square on many May days, but each time the procession of dazzling color and singing, dancing, laughing people thrills me as though I were seeing it for the first time. I have also spent May Day in a little village and been no less moved, even though there was no picked band of a thousand musicians and only a few dozen paraders, not the millions of the capital.

Wherever Soviet people are gathered—in city or village, in the taiga or the winter settlements of the North and the Antarctic—they celebrate this holiday with great spirit and enthusiasm.

May Day has its traditions grown out of four decades of socialist life. It is a favorite day for weddings and the day on which millions of Soviet families give housewarming parties in their new apartments. May First is also the day when people in the different trades and professions report their achievements—from a new sputnik or steel mill to a new musical composition or book of poetry.

#### Commemorates Workers' Solidarity

May Day was born in the United States. Its genesis was the Haymarket Square demonstration in Chicago in 1886 for an eight-hour working day. The struggle of American labor struck a sympathetic chord in the hearts of Russian workers.

The day of workers' solidarity was first celebrated in Russia in 1891 and as time went on was widely observed in Petersburg, Nizhni Novgorod, Ivanovo-Voznesensk, Saratov and Minsk.

Just what this day meant to the workers of czarist Russia is perhaps best told in the words of Maxim Gorky. One of the characters in his novel *Mother* is speaking: "We are out to

march in the procession of the new God, the God of Truth and Light, of Reason and Goodness. . . . Our goal is far, and our crown of thorns is near! Let those who have no faith in the power of truth, who lack the courage to face death for the truth, who have no belief in themselves and are afraid of suffering step aside! We want those to follow us who believe in our victory! Let those who cannot see our final aim stay away, for only misery is in store for them! Join the ranks, comrades! Long live the First of May, the holiday of freemen!

"And the people swarmed to meet the red banner. . . . The street rang with songs of iron courage, songs that urged the people to strike out on the long path to the future, songs that told honestly of the hardships that lay in wait."

The May Day demonstrators would not be intimidated by czarist persecution, by imprisonment or hard labor. Nor did the police find it simple to run the "rebels to the ground," for May Day was usually celebrated in the woods, well out of town, with fighting detachments of revolutionary workers on guard.

From year to year the May Day slogans became more revolutionary. At first the central demand was for the eight-hour day and equal pay for equal work. Then followed new demands—for democratic rights, freedom of assembly and freedom of the press. Finally came the implacable challenge: "Down with the autocracy!" At the May Day demonstration in 1917 the slogan was "All Power to the Soviets," a summons to the millions of Russian people that brought the victory of the October 1917 Revolution.

#### A Photo History

An album of May Day pictures taken in Red Square would comprise a photo history of the country. There would be an early faded snapshot of people marching across the cobblestones with rifles slung over their shoulders, poorly dressed, many of them still wearing army caps and blouses. The streamers they carry read, "We'll fight for our socialist homeland!" "All against Kolchak!" "Death to Wrangel!"—slogans calling the citizens of the young Soviet Republic to fight the foreign interventionist armies and the counterrevolution.

There would be photos of people carrying posters inscribed "Rebuild the country"—

from czarism they had inherited a land utterly ruined by the World War—or posters with the tragic appeal: "Help the starving along the Volga." The frightful drought of 1921 had burned out millions of acres of plowland. Famine stalked the Lower Volga and people were dying.

A 1929 photograph would show a poster with a new word, "Pyatiletka" (Five-Year Plan), announcing the daring plan to make an industrial power of this agrarian country. On subsequent May Days the marchers would be carrying models of great projects already built or on the way to completion—steel mills and hydropower stations.

There would be a photo of that May Day in 1941 that I remember so well. It was a beautifully sunny and clear day. Millions of marchers crossed Red Square, many of them with children in their arms. It would have been hard to imagine that in a matter of days the fascists would be invading this peaceful land and that many of these vigorous and happy young marchers would be killed or maimed.

Nor will I ever forget that May Day Eve of 1945 when people started gathering in Red Square and waited all night near the Kremlin walls for the news from Berlin. The war begun by the fascists was finally coming to an end. Hitler, driven into the cellars of his own chancellery, had taken poison. Weidling, the last nazi general to command the defense of Berlin, had spoken into a microphone held by a Soviet officer and commanded the sorry remnants of Hitler's routed armies to cease fire. Berlin had surrendered. In Moscow millions of people marched across Red Square with the words "victory" and "peace" on their lips.

The cardinal slogan inscribed on May Day posters has been and continues to be "Peace." It was for peace that the country was reconstructed after the destruction of the Civil War. It was for peace that the five-year plans were carried through. It is for peace that the current seven-year plan is building. It is peace that motivates Soviet science in launching a space station to Venus. It is toward a lasting peace that the foreign policy of our socialist country has always directed its every effort.

"Peace and Friendship" is the slogan endlessly repeated on banners and posters carried by marchers in villages, towns and cities everywhere in the Soviet Union on May Day, 1961.

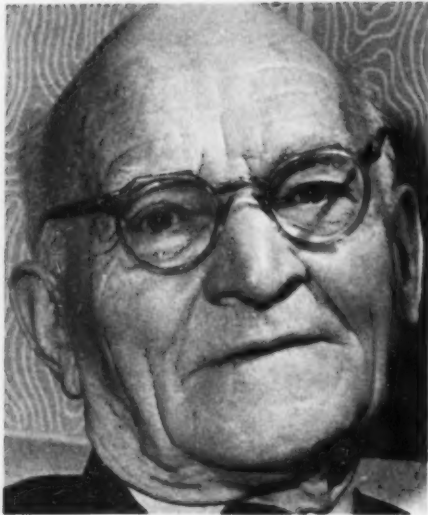
Moscow, May Day, 1917. In October of the same year the Socialist Revolution was fought and won.



Petrograd workers demonstrating on May Day, 1917 for an end to the war and a Soviet government.



# the greatest HOLIDAY of LABOR



Andrei Ivanov



Ivan Gulman

Yakov Mudrenko



Fyodor Korshuk



## May Day in Czarist Russia

By Andrei Ivanov

Former worker at the Putilov Plant in St. Petersburg  
(now Leningrad)

**I** GREW UP in one of the working-class districts of St. Petersburg, near the Putilov Plant, where my father worked as a forgerman for half a century. I also went to work there like hundreds of other boys my age.

For people who lived beyond the Narva Gate life was hard—the working day dragged out to eleven hours with little to show for it in wages. Families lived in barracks and tumble-down shacks without plumbing or any other convenience. There was no medical service worthy of the name, and epidemics carried off thousands of people every year.

The Putilov workers were down on the police records as rebels against the czarist regime. It was in our district in 1891 that May First, the day of international working-class solidarity, was first celebrated in Russia. I was a baby at the time, but I later heard stories about the way our people gathered secretly in a wooded spot near the plant, listened to speeches that recalled the Haymarket demonstration of the Chicago workers, and sang revolutionary songs.

Subsequently I read one of these speeches printed as a leaflet. It said, “. . . We are only beginning—illegally it is true, but even this is very good—to observe this holiday which our brothers in the West have long been enjoying. Happiness is always hard-won, as we can see by the experience of our brother workers in the West. They already have power and freedom—a part of what goes to make happiness—but they paid for it with their own blood.”

The first May Day I remember was in 1895. Not to come to work on May First was altogether out of the question. It meant immediate dismissal and, very likely, arrest and banishment from the city. It was therefore decided that the holiday would be observed on Whit-sunday, when the plant was closed. Instead of holding an open demonstration in the streets—we were still afraid of doing this—our families poured out of the barracks and shacks with baskets of food as though going off to picnic in a park nearby. The procession looked quite peaceful, and the May Day rally went off without arousing any suspicion.

But there were times when things did not go off quite so well. As the workers pulled closer together and became more active, they were less afraid. I remember how the czarist officials arrested my cousin Nikolai, a forgerman like my father, when he climbed onto a shop roof and threw down leaflets urging everyone to join the May Day demonstration. Nikolai was taken away, but his place was filled by others who did the same thing.

I especially remember the May Day of 1912. We came to the plant as usual but did not do a stitch of work. We waited for the first column of marching workers to come out boldly and openly on the street with red flags unfurled. We knew that the police had been hiding on the plant grounds since the evening



before, but we also knew that they were afraid of us here in our own territory. The marching column stopped at our boiler room and waited for the other workers to join. May Day leaflets floated down on the crowd.

We had hardly passed through the plant gates singing when the mounted police came thundering down on us. But it was not so easy to disperse a crowd of 10,000. We headed for the center of the city to merge with columns of workers from other districts who were marching through the city just as our brothers were in London, Paris and Berlin.

I talk about those days to my grandson and to other children who ask me to speak at their school. To them the stories must sound like legends; to me they are chapters from my life.

There was a history teacher I had when I was a child who used to say, "This you won't find in the textbooks, so I'm telling it to you, but keep it under your hat." And what he told me was revolutionary—that there were many plain working people in the world and that no matter what the color of their skins were or what language they spoke, they all wanted peace and a decent life.

I rose from shop worker to engineer in charge of the construction of power stations.

The October Socialist Revolution gave all of us Russian working people the chance to live freely and happily, to study, and to rub shoulders with the whole world.

## May First, 1920, in Odessa

By Yakov Mudrenko

Assembly Shop Foreman, Odessa Crane Works

**I**T WAS MORE than forty years ago that May Day was celebrated openly and freely for the first time in my native Odessa. It came after the barricade fighting of 1917 to win Soviet power for the city and the bitter years of Civil War that followed.

During those troubled times our plant changed over from its peacetime work of repairing locomotives and railroad cars to the production of armored trains. Many of our workers boarded these trains for the Civil War fronts to defend the country.

There were grim battles with numerically stronger local counterrevolutionary and foreign interventionist forces. The defenders of the young Soviet state were forced to withdraw from the city. But finally the occupation forces were driven out of Odessa and the whole of the Ukraine.

It was this victory that was celebrated on that first free and jubilant May Day in 1920. I was still young at the time but I remember it well. The streets were thronged with marchers. Crimson banners and streamers waved above the surging crowds of factory workers, soldiers and sailors. The inscriptions on the streamers appealed for working-class fraternity. The same sentiments were expressed in the speeches and in the songs of the marchers.

The appeal brought to mind the great "Hands off Russia" movement in Britain and similar demonstrations of solidarity by the workers of other countries.

The May Day parade went on till nightfall. And the next day practically all the marchers came together again at the seashore. Brass bands blared, actors performed on improvised stages, and people sang and danced. The Black Sea coast had never seen so gay a holiday, such great numbers of people celebrating.

The workers in our plant follow in the great tradition of these predecessors of forty years ago who built armored cars and used them to defend the country. Our job, fortunately, is to produce for peace; we make cranes that are used everywhere in the country, in distant Siberia on the construction site of the Bratsk Hydropower Station, on housing and school building sites in Moscow, Leningrad and a hundred other cities.

But the slogans our May Day posters carry are not essentially different from those of four decades ago. They still call for working-class solidarity, friendship of peoples and universal peace.

## May Day in Wartime Stalingrad

By Ivan Gulman

Grinding-Machine Operator, Stalingrad Tractor Plant

**T**HE MAY DAY I especially remember was in 1930. I had left my native town of Nikolayev in the Ukraine to come to Stalingrad, where the first tractor plant in the country was being built. Peasants united their small holdings into collective farms and were waiting for our machines.

In that May Day parade through Stalingrad's main square I marched with people who came from various parts of the country and even more distant places. I met some American workers who had come to the Soviet Union to help us build the big plant. We got the first tractors rolling off the conveyors in July 1930.

I met a girl at the plant and got married. Our lives moved along quietly until the Nazis attacked our country.

May Day 1942 was one to remember. Our troops had pulled out of Kharkov, and Stalingrad was threatened. We worked all day and drilled with a volunteer corps at night. There were 125,000 of us in the Defense Corps. When the fighting reached the edge of our city, I was assigned to a unit with orders to demolish the equipment at the tractor plant. You can imagine how I felt while I was waiting for the order to blow up machine tools I myself had built and serviced.

Happily, the regular army troops and the volunteer corps kept the enemy busy, and while the battle was going on we dismantled the equipment and packed it off to Western Siberia. We set up the machine tools on the ground under the open Altai sky thousands of miles from Stalingrad, and a few weeks later had the plant rebuilt and the first tanks lumbering out.

We were back in Stalingrad for the May Day after that heroic defense that turned the course of the war. This was in 1943. The faces of the marching people were hard as they stared at the war-gutted city. Not a single

building or factory stood intact. That year, once again, people came from all over the country to rebuild the fortress-city on the Volga.

By the time the next May Day came round, many of the shops at our plant were beginning to turn out tractor parts. In July 1944 the machines rolled off the conveyors again. Two years later the city's industry exceeded its prewar level.

I march with the tractor plant contingent in the May Day parade. I am still working there as a grinding-machine operator and regard myself as an old-timer of Stalingrad. It is a wonderful city, with the glittering windows of its new houses, its big squares and wide streets. Steel and aluminum are produced here, and an endless stream of tractors roll off its conveyors. The city awakens on May Day to hail the paraders and sing praises to the holiday of spring, labor and proletarian brotherhood.

## A Common Goal

By Fyodor Korshuk

Worker at the First of May Machine-Building Plant in Moscow

**O**N MAY DAY we file out of our plant with banners unfurled and a brass band leading the march through the gaily festooned and crowded streets of Zamoskvorechye to Red Square, the heart of Moscow.

All of us, young people and veteran workers, march side by side, symbolizing the unity of the generations moving toward a common goal. Opposite the Kremlin walls our column joins others to form a mammoth procession of hundreds of thousands of working people.

We salute the leaders of our government standing on the platform of the Lenin and Stalin Mausoleum and the guests in the reviewing stands on either side who have come from many countries to celebrate the holiday with us.

May Day belongs to the working people of the world. The slogans we proclaim are those all countries subscribe to—prosperity, peace and happiness for everyone. It is a day when my thoughts turn to young people like myself in other lands, wondering what they feel and think and hope.

I am 26 years old. My native village was plundered by the German invaders in the last war and many of the villagers killed. My parents, who were collective farmers, managed to escape, but they died from the war's effects and left me an orphan while I was still very young.

The state took care of my upbringing. I went through secondary school like everyone else. Now I'm working as a heat treater in a plant that makes machines and equipment used in artificial fiber plants, and evenings I study at a gas-welding school. I hope to qualify as an expert in that line very soon.

I am married and have a son. He's a little too young to be marching yet, but he'll be watching the parade on TV and perhaps catch a glimpse of me carrying a poster that calls for a peaceful world.



# COUNTRY OF FULL EMPLOYMENT

By Mikhail Sonin, Economist

**YOUNG PEOPLE** growing up in the Soviet Union find it hard to imagine a time in the country's history when able-bodied men and women were declared "in excess" because there was not enough work to go round. Today's high school or college graduate assumes as a matter of course—more than that, as a matter of right—that there is a job waiting for him, one for which he is trained and one in which he will be able to use his training productively for himself and the community. He takes it for granted—also as a matter of right—that there will be a job for him just as long as he is willing and able to work.

This great blessing—a guaranteed job for everyone—is more than an edifying theory, it is a fact of Soviet life. It took a decade and more of socialist planning and construction to build the solid economic foundation on which this fact rests.

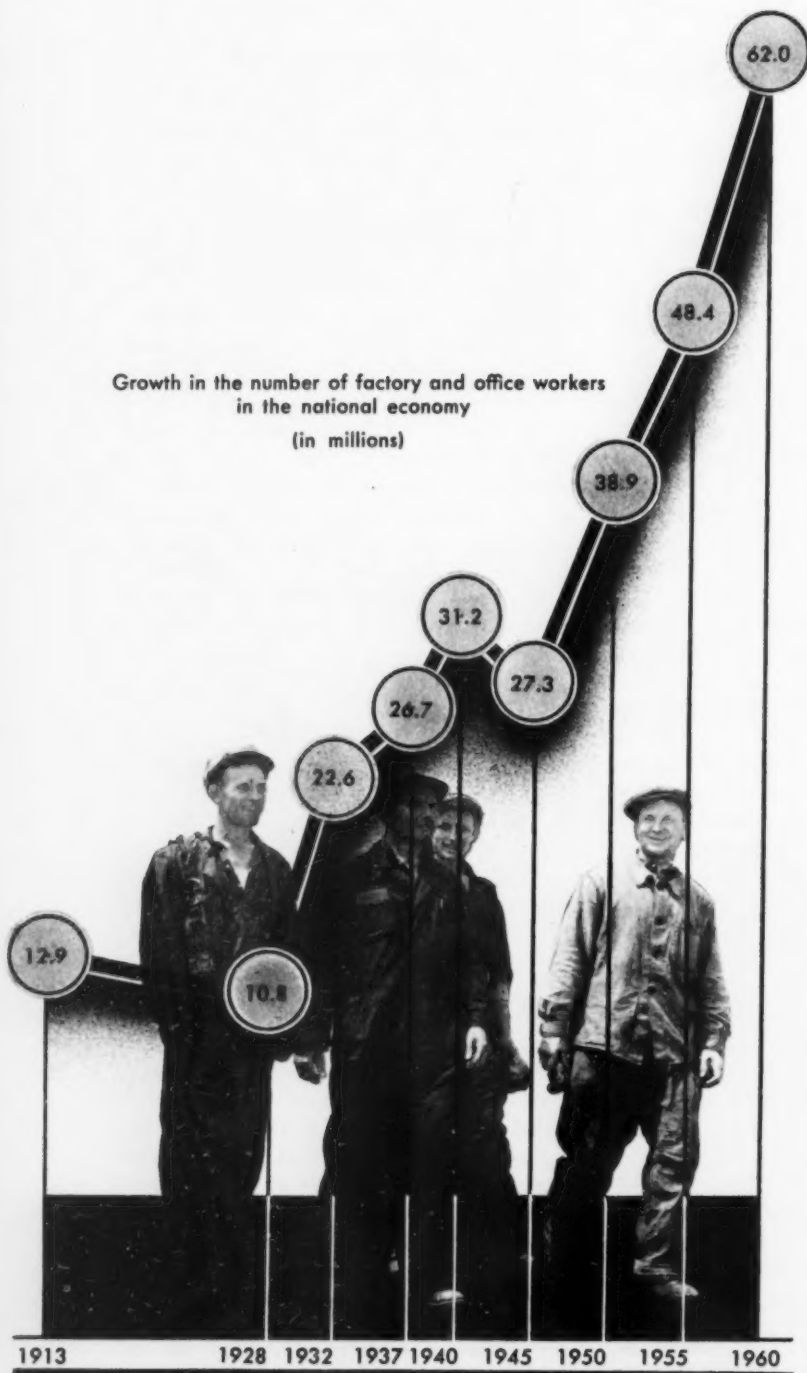
The right to work and to fair pay for that work was proclaimed by the Soviet government very early. In March 1919, when the Civil War was still at its height and interventionist armies were ravaging the country, the Eighth Congress of the Communist Party defined the young nation's economic aims—planned socialist development and the full and steady employment of the whole of the able-bodied population. The program called for the maximum utilization of all manpower and for its most effective distribution and redistribution geographically and among the branches of the national economy.

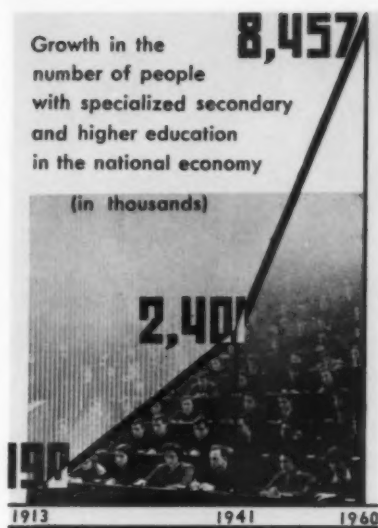
But long and difficult years lay between this declaration and its translation into life—a period during which the Civil War was ended, the country rebuilt and the remnants of capitalism eliminated. In the years following the Civil War, unemployment reached large proportions but not as a result of overproduction and resulting crisis; this is ruled out by socialist planning. The country's economy and transport had been virtually ruined by the First World War and the Civil War—this aside from the generally low level of the industry inherited from czarist times. There was also this contributing factor—in 1921 when the Soviet Republic embarked on its program of peacetime construction, it cut its armed forces by 90 per cent, and the economy could not immediately absorb this vast reserve of manpower.

At the beginning of 1928 there were still 1.5 million unemployed. The jobless registered at government employment offices and received subsistence unemployment relief until work was found for them.

Toward the close of the twenties, with the first five-year plan, large-scale economic development got under way. New industries were set up, with concentration on heavy industry, machine building and other basic areas. New manufacturing centers sprang up, particularly in the eastern and southern parts of the country—the Urals, Siberia, Central Asia and Transcaucasia. And new railroads and highways were built. Beginning with 1929 Soviet peasants in large numbers began pooling their small holdings into large collective farms that could use the tractors and other farm machines being produced by the new factories. This speedy economic growth created a great demand for labor. Some three million workers, skilled and unskilled, were added to the country's payrolls in 1928-29. By October 1930 the number of unemployed had dwindled to 200,000 and by the end of that year they too had been absorbed. Since then there have been no unemployed. The registration offices were shut down and the item "unemployment relief" was dropped permanently from the state budget.

Growth in the number of factory and office workers in the national economy (in millions)





### Unlimited Employment

Expanding production and mounting consumption makes full employment not only possible but mandatory. Since there is no fear of overproduction in a socialist economy, there need be no limit set on the number of those gainfully employed. The more workers, the more commodities produced. The more produced, the more commodities and services available to the worker and the higher his standard of living. Economic planning makes it possible to predict accurately the upcoming labor requirements of the various sectors of the economy and to make full use of the country's manpower. There is plenty of room in this ever-expanding economy to give everyone the kind of work that interests him and for which he is qualified.

The number of factory and office workers keeps rising. In 1932, at the end of the first five-year plan, the figure was 22.8 million; by January 1, 1961, it had mounted to more than 62 million.

Along with the larger number employed has come a rise in labor productivity as the result of scientific and technological progress and the improvements in machines and manufacturing processes suggested by literally millions of shop workers. Since 1913 industrial output has multiplied by 45 times, and the number of workers gainfully employed has increased roughly sixfold. The economy keeps expanding, with unemployment and crises ruled out by these two fundamental and related socialist ingredients—planning and production for use.

### Constitutional Guarantee

In 1936, with the country well along with its industrialization program and unemployment a thing of the past, the following article was incorporated into the new Constitution of the USSR adopted that year:

"Citizens of the USSR have the right to work, that is, the right to guaranteed employment and payment for their work in accordance with its quantity and quality.

"The right to work is ensured by the socialist organization of the national economy, the steady growth of the productive forces of Soviet society, the elimination of the possibility of economic crises, and the abolition of unemployment."

The citizen's job rights are protected by his trade union. A worker cannot be discharged without the consent of his trade union. In every industrial and commercial enterprise there is a grievance committee composed of equal numbers of representatives from trade union and management to settle worker-management disputes. Should the grievance committee fail to reach a unanimous verdict, the case goes to the trade union committee. Its decision, in the large majority of cases, is final; only in rare instances are such disputes brought before the people's court.

### Automation and Employment

Communism has always maintained that the prime requisite for building the new society is technical progress. Without a continuously progressing technology a society providing an abundance of material goods for everyone cannot be built.

Automation, therefore, is playing an increasingly greater part in

raising Soviet labor productivity. Everybody has made automation his business—not only industrial managers. Workers, trade unionists, professional people, scientists are all interested in seeing plants automated.

In the Soviet Union automation does not lead to unemployment. Those whose skills are displaced are retrained, usually while their jobs are being automated; others, no longer needed at the particular process, are transferred, with their consent, to plants that need their skills. With thousands of new factories, mills, power stations, mines and other types of enterprises opening up every year, there is no job problem.

Economists estimate, for example, that during the seven-year-plan period, automation will be displacing about 100,000 workers and specialists in iron and steel and in machine building. Every one of them, however, will find jobs waiting in other plants that can use their special skills. Those who prefer to learn new trades do so at state expense. While learning they are paid a sum equal to their average earnings on the last job.

Factory and office workers who take jobs in other towns or in distant parts of the country get their fare paid—as well as the family's—and are granted a long-term loan to get set up in the new place.

The rising employment totals are true not only for industry and agriculture. Stores, hospitals, laboratories, schools—all keep calling for skilled people. So far as management and administration are concerned, these fields of work, too, are being streamlined continuously with no resulting unemployment. The clerical workers and managers displaced are either transferred to different enterprises where their skills can be used or are taught new trades or specialties.

### Planned Education

Since production is carefully planned for a long period ahead, the state knows in advance how many workers will be needed in specific fields and what vocational training they will need.

The Soviet Union has a well-organized vocational school setup composed of trade schools, factory apprentice schools, farm mechanic schools, etc.—all free. They have trained many millions of qualified workers and industrial managers in the past twenty-odd years.

Vocational school graduation does not represent the total schooling of most young workers. The large majority go on to evening or correspondence schools or colleges to improve their qualifications. Plants, too, train skilled workers at courses given at the plants proper; the teachers are engineers, foremen or highly experienced workers.

An important part in supplying all branches of the national economy with qualified workers is the law passed at the end of 1958 relating the school more closely with life. This emphasis will make for a decided rise in the number and the quality of specialists as time goes on. In the 1959-1960 school year some 10,000 high schools gave their upper-grade students vocational training in one of the 800 skills required by industry, agriculture, transport, communications, construction, commerce, science and the cultural fields. Ninety per cent of the 1960 graduates left high school with a trade qualification certificate in addition to a diploma.

This year the trade schools, factory and workshop apprenticeship schools, farm mechanic schools and other training schools will be combined into unified city and country vocational schools.

# SKILLED HANDS NEEDED EVERYWHERE

By Nikolai Galagan  
Mechanic



**T**HIS IS the 53rd time I am celebrating May Day. I'm 70 years old, retired and living on a pension.

My father, a poor peasant, had eleven children to take care of. My education consisted of three years in a village school, after which my father sent me to a city trade school. "The land can't feed us," he told me. "Maybe as a worker you'll be able to make a better living."

When I finished the trade school at 14 with a certificate as mechanic, the foreman there told me, "With your hands, my boy, you'll always be able to earn a living."

I had reason to doubt what he said as soon as I started to look for a job. Outside of two flour mills, there was no industry in my native town. I therefore decided to go to Vladivostok where my elder brother lived. He promised to find me a job in one of the marine shops. That was how I began to roam all through Russia looking for work. I've been everywhere. I know the country as well as I know the fingers on my hands.

In the early years of the century the cost of living in Vladivostok was terribly high. And the low wages we mechanics got were cut even more by all the czarist and church holidays when we had to be idle. In a good month I made 30 rubles. That was hardly enough to pay for tobacco, as we used to say. I had to spend 25 rubles of it for food and a place to sleep.

But I was only 18 years old, in good health, and not easily discouraged. I was a worker and had a trade, I told myself. If I couldn't make a decent living in Vladivostok, I'd try some other place.

That summer I got a job as a mechanic on a boat that cruised along the Amur. But then winter came along and all river traffic stopped.

And again I heard those terrible words, "There's no work."

When I was paid off, I went to Chita in the East where I was told there were big railway shops. The shops were big all right, but the number of people looking for work was even bigger. At the first place I applied, the manager yelled, "Go back where you came from. There's no work for you or for anybody else. And there isn't going to be any. The way it looks I'll soon have to be firing the ones I have."

That spring, just before I left Chita, I went to a May Day celebration with some railroad workers. Many of them were in the same situation as I. In those days I knew absolutely nothing about politics, but there was one thing I learned from the speeches and the talk—that there were other people who dreamed of a system where there would be work for every man who wanted it, where it would be an honor to work, and where a man would not be deprived of his daily bread and thrown out into the street when he was no longer needed.

Before I left Chita, some of the railroad workers took up a collection for me. They gave me three rubles. "Maybe you'll have better luck some place else finding a job," they said. They understood what it was I felt; they knew that tomorrow they might be in my shoes. The volume of freight kept dropping and each drop meant more layoffs.

I went to the Donbas to look for work in the mine shops but without any real hope. After a time I was lucky enough to get a job. I worked hard, did my best, but that didn't help. One spring day we were called into the office and laid off.

That was the beginning of another one of the economic crises that plagued czarist Russia.



Production dropped and less coal was used, so less coal was mined. That summer the mines closed down completely. Thousands of workers were fired every day.

Even more terrible than the fact that we were always faced with hunger, that we lacked the simplest necessities, was the bitter feeling that we were of no value to anyone, that there was no place for us. I began to feel hopelessly pessimistic about life, about justice, the possibility of anything ever being different. Even when I managed to land more or less permanent work in the Caucasus, the feeling stayed with me.

This was in a locomotive repair shop owned by a German by the name of Heinrich Land. He paid me a ruble 40 kopecks a day. Food didn't cost much in that part of the country, and in a couple of months I was able to save some money and buy myself a cheap suit. Things began to look a little brighter, but not for long. If a locomotive was brought in for repair there was work, and if not, I would be told to take a few days off and come back. If I didn't come back, well, they wouldn't put themselves out looking for me.

So I began roaming around Russia again. I worked at a cement plant in Novorossiisk, then repaired old automobiles at a Moscow factory that belonged to a man named Gustav List.

In Moscow I finally landed what I thought was a wonderful job with an engineering outfit by the name of Weber and Co., for which I repaired steam and diesel motors in a textile mill owned by the Isayev brothers. I had a fancy title, "Chief Assembler," and made 50 rubles a month. The trouble was that when I finished one assembling job, two or three endless and moneyless months would pass before I got another.

When this began to happen so frequently that I was hungry more often than not, I went off to look for work elsewhere. To make a long story short, that was the way things went on until the First World War. Then came the army and then the Revolution. After that everything was different.

When the Soviet government was set up, all these old troubles faded away. The factories passed into the hands of the people, socialist planning was introduced, and after a time unemployment was ended for good.

After the Revolution I worked for a long time at the Kolomenskoye Locomotive Works, and then after World War II I helped to rebuild the diesel engines of the railroad power plants that had been destroyed by the fascists. I also worked on the construction of the Moscow-Saratov and Dashava-Kiev gas pipelines.

My hands were needed everywhere. I no longer had to worry about earning a living or feel depressed because my skills and experience were being wasted. The only problem I had was to choose from among the many jobs I was offered that one at which I could learn the most or that would give me the most satisfaction.

It is probably hard for the younger people who have lived all their lives under socialism to realize what May Day means to people like myself who spent half their lives in czarist Russia wandering from place to place in a fruitless search for work.



### A SOVIET WRITER ON HIS AMERICAN TRIP

Soviet writers Konstantin Simonov, Vera Panova, Yelena Romanova and Eduardas Mezhelaitis spent a month in the United States recently. In Washington, New York, Buffalo, Springfield, Massachusetts, Chicago, Boston and New Orleans they met American novelists, poets and playwrights.

In reply to our reporter's question, head of the delegation Konstantin Simonov gives his impressions of the tour and describes the work he has in progress.

QUESTION: As a result of your trip, what would you say American and Soviet writers and workers in other cultural fields could do to promote better understanding?

ANSWER: One of the best ways to learn about a country not your own is through its books. I think a very good beginning for promoting better understanding would be for American publishers to get out as many modern works of fiction by Soviet authors as our publishing houses do by American writers. To match us they would probably have to publish about ten times as many books by Soviet writers as they do now. And if they do better than that, I'm sure nobody would be offended.

As for the role writers can play, I don't know what the situation in the United States is, but writers in our country have quite adequate ways of influencing publishing houses,

and I can foresee no difficulty in getting them to put out even more modern American literature than they do now.

I was very much interested in meeting several American poets and especially glad to talk to Robert Frost. This personal contact and direct exchange of opinion is invaluable. We would be happy to have American poets come to our country for our traditional Poetry Day, when hundreds of poets read their verses in lecture halls and bookshops and tens of thousands of volumes of poetry are sold in one day. I would be glad to do whatever I could to arrange such a visit.

QUESTION: What are your plans—creative and personal—for the immediate future?

ANSWER: My war novel *The Living and the Dead* is to be published in an American edition this year by Doubleday. I plan to spend this year and the next on another war novel based on the events of 1943. Since I write poetry also, I would like to work on an anthology of modern American verse in Russian translation. That means I have to spend at least six hours a day at my desk.

On the personal side, I want to do more reading and give more time to my two very young daughters who, I suspect, are not nearly as much interested in a war novel as their father is and would probably like me to write on pleasanter subjects. But we must do whatever we can to make sure that war does not break out again. We who participated and lived through it must show readers war as it really is.



# FROM TO



Every person in this housing development, infant to nonagenarian, commands a diversity of medical, educational, recreational and cultural services for which the state foots the bill.



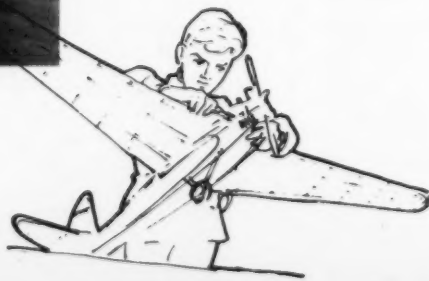
This Children's Polyclinic is just a short way down the street.



This is one of the three schools within close walking distance.



The local Pioneer House for the youngsters of the neighborhood.





# MCHILDHOOD OLD AGE

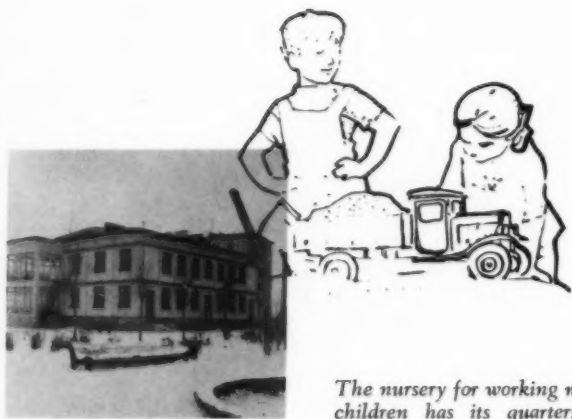
**N**O. 8 IVANOVSKAYA STREET in the Nevsky District of Leningrad is one of many thousands of new apartment houses the city has built since the war. It has 560 apartments of one, two and three rooms. The tenants are metal workers from the Lenin Nevsky Machine Building Works and the Bolshevik Plant, textile workers from the Krasnaya Oborona and Rabochi Mills, people from a nearby meat-packing plant and, of course, building workers—the city keeps building all the time, and you find construction workers living in every one of Leningrad's residential districts.

The House Register for February indicates that the youngest resident of No. 8 is 21 days old, the eldest 91 years. Every person in this house—infant and nonagenarian, wage earner and dependent—has at his command a diversity of medical, educational, cultural and recreational services paid for by the state.

Every District and City Soviet in the country has a portion of its yearly budget earmarked for the building and maintenance of schools, kindergartens, maternity centers, nurseries, clubs, libraries and a variety of other facilities. In 1960 the Nevsky District Soviet spent 88 per cent of its budget on education and public health alone.

### The Youngest Resident

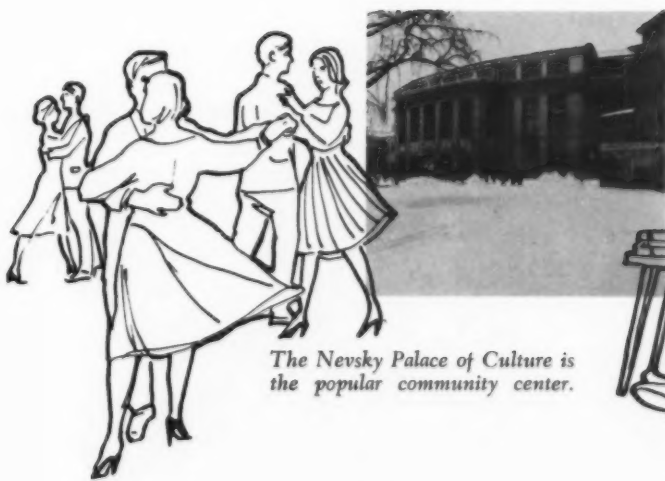
Even before our 21-day-old resident of No. 8 was born, there were various state agencies in his district making sure that he would be getting off to a good and healthy start. The expectant mother was under the regular care of a gynecologist, and at the Mother and Child



The nursery for working mothers' children has its quarters here.



The nearby Home-Service Kitchen for ready-cooked tasty dinners.



The Nevsky Palace of Culture is the popular community center.





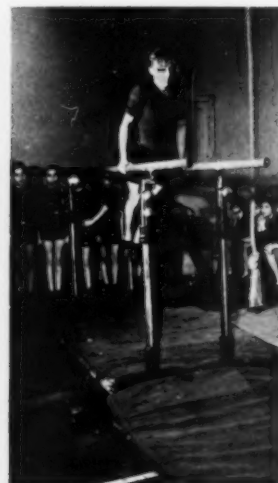


*Tenant Galina Kovaleva stops in at the Maternity Center for her regular checkup.*

*The project's kindergarten takes care of 120 children, the nursery has room for 100.*

*A future Olympic champ works out at the Palace of Culture.*

*A busy workshop for aspiring radio hams at the Young Pioneers House.*



*One of the very youngest residents of the housing project—Vova Yermakov.*

Health Center, located right there on Ivanovskaya Street, she was checked periodically by a physician, oculist and dentist. After delivery the center continued to look after the health of mother and infant.

Statistics demonstrate that child mortality has dropped to a seventh of what it was in the czarist period. Child mortality in the Soviet Union is now the lowest in the world.

If the mother of a newborn child works, she can, if she wishes, place him in a nursery when he is two months old. The state covers 90 per cent of the cost of running the nursery. No. 8 has a nursery for 100 children and a kindergarten for 120. In 1960 the Nevsky District Soviet spent 73,000 rubles for the maintenance of these two preschool institutions—for equipment, toys, food and the salaries for the teachers and medical and service personnel.

Within a short walking distance of No. 8 there are three schools—two eight-year and one eleven-year. The child starts school when he is seven, and attendance is compulsory through high school. Tuition is free. There is also a boarding school near the house on Ivanovskaya Street where children live and study during the week. Saturdays they go home for the weekend and come back Monday morning. Of the 560 families living in No. 8, the children of 26 attend the boarding school.

Soviet boys and girls leave high school with definite vocational skills. In their last two years they combine general studies with vocational training at nearby factories or farms, so that after graduation they are qualified for a trade. They can, if they wish, take a job at the enterprise where they did their practice training, or work elsewhere. There is no difficulty finding a job in the Soviet Union—in Leningrad or in any other city. Jobs are to be had for the asking.

*When he's through high school Gennadi Balder plans to work at a nearby factory and study physics at Leningrad University.*

*Many of the young people who live in the project hold down a job and study evenings.*





*A demonstration-lecture at the technical lab of the Palace of Culture.*



*Valentin Tulin and many of the other tenants work in the Nevsky Machinery Plant.*





### Some No. 8 Tenants

Let's meet some of the adult tenants of No. 8. Valentin Tulin lives in Apartment 137. He's 36, works as an assembler at the Nevsky Machine Building Plant and makes from 210 to 220 rubles a month.

Vladimir Korenkov, in Apartment 183, is 19 years old. He graduated from the seven-year school in 1958 and is now studying at an evening high school for young workers. He earns from 90 to 95 rubles a month as a lathe operator at the Bolshevik Plant.

Faina Zhukova of Apartment 25 graduated from a commercial school. She manages a school supplies and stationery store and earns 120 rubles a month.

But the living standards of the Tulin family, the Korenkov family and the Zhukov family, as well as many others, are not determined by their wages alone. Last year the Nevsky District budget allocated 350 rubles for welfare services per district worker.

No. 8 was constructed in 1956. It cost the state about 7,200 rubles to build a typical apartment, say, like the one Valentin Tulin, his wife and their two children occupy. They have a living room, bedroom, kitchen and bathroom, and their rent is about four to five per cent of their income. Rent is one kopeck a month for every square foot of actual living space. This does not include kitchen, bathroom or foyer. All expenses for repairs, as well as for landscaping, maintenance of grounds and public facilities are paid by the state.

There are some elderly tenants in No. 8—retired people whose old age is secured by state pensions granted to men at 60 and women at 55. The size of the pension depends on former earnings. Pyotr Vishnyakov of Apartment 55, for example, who used to work as a communications specialist, gets a monthly pension of 120 rubles. Ivan Kozlov, a carpenter, in Apartment 26, was retired on a pension of 65 rubles. Pension checks are delivered monthly by mail.

From cradle to advanced age the Soviet Union provides for the health, welfare and security of its citizens.

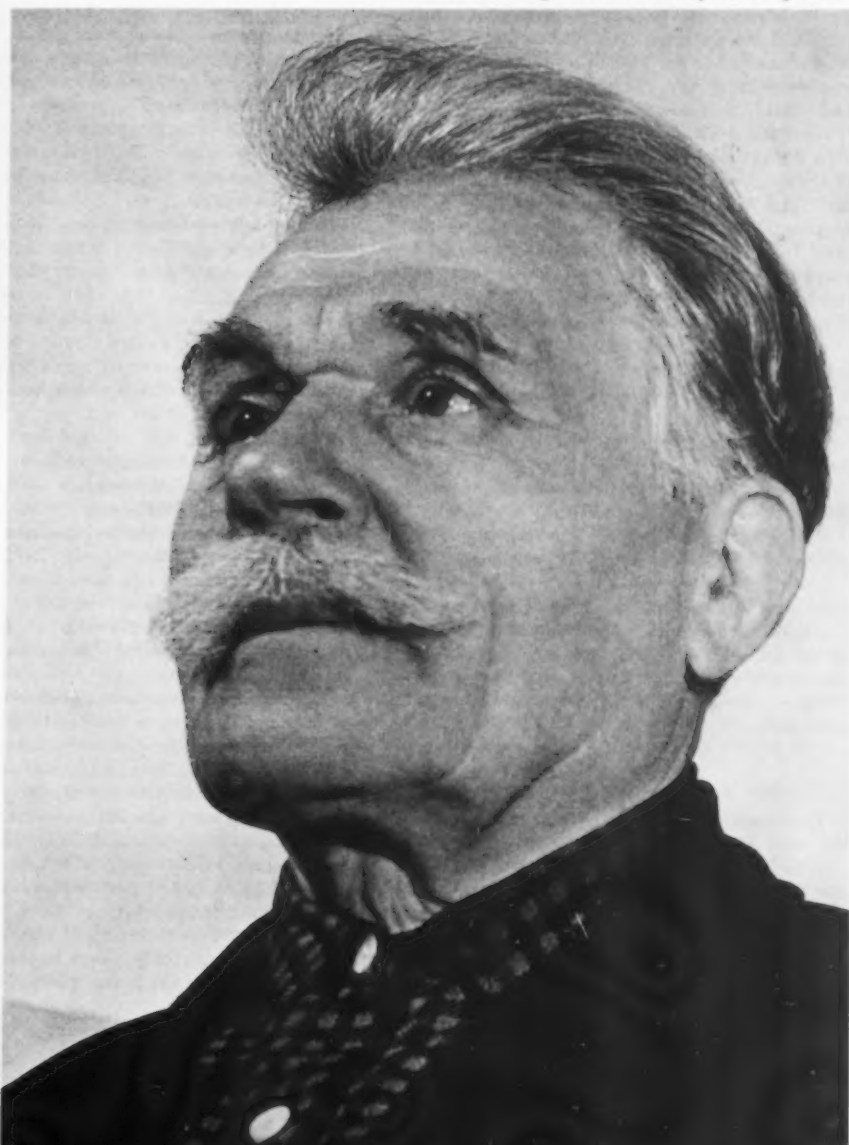


Part of the varied activity program of the Palace of Culture—a ballet class.



The 560 families in the project make up a large percentage of the local library book borrowers.

All Soviet workers get a month's paid vacation. The Tulin family spent theirs at Sochi last summer.



Ivan Ivanov is one of several retired tenants whose old age is secured by state pension.

# MAN AND NATURE



By Academician Nikolai Semenov  
Nobel Prize Winner

**O**UR CENTURY is an age of great revolutions—social, scientific and technological. Its first quarter was memorable for the October Revolution and the emergence of the world's first socialist state, the most significant social development in man's history. That same quarter-century was noteworthy for discoveries in physics so basic that V. I. Lenin characterized them as the "newest revolution in the natural sciences."

In this article I should like to sketch the progress I foresee for science—especially for chemistry and technology—in the remaining four decades of the century. When speculating on the future, it is easy to fall into error, so that I propose here to understate, rather than amplify, the possibilities. Let us keep in mind, however, that unforeseen discoveries are likely to be made.

There are four decisive factors for present and future progress:

**Power**, which multiplies man's muscular force many times over.

**Electronic Computers**, which can simplify and thus amplify man's brain activity.

**Materials**, which go to make machines, homes, clothing and household appliances.

**Food**, which is indispensable for man, the creator of all material and spiritual values.

I am not competent to discuss the second of the four factors in any detail except to note in passing that the future for computers is very bright indeed. They will augment the creative potentialities of man beyond anything we can imagine, particularly in science, technology and economics.

## Power

If we could have as much electrical energy as we need everywhere on the globe, the living standard of every person could be raised to practically any level. Today power supply the world over averages a mere 0.1 kilowatt of installed capacity per man. With so inadequate a power supply, heavy manual labor is inevitable, especially in underdeveloped countries.

Almost all the power we use comes from fossil fuels—coal, oil or gas. Under the most favorable circumstances, the efficiency of thermal power stations is no higher than 35 per cent. Thus, fossil fuels, whose reserves are great but not inexhaustible, are spent wastefully. The modern steam turbine coupled to a generator is both bulky and expensive. The problem is to create novel types of electric generators without complex components and revolving parts that will do a more efficient job of converting heat energy into electricity.

Recent findings center on two radical types of electric generators. One is a thermal ion generator (filled with cesium vapor) with a cathode heated by hot gas. The other is a magnetic hydrodynamic generator in which the rotor is replaced by a jet of ionized burning fuel. Design work on these generators is under way in many countries. The expectation is that they will raise efficiency to 50 or 60 per cent.

There is a third, and, perhaps, the most promising way of generating electricity—by means of a fuel cell in which the chemical energy of a fuel is converted directly into electricity without the intermediary of a heat engine, or a generator. Theoretically, the efficiency of the fuel cell is 100 per cent; practically, it may run as high as 70 per cent. Work on the fuel cell is well under way in many countries, and I believe that the next 10 to 15 years will see its practical application.

By far the greatest source of power, however, is the sun. The best way to utilize solar radiation would be to produce substances rich in chemical energy with it and then to convert the chemical energy of these substances into electricity. For example, if it were possible to decompose water into oxygen and hydrogen by solar radiation with a high level of efficiency, the two constituent gases could be turned back into water in a fuel cell to generate electricity.

Although this is theoretically feasible, a practical approach to the problem has not yet been found. But it is worth the concentrated effort

of scientists because reserves of solar energy are so enormous as to form a virtually inexhaustible source of electric power. The great French scientist Joliot-Curie noted that the utilization of solar energy is a much more important problem than even the utilization of nuclear energy.

As for atomic, or, rather thermonuclear, energy, it may serve as a third independent power source. Considerable progress has been made in the use of nuclear fission for power generation. The design and efficiency of nuclear reactors will undoubtedly be improved as time goes on. It is already evident that nuclear generated power can compete successfully with conventionally generated power. It is my conviction, however, that the energy derived through nuclear fission, although important, will be an auxiliary source. However, when man learns to control nuclear fusion, it will mean a revolution in power production.

The unlimited supplies of source material (water) for fusion reaction, the simplicity and safety of the production process, the fantastic power-producing capacity of this fuel, the possibility of converting thermonuclear energy directly into electricity, and the absence of dangerous radioactive wastes—all this makes nuclear fusion an incomparable source of power that can be tapped in any quantity anywhere on and, if necessary, outside of the globe. The engineering problems still unsolved are staggering. But they will be solved in time. When, we do not know. Perhaps tomorrow, perhaps not for decades.

It would not be at all unrealistic to predict that the per capita supply of power will have increased a hundred-fold by the end of this century or the early part of the next century—in other words, to 10 kilowatts of installed power-generating capacity per capita. This will be enough to electrify and mechanize all factories, farms and homes. When power generation from nuclear fusion has grown, say, 10-fold, it will be possible to control climate.

There are limits to the amount of power that can be generated from nuclear fission and fusion because of the heating of the earth. There are no limits for solar radiated power.

## Materials

This unexampled advance in power generation will make it possible to produce unlimited quantities of metals, especially aluminum and magnesium, for which there are abundant raw material sources.

But the future will be notable for new man-made materials obtained by chemical synthesis or polymerization—plastics, fibers, rubber, leather, fur, etc. Not that the weaving of cotton, wool and rayon fabrics will be discontinued. Quite the contrary. Quality fabrics, woven from a combination of natural (cotton or wool) and synthetic fibers, are more attractive, are wrinkle-proof and easier to launder.

Another case in point. Ferroconcrete will not decline in importance as the basic building material. Research into the way concrete is formed and manufacturing improvements will result in a reduced cement factor, increased strength, greater impermeability to water and resistance to erosion. The same applies to wood. Its properties will be improved through various chemical processes. Special emphasis will be placed on wood plastics. These materials, made of sawdust, shavings or paper bonded by synthetic plastics,



are strong, attractive and lend themselves readily to hot molding. They will be preferred materials for doors, window frames and furniture, and interior and even exterior building finishes.

In mechanical engineering synthetic plastics have at least as many applications as metals. In many respects their properties—resistance to corrosion and attrition, elasticity, plasticity, ease of stamping without subsequent machining—are superior. Reinforced with glass and, especially, with synthetic fibers or fabrics, plastics can be made as strong as steel and the best aluminum alloys.

In their resistance to high temperatures metals are, of course, superior to plastics. But, in my opinion, polymers will in time be superior to the best steels. The inorganic polymers of the future, flexible and elastic, will surpass the best refractory alloys in all respects.

Soviet scientists have recently synthesized a new class of polymers that have specific magnetic properties, similar to ferromagnetism but of smaller magnitude. Both in the Soviet Union and other countries polymers have been obtained that conduct current, although to an insignificant degree. Some have the properties of semiconductors. Very likely these properties of polymers will be useful in such fields as automation and electronics.

#### Food and Nutrition

Our food comes primarily from the land. Farming in our country and abroad is highly mechanized. The expanded power production I spoke of previously will make it possible to electrify agricultural production completely, to irrigate arid regions and even desert areas through pipes made of cheap plastics, and to reclaim the tundra and jungles. With cheap power in abundance, water reserves will be augmented by the simple process of desalting sea and salt-lake water and purifying waters polluted by the poisonous wastes of chemical and metal factories.

Large-scale production of thermoplastics and heat-insulating materials will facilitate hothouse and cold-frame farming. Thermoplastics will very likely be used in orchards and fields to reduce moisture loss.

I'd like to dwell on two potential applications of chemistry in agriculture. The natural evolution of vegetable species over millions of years apparently involved mutations and the natural selection of the more stable species. One is prompted to speculate whether man can speed up this process that under natural conditions takes millions of years and establish a new principle for the selective breeding of useful plants. Rappoport, a Soviet scientist, demonstrated in 1948 that chemicals like ethylenimine and ethylene oxide cause up to 50 per cent of various mutations—the majority of which have good vitality—in insects, fungi and cereals (treated with weak solutions). This obviously is only a beginning, but chemomutants merit intensive study. Perhaps research will find a subtle chemical action on plants that would make it possible to control mutations and, thereby, the properties of plants.

The second application. Increasing interest is being shown in chemical growth stimulators, notably in gibberellic acid. We are not able to use them yet so that our plants develop harmoniously. Some fruits grow very large but lose their flavor and nutritional value in the process.

When we have acquired a better insight into the mechanism of such chemicals, we will perhaps be better able to control their action.

#### The Chemistry of the Future

The chemistry of the future will concern itself with these problems, among others:

First, the cardinal problem of the chemistry of very low temperatures. Progress in low-temperature physics has led to the discovery of many fundamental properties of matter, such as the superconductivity of metals and the superfluidity of liquefied helium. Until very recently little was known about low-temperature chemistry. How do chemical reactions proceed at low temperatures? What new types of compounds can be synthesized under these conditions?

It had always been thought that low temperatures retard chemical reactions. But recent experiments of Soviet and foreign researchers have proved that in some cases very low temperatures (100° C below zero and even lower) accelerate certain reactions in solids.

Second, there is the problem of high pressures. Pressures in the range of 1,000 and 1,500 atmospheres are employed rather widely in the chemical industry. We may expect that research into chemical reactions under substantially higher pressures will lead to new and important theoretical and, perhaps, practical findings.

Third, there is the problem of high temperatures, running into many thousands of degrees. Presently the only commercial process employing this principle is acetylene generation. But the picture will change radically as soon as science learns how to control fusion reactions.

High temperatures will then be a by-product of power generation. At these temperatures all substances decompose into atoms in a gaseous state. When cooled rapidly, these systems may form a variety of useful compounds. This may, for example, be the cheapest way of combining atmospheric nitrogen into oxides for the subsequent manufacture of nitric fertilizers. It is relevant here that the power produced by thermonuclear fusion will be very cheap, a factor likely to revolutionize the chemical and metal industries.

#### The Physical and Chemical Bases of Life

Perhaps the most significant problem confronting science is the chemical explanation of the transition from inanimate to living matter. At present we do not know enough about the properties of inanimate matter to comprehend the physical and chemical bases of life.

My opinion is that living matter has some still unknown physical and chemical properties that stem from collective interactions in highly-organized molecular structures. Progress in molecular biology and the joint efforts of chemists in many countries have given us a wealth of information about these structures in recent years. We have analyzed the structure of proteins, nucleic acids, chlorophyll, etc.

The study of these still unknown properties and their interpretation in physical and chemical terms is a vital task for the natural sciences. Only with these properties identified can we explain the mechanisms of heredity, metabolism and enzyme action and the functions of the muscles, nerves and brain.

Blumenfeld, a Soviet researcher, established two years ago that desoxyribonucleic acid

(DNA) and complexes of nucleic acids and proteins—substances that play an extremely important role in biology—have peculiar magnetic properties. No other known inanimate substance possesses such properties. Sadron of France found last year that DNA has a dielectric constant thousands of times greater than those of the known organic compounds. It is very possible that these magnetic and electric properties of DNA are related in some way.

Working on a highly fissionable yeast, Blumenfeld and his coworkers recently found that its peculiar magnetism increases tenfold while the cell is dividing and drops to a negligible magnitude when fission is completed. This relationship between a major biological process and magnetic properties points up the fundamental importance to biology of the magnetic properties of nucleoproteids.

It should be noted that the new magnetic and electric properties were found in DNA isolated from animal cells. It was therefore no longer animate matter and can, at some future time, be synthesized. The implication from this is that the new man-made polymers synthesized along the lines of DNA, but of far more simple structure and composition, may be expected to show similar magnetic properties.

Similarly, we can investigate some particular chemical function of the body, its mechanism and operating principle and incorporate the principle in commercial processes and apparatus for the chemical industry. We shall not need to simulate the complex structures of the body. We can limit our search to simpler synthetic materials and process mechanisms. Isolating a specific function in this way, we will be losing some of the versatility and subtlety of the process as it occurs in the living organism. But, on the other hand, we stand to gain in efficiency, much as we have with the electronic computer. Of course, no electronic computer has the flexibility of the brain, but, then again, it augments a million-fold the brain's faculty for computing.

To cite one example, many complex chemical reactions in the body depend for their flow on enzymes that are immeasurably more perfectly adapted for their function and bring about infinitely more complex syntheses than the catalysts used in modern chemistry. As soon as we have acquired a sufficient knowledge of the mechanism of enzymes, we shall be able to produce artificial catalysts that act on the same principle. This will certainly revolutionize the chemical industry.

The body muscles convert the chemical energy of food consumed into mechanical work with an efficiency of more than 70 per cent—a higher efficiency than that of the turbogenerators of thermal power plants. We may learn enough from the study of the operating principle of muscles to reproduce a fundamentally new type of molecular machine—we may call it—made of specially synthesized polymers (much simpler than proteins), with a very high efficiency and the ability to execute much more refined movements than existing machines.

Similarly, study of the principles underlying the transmission of electric signals through the nerves or research into the nature of memory in the brain cells may lead us to basically new miniature computers. In other words, the progress of molecular biology and the application of its principles to conventional chemistry will enormously expand the scope of chemistry and its industrial applications.



# GUARDING THE PEOPLE'S HEALTH

By Professor Boris Petrov

**T**HE SOVIET UNION has the highest birth rate (26.5 per 1,000 persons) and the lowest mortality rate (7.3 per 1,000) in the world. In these two simple statistics are compressed forty-odd years of active and untiring care by a socialist state for the health and well-being of its people.

Almost immediately after the Soviet state was formed, steps were taken to build up the thoroughly inadequate medical facilities inherited from the old regime. In the first three years after the Revolution Lenin, as head of government, signed more than a hundred public health measures; to mention a few—the decrees On the Children's Food Reserve; On the Establishment of a Council for the Protection of Children; On Compulsory Vaccination for Smallpox; On Housing Sanitation; On the Formation of a National Public Health Commission.

These decrees and the comprehensive public health system that grew out of them were the products of long and careful thought. Much before the 1917 Revolution the Russian Communists and Lenin, their leader, had worked out the basic elements of the system of free medical services for the people now in operation in the Soviet Union.

As far back as 1903, in the program adopted by the Communist Party at its Second Congress, the Russian Bolsheviks called for an extensive and universal system to protect the health of the working people. In its very first chapter the program declared: "In order to protect the working class from physical and moral deterioration and to develop its capacity to struggle for freedom, the Party demands. . . ." Then followed a list of demands: for the eight-hour working day, the prohibition of night work, state insurance for workers, etc.

These demands were drafted into law only after the October 1917 Revolution.

## A People's Health System Organized

In July 1918 the head of the Soviet government signed the decree that instituted the People's Commissariat (now ministry) of Health. The commissariat coordinated the work of medical specialists throughout the country, organized medical schools and founded medical services of a new type—city and village hospitals, district polyclinics and dispensaries where all services were free. The state in effect declared itself responsible for the health of every one of its citizens. It took over the maintenance of all medical facilities and allocated funds from its annual budgets for the construction of hospitals, clinics and maternity centers throughout the country.

Even during the very difficult period of civil war and foreign intervention the state managed to provide the funds that made free medical service possible. By 1940 the funds allocated for public health annually had climbed past the 900-million-ruble mark (as figured in current prices). By 1952 they exceeded two billion rubles. The estimated figure for 1962 is 4.3 billion.

To complete the picture, we should add about 1.5 billion rubles spent annually by the trade unions, cooperative societies and collective farms for the maintenance and construction of hospitals and polyclinics.

The network of medical facilities covers the country. Every urban and rural district has a hospital, polyclinic, dispensaries and mother and child care centers. Each residential district has a home-visiting service. In addition, the larger industrial plants and commercial enterprises maintain their own polyclinics and other medical facilities for their personnel.

The Soviet hospitals and polyclinics are staffed by 420,000 doctors. This is one-third the number of all the world's physicians and half the number in all of Europe. The Soviet Union has one doctor for every 520 persons.

## Disease Prevention

Why so much attention to public health? Is it because Soviet people are peculiarly susceptible to disease? Obviously not, in the light of the low mortality rate. The fact is that in the Soviet Union disease prevention and working and living conditions, all intimately related, have been raised to the level of state policy.

Soviet medicine stresses disease prevention and not only accepts but operates on the basic assumption that a man's health depends primarily on his working and living conditions. Medical opinion is therefore taken into account by builders of industrial plants and housing units. Workshops, stores and apartment houses are given regular sanitation checks. There are periodic mass physical examinations. People suffering from pulmonary or cardiovascular disorders are kept under constant medical observation by special clinics.

As effective as organization of disease prevention is, it cannot answer all the problems of medical care. People still get sick, of course, so that we keep improving our therapy facilities.

Many new hospitals will be built this year and a great many of the existing ones will be expanded so as to provide facilities for treating 93,000 more patients. Our polyclinics this year will be supplied with more than 6,000 new X-ray units, with some 10,000 physiotherapy instruments and electrocardiographs. Their dental departments will be getting thousands of additional universal units. New anaesthetic apparatus, artificial blood circulation units and "artificial kidneys" have been adapted for mass production.

Disease prevention and treatment, the two inseparable facets of Soviet public health, have helped to increase average life expectancy from 32 years in Russia at the end of the last century to 68 years as of now. The natural increase of the Soviet population is higher than that in any other of the industrially advanced countries.

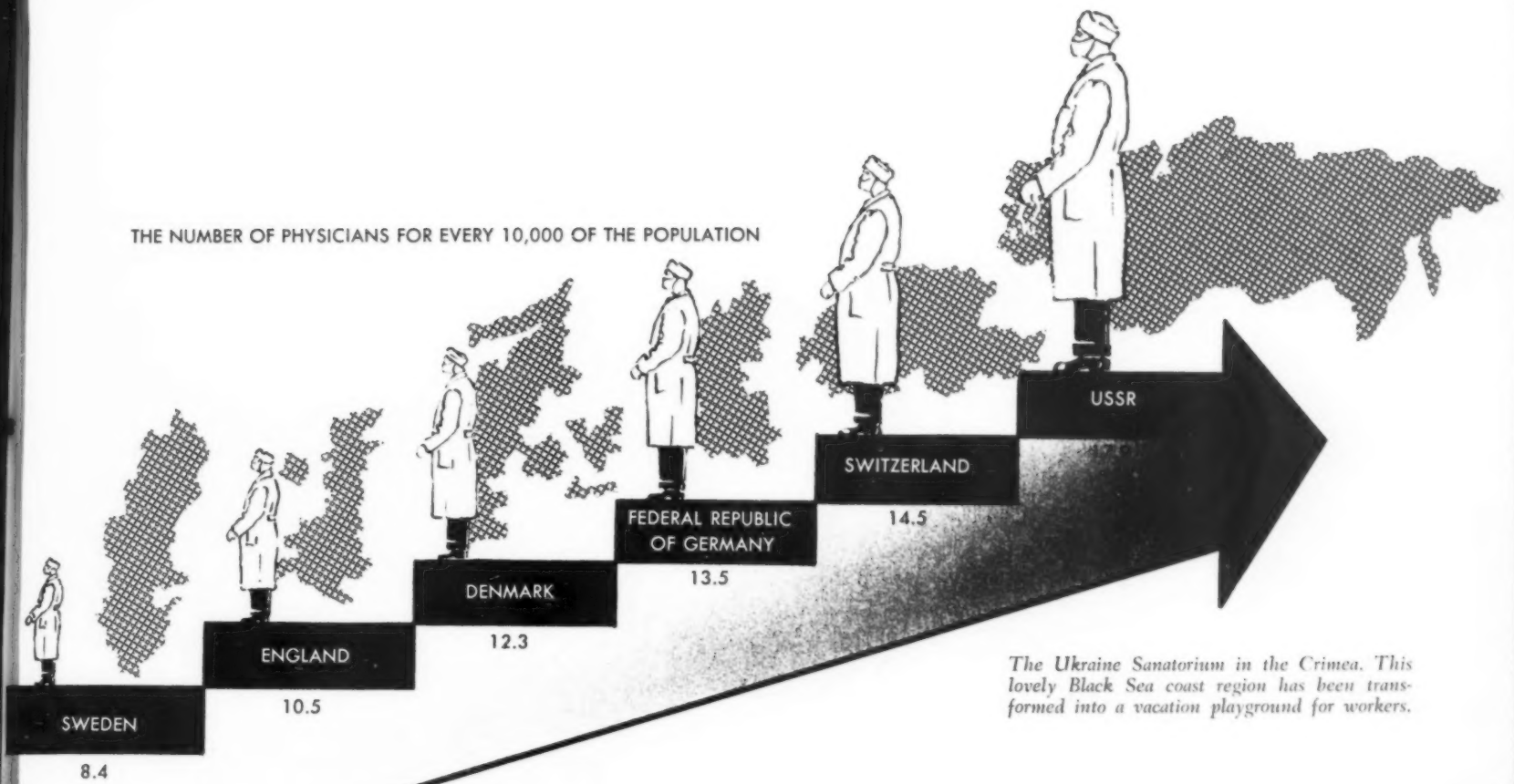
Malaria has been wiped out, and the incidence of tuberculosis and the resulting mortality have been cut by 50 per cent in the past few years.



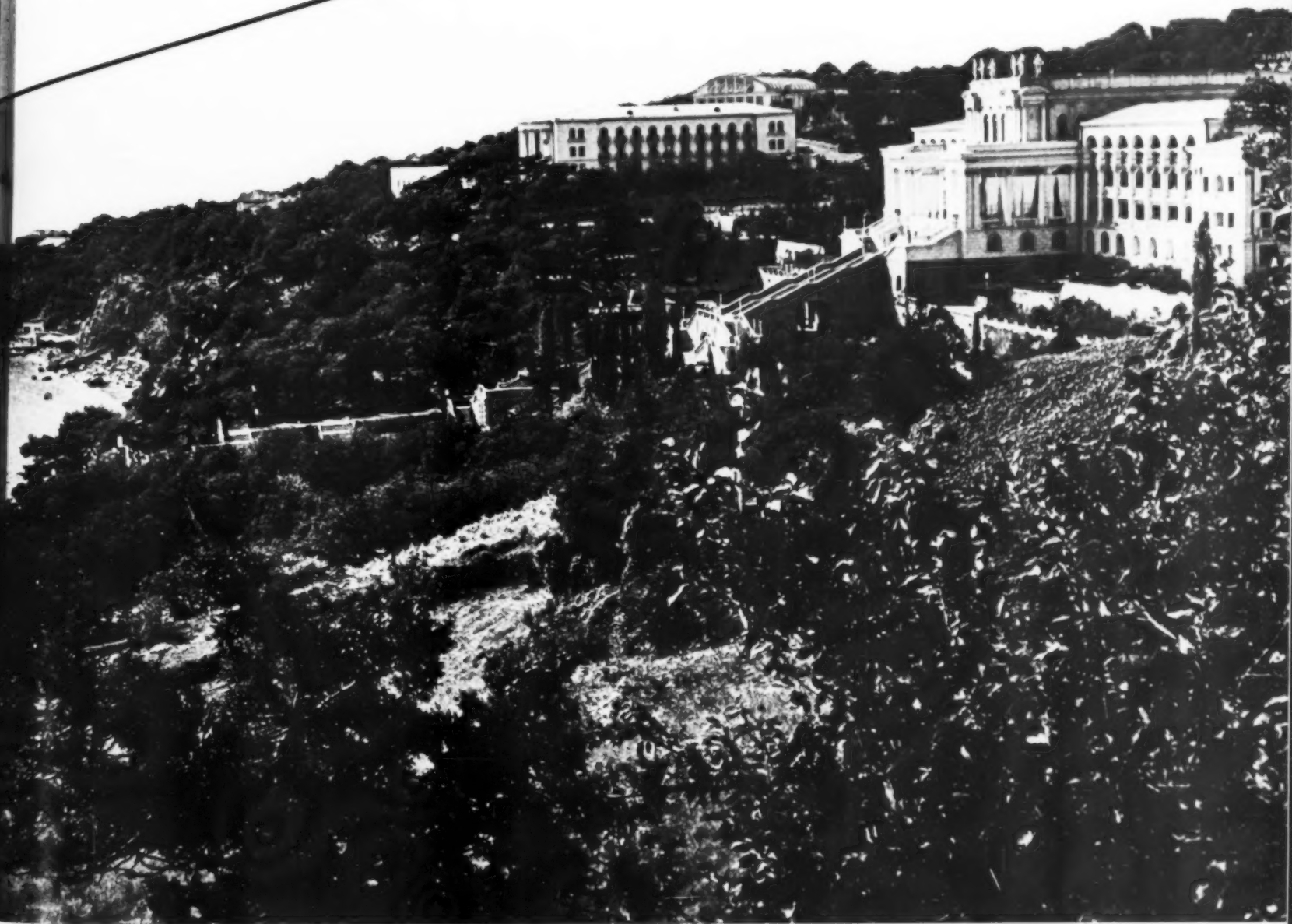




THE NUMBER OF PHYSICIANS FOR EVERY 10,000 OF THE POPULATION



*The Ukraine Sanatorium in the Crimea. This lovely Black Sea coast region has been transformed into a vacation playground for workers.*



THE USSR HAS  
1/3 OF ALL THE PHYSICIANS IN THE WORLD



THE USSR HAS  
1/2 OF ALL THE PHYSICIANS IN EUROPE



There is good reason to believe that this dread disease will also be eradicated before too long. We are successfully combating poliomyelitis and undulant fever, and the frequency of intestinal disorders is diminishing. Hundreds of laboratories and research institutes are working on such universal killers as cancer and heart disease. More oncological dispensaries are being set up where people are checked for signs of cancer; caught in the early stages, the disease responds much more readily to treatment. Special dispensaries have also been organized for regular observation of people suffering from heart disorders.

#### Mother and Child Care

For the many advances of Soviet pediatrics, obstetrics and gynecology we may credit the very elaborate system of mother and child care. Lenin declared that the legal status of women is a significant index of a country's cultural level. The Soviet state guarantees women equal rights with men and recognizes their special needs as mothers.

The decrees Lenin signed laid the foundation for the present widespread system of institutions for the protection of the health of mother and child—medical consultation centers for women and children, maternity homes, children's hospitals and clinics.

Guarding the health of Soviet women today are 27,000 gynecologists and more than 207,000 trained midwives; 55,000 pediatricians and three times that number of trained nurses specialize in children's ailments. There are 16,000 mother and child medical consultation centers and children's hospitals with 240,000 beds.

Soviet medicine has reason to be proud of a birth rate so high and an infant mortality rate so low that no other country can match them. In old Russia 273 out of every 1,000 children died before rounding out their first year of life. Only 36 out of every 1,000 infants died in the Soviet Union in 1960. The country's child mortality in 1913 was seven times higher than it is today, and even in the prewar year 1940 it was 4.5 times higher than now.

The physical development of children keeps improving year by year. Pediatricians who studied the weight, growth and chest development of newborn infants and one-year-old babies in Moscow, Leningrad and Saratov found the figures considerably higher than those for children born in Paris and London.

#### Health and Holiday Resorts

In March 1919 Lenin signed a decree nationalizing all the health resorts, and in 1920, after the Crimea had been freed of the counterrevolutionary and interventionist forces, this beautiful Black Sea coast region with its elegant spas was transformed into a vacation playground for workers.

Nikolai Semashko, the People's Commissar of Health at the time, was asked by Lenin to visit the Crimea. Semashko wrote later, "I returned to Moscow with a shining face and that evening told Vladimir Ilyich about the wonderful prospects for organizing a national health resort in the Crimea. Vladimir Ilyich listened to me with great attention and then said: 'Please, prepare a draft decree of the CPC (The Council of People's Commissars) so that every phrase will sing.'"

"That every phrase should sing"—this was Lenin's feeling about the significance of a historic decree that converted the palaces of the aristocracy and the wealthy into workers' sanatoriums and holiday resorts.

About six million people are accommodated at Soviet health and vacation resorts every year. More than 3.5 million factory and office workers get their accommodations at 30 per cent of cost or entirely free—the difference is made up out of the State Social Insurance Fund. Every year about seven million children stay at summer camps, children's sanatoriums and tourist centers and at the country places to which the urban kindergartens and nurseries are moved for the summer.

At present the Soviet system has more than 3,000 sanatoriums and vacation resorts managed by the trade unions. Only those for tuberculars and certain other special sanatoriums are still under the jurisdiction of the Ministry of Health.

The number of health resorts has been expanded to make them easily accessible. Curative waters and therapeutic muds are constantly being discovered in the Volga Region, the Urals, Siberia, Central Asia, the Far East and other parts of the country, and spas and sanatoriums built around them. These, like clinics, maternity centers and hospitals, are integral units of the Soviet public health system.

# a month in the CRIMEA

*Nikolai Kobzev takes his first walk around the lovely Crimean resort where he will be spending his vacation. The trade union is paying for his stay.*



*Quite a change from Moscow, says Nikolai. He'll be getting rest and treatment at the sanatorium.*

**T**HE MAJOR character in our photo story is Nikolai Kobzev, a 26-year-old Moscow truck driver; the setting—the Crimea; the time—vacation.

Nikolai, like many thousands of other Soviet workers, spent his vacation at this beautiful Black Sea resort area. The arrangements for his 24-day stay for rest and treatment at the Simeiz Sanatorium were made by his trade union. He paid nothing for his room, meals, treatment or the use of





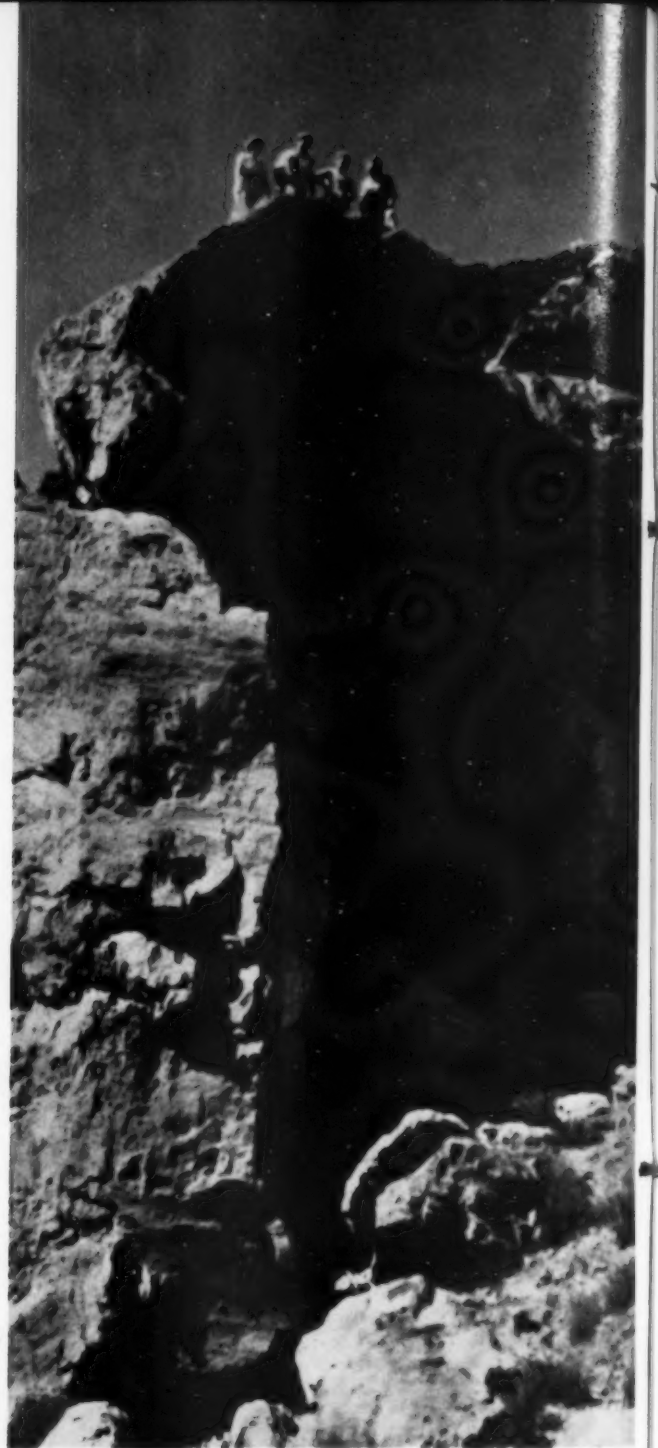
*Catching up on the year's leftover reading—a chapter or two between a swim and dinner.*

the many recreational facilities available. All charges were paid by his union out of the social insurance funds.

Workers at the lower wage levels, like Nikolai, pay nothing for resort accommodations. Others pay about 30 per cent of the cost, with the difference made up by the union.

During Nikolai's stay he visited other resorts in the general vicinity. There was one he found most interesting for its historical associations—the Livadiya Palace, where the Yalta Conference was held in 1944. The magnificent palace, which once belonged to the czar, is today a vacation playground for Soviet workers.

*Nearby Livadiya Palace once belonged to the czar. Now it's a workers' vacation resort.*





*Nikolai acquired a new nickname at the sanatorium, "The Submarine." People said he spent more time under water than on the surface. This Black Sea coast is ideal for underwater hunters.*

*Nikolai and three of his vacation friends after scaling Monakh (Monk), a peak in the neighborhood.*

*The sanatorium's prescription for Nikolai includes massive doses of sunshine, fun and good company.*

*It's quite a job fitting all the activities into a normal-size day.*



# SUNDAY EXCURSION

Photo story by Igor Sarkisyan and Igor Vinogradov

**O**N ALMOST any summer Sunday morning it looks as though Moscow were being deserted—everybody seems to be heading for the country. The squares in front of the nine railroad stations and two docks are crowded with people; and the highways, with cars and buses.

There are young men and women with knapsacks on their backs—any number of places in the countryside around Moscow for good hiking. And families with bathing suits and tackle—plenty of lovely birch groves along the shores of the Moscow River and its tributaries for sunning and swimming and, of course, fishing. Thousands of Muscovites spend their Sundays at the beautiful picnic spots near the reservoir that is called the Moscow Sea, a tremendous man-made body of water.







*There are picnic spots by the dozens a half-hour drive out of Moscow in any direction . . .*



*. . . miles of fine beaches and a practically unlimited supply of river breeze and sun.*



*For a perfect summer weekend—a couple of tents, a boat and country like this.*

*These are chartered buses headed for a picnic. On almost any summer Sunday morning it looks as though most of Moscow were migrating to the country by bus, car, train, boat and shank's mare. The city has nine railroad stations and two docks, not to speak of motor highways by the dozen. They'll all be busy.*



*Not exactly regulation — volleyball without a net—but fine to work up a sweat.*



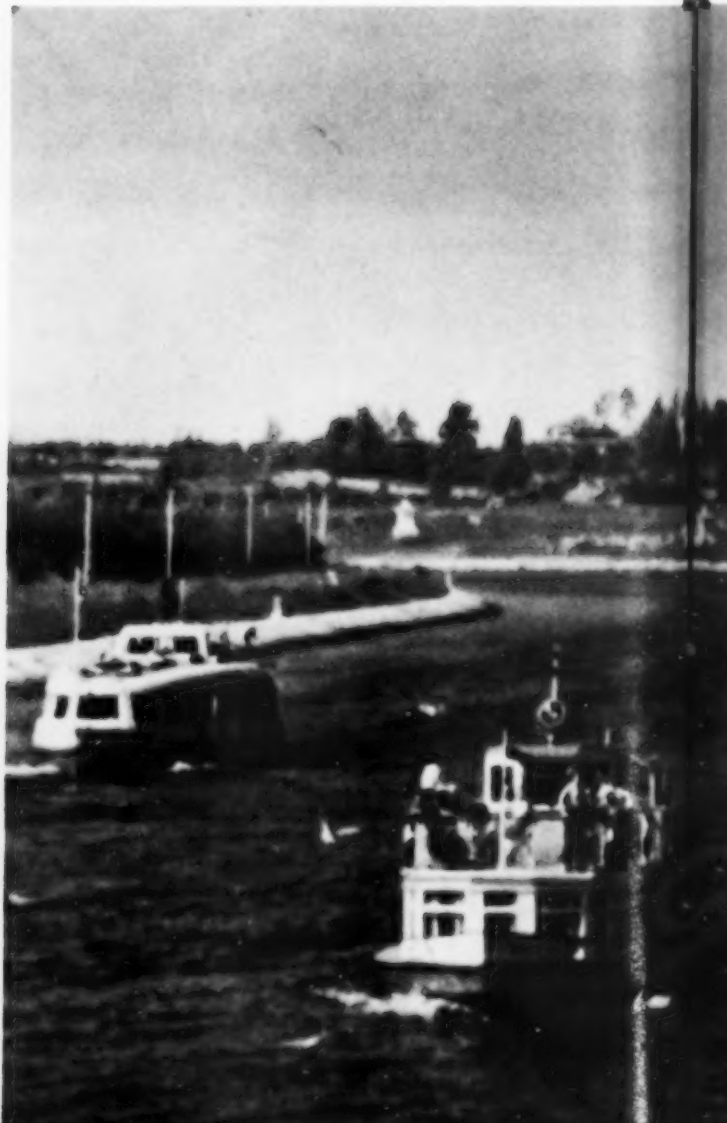
*Good sailing on the Moscow Sea, a big man-made body of water.*

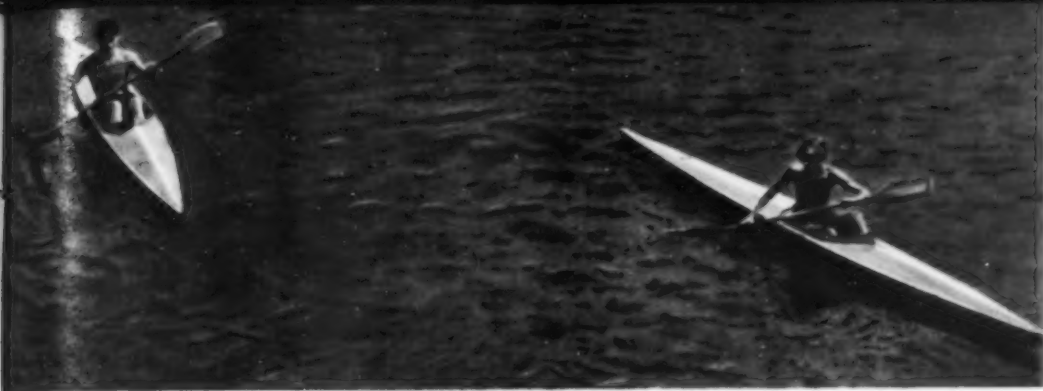


*Docks will soon give way to lovely scenes along the Moscow River.*

Group excursions are popular with Muscovites. Routes and meeting places are announced over TV the evening before. All you need do is tell the excursion guide at the station that you are coming along. Many factory and office trade union organizations arrange excursions for their members via motorship, diesel "river tram" or bus. These trips are free for workers, the union pays all expenses.

Moscow is surrounded by parks and woods forming a green belt around the city. This is a restricted zone—nothing that might pollute the air or the water of the quiet streams and artificial lakes is permitted here. Just a stone's throw away from the center of town are recreation areas replete with swimming pools, picturesque spots for picnicking, flower-bordered lanes for restful walking, and scenery as breathtaking in its beauty as any in the vast country.





*Kayaks like these are available at boating stations along the river. They are free to sports club members, others pay a very modest charge.*



*Many of the factory and office trade union organizations arrange picnics and excursions for their members. The union picks up the check.*

*These nautical trams drop picnickers at beaches and play areas along the river in the morning and pick them up for return in the evening.*





## SOVIET

# PRESS Facts and Figures RADIO

**M**AY 5 IS PRESS DAY in the Soviet Union in tribute to the newspapers, magazines and books that bring news, analyses, critical opinion and creative writing to every corner of the Soviet Union.

It was on May 5, 1912, that the first issue of *Pravda*, the working-class paper appeared. Since the Socialist Revolution it has become the country's most important daily with a present circulation of 6.3 million, a figure double that of all the prerevolutionary Russian newspapers combined.

*Pravda* is the official organ of the Central Committee of the Communist Party of the Soviet Union. *Izvestia*, published by the Soviets of Working People's Deputies, is the second largest daily with a circulation of 2.4 million copies. There are a number of other nationally circulated newspapers.

*Trud* is published by the All-Union Central Council of Trade Unions. The USSR Writers Union puts out *Literaturnaya Gazeta* (*Literary Gazette*); and the writers of the Russian Federation, *Literatura i Zhizn* (*Literature and Life*). The Teachers Union and the Ministry of Education jointly publish the *Uchitelskaya Gazeta* (*Teachers Gazette*); the cultural workers get out *Sovietskaya Kultura* (*Soviet Culture*); the workers in state and cooperative trade establishments issue *Sovietskaya Torgovlya* (*Soviet Trade*); and medical workers, *Meditsinsky Rabotnik* (*Medical Workers*). Other large circulation papers include the railroad workers' *Gudok* (*Hooter*), the water transport workers' *Vodny Transport* (*Water Transport*) and the lumber workers' *Lesnaya Gazeta* (*Lumberman's Gazette*).

*Komsomolskaya Pravda* is the very popular youth paper with a big national circulation. The Young Pioneers, the Soviet children's organization, publishes *Pionerskaya Pravda*. The collective farmers' paper is *Selskoye Khozyaistvo* (*Agriculture*); and *Sovietsky Sport* (*Soviet Sports*), as its name indicates, is directed to the very large readership of sport fans throughout the country.

There is no republic, town or village of any size in the Soviet Union without its own newspaper. Large circulation papers and magazines are issued in 81 of the languages spoken in the country as compared with the small circulation papers published in 14 languages during the czarist period. There were no Tajik and Kirghiz newspapers at all in prerevolutionary Russia.

Today the Soviet Union has 25 nationally circulated papers, 163 in the various republics, 320 territorial and regional papers, 107 in the autonomous republics and autonomous regions, and several thousand city and district papers.

This is aside from innumerable factory papers and wall newspapers. Plants, offices, colleges and laboratories in Moscow alone put out 172 printed papers and some 30,000 wall newspapers. This is a "local" press in the most direct sense.

Many of the factory and wall newspaper contributors are correspondents for the regional and national press. These tens of thousands of factory workers, collective farmers, office workers, teachers, doctors and students who double as volunteer reporters attest to the close ties between the Soviet press and public.

Some statistics:

There are 10 times as many papers now published as in the prerevolutionary period with circulation 20 times as large.

In 1954 there were 7,108 papers published with a circulation of 46.9 million; in 1959 there were 7,585 with a circulation of 60.4 million.

Soviet papers devote relatively little space to ads, which for the most

part announce store sales, plays and movies, concerts and sports events. Soviet newspapers and periodicals do not depend on advertising revenue. They get their funds from public organizations or state agencies and through newsstand sales.

Soviet newspapers are more than disseminators of local, national and foreign news. They are opinion molders. They organize public sentiment for peace and progress and serve as a democratic medium for exchange of opinions and experiences and for criticism of shortcomings.

There are 4,000 magazines published with an annual circulation of 700 million copies. Both the number and the circulation have grown markedly from 1,718 in 1954 with a circulation of 306.4 million to 4,029 with a circulation of 700.4 million.

Among those with very large circulation are the socio-political *New Times*, the trade union magazine *Sovietskiye Profsoyuzy* (*Soviet Trade Unions*), *Soviet Woman*, *Rabotnitsa* (*Woman Worker*), and *Krestianka* (*Woman Farmer*). *Fizkultura i Sport* (*Physical Culture and Sports*) and *Sportivniye Iгры* (*Sports Games*) are two of several magazines issued by sports organizations. The USSR Union of Journalists publishes a magazine of foreign affairs, *Za Rubezhom* (*Beyond the Border*). The Society of Friendship and Cultural Relations with Foreign Countries puts out the monthly *Kultura i Zhizn* (*Culture and Life*).

A number of literary journals—referred to as the "thick monthlies"—among them *Novy Mir* (*New World*), *Zvezda* (*The Star*), *Moskva, Teatr* (*Theater*) and *Foreign Literature* (translations of fiction)—publish poetry, short stories, essays and the like, including the work of beginning writers. The various arts—music, painting, the theater, etc.—have their own periodicals.

The USSR Academy of Sciences and its various branches issue a great many publications.

The Molodaya Gvardiya Publishing House publishes socio-political and literary magazines for young people, the most popular being the literary *Molodaya Gvardiya* (*Young Guard*), the biweekly illustrated *Smena* (*New Generation*), and the *Vokrug Sveta* (*Round the World*) for young geographers.

A total of 1.2 billion books was published in the Soviet Union in 1959. This exceeds the number published in any other country and constitutes one-fifth of the world's book output.

The Soviet Union prints five books per capita annually; the average world output is two per capita. Every fourth book in the USSR is a textbook.

The country's 400,000 libraries now contain more than 1.5 billion volumes. The Soviet Union ranks first in the world in translations of foreign books. According to UNESCO figures, in 1957 the Soviet Union translated 4,608 books, the United States 799 and Britain 616.

Books, periodicals and newspapers are now printed in 131 languages, including 87 of those spoken in the Soviet Union and 44 foreign languages.

After the Revolution a written language was created for more than 40 of the nationalities that previously had none. There are now periodicals and newspapers published in these languages.

Radio and television play a considerable part in keeping the Soviet public informed of domestic and international affairs. There are radio and relay stations in all cities, towns and rural townships. Broadcasts are transmitted in 64 of the spoken languages.

Television is very much a part of Soviet life. There are 86 TV centers and relays as well as 150 small relay stations, with the number growing.



# ТРУД

Орган Всесоюзного Центрального Совета Профессиональных Союзов

№ 7 (111)  
Суббота  
9 января  
1960 года  
Цена 20 коп.

## ГОРЯЧИЙ ПР

## СЛАВНЫМ АНЩИНЫ!

еся успехи

## КУЛЬТУРЕ, О КРАСОТЕ ТРУДА СТА И ТЕНИ



## НАШИ ПРЕДЛОЖЕНИЯ ГОСПЛАНУ СССР



Anatoli Blatin, editor in chief of Trud, the newspaper of the Soviet trade unions, tells about his paper's work with readers' letters.

"We devote a lot of space in our paper," the editor says, "to the work of the Soviet trade unions, to showing the various aspects of the life of workers. We strive to improve their working and living conditions, their leisure-time pursuits, medical care and social insurance, and we try to help expand production in our country and to develop culture and sports. The letters we receive from our readers give us an insight into all these problems."

Ваше предложение о создании в СССР системы страхования от несчастных случаев и заболеваний, связанных с работой, имеет большое значение. Мы постараемся рассмотреть его в ближайшее время.

Ваше предложение о создании в СССР системы страхования от несчастных случаев и заболеваний, связанных с работой, имеет большое значение. Мы постараемся рассмотреть его в ближайшее время.



## ГОРОВА

## DEAR EDITOR:

By Anatoli Blatin

Ваше предложение о создании в СССР системы страхования от несчастных случаев и заболеваний, связанных с работой, имеет большое значение. Мы постараемся рассмотреть его в ближайшее время.

## ДОСТОЙНЫЕ ЧЕЛОВЕКА ЛАБОРАТОРИИ

## Новые училища трудовых резервов





*Nadezhda Rodionova is teaching school again after Trud's help in finding medical care.*

*Trud's "Beautifying our Factories" campaign is responsible for the plants and lighting.*



**T**HE BUSIEST PEOPLE on the staff of *Trud*, the nationally circulated newspaper of the Soviet trade unions, are those in our Letters from Readers Department. They go through several good-sized bags of mail daily. One of the letters that came in not long ago—a very despairing letter—was from a schoolteacher in Kolomna, Nadezhda Rodionova. The young woman wrote that she had a serious thyroid condition, that her heart had been weakened and the doctors thought surgery was risky. She was terribly troubled because the illness had practically incapacitated her and she had two children to bring up.

How was it she wrote to us? We had run an article about the successful experiments done by a Moscow clinic with radioactive isotopes in treating the thyroid gland, cancer of the skin and certain other ailments. Nadezhda Rodionova had talked the article over with the doctors in her local polyclinic and then had written to ask us whether we would not contact the Moscow clinic and persuade it to accept her as a patient. The treatment then was still in the experimental stage and was not yet being generally applied.

Of course we did. She was admitted to the clinic and given a course of treatment. Not long afterward we received this letter which said in part: "And now I am back at my job, teaching. I am quite well, have put on weight and my heart behaves perfectly normally. I had the chance to experience the beneficent effects of the atom. I am happy to know that atomic energy can be used, and is being used, in the name of life instead of death. What a monstrous crime it is to even think of using this great discovery to destroy people rather than heal them."

We were very pleased to read this letter and thought our readers would be too. So we told them the whole story and reproduced the letter. In a way we were publishing a tribute to our scientists and physicians and to the miraculous properties of the atom used for peace.

It seems to me that the story of the letter is quite typical. We give considerable space in our paper to new developments in medicine and to the work of hospitals, clinics and other health facilities. We are always glad to applaud their good work and tell about their fine experience and achievements, but we are no less ready to criticize their shortcomings. We have a special interest there. Medical facilities in the Soviet Union are state-operated and the trade unions act, in a sense, as public overseers.

A recent development in our country is the organization in each medical institution of a council made up of representatives of public organizations. The idea, which has spread throughout the country, is to get wider participation by lay people in the management and control of health facilities. Each council functions under the guidance of a trade union body.

#### **Everything is Our Province**

Among the many questions and problems raised by our paper, improvement of working and living conditions of factory and office workers is one of the most important. It is the main subject of the letters to the editor. And that is natural, for in our country the trade unions play an extremely important part in helping to solve these problems. They concern themselves with the health and well-being of literally every man and woman in the country from birth to death.

The trade unions operate or act as supervisors of children's health centers, nurseries, kindergartens, general and vocational schools, Young Pioneer vacation camps, retail stores, the system of public dining rooms, health and vacation resorts, sport clubs and athletic fields, people's



theaters and Houses of Culture, hospitals and polyclinics, social insurance and pensions. These are multiple areas of interest of our newspaper and of the letters that we receive from our readers.

Some time ago a group of workers who were building a linen mill in Pytalovo, Pskov Region, wrote us to complain about the man who headed the construction job. This Mikhail Stepanov, they said, was acting in a manner unbecoming a Soviet executive. He was violating the labor laws, the work was being mismanaged, time and materials wasted and the basic principle of paying for work in accordance with quality and quantity was being ignored.

*Trud* immediately got in touch with the Pskov Regional Council of Trade Unions and asked that the matter be looked into at once. An investigation by the council confirmed the facts given in the letter, and the overly zealous construction head was taken to task by his superiors and warned that another violation of the labor law would mean his dismissal. At an enlarged meeting of the trade union committee with the building workers present, Stepanov admitted his errors and pledged there would be no repetition of such high-handed behavior.

Aside from remedying an unhealthy situation, letters like this serve to warn other potential violators of labor laws and teach workers how to fight against such violations in a resolute and principled way.

Articles and letters on moral and ethical questions—the communist attitude toward labor, the family, relations between men and women, public property and breaches of public order—elicit a very wide reader response. An article will be argued in a shop during lunch hour, or in a neighborhood courtyard and as a rule we will get a letter drafted at this impromptu meeting expressing a collective judgment or offering advice.

#### **"Let's Talk of Beautifying Our Factories"**

We often get a veritable flood of mail in response to an article, and, since we can't print all the letters, we publish the most representative or use extracts from several. Just as often the letters will stimulate a second article or a series of articles on the subject.

About a year ago the prominent Soviet painter Mikhail Ladur sent us a letter in which he made a very simple point—that if a man is surrounded by pleasant colors and shapes, he's very likely to do better work. Therefore, said Ladur, we should look at the colors of our factory walls, washrooms and lunchrooms; the lighting equipment in our shops; and the shapes of our machines to see how we can make them more attractive. It would pay off in productivity, he thought, and give workers a lift.

The letter, which *Trud* carried under the head "Colors and Shapes," closed as follows: "Beauty should surround the Soviet man or woman always and everywhere. Young people, trade unionists, our public organizations should see to it that the factories are neat and attractive, that they cheer the heart of the worker and spur him on to work even more fruitfully for the good of the people."

This letter brought many responses and started a rather wide campaign that we reported under the head "Let's Talk of Ways to Beautify Our Factories." Workers, architects, engineers, stage designers and painters wrote in to say they heartily supported Ladur's idea and submitted a number of concrete proposals. Some of them have already been carried out.

This movement to make our workplaces more attractive has spread far and wide. Old shops have been rebuilt and thousands of shade

and fruit trees planted on factory grounds. Decorators and artists help by creating pleasing designs, color combinations and shapes. In its own way this beautification movement serves the same purpose as automation—it helps to make work easier, pleasanter and more productive with less physical and emotional strain. We of the editorial staff of the paper are proud to be taking a direct part in this movement.

*Trud* gets many letters from readers with ideas and suggestions for improving and developing production which we print regularly. They have been arriving in especially large volume of late because workers throughout the country are trying to top their own production goals in honor of the forthcoming 22nd Congress of the Communist Party of the Soviet Union to be held in October.

We get many comments from readers on political events at home and abroad. Every accomplishment of the country in science and technology, every step forward in the national economy evokes the readers' admiration and appreciation. On international affairs the letters, without a single exception, testify to the sincere and enduring wish of the Soviet people for universal peace and friendship among nations. Every effort that helps to promote peace and progress wins their unstinting praise, every attempt by reactionary forces to push the world to the brink of war evokes their justifiable anger and protest.

#### **Our Readers Are People, Not Statistics**

One thing our editorial staff keeps everlastingly in mind is that each of these letters is written by a living, breathing person with his own ideas, hopes, wishes, joys and griefs. We handle them as individual and valued communications, and much of the newspaper's work centers in our Letters from Readers Department.

It is, as a matter of fact, the largest of our departments, with a staff of 37 writers, lawyers and clerical workers. Some of the mail gets re-routed to other departments—dispatches from worker-correspondents and comments on news and articles emanating from these departments—but the bulk of it is handled right there.

About 2,000 letters are received daily. Each one is recorded and its contents noted on a special form. Then we decide whether it can be answered immediately or whether the information, complaint, suggestion, or whatever, needs further looking into. If the paper cannot answer the query, the letter goes to an agency that can. In any case we hold ourselves responsible for the answer. The reader has written to our paper, and it is our business to see that he gets a satisfactory answer.

Last year *Trud* received more than 200,000 letters. We are pleased that our mail keeps growing—a sign that our readers find the paper stimulating. That is also reflected in our rising circulation, now at the 1.5 million mark. Besides being sold on newsstands, *Trud* is available in public reading rooms and in the lounge rooms of factories, and is posted in glass cases on the main streets of many towns for passers-by.

We are proud that *Trud* is one of the most influential and widely circulated newspapers in the country. We figure conservatively that it is read by three to four million people a day. It is published in Moscow and Leningrad and, from mats, in nine other cities and in the most highly industrialized and heavily populated centers, like the Donbas, the Kuzbas, the Urals and the Dnieper region of the Ukraine.

In February *Trud* celebrated its fortieth birthday. The most gratifying of the tributes the paper received was the extra-heavy load of mail from our readers and worker-correspondents with congratulations.

# THEY SAW *THE* *END*



## END OF THE WAR ON THE ELBE



By Sergei Borzenko  
Photos by Alexander Mokletsov



*Writer Sergei Borzenko comes from a worker's family. He began as a plumber and sent his first writing efforts to his factory newspaper. Subsequently he studied at an institute, tried his hand at short stories and magazine articles, and worked on a novel. The manuscript was lost during the war.*

*Borzenko was a well-known journalist when the war broke out. He served as a war correspondent and fought behind enemy lines during the battle for the Caucasus. He was one of a group that landed on the Kerch Peninsula and the first to step upon the liberated soil of the Crimea when the Kerch Strait was forded. He was awarded the title Hero of the Soviet Union for his part in this engagement. He also participated in the battles to liberate Sofia and Bucharest and saw the end of the war at the Elbe.*

*He is the author of many popular books about the Civil War and the Second World War.*

**T**HE PEOPLE I want to tell you about belong to our older generation. Perhaps it is because this is my generation also that these people are so near to me in spirit. But it is not only a matter of age. People are often close to each other because they have lived through a common trial that leaves ineradicable marks.

The war was such a trial for my contemporaries. It was a terrible crucible that tested the strength and courage of every man. It uprooted people from familiar surroundings, tore them away from work they enjoyed, separated them from their loved ones.

Yet when I spoke with them at the very end of the war, in the heart of Germany, after they had spent five years marching along front-line roads, not a single one of them had lost sight of his past for even a moment. They knew that they had to fight for their country's freedom and independence, but the war itself they considered a hostile force thrust upon them from outside. When it ended, a heavy and oppressive burden was lifted from their backs and they walked free and hopeful once again.

Those I want to talk about are not academicians or prize winners, nor are they the Heroes of the Soviet Union written about in the newspapers and spoken about on radio. They were ordinary soldiers and today they are ordinary civilians. They lived like plain, unassuming people during the war and after, and like everyone else had their ups and downs, their joys and heartaches, their successes and failures.

The characters in my story are warehouseman Vasili Obrastsov, architect Boris Zaritsky, carpenter Vasili Alyoshin, engineer Nikolai Rukhl-yadev, and book distributor Sergei Martynenko. They were among the first to reach the Elbe River in Germany, at the historic link-up with men from the American First Army.

I was there, too, on the green shore of the Elbe, when we met the American soldiers. In the river, like a mountain ridge that had been cleaved in two, lay what had been a beautiful railroad bridge. Right beside it our sappers were hastily constructing a temporary wooden crossing.





Boris Zaritsky has an ex-soldier's fondness for peacetime landscapes.



Vasili Alyoshin was in the Engineer Corps. Now he helps build houses.



I didn't know sapper Vasili Alyoshin then. It was he, one of our five friends, who was building this bridge of friendship across the river. Now he works as a carpenter for a Moscow building organization and often tells the story, especially when the anniversary of the Elbe crossing draws near. His friends sit around on improvised benches in a house they are putting up and listen to Vasili tell of that meeting.

Those were never-to-be-forgotten scenes that took place. American gunners embraced Soviet infantrymen, poured whiskey into their mugs. We poured vodka into theirs, clinked and drank to victory and the end of the war.

We looked on as Marshal of the Soviet Union Ivan Konyev, Commander of the First Ukrainian Front, and General Omar Bradley, Commander of the American troops, shook hands.

We talked of what we would do when that long awaited peace finally came. You could feel it in the air, like spring. Nikolai Rukhlyadev, a liaison man from a mortar regiment, told his friends from the United States how farmers in Yugoslavia and Poland who had no horses hitched their plows to Soviet tanks and turned the soil for spring planting. This was between battles, he said; the tank drivers would sing songs about peace and the girls at home as they pulled the plows across the fields.

Nikolai Rukhlyadev also had a girl friend back home by the name of Anna. They planned to get married but the war had separated them.

A few days after the American and Soviet troops met, news came of the unconditional surrender of the fascist armies. Soon after Nikolai and Vasili were demobilized and started for home. The other three men we are writing about—Vasili Obratsov, Boris Zaritsky and Sergei Martynenko—were also homeward bound at the time.

#### He Rebuilt His Family

It was spring, and the apple trees were in full bloom. At every station there were women tossing flowers into the railroad cars, music and happy speeches. The men looked forward to going home and to the work

awaiting them. They had to reclaim the soil, rebuild factories, raise cities from the ashes. The country needed millions of workers, unskilled and skilled.

Men kept getting off at one station after another. Fewer and fewer people were left in the cars. The closer the train came to Moscow, the more worried Vasili Obratsov looked. There had been little signs, barely noticeable hints and unfinished sentences in the letters he had received from home. He suspected the war had broken up his family. When the train pulled in, his children were waiting for him, but his wife was not there. She had left him.

It was a shock that it took him a long time to get over. "A time of grief for me," he said. But he had to pick up his life again. He had children to bring up—their mother had shown little concern for them—and he had to find work.

He took the month-and-a-half vacation all demobilized army men were given and then went back to his job as loader in the refrigerator warehouse where he had worked before the war.

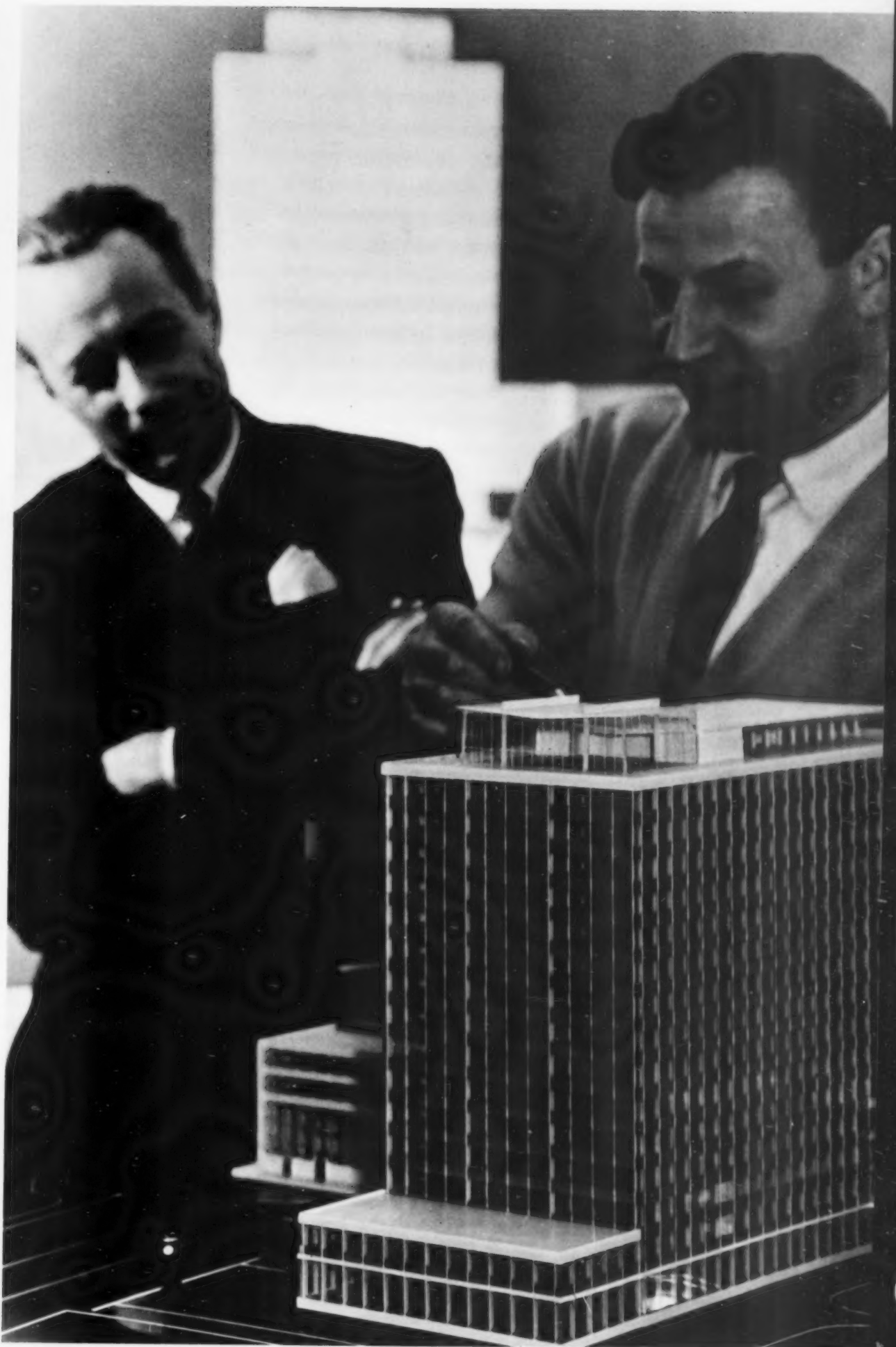
His son was 15 years old at the time. Like many other children, he had fallen behind in his studies during the war and was now too old for his class. Vasili found him a job as an apprentice plumber and had him enrolled in the school for young workers. His eight-year-old daughter was in the first grade. Bringing up two children was a full time job. "No time left over," he says with a wry smile, "for me to do any studying. Four years of primary school was all I had."

But then a woman came along who fell in love with this reticent, moody man. He remarried and had a family once again. His son finished school and did well on his job. His daughter also did well. He had a son, Victor, and a daughter, Vera, by his second wife.

The Obratsov family now lives in a new apartment house that the refrigerator plant put up for its staff. Vasili has aged a bit, time has added a touch of gray to his hair, but he is the same energetic and vigorous man his army friends remember. The moodiness of his earlier postwar years is gone, replaced by a bright optimism. "There'll be a



And Sergei Martynenko, who was in a howitzer regiment, distributes books.



"I'm glad to be designing buildings, not destroying them," says Zaritsky.





time when we'll have more than enough housing," he says to friends who come to see his new apartment. And to his young son, "Before long, Victor, you'll be piloting a spaceship. Better study hard."

Victor attends a boarding school. His father pays 42 rubles a month for his care. His little daughter goes to a nursery school for which he pays 12 rubles a month. Vasili earns 120 rubles a month, but his wife Praskovya also works at the refrigerator warehouse, so that between the two of them they get along fairly comfortably.

Praskovya did her part in the war, she served with the anti-aircraft defense troops. She likes all of Vasili's wartime buddies but is especially fond of Sergei Martynenko, a cheery talkative man. Vasili and Sergei first met some 30 years ago and have been friends ever since. Their families are also close, always ready to help each other over difficult hurdles.

Both of them left Moscow for the front with the same people's volunteer corps detachment, served almost side by side through the war, and ended up together on the Elbe. They had both been wounded and came home with a chest full of medals.

As soon as he was demobilized, Sergei began working as a book distributor for a Moscow publishing house. His life has moved along in a fairly smooth groove since. His children had grown up during the war. "Before I had a chance to look around," Sergei says, "I was already a grandfather."

He spends his weekdays at bookstores. He works for a wholesale book distributor. "Saturdays," he says, "whatever else I don't do, I always visit my grandchildren."

None of our five friends were professional military men. None of them were interested in making the army a career, of trying to get into a

military academy. They went into the war as civilians and came out the same civilians, except for two or three holes in their bodies that weren't there before.

Boris Zaritsky served as a division engineer. An enemy bullet went through his shoulder. After a hospital stay he returned to the front. He was decorated for bravery several times, won the Order of the Red Banner; the Order of the Patriotic War, first and second degrees; and the Order of the Red Star. His wife Lyuba served as a nurse.

Just before the war broke out Boris successfully defended his diploma project in architecture with a design for the Baltic Republics' pavilion at the All-Union Agricultural Exhibition. And with his diploma in his pocket he went off to take army training as a lieutenant. He was assigned to a sapper's unit and built military underground shelters—blindages. He says, laughing, that he tried to make his division's defense look like a finished architectural ensemble. Very likely he did, for even in battle he never forgot that he was trained to build houses for peace and not blindages for war.

After he was demobilized he worked for several years in an architectural studio, then took postgraduate work at the Academy of Architecture and designed many of the housing projects in Moscow's Southwest District. Boris saw a new Moscow growing up as old structures were torn down, new avenues laid out, and bridges and tunnels built. The thousands of modern apartment buildings have changed the city's appearance.

"When I walk along the streets and see housing projects that I designed, I find it hard to believe it's real," Boris says. "This was all a dream during the war, one that I wasn't sure I'd ever be around to see come true."



*After the Elbe Vasili Obrastsov went back to his old job in a warehouse.*

*Nikolai Rukhlyadev entertains old war buddies. He's a civil engineer.*



He is now working on a design for the Palace of Soviets, which he hopes will be the architectural gem of the capital. It will be considerably larger than Moscow University. Fellow designers have honored Boris by electing him a member of the Presidium of the Moscow Department of the Union of Soviet Architects.

It's a good life Boris is living, he'll tell you—interesting work and good friends. There are his old war buddies with whom he sometimes tosses down a jigger of vodka from his battered army issue cup—a souvenir—and his new friends, engineers and architects with whom he conceives and designs beautiful buildings.

On Sundays Boris drives out to the country with his wife in their Moskvich. He chooses a spot near the river and spends the day painting. His apartment is decorated with his landscapes. There is only one thing that makes life incomplete, the couple have no children. On the rare occasions when he talks about it, Boris says, "We should have started earlier. Now it's too late. I'm old already and my wife's not young either."

When Nikolai Rukhlyadev returned from the army, he married his Anna who had waited for him all during the long war years. He had been a plumber, had studied at the building institute, and graduated as a civil engineer when he was 31. That was when he should have been getting down to his real work. Instead, with the war breaking out then, he had become a liaison man crawling on all fours under a barrage of fire, to repair broken telephone wires. During these war years he forgot all he had learned at the institute.

When peace came, he had to begin studying all over again. Meanwhile, to earn a living, he took a job as head of a warehouse. Only after he had worked his way through his textbooks and technical literature

and had brought himself up to date in his field did he apply for an engineering job.

He is in charge of the capital's gas and water mains. He supervises the installation of gas mains in the industrial centers of the city. And although he does well on his job and there doesn't seem to be any need for concentrated study, the habit is ingrained by now and there's very little literature in his field that Nikolai doesn't read, or an important industrial exhibition or lecture at the Polytechnical Museum that he doesn't attend.

His old friends of front-line days frequently visit at his new apartment on Frunzenskaya Naberezhnaya (Frunze Embankment). So do his close relatives, and his wife's, who are also war veterans. His brother Vladimir served throughout the war as a communications man and now is in charge of the telephone system of the city of Kharkov. His cousin Boris went in for science when he was demobilized and has a Master of Science degree in medicine.

When I have occasion to meet my five friends at the hospitable home of the Rukhlyadev's or elsewhere, I cannot help thinking, as I look at these elderly, gray-haired people of the war generation, that they still carry the scars of those grim years. The war deprived some of them of family, it forced others to postpone plans for a career and marriage, still others came back maimed and disabled.

But in spite of hardship and adversity that seemed at times altogether unbearable, people managed somehow to hold on to what was most important—their dignity and faith in the future. They got back on their feet again. And this was true not only for a handful of people, but for the many thousands who saw the end of the war at the Elbe on that memorable spring day in 1945.



*A stabilograph tells a surgeon about the general condition of his patient.*

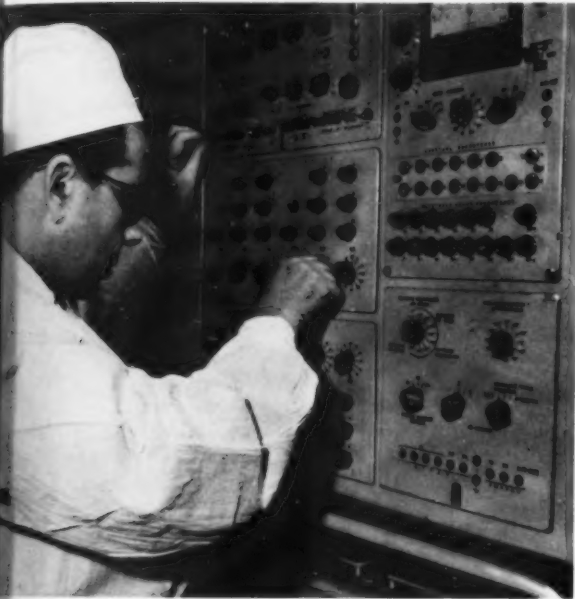
*An operation under way at the Moscow Institute of Thoracic Surgery. An assistant watches each of the instruments to keep the operator informed of any aberration.*



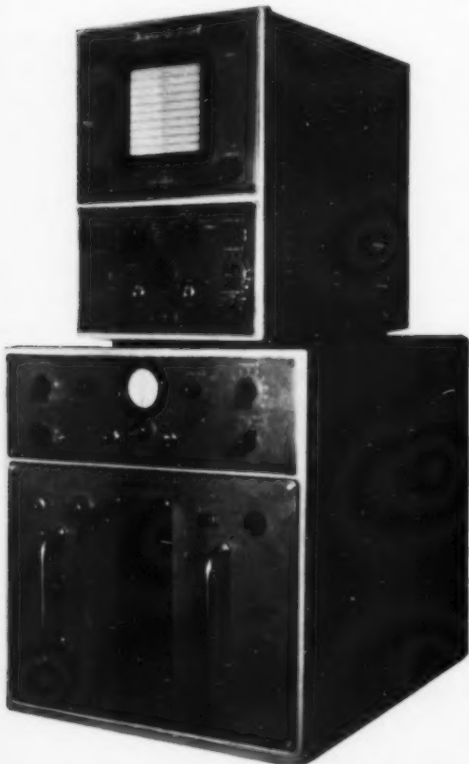


*This electronic biostimulator makes it possible for a defective heart to beat properly.*

*SINEK, a medical "thinking" machine, deciphers hundreds of electrocardiograms an hour.*



*A cathode oscillograph that simultaneously records heart biocurrents on film and tape.*



## ELECTRONIC MEDICAL DIAGNOSTICIAN

By Anatoli Shwartz

**T**HE PHYSICIAN TODAY leans heavily on electronic "consultants" that tell him the condition of his patient and thereby determine the treatment he will follow.

These robot diagnosticians are seen at work most dramatically in the operating theater. An assistant sits in front of each instrument to inform the surgeon of the slightest aberration. When the surgeon makes an incision in the bloodless heart, or the pinkish-gray mass of the brain, or some other vitally delicate organ, he works confidently, depending upon instruments to keep him informed whether the patient is reacting properly. Now and again the low voices of his assistants will let him know what the instruments record about the patient's brain waves, the depth of the anaesthesia, the changes in arterial pressure, the heartbeat. This information must be passed on rapidly and with unflinching accuracy.

Electronic instrument designers have been working on a "combination diagnostic apparatus," a single compact unit that could be handled by one man instead of the dozen or so doctors and laboratory assistants now required. More important, the unit would record simultaneously and on a single sheet of paper all the changes taking place at the given moment so that the surgeon would need no more than a single glance to check the action and interaction of the important organs. He would have before him not only an electrocardiogram or arterial pressure chart but a report on all the physiological systems of the body.

Presently the doctors and engineers of the Leningrad Biological and Physical Instruments Laboratory are completing such a unit. It will not, obviously, produce a ready-made diagnosis. Its function is much more limited—to give the doctor as much data as possible for a quick but accurate appraisal of the patient's condition.

The unit will be indispensable for cardiovascular emergency stations and, of course, for operating theaters, where the intricate lines of the charts must frequently be read the instant the patient is brought in.

### A "Thinking" Machine

A variety of the "thinking" machine—a computer, to use the more pedestrian term—is used together with the electronic diagnostic apparatus to help the surgeon decipher the graphs, especially those that record brain waves.

The electric potentials of the brain can be easily recorded. On the electroencephalogram they appear as undulating lines—brain waves. But these lines must be deciphered by the researcher in much the same way that an Egyptologist deciphers hieroglyphics.

The translation is further complicated by the fact that the brain is multilingual, to continue the analogy. Everybody's electroencephalogram is different, just as no two faces are wholly alike. It is also very mobile because of the constant electromotive variations of the nerve tissue. It changes at every stimulus: thoughts, feelings, movements evoke an immediate response.

To the layman there is something magical about it. A doctor standing with his back to the patient and watching the moving tape will suddenly say, "Don't wink so much." His instruments have recorded the slight movement and its frequency.

The brain is awake even when we sleep. It is always on guard, always passing signals, always saying something. This continuous silent monologue is one of nature's greatest riddles.



In recent years Soviet brain-research laboratories have begun to use a fairly complicated piece of apparatus that teaches physiologists how to read electroencephalograms.

An electronic analyzer carefully "prepares" the chart of the action potentials. In the way that a prism breaks up a ray of light, it divides the brain waves into their simplest components. At the same time other instruments calculate the average magnitude of their variations and plot it on a chart. This "spectral" analysis of the brain signals, many times repeated, helps to decipher the secret messages of the central nervous system. Scientists now have the code for these cipher messages—not the complete code yet, but enough of it to give them some understanding of the brain's private life.

Brain wave analysis is employed by Soviet physicians who treat diseases of the central nervous system. It gives them a light for finding their way through the dark labyrinth of mental disease. These magnetic tape recordings provide food for "thought" to the electronic computer. From the brain waves the machine educates the laws governing psychic ailments.

#### Artificial Heart-Beater

Brain waves help neurosurgeons to locate tumors. The Burdenko Institute of Neurosurgery of the USSR Academy of Sciences uses a remarkable piece of apparatus to help establish the location of malignant brain tumors. The instrument has made it possible for physicians to give a precise diagnosis in 80 cases out of a hundred.

Soviet physiologists are studying brain waves in research on sleep and anaesthesia. Very interesting experiments of this kind were performed recently on dogs. One of the animals was anaesthetized with ether and its brain impulses recorded. This record was then transmitted to the brain of a waking dog, causing it to fall into a deep sleep. The experiment was reversed, with the result that the brain waves of the waking dog awakened the sleeping animal.

It is too early to draw any practical conclusions from this experiment, but with time it may have its application in the operating theater. A helmet containing electrodes will be placed on the patient's head, "sleep" impulses recorded on magnetic tape will be passed through them, and the patient will fall asleep.

Instruments transmitting electric potentials will soon be used widely to treat ailments of various organs, notably those of the heart. The nerve ganglions of the heart sometimes obstruct an electric potential on its way to a muscle fiber to do its job. When obstructed, the impulse dies, and the heart, like an engine with poor ignition, begins to labor, with five, seven, ten interruptions a day; sometimes it stops completely.

Engineers of the Surgical Apparatus and Instrument Research Institute have devised a mechanism which compensates for this deficiency. If the nerve impulse has not reached its destination, an electronic impulse is immediately sent to the cardiac muscle through two electrodes applied to the chest. The pocket "substation" emits 80 electric discharges a minute. This extraordinarily sensitive guardian will at once begin communicating its own rhythm if the heart stops even for an instant.

So long as the heart functions properly, the "nurse" apparatus keeps time with it undisturbed. But let us say the patient is in the post-operative ward of the Moscow Institute of Thoracic Surgery and his heartbeat begins to fade. The alarm is given immediately for emergency treatment. A nurse with a hypodermic syringe rushes into the ward. In the meantime the instrument, having given the signal, at the same time automatically switches on the rhythm-governor. A second or two and the heart begins to beat again.

In recent years that vital organ has acquired many new protectors, but none so vigilant as this one. Our designers have been working for some time on a portable model of the instrument, to weigh about two pounds. This little machine will be the most important piece of equipment in the practitioner's bag. Every person suffering from heart disease will carry it with him constantly as a life preserver.

The time will probably come when drugstores will be stocking small round disks alongside the liquid medicines and pills we are used to seeing, and doctors will be prescribing an infallible remedy for cardiac ailments—magnetic tape with a healing record. This will not be a record of the usual broken impulses but of the action potentials that truly control the heart's functioning. Then the electric stimulator will have reached its final stage as a healing instrument, it will have become a biostimulator, an exact imitation of the healthy living organ.

Up to the present, however, no one has yet succeeded in isolating the signals of the heart or any other organ in their pure form, as a chemist would put it. As potentials, they combine with other charges of the cardiac muscles when reproduced in electrocardiograms.

The hills, peaks and valleys outlined on the film are the result of the interaction of many potentials. Somewhere in these motley zig-zags are the lines drawn on the tape by the real governors of the heart, their characteristic handwriting. Each stroke, each barely visible line, is a message addressed to the heart. The problem for scientists is to read the writing.

#### A Radio-Electronic Heart

An electronic computer has these two most invaluable properties—mathematical precision of an order as high as the fifth power, and speed. It coldly and dispassionately "analyzes" the beats of the heart with an accuracy the most skillful cardiologist can only approximate; and in an hour the machine can read and decipher several hundred electrocardiograms.

But the electronic machine can do more—it can also reproduce artificially all the known versions of a cardiogram of a healthy or an ailing heart. An extremely intricate apparatus known as the SINEK synthesizes electrocardiograms, as it were.

The instrument is, in effect, a radio-electronic heart re-creating on tape the picture of any cardiac disease. At the operator's will the machine draws different kinds of outlines. By comparing these imitations of action potentials with the originals recorded by patients, doctors are able to learn more about arrhythmia and other severe disturbances of heart activity. SINEK helps them to determine the origin of even the tiniest line on the electrocardiogram, to find out why it changes and, in short, to study all the unknown factors of a disease.

The instrument does even more, it produces charts that have never yet been recorded in patients. At first this was a most discouraging development, it put the accuracy of the machine in question. But then, on second thought, scientists asked themselves: Perhaps there are diseases we do not know about represented on these charts? Perhaps the instrument was indicating the existence of heart diseases still to be discovered, much like the empty spaces in the Periodic Table do? This proved to be so, for shortly afterward cardiologists discovered an unknown heart ailment with the electrocardiogram closely resembling in all details the design drawn by the machine.

Electronic computing machines in recent years have been "studying" medicine, and very good students they are. They absorb hundreds and thousands of symptoms, are able to compare the results of various clinical approaches and are gradually learning to apply the logic of medical reasoning in making diagnoses. They are becoming ever more efficient and informed doctors' assistants.

## 1967 MOSCOW

# WORLD'S FAIR

MOSCOW will be the scene of the World's Fair in 1967, the first ever to be held in the Soviet Union. The decision of the International Exhibitions Bureau to hold the fair in the Soviet capital was applauded by people throughout the USSR as a step toward better world relations.

The slogan of the fair, "For Progress and Peace," reflects the hopes and aspirations of all humanity. The exhibits will demonstrate man's superlative achievements in science, technology and culture and the possibilities they open for a fuller, happier life for all people if world peace is assured.

The fair will dramatize our epoch as one in which great social changes are taking place, with the whole of the colonial world awakening; an epoch in which monumental scientific discoveries are being made, epitomized by man's breakthrough into outer space.

The slogan is one all peaceloving people and countries will subscribe to, a warrant that the fair will probably be the most representative ever held. Every country, regardless of its social and state system, is being invited to participate.

For the Soviet Union 1967 is a noteworthy year, the fiftieth since the Socialist Revolution, and visitors to the Soviet exhibits will see mirrored a half-century of the country's social, economic and cultural progress.

Estimates are that in the six months between May and November 1967, when the fair will be held, it will be visited by seven or eight million people from abroad and by about that many Soviet people.

The site covers 1,300 acres—more than two and a half times the area of the Brussels Fair—on the Teplostanskaya Heights, four miles south of Moscow University in the very attractive Southwest District of the capital. It is readily reached by two subway lines and numerous motor highways. The exhibition grounds will be appropriately landscaped. Several large artificial ponds are to be created and a large tract of woodland is to be retained to provide a natural setting.

A State Committee headed by Alexei Kosygin, First Deputy Chairman of the USSR Council of Ministers, is presently doing the over-all preliminary planning. Nikolai Dudorov, appointed Commissioner-General, is supervising the design and construction work, and discussing organization and related matters with his foreign counterparts.

A special corporation has been set up which will contract with the fair's participants to handle all necessary services—designing, building and equipping pavilions; providing accommodations for the personnel, etc.

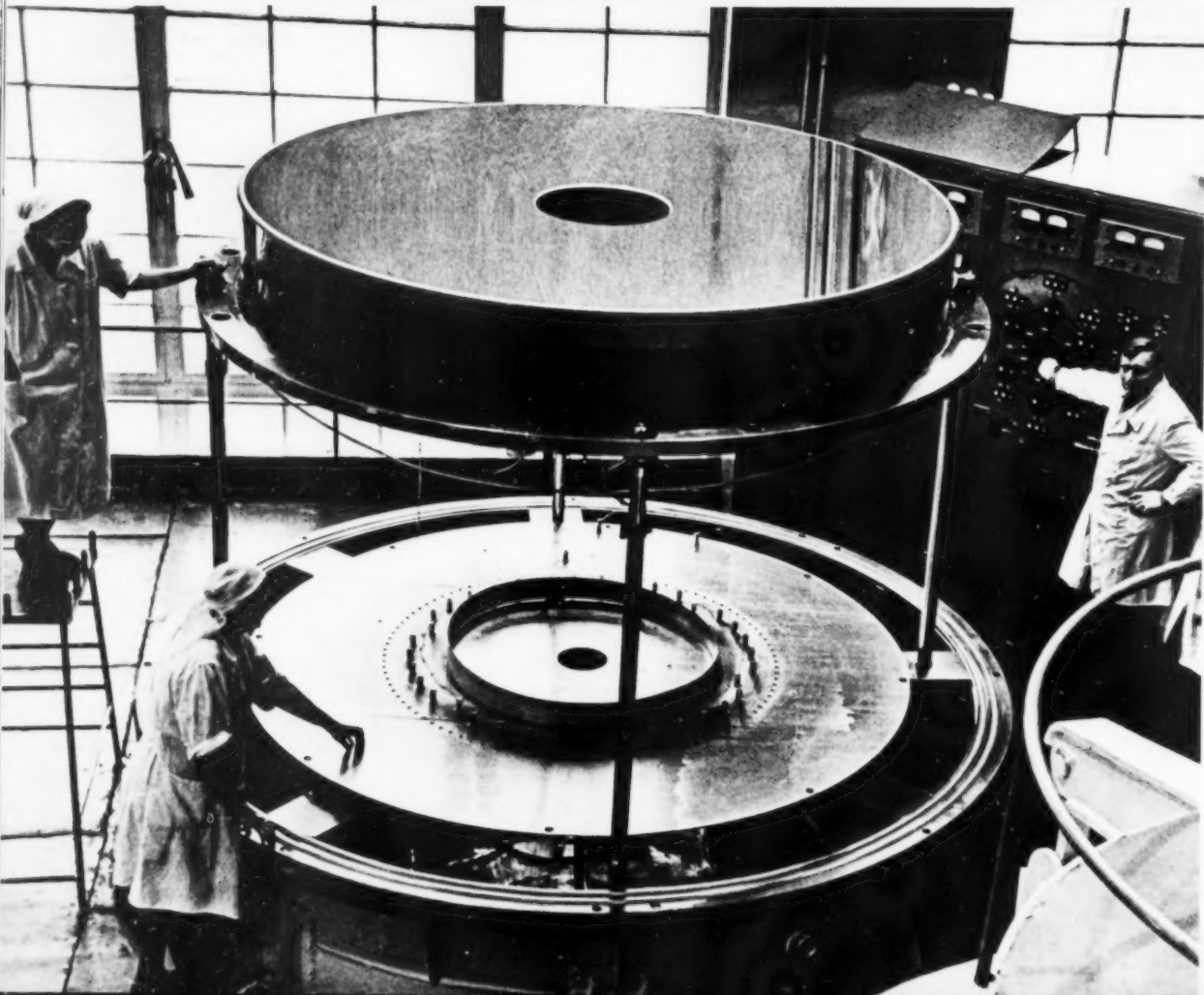
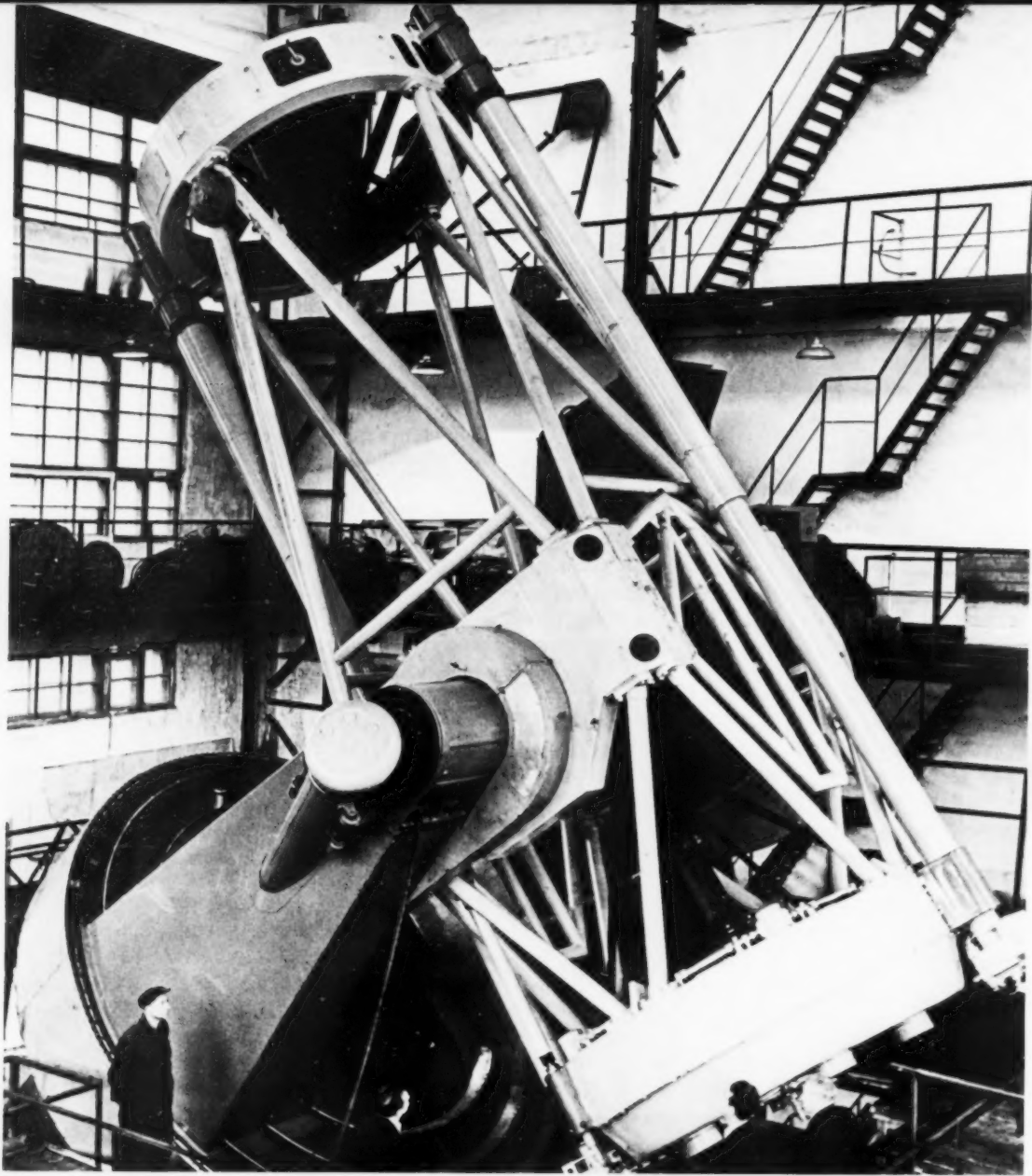
Preparations are well under way. Under discussion now are architectural questions. A great deal of interest has been evoked by the announcement of an open contest for the best design for the World's Fair emblem. The International Exposition Bureau has placed the Moscow World's Fair on the agenda of each of its regular sessions, and foreign countries have been most cooperative in the preparatory work.

SITE OF 1967 WORLD'S FAIR IN SOUTHWEST AREA OF MOSCOW





**NEW**



*(Above) The tower and dome for the new Soviet telescope are ten stories high.*

*(Left top and bottom) Parts of the powerful instrument being installed.*



NEWS



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# SOVIET TELESCOPE

**A** NEW TELESCOPE is now being tested at the Crimean Astrophysical Observatory of the USSR Academy of Sciences. It has a rated optical power higher than that of any other instrument in Europe. For some idea of its reach—assuming there were no atmosphere on our earth, an observer looking through the eyepiece in Moscow would be able to see a match burning in New York, 4,660 miles away.

When Galileo, at the beginning of the 17th century, pointed his first crude telescope toward the sky, he brought the stars closer and lifted a corner of the veil that had hidden these distant worlds. Since then the telescope, immensely more powerful, has been the far-seeing eye of astronomical research. Modern instruments can see into space for distances calculated in millions of light years.

A telescope is designed to collect as much light as possible from celestial bodies vast distances from our earth. The power of the instrument depends upon the size of its light collector—a concave mirror. The greater the diameter of the mirror, the brighter the image, the more details we observe, and the more stars we see. Very complex scientific and engineering techniques are required to build these telescopes with large-diameter mirrors.

As its optical and mechanical industries grew and its craftsmen mastered the techniques required for manufacturing large-dimension optical glass, the Soviet Union was able to build astronomical instruments of great size. A number were made in the postwar years, including some with mirrors of up to 1.2 meters in diameter.

Until recently, however, Soviet astronomers have not had telescopes powerful enough for the many-sided program of astronomical research. The government, therefore, asked that science and industry undertake to build an instrument with a mirror 2.6 meters in diameter. It is this high-precision instrument, a product of Soviet scientific and technological talent, that is now being tested in the Crimean observatory.

## Phenomenal Craftsmanship

With the personnel of other plants, the staff of the Leningrad Optical Works, leading astronomical instrument makers, worked out ingenious solutions for the many highly complex technical problems. About forty plants shared the job of making the tower with its dome and the many varied mechanisms and instruments. The specifications were prepared by the Telescope Construction Committee of the USSR Academy of Sciences, which functioned under the guidance of the well-known astrophysicist, Professor Vladimir Nikonov.

The optical system of the instrument is based on a mirror 2.6 meters in diameter with a focal length of 10 meters. The reflecting surface describes a high-precision paraboloid whose tolerance is less than hundredths of a micron. To process a surface with such accuracy takes consummate skill. It was done in record time—a little over six months—by the optical engineers of the State Optical-Mechanical Plant, with a special grinding and polishing machine, designed and manufactured at the Gorky Milling-Machine Plant.

The whole of the parabolic surface was given an extremely thin coating of aluminum applied in a vacuum to enhance its reflectance. The great weight of the finished mirror—four tons—required that a self-adjusting system be provided to remove the load from the mount, otherwise the mirror would have deformed under its own weight and changed its shape with the position of the telescope. However small this change, it would have distorted the images produced by the telescope.

Apart from the primary optical system, the telescope has a number of accessories for varying the focal length of the mirror over a range of 10 to 100 meters and for photography, photometry and spectral analysis of the celestial bodies.

Although the movable section of the telescope weighs 62 tons, it must move with the accuracy of a chronometer to follow a rotating star. It is incredible how this 62-ton mass moves at the touch of a hand.

## Automatic Controls

As far as possible, the control of the telescope has been automated. In the process more than 160 electric motors are utilized. Computers, coordinate converters and follow-up systems perform operations that previously required a human astronomer. From the central and auxiliary control consoles the telescope is fixed on a star and directed to follow it, the camera shutters are operated, and the cameras focused and reloaded. An electric motor driven by a stable-frequency generator automatically adjusts the telescope to trail a star under observation.

To take maximum advantage of the optical properties of a telescope, it is essential that the instrument be so constructed as to minimize terrestrial atmospheric effects and air vibration in the tower dome that produce chaotic oscillations of light rays and distort the stellar images. The tube, dome and tower of the new telescope have been built to eliminate these interference factors wherever possible.

The dome area has a special air-conditioning system, and the telescope tube is insulated from the air under the dome. The closed heat-insulated space around the mirror is maintained at the temperature required for night observation. The dome is of the double-wall type, with heat insulation between the walls. The awnings on the windows shade the tower and leafy trees keep the walls cool.

Stellar photographs taken with the new telescope compare favorably with those taken through the world's largest telescope at Mount Palomar in the United States. The new telescope has already photographed stars listed in the Palomar atlas as practically the weakest.

The new telescope gives Soviet astronomers a view of remote areas of the universe many times more distant than they have been able to reach heretofore and opens much more of outer space for study. It brings the moon, the planets and the interplanetary matter of our own galaxy closer for observation. The telescope, reaching far out into the universe, will be able to track a ship bound for a remote planet across several million miles of space.





Drop in at Moscow's Youth Café if you want to know how Soviet young people amuse themselves.



Masha Stogova and Valentin Vdovin. Let's leave them alone.

Dance and talk—both are popular pastimes here.



**W**ANT TO KNOW what Soviet young people are interested in? What they argue about? Drop in at the Youth Café in the Riga District of Moscow, sit down at one of the light aluminum tables—if they are not pushed aside to make room for dancing—order a cup of coffee or a glass of dry wine, and lean back and listen to the young people around you. They are workers from the Kalibr Plant, students from the Institute of Engineering and Physics, salesgirls from the nearby department store, and seamstresses from dress-making establishments.

You'll hear them discussing assorted topics—the current production of *The Irkutsk Story* at the Vakhtangov Theater; the mystery of the Tungusky meteorite (could it have been a Martian spaceship?); the "Abominable Snow Man" of the Himalayas (is he fact, legend or a great white bear?); abstract art; communist ethics; a Beethoven sonata. You can extend the list in any and all directions!

We live in a push-button age of atomic stations, television sets, hydropower projects, medical equipment, sputniks—all operated by push buttons. They dominate our lives, say some worried philosophers; eventually they'll kill all interest in art, literature and music.

Wasted worry, to judge by the habitués of the Youth Café. It isn't the button that dominates their thinking. They are interested in science, of course; very much so. One of the reasons the Soviet Union is ahead in space research is precisely this intense and widespread interest in things scientific. But they are also interested in just about everything else under the sun.

There is a saying to the effect that youth has the power to do things but not the wisdom; old age has the wisdom but not the power. There has always been a sad fatalism about this saying. Today that fatalism is gone, for the times and our outlook are different. Social revolutions have changed human nature, and we may say of our youth that it has both the wisdom and the power to do things. Our young people know that all-around development, a keen mind, broadness of outlook and spirit, in combination with splendid physical power, signify real beauty in man.



# Youth Cafe

By Iosif Dik

Photos by Anatoli Garanin

*A little close harmony is always in order.*



*There's always somebody around for a chess game.*



*How do I look?—the same question the world over.*



This is an artist's impression of the 2.7-million-kilowatt Nurek hydropower project on the mountain river Vakhsh in the Tajik Republic.



# SOIL REBORN





Photo of the construction site where work has already begun.



By Alexander Askochensky

Member, Lenin USSR Academy of Agricultural Sciences

**T**HERE ARE some 125 million acres of land in the Soviet Union waiting for water, lifeless deserts in Central Asia, arid steppelands in the Transcaucasus, Southern Russia and the Southern Ukraine. Given sufficient moisture, they could be transformed into great wheat fields, cotton plantations and orchards.

During the Soviet period large-scale irrigation work has been under way almost continuously in waterless regions, particularly in the Central Asian republics. The volume of irrigated land has been tripled to 30 million acres, but this is only a fifth of the enormous job still to be done before all those dormant sun-kissed lands are regenerated.

Last January at the Plenary Session of the Central Committee of the Communist Party of the Soviet Union a plan was adopted for irrigation work on a scale very much greater than has been done heretofore. It will bring millions of acres in Central Asia, Southern Russia, the Volga River basin, the Southern Ukraine and the Transcaucasian republics under cultivation.

The Plenary Session underlined the fact that irrigation was a crucial factor if the country were to achieve an economy of plenty. Nikita Khrushchev declared, "To conduct wide-scale irrigation we must contribute the same effort we did when we developed the virgin-land territories."

The virgin-land development program turned millions of acres of land to the plow. The irrigation plan will give the country additional millions of fertile acres.

Irrigation work is to be concentrated mostly in the cotton and rice-growing regions and in the semiarid zone where the major crops are cereals, particularly wheat. The cotton-growing regions lie in the Central Asian and Transcaucasian republics and Southern Kazakhstan. A great deal of irrigation work has already been done in these areas, but it constitutes only a fraction of the acreage covered by the present plan.

In the Hungry Steppe, for example—desert land in the Kazakh and Uzbek republics—about 500,000 acres have been irrigated. The present program will bring water to all 2.5 million acres of this once aptly named region destined to become one of the country's major cotton-growing centers. There are irrigation projects under way for hundreds of thousands of acres elsewhere in these two republics.

#### Canals and Power Stations

In Turkmenistan the 335-mile Kara-Kum Canal, with its first section completed a short time ago, has brought to life great expanses of desert land. Along its shores are new collective and state farms, orchards and cotton plantations. New towns have sprung up in this once desolate region. The canal when finished will bring water to at least 2.5 million acres of parched land.

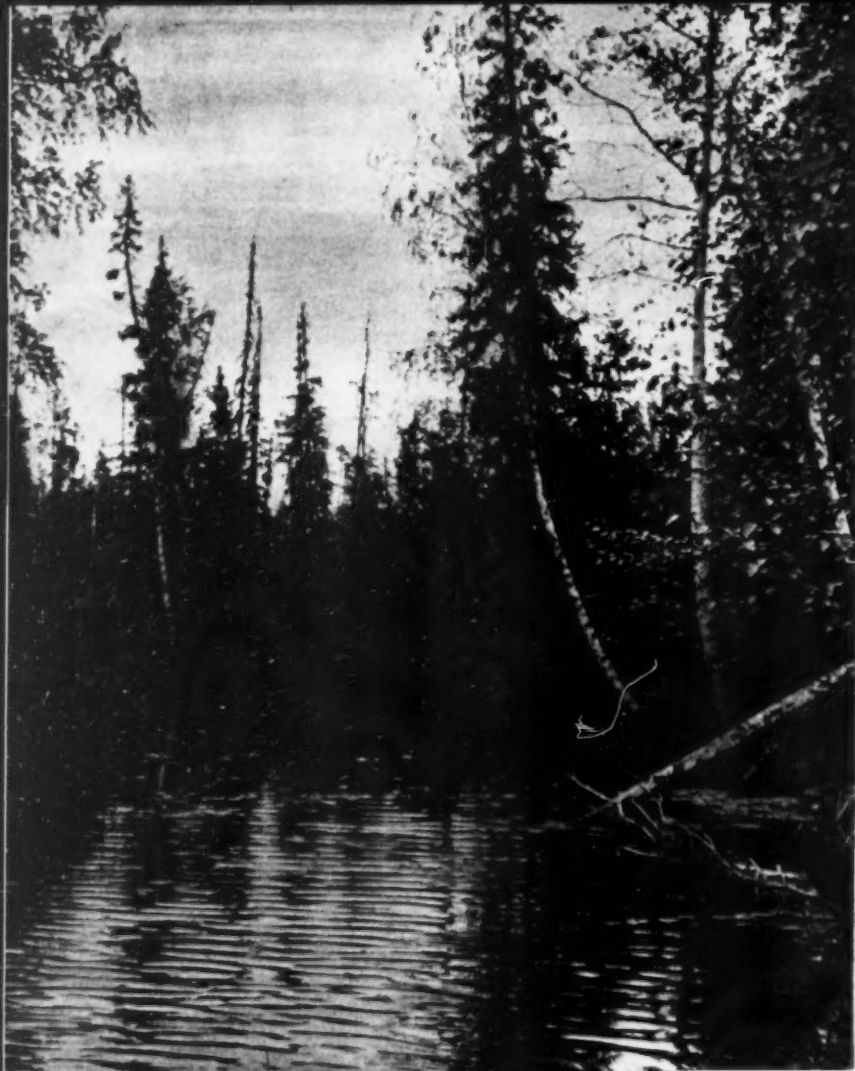
One of the major hydroprojects in Central Asia is the 2.7 million-kilowatt Nurek station on the mountain river the Vakhsh in the Tajik Republic. The ambitious design calls for a thousand-foot-high dam. The Nurek project will, of course, do more than irrigate; it will generate power, provide shipping facilities and prevent flooding of the land along the lower reaches of the river.

The Hungry Steppe irrigation program, the Kara-Kum Canal and the Nurek project will help to develop nearly 7.5 million acres of new land. That means four or five metric million tons added to the country's annual cotton crop.

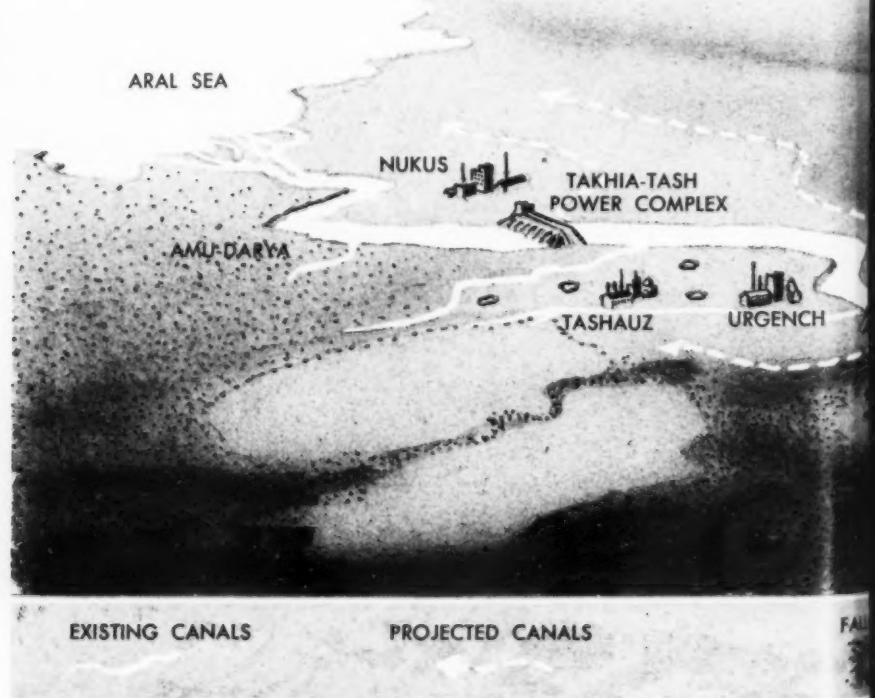
Large-scale irrigation will also be expanding the cotton acreage of the other Central Asian republics and of the Transcaucasian republics.

There are equally large plans for developing new rice-growing lands—roughly six million acres—along the lower reaches of the Syr-Darya and Amu-Darya rivers in Central Asia, the Volga and Urals rivers in the Russian Federation, the Don and the Dnieper in the Ukraine, and also in the Far East.

Extensive irrigation work is to be done in the semiarid parts of the Northern Caucasus, the east bank of the Volga and the Southern



The Pechora, shown in the photo, and the Vychegda now feed into the Arctic Ocean. Their course will be changed to direct their flow southward, to the Caspian Sea.





H

FALL





Ukraine—areas that suffer from periodic drought. The fight against drought has been going on for a long time in these regions. Big irrigation systems have been built in the valleys of the Kuban, Terek, Don, Volga, Dnieper and other rivers, and power stations with their large reservoirs constructed on all the major rivers of the semiarid zone. All this, however, represents only the first stage of a continuing battle against drought.

The semiarid zone will soon be the scene of new projects of even greater compass. Water is to be brought to the Crimea to transform this sunny and potentially very fertile peninsula into one huge orchard. Water is also to be brought to the grasslands along the Caspian, where great flocks of fine-fleece sheep graze. The hydroprojects to be built near Stalingrad and Kuibyshev will bring moisture to the arid regions along the Volga and irrigate the flood lands along its lower reaches.

#### Changing the Course of Rivers

A vastly ambitious project is being considered that will completely alter the character of farming in the arid Volga River basin. The idea is to change the course of the Pechora and Vychegda rivers so that they flow south through the Kama and Volga. These northern rivers now feed into the Arctic Ocean.

The project requires that the Pechora and Vychegda be dammed in their middle reaches and that a chain of interconnected reservoirs—the Pechora, Vychegda and Borovsk reservoirs—be constructed in the western foothills of the Urals. The combined reservoir will hold 774,270 cubic feet of water and constitute the world's largest artificial body of water.

This project intrigues power engineers, of course, but it interests farm specialists even more. The Volga will be getting an added 131,232 cubic feet of water annually. This means a fundamental solution to the problem of irrigating the arid lands along the middle and lower reaches of the Volga. This part of the country will then become a major breadbasket, concentrating on wheat and corn.

The wide-ranging program calls for basic improvements in irrigation methods. Irrigation should not have to depend on the varying annual fluctuation of the water flow of rivers. Collective farm fields should be able to get as much water as they need whenever they need

it. To this end several large mountain reservoirs are to be created for the permanent regulation of the water flow of the rivers used for irrigation.

Soviet engineers are in a position to control the water flow of rivers, to build extremely efficient irrigation networks, and to lift water to elevated regions that cannot be reached with gravity-flow canals. They have available powerful Soviet-made water-lifting equipment and the required electricity, with increasing quantities accessible as new power stations are completed.

A most important consideration is the rational use of water. Irrigation methods are being worked out so that plants get the precise quantities of water they need—no more, no less. This will create optimum conditions for producing bumper harvests of cotton, wheat and other crops, and will reduce the danger of soil swamping and salination that frequently occurs in gravity-flow irrigation.

In cases of this kind the remedy is to switch from surface gravity-flow irrigation to sprinkler irrigation. Soviet engineers have designed very efficient sprinkling machines much in demand by collective and state farms.

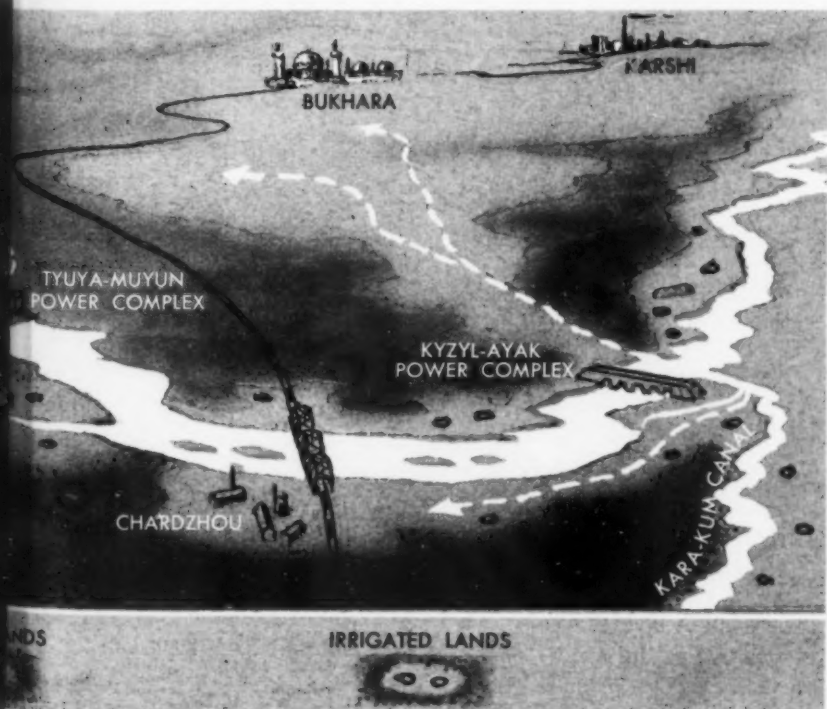
Practically all earthwork on irrigation projects—98.5 per cent, to be exact—is done by machine. By 1965 there will be seven or eight times as many excavating machines and other digging equipment on hand as there are today.

Precast structural elements are being used more and more widely on irrigation jobs, reducing construction time and labor considerably.

The Soviet Union has a large corps of skilled hydraulic engineers and a wealth of practical experience gained on major irrigation projects built over the past decades.

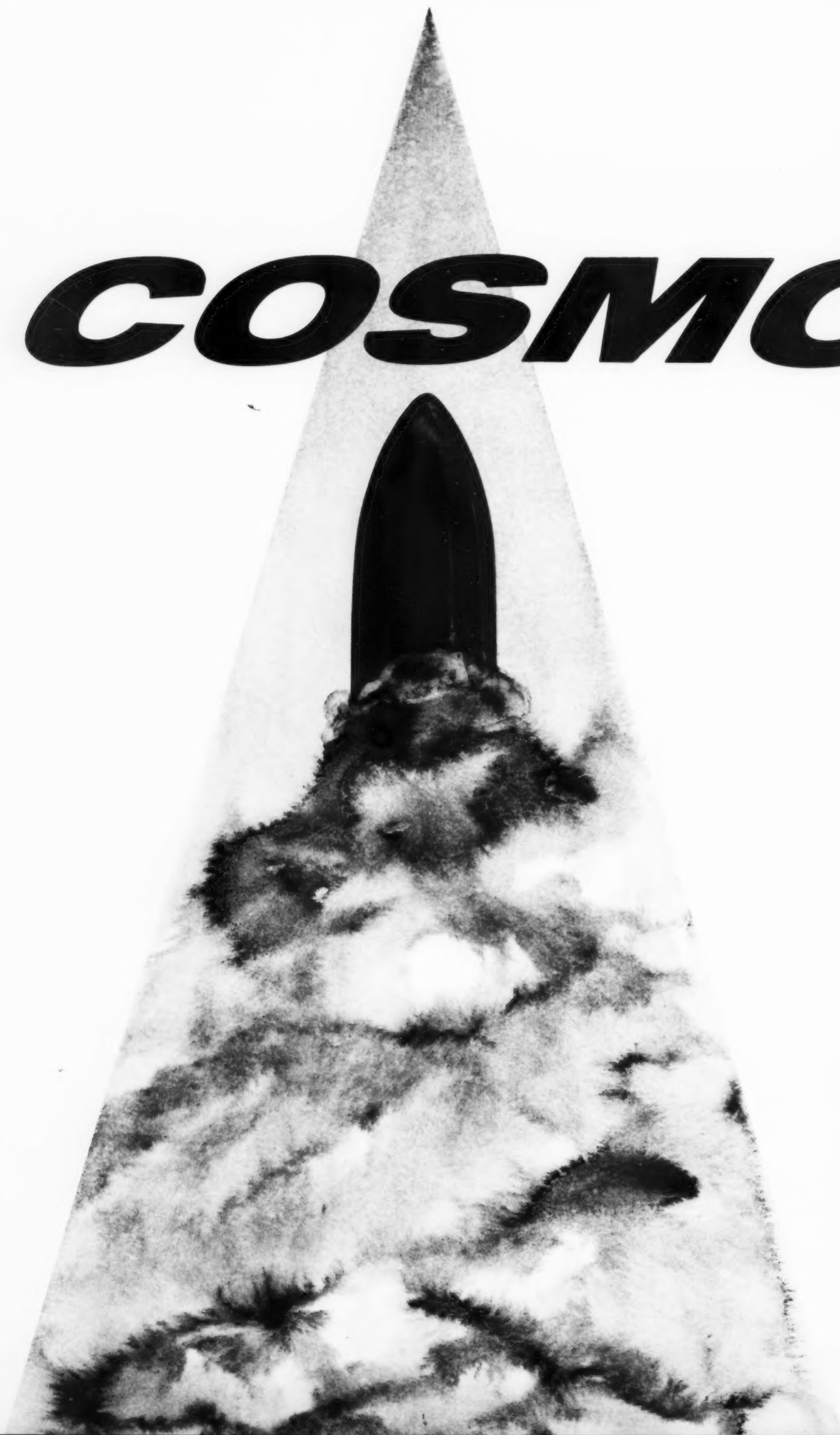
The new program will guarantee the country more cotton, rice, corn, sugar beet; vegetables and fruit; and more meat, milk and butter. From the irrigated regions we can expect an additional 15-25 million metric tons of grain and more, and this without the least worry about drought and other weather hazards.

Along with wide-scale irrigation, swampy and other over-moist lands are being drained in Lithuania, Latvia and Estonia, the Ukraine and the Russian Federation. In recent years about 1.25 million acres have been reclaimed in Byelorussia, and in the next five years another five million acres will be wrested from the marshes.



Schematic drawing of irrigation in the basin of the Amu-Darya River in Central Asia. The Amu-Darya now irrigates 2.5 million acres. It can water another 7.5 million.

***COSMO***









# COSMODROME

APRIL 12, 1961

By Valentin Goltsev  
and Nikolai Drachinsky

**T**HE SUN ROSE with its usual punctuality that day, its rays shining through the curtains of the quiet room. There, asleep on the bed, was a man whose name was to become known in a few hours to the whole world. A doctor, looking into the room, announced: "He is sleeping."

Everybody around was excited—the doctors, engineers, scientists—but Yuri Gagarin, who was to leave the earth in a few minutes and make man's first flight into the cosmos, was sleeping quietly. The doctors had ordered him the night before to sleep for ten hours. He went to bed early and, to everyone's surprise, was quickly asleep. He slept soundly, as though he planned to go fishing or play basketball with his friends in the morning, not like a man about to fly into outer space.

A doctor entered the room. "It's time to get up." Yuri opened his eyes and smiled. Fresh and in good spirits, he jumped out of bed and did his setting-up exercises.

People in white uniforms came into the room to help him dress—it is not easy for the cosmonaut to put on his uniform. The inventive brains of scientists and the deft hands of technicians have prepared his unusual suit. They had taken care that it should be warm and comfortable, that his body should be protected from any ill effects in the cosmos. They check every button and press the space suit to Yuri's body to force the air out. (Photo number 1 shows Yuri Gagarin just about to leave the room.) Then once again every detail of his uniform is checked.

The preparations are over.

The cosmonaut is now in the bus with his friends, driving along the cosmodrome toward the giant spaceship. (See photo number 2.) A new word "cosmodrome" has entered our vocabulary today. The cosmodrome is a very big and complicated construction which has been maintained by highly qualified personnel. Here the cosmic ships are prepared for launching; from here they blast off toward the stars. This well-designed equipment has been created by Soviet scientists, engineers and workers of our socialist industry.

The creative genius and great skill of the Soviet people have ensured the successful launching of the Soviet spaceship *Vostok* with the first cosmonaut aboard. Standing beside the giant spaceship we see engineers, scientists, workers. Many of them have known Gagarin for a long time.

Last instructions, embraces and good wishes. . . . It's not the first time the workers of this cosmodrome—the team of engineers, technicians, workers and scientists—are launching giant ships into the cosmos. But today is a special day. Today, for the first time, a spaceship will be carrying a man into the cosmos. The specialists carefully check all the details of the ship. They are sure that all the complicated equipment will work efficiently. Everything is ready for the blast-off. Yuri Gagarin enters the elevator which will bring him to the top of the colossal rocket where the cosmonaut's cabin is located. (See photo number 3.) He jokes with his friends, shakes their hands and listens to their warm wishes for success. The elevator takes Gagarin high above the earth. Everybody who is standing around this impressive ship follows his ascent. Bon voyage—happy landing.

It's hard to tell about the excitement of the people present at the cosmodrome in these historic minutes of seeing off the man whose flight was to open a new epoch—the epoch of cosmic travel.

The elevator stops. Yuri Gagarin once more waves to his friends on the ground and enters the ship. (Photo number 4 shows Yuri Gagarin in his cosmonaut suit before he enters the cabin of the *Vostok*.)

Last minute farewells. Both hands raised, Gagarin sends his greetings to the specialists who have created this powerful ship, the people whose labor, energy and intellect have made possible this fantastic flight to the stars. They are cultured people, people of great integrity and great professional courage. These are the people who send the rocket into the blue skies, accelerated with the colossal speed that makes it possible to overcome the gravity of the earth and put the ship into orbit.

Last seconds of waiting. The command—and the giant cosmic ship rises from a flame of clouds toward the stars. The rest of the story is already known to the whole world.

SEE PHOTOS ON PAGES 60 and 61





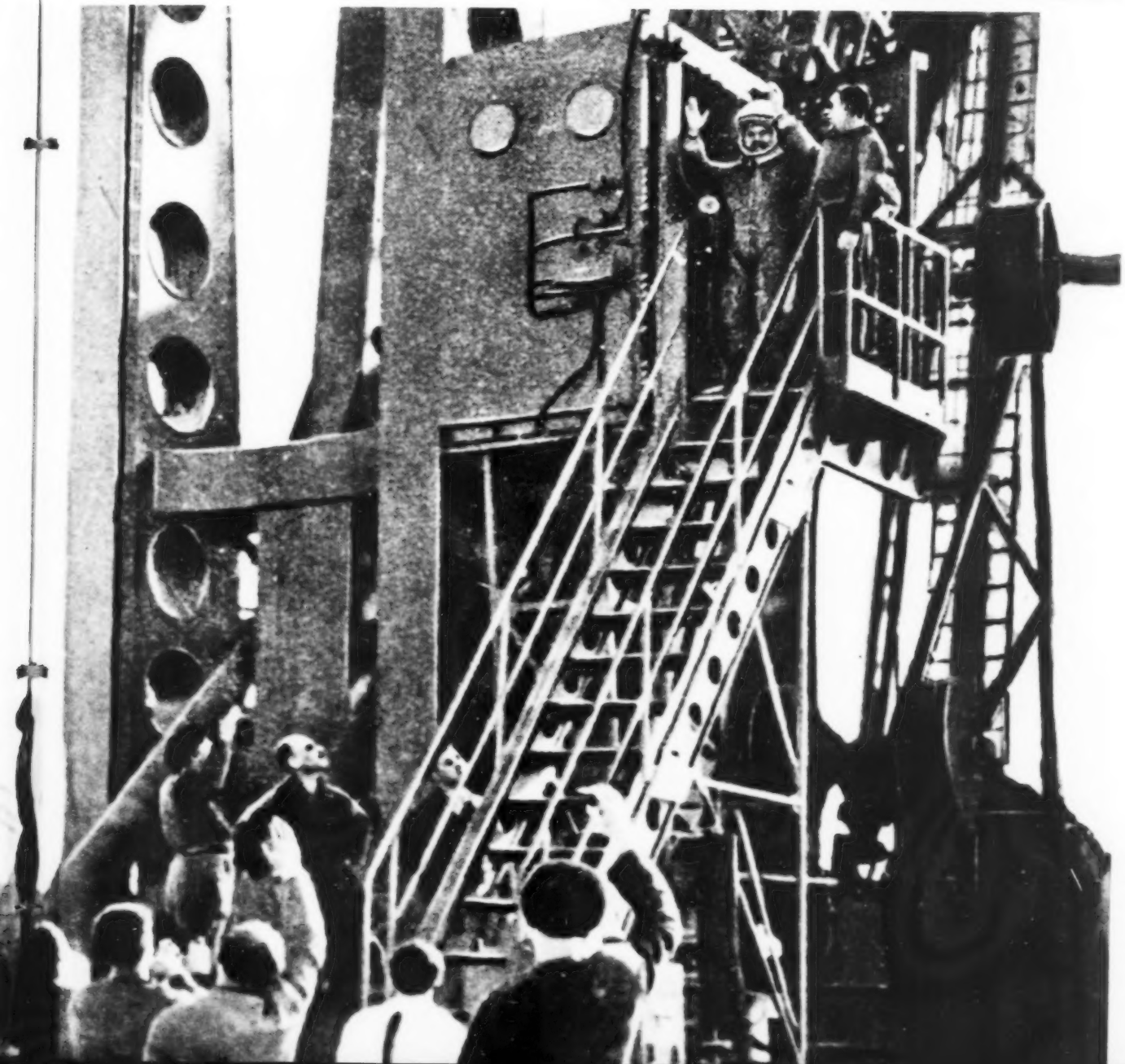
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Photo shows Gagarin jokes with his friends, shakes their hands and listens to their warm wishes for success.

Photo shows Yuri Gagarin in his cosmonaut suit before he enters the cabin of the *Vostok*.



# THE FAMILY WAITS

By Olga Apanachenko  
and Vasili Peskov



*"That's my Daddy!" Lena says as she sees a familiar face on television.*

**I**T IS 10:01 A.M. Moscow time and the whole world is listening to the radio report from Moscow. The whole world holds its breath. A man in outer space!

We know his name. We know he is a Russian, a Soviet citizen. We know very little else about him.

We drive through Moscow along an ordinary street. We stop at an ordinary house, climb an ordinary staircase. We press the button and the door is opened by a young woman like any other. Is this the Gagarin apartment? Yes, it is.

Can we explain to you what it is we feel when we go into the apartment? This is where *he* lives. A living room, bedroom, kitchen, curtains, bookshelves, a round table, a television set, a radio set.

TV and radio are both turned on. The whole world is listening to Gagarin. The whole world thinks of him as its son. He is the son of the earth. The whole earth listens. The whole earth waits.

His wife and his two daughters, Lena and Galya, are in this room. His wife's name is Valya. We congratulate her. She is a bit shy but happy and glowing. Her face expresses a mixture of involved and contradictory feelings. He is in outer space! He says he feels fine! With trembling hand she records the hour and minute in a school notebook—when he talks to the earth, talks to her, talks to their children, talks to his people, talks to the world. She waits. She can't talk. The room is full of neighbors. They, too, listen to the radio.

Little Lena says, "That's my daddy." She stops chewing on her apple.

The flight goes on. Yuri Gagarin feels fine. His wife adjusts the radio. She brushes the tears from her face, smiles.

On the round table are three photo albums. Here he is a boy in shorts running to the river; the picture was taken in his native village. Here he is with schoolmates, a cheery



*Valya's face is a study of intense anxiety as the signal to descend is given.*

towheaded youngster. Here he is with a teacher. And here he is a Young Pioneer, bashful, putting on his Pioneer neckerchief. And in this one he is in school uniform, almost grown.

We turn the pages of the album. He is somewhere in this big group picture. The sign reads "Saratov Industrial College, 1955." Among these scores of young people we look for Yuri Gagarin. On the same page is another photo. Yuri is standing on the wings of a plane. He is waving to someone and looks as though he had just heard something funny.

He has graduated from college and won his Aero Club license at the same time. He wants to be a flyer. Soon he will be changing the two hammers on the collar of his school uniform for two wings.

The flight goes on, the TV commentator announces solemnly. Valya notes down the hour and minute in her notebook, and his condition.

Yuri heads along the great path to the cosmos. The photos show him physically fit, trained, thinned down. Between the pages of the album we find awards for service, for activities, for basketball. Here he is in a game. This one shows him getting into a plane. Another honor award, this one from the Central Committee of the Young Communist League, and a note, "Your friends congratulate you on your first flight."

We turn another page and meet Valya for the first time; she is in a nurse's uniform. In another picture she wears a party dress. This one, we suspect, must have been made especially for Yuri. With Valya's permission we copy the inscription on the back of the photo. "Yuri, remember that we are the molders of our own happiness. Do not bow your head before the fates. Keep in mind that waiting takes wisdom. Keep this feeling in your heart until that happiest of moments when we shall be together. March 9, 1957. Valya."



And his reply, "To my dearest, very beloved Valya. Let this photograph help to remind you of our everlasting love. March 16, 1958. Yuri."

On the next pages the two, Valentina and Yuri, walk together. They stroll in the woods picking flowers . . . Get sunburned on the river . . . They are with friends. . . . They marry. His father, Alexei Ivanovich Gagarin, stands with him. His mother, Anna Timofeyevna, looks lovingly at the newlyweds. . . . A new addition to the family, a girl, they call her Alyonka. You can't see her face, it's hidden by the cover, but you can see the happiness on the faces of her father and mother as they push the baby carriage with its most precious contents. . . . Lena's first steps.

The flight goes on. Successful. Think of what must be happening in the world. Think how many people must be listening to this radio broadcast.

Valya puts the child on her lap and hands her a doll. This was the doll her father gave Lena just before his flight into the cosmos.

"He says he's well . . . well . . . do you understand, Lena?" And Valya brushes away the tears again.

But the photographs do not tell the whole story. Before the cosmic ship was launched

there were long preparations. Yuri was well trained for this flight. Day after day he came home exhausted. Valya did not ask him why he was so tired. All he told her was, "This is an important assignment."

He is 27 years old. He lived with us. He sat with us in the movies on Saturday night. He pushed a baby carriage in the park. He went to parties, played basketball, billiards. We had no idea of the work he was doing. He was preparing for a flight into space.

Lena starts a second apple. Little Galya begins to cry and Valya picks her up.

"The cosmic ship has landed!" Wonderful words for those sitting in this room.

"Please tell the Party and the Government and Nikita Sergeevich Khrushchev personally that the landing was normal. I feel well and have no injuries or bruises."

"He is alive, my dear ones." Tears run down Valya's cheeks. She kisses her daughters. The neighbors hug her, congratulate her. We wait our turn and shake hands with a happy woman.

Gagarin . . . how many times from this moment on people all over the earth will be repeating this name . . . Major Gagarin. To her he is Yuri. To Lena and Galya he is Daddy. But the Earth calls him her son and will forever be proud of him.

**TWO LENINGRAD SISTERS**—Tamara and Irina Press—seem bent on making world records a family monopoly. Tamara, who will be 24 in May, has put the shot and thrown the discus farther than any other woman in the world—and farther than many men as well. In Rome she won the gold and silver medals respectively in these events. Irina, who was 22 a few months ago, has the world's highest point rating in the five events of the pentathlon, including the 80-meter hurdles that brought her a gold medal at the 1960 Olympic Games.

When the two sisters made Olympic headlines, editors clamored for biographical details. Western newsmen found nothing more unusual about the girls than that Tamara liked "kefir," a fermented milk drink, but they wouldn't commit themselves as to whether it was that which gave her the muscle and winning know-how.

As a matter of fact, there is nothing especially unusual about the background of the Press girls. They were born in the Ukrainian city of Kharkov. During the war the family was evacuated to Samarkand, in Central Asia. Their father was killed in action. The girls finished secondary school and went on to college in Leningrad, Tamara to study construction engineering and Irina railroad engineering.

Their athletic backgrounds, too, are quite typical. Both girls were about as active in school sports as most Soviet children. In 1955 Tamara was spotted at the USSR School Sports Tournament by Victor Alexeyev, the Leningrad coach who is called "the maker of champions." His Children's Sports Center in Leningrad is famous not only for developing winners but for the pioneering work it has been doing in physical fitness generally.

Victor Alexeyev, who has an uncanny way of spotting championship material in embryo, got Tamara interested. He talked her into coming to Leningrad for her college education. She followed her mentor's advice to specialize in the shotput and the discus. But after a year of hard work, she placed only fourteenth in the discus and twenty-second in the shotput, enough to discourage anyone—except a protégé of Alexeyev's. He was the one who convinced Tamara that the "T" in her name stood for tenacity.

In 1957 Irina placed third in the hurdles at the USSR School Sports Tournament. At the age of 18 she was rated as one of the best pentathlon performers in the country.

That is how the sisters got their start. The question arises, "Suppose Alexeyev had not been there to do the spotting, then what?" The way Soviet sports are set up, there is no "then what." Contenders for the USSR national in track-and-field events come from every part of the country. An athlete does not have to be "spotted" to compete; all he has to do is meet the qualifications, and that can be done anywhere.

Gabriel Korobkov, USSR Olympic coach, tells how he flew across two continents to watch Boris Yefimov, a Siberian industrial worker, run long distance. Yefimov, who is a likely Olympic prospect, ran in 40-below frosts

# TWO SISTERS —







# THREE WORLD RECORDS

By Victor Kuprianov

to train for the 10,000-meter race with a towel wrapped around his mouth and nose so he could breathe. All national school sports tournaments are also covered; no likely prospect can escape notice.

But to get back to Victor Alexeyev, the "maker of champions." His training system follows the pattern used generally in the Soviet Union. First comes physical fitness and over-all physical development. His main job, as Alexeyev sees it, is to get children to participate in sports as the best way to keep fit. After that comes specialization. He helps youngsters to pick their specialty, and he has an amazing faculty for making the right selection.

Soviet sportsmen are not hothouse products. The training system is not geared just to make athletes look good as exhibition performers; it is designed to develop in every athlete a strong will to fight and win.

The Press sisters are good examples. In 1958 Tamara hit a slump. But she did not give up. She kept at it until by the end of the season her showing in the shotput was the world's second best—right behind Galina Zybina's. At the Melbourne Olympic tryouts Tamara had hopes of making the team but was turned down as a candidate with little chance and no prospects. But even that did not dishearten her; she was aware that it took hard work to bring results. That's the simple idea on which the whole pattern of training athletes hinges—simple, but very important. It explains Soviet victories that otherwise would have to be classified as unexplainable—like the world's best high jumper, American John Thomas, losing to Robert Shavlakadze and Valeri Brumel of the USSR in Rome.

Soviet athletes are trained to perform best under pressure, and tournament schedules are worked out so as to give every athlete maximum competition. In 1960, the Olympic year, Irina took part in 50 tournaments; she won eight gold medals and three silver medals. Tamara took part in forty; she won six gold medals and one silver. When the two girls got to Rome, they were all set to fight for the gold medals, and they did.

The Press sisters are serious about everything they do, training included. They know there is considerable room for improvement and are out to prove it with this year's results. They take their studies just as seriously, and coaches at times bite their fingernails while the sisters study for exams. They want to be good athletes and good engineers too.

You sometimes hear the statement made that sports rob women of their femininity. The Press sisters are two living arguments to the contrary. Both are very charming and popular young women with lots of friends. But, we are told by someone who should know, neither of them is thinking of marriage yet. Study comes first. That's why they travel with their textbooks.

For these two young athletes 1960 was a red-letter year. It brought them government decorations for outstanding achievement, three Olympic medals and three world records. This year they hope to do even better, and it is very likely that they will.



*At the home of Yuri Gagarin's family. From left to right: Boris Alexeyevich, Yuri's brother; Aza, wife of Boris; Valentin Alexeyevich, Yuri's brother; Zoya Alexeyevna, Yuri's sister; Antonina Savelyevna, Yuri's cousin; Tamara, daughter of Zoya Alexeyevna. In the center is Yuri's father Alexei Ivanovich Gagarin.*



