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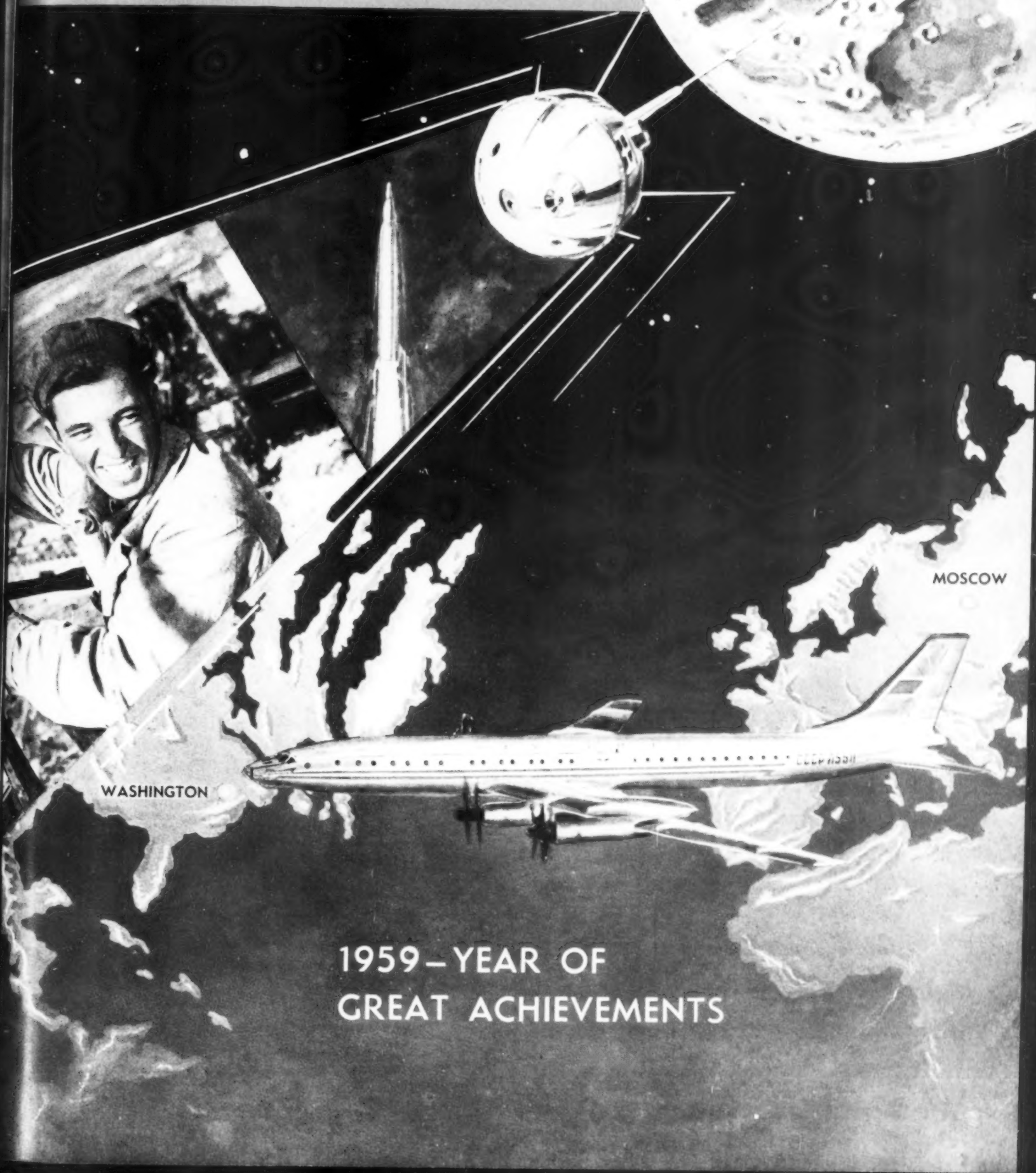

1959—YEAR OF GREAT ACHIEVEMENTS

THE SOVIET AUTOMATIC INTERPLANETARY STATION PHOTOGRAPHING THE SIDE OF THE MOON MAN NEVER SEES.

USSR

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1959

YEAR OF GREAT ACHIEVEMENTS

THE YEAR 1959 will go down in the history of the Soviet Union as a year of great achievements, one which saw mankind's century-old hopes changing into the realities of day-to-day living.

For the Soviet people 1959 was the first year of the seven-year plan. It was a year of marked progress in every sector of the Soviet national economy, one that established the certainty that the great program for industrial, agricultural, technological and scientific development, on which the Soviet people are embarked will be completed long before 1965, the scheduled end of the plan.

A good start has been made in the first year of the seven-year period. Preliminary data indicate that Soviet industry will fulfill its annual plan by 104-105 per cent. This means that as much as 40,000-50,000 million rubles worth of produce will be manufactured over and above the plan. The year witnessed a substantial rise in the well-being of the Soviet people. More commodities of better quality were available, millions of families moved into newly built apartments, the working day was cut. Thus, with their creative effort and the acceleration of technical progress, the Soviet people introduced effective changes in the initial figures of the seven-year plan.

During the year the Soviet Union expanded its foreign trade very considerably. The most comprehensive trade agreement of the post-war years was concluded with Great Britain following Prime Minister Macmillan's visit to the Soviet Union. Even the short time during which the agreement has been in operation promises a very considerable increase in the volume of trade between the two countries.

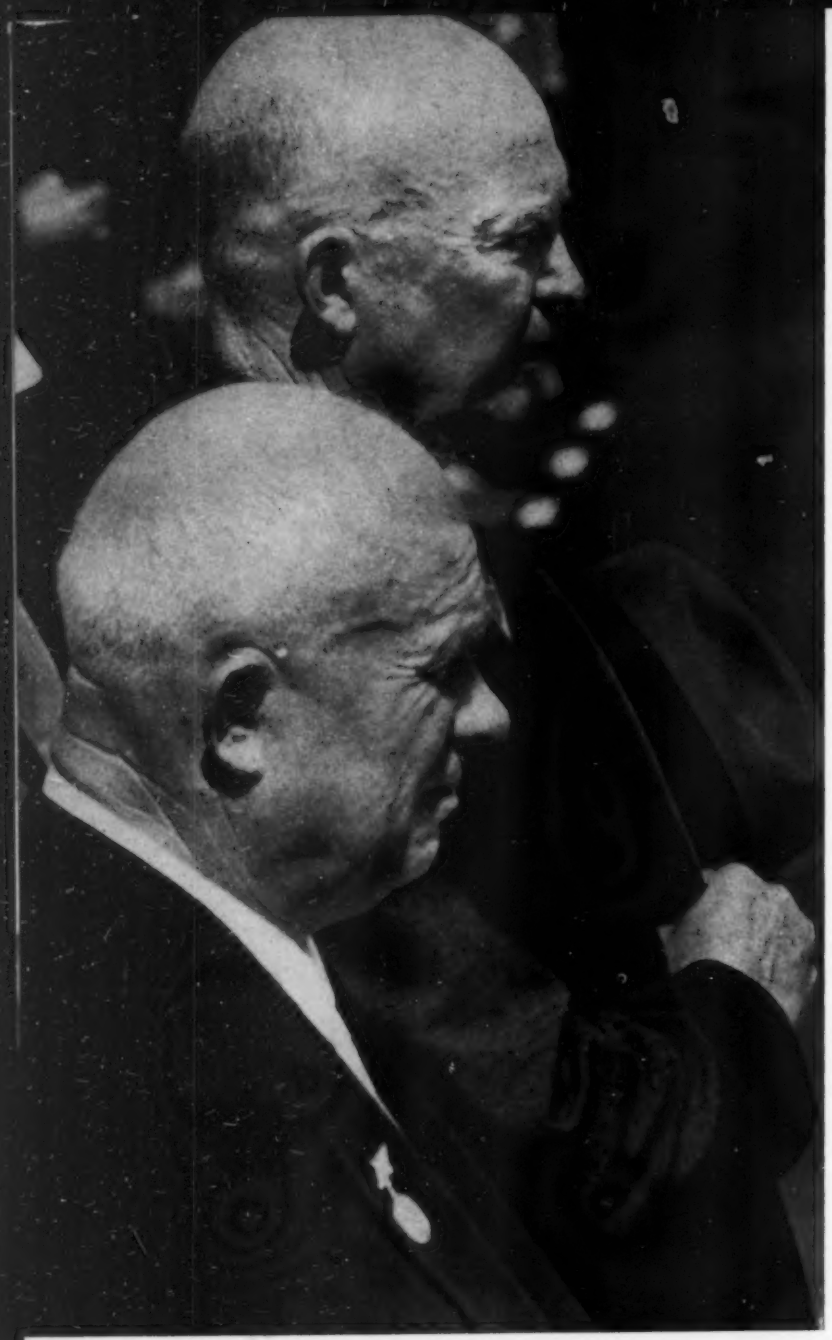
Twenty years ago the USSR was in 16th place in volume of foreign trade; it has climbed to 6th place and is moving upward rapidly. At present the Soviet Union has trade agreements with 70 countries, among them France, Italy, West Germany, Sweden, Finland, Latin America and, of course, the socialist countries.

Trade relations have values other than mutual profit, although this is by no means a negligible factor. Equally important is the fact that they are part of the normal pattern of peaceful and friendly relations. It is for both reasons that the Soviet Union looks forward to the resumption of large scale American-Soviet trade.

The economic gap between the Soviet Union and the United States is narrowing with extraordinary rapidity. It will not be long before it is completely closed and the Soviet Union, propelled by the vastly creative efforts of its people, will surge far ahead in the race for the productive leadership of the world, for the happiness and welfare of the people. The year of 1959 has proved it.

The outstanding advance of the year was in Soviet science. It was in 1957 that the Soviet Union launched the first sputnik and with it opened the space age. The moon then seemed a remote and inaccessible planet to be reached after many years of research. Only two years later, however, on September 12, 1959, Soviet science shot a rocket to the moon and left on its surface a sphere with the coat of arms of the USSR.

The congratulatory messages had hardly ceased pouring in when a new Soviet space laboratory circumnavigated the moon, moving with incredible accuracy along a plotted trajectory and photographing the hidden side of the moon. These great feats and such other scientific achievements as the world's first atomic icebreaker, *Lenin*, launched this year, stand as tributes to Soviet scientists. But in a larger and more significant sense they are tributes to thinking and exploring man.



N. S. KHRUSHCHEV: MAY THE TWO WORDS—PEACE AND FRIENDSHIP—GUIDE US

1959
YEAR OF GREAT ACHIEVEMENTS

Camp David Spirit

This year now ending was one of the most hopeful and promising of our turbulent era, its leading motif expressed in the momentous phrase from the Camp David Joint Soviet-American communique, that "all outstanding international questions should be settled not by the application of force but by peaceful means through negotiation."

This was a year of great meetings. By far the most significant were those between Dwight D. Eisenhower and Nikita S. Khrushchev. The Soviet leader's thirteen-day visit to the United States is conceded to be the most important international event of the postwar period. It was particularly notable, aside from its official character, for the fact that the Soviet envoy met the American people and that they met him, and that the meetings served to further American-Soviet friendship.

With untiring cordiality and good will, Chairman Khrushchev spoke with Americans of all walks of life—statesmen and politicians, men from the world of business and finance, union longshoremen, midwest farmers, Pittsburgh steelworkers, housewives shopping in a supermarket and told them of the peaceful aspirations of the Soviet people. His speeches helped immeasurably to break down old misconceptions and prejudices that had accumulated over the years of the cold war—that period of unhappy isolation between the people of the two countries.

Speaking at a meeting recently, Khrushchev reiterated the statement he had made on frequent occasions during his visit: "The majority of the American people do not want war and are eager for peaceful cooperation between our countries."

The Chairman's visit to the United States was followed by one to China where he conveyed the cordial greetings of the Soviet people to the Chinese people on the occasion of the tenth anniversary celebrations of the People's Republic of China. At a reception in Peking, Khrushchev emphasized the close ties of friendship between the two socialist countries. "The past decade showed the giant force latent in the Chinese people," he said. "It was the struggle for national independence and the endeavor to build socialism which released that spiritual power."

There were other official meetings of statesmen during the year that helped to cement relations. British Prime Minister Harold Macmillan and Foreign Affairs Secretary Selwyn Lloyd toured the Soviet Union. Anastas Mikoyan and Frol Kozlov, both First Deputy Chairmen of the USSR Council of Ministers, visited the United States. Vice-President Nixon came to Moscow to open the American National Exhibition.

These visits and the many exchanges of scientists, educators, musicians, businessmen and tourists all helped to thaw the ice of the cold war, to create a friendlier climate for the forthcoming summit talks in the spirit of the Camp David communique. For that alone, 1959 was a milestone year.

Disarm Completely

The year will stand out in history for the sweeping disarmament proposal made by the Soviet Union—a plan for complete and general disarmament. "The essence of our proposal," said Khrushchev in his speech to the United Nations General Assembly, "is to have all states disarm completely within four years so they will have no means left to wage war." In the interim and should the Western Powers not be prepared for so sweeping a measure to free the world of the threat of war, the Soviet Union is prepared to consider any serious proposals for partial disarmament.

Peaceful coexistence requires that the arms race be ended. It means that efforts must finally be made to dispose of the left-overs of the Second World War. It means that the cold war must cease.

In his speech before the Supreme Soviet, the Chairman of the Council of Ministers of the USSR once again stressed that the Soviet proposals on disarmament were prompted solely by human considerations and are aimed at banning war with the terrible disasters it can bring in this age of thermonuclear weapons. With regard to controls, the Soviet Union proposes that they be established and strictly enforced to guarantee that all the states which make the sacred pledges on disarmament carry them out.

In its appeal to the parliaments of all countries of the world adopted October 31, 1959, the Supreme Soviet of the USSR pointed out that solution of the disarmament problem is in the hands of the people.

"A special responsibility," the appeal says, "lies with the parliaments, governments and statesmen. The people, the electorate expect the parliaments to have their say. It is precisely the parliaments and governments that must persistently and purposefully search for way of solving disputed international problems; above all, the most pressing problem of our time—the problem of disarmament. . . .

"There are realistic ways for solving the problem of total and general disarmament. These are set forth in the Soviet Government's proposals submitted to the United Nations. Now it directly depends on the governments and parliaments of other countries above all, the biggest powers, on their good will and desire, whether the manufacture of instruments of death and destruction is stopped and the arm stockpiles destroyed, whether mankind goes along the path to a fatal war or takes to the path of peaceful development."

The USSR Supreme Soviet and the Soviet government in conformity

with the will of the Soviet people, are doing their utmost to settle the disarmament problem and to turn the achieved relaxation of international tension into a lasting peace. The USSR Supreme Soviet expressed the hope that the parliaments and members of the parliaments of all countries will do their best "to achieve disarmament and open up before mankind the path to eternal peace on earth."

Time of Peace and Progress

Toward the close of the year the Supreme Soviet of the USSR met in Moscow to consider and adopt the year's program for economic development and the national budget for 1960. At the joint final session of the Soviet of the Union and the Soviet of Nationalities, the USSR's two legislative bodies, N. S. Khrushchev delivered a report on foreign policy and the international situation. In his assessment of the international situation, the head of the Soviet government stressed the fact that of late tension in international relations had relaxed considerably and that more favorable prospects existed for the consolidation of peace throughout the world. How did this come about? What are the major reasons for the changes in the international situation?

Khrushchev indicated that the underlying reason that times had changed was the growth in strength and international prestige of the Soviet Union and of all the socialist countries. He declared that a more sober assessment of the situation had begun to prevail in the West, together with a more realistic appraisal of the relationship of forces which had taken place on a world scale.

Such an approach, he noted, must inevitably lead to the conclusion that plans for the use of armed force against the socialist world have become outdated. "Life itself demands," he said, "that states with different social systems learn to live in peace on our planet, to coexist peacefully."

Peaceful coexistence is an objective necessity prompted by the present situation in the world and by the present state of development of human society.

The principle of peaceful coexistence of states with different social systems, the Chairman indicated, means non-interference in each other's domestic affairs, the necessity for mutual concessions and compromises, the need for both sides to strive to solve problems by peaceful means, not by recourse to arms. But it must be kept in mind that mutual concessions in the interest of peaceful coexistence must not be confused with concessions of principles. There can be no concessions with regard to questions of ideology.

"The only possible existence is coexistence," a recent editorial commented in the British newspaper *Star*. That is as close to the heart of the matter as any one is ever likely to come. In this age of hydrogen bombs and intercontinental missiles, war is inconceivable. It would bring death and destruction to every corner of the globe. The only sane alternative in a world with two different systems is peaceful coexistence.

There are bound to be differences in two ways of life as basically dissimilar as capitalism and socialism. But these are differences of ideology, they do not necessarily affect relations between states. The Soviet Union and the United States have no territorial disputes, nor are they contending for markets and sources of raw material. Here then the most basic element for hostility and armed conflict is ruled out of the international picture.

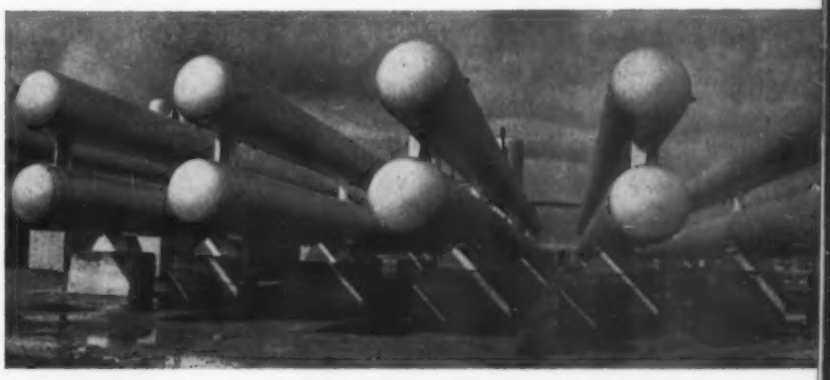
The peaceful competition between the two systems is essentially a constructive one—which system is the more progressive, which can give its adherents more of the good things of life—food, clothing, housing. education, leisure and security.

Common interests in the preservation of peace, this decisive issue for all, is, in the Soviet people's opinion, the real bond that will promote peaceful coexistence between two different social systems. The year 1959 strengthened the hope among Soviet people and also among all the people of the world that the idea of peaceful coexistence would triumph.

Nikita S. Khrushchev in his report to the Soviet people on his visit to the United States phrased the question which every right-thinking person, every humanist, is asking in this time of great discoveries: "Must we, in this period when flowering human genius is penetrating the secrets of nature and harnessing its mighty forces, reconcile ourselves to the perpetuation of relations that existed between people when man was still a beast? . . . Today nothing can justify the preservation of the kind of relations that existed between primitive people. Our time can and should become a time for the realization of great ideals, a time of peace and progress."

IN 1959 THE USSR BUILT MORE THAN 925 MILLION SQUARE FEET OF URBAN HOUSING.

SOVIET TECHNICAL SCHOOLS GRADUATED 106,000 ENGINEERS IN 1959.



1959 INDUSTRIAL OUTPUT WILL TOP THE TARGET FIGURE BY 4 TO 5 PER CENT.

MORE GRAIN, MEAT AND DAIRY PRODUCTS FOR THE SOVIET FAMILY.

The Year's History in pictures

ON THE FOLLOWING PAGES we present a photo-chronicle of some of the most important events of the outgoing year. Were space available any number of other events in addition to the ones we have chosen would be included.

These photos are in the nature of a sampling. They do not give a detailed picture of the day-to-day progress of the Soviet Union nor of the work under way that opens new horizons for the Soviet people and for the people of the world.

The journalist Lincoln Steffens, in his famous autobiography, said about the Soviet Union, "I have seen the future and it works." Here we have the future brought up-to-date by a people who had chosen socialism as their way of life at the time Steffens was writing that phrase. For 42 years socialism has been a daily reality in the Soviet Union. Developing out of that reality is a new type of man.

This developing socialist man is depicted in other articles in this issue—*Communist Work Team at a Railroad Depot, People's Universities* and *Degtyarsk—Copper City in the Urals.*

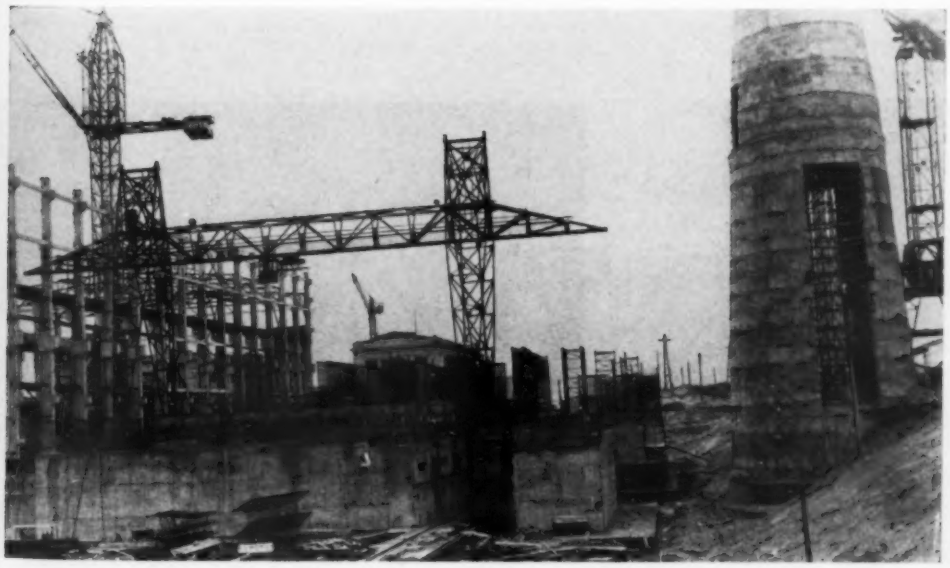
His work and accomplishments are described in the articles *The First Year of the 7-Year Plan, Moon's Hidden Side Photographed by Soviet Space Camera, Atomic Icebreaker* and in these photos.

Readers will find the beginning of the *1959 Photo-History* on the front and back covers of the magazine. Pictured are the Soviet cosmic rockets which flew to the moon and around it; the airliner TU-114 which flew N. S. Khrushchev on a good-will mission to the United States; the *Lenin*, the world's first atom-powered icebreaker embarking on its maiden voyage; and the labor triumphs of the first year of the seven-year plan.

THE CONGRESS OF COMMUNISM BUILDERS, the Soviet people named the Twenty-First Congress of the Communist Party of the Soviet Union, held in Moscow on January 27—February 5. The Congress adopted the USSR Seven-Year Plan for 1959-1965, presented by Nikita S. Khrushchev, First Secretary of the Party's Central Committee and the Chairman of the USSR Council of Ministers.

MEMORABLE EVENTS OF 1959

HEROINE OF SOCIALIST LABOR. The title was given textile worker Valentina Gaganova, (third from right), who left an advanced group to join a lagging team of shopmates, though it meant a cut in pay, in order to show them how to raise their production level. Gaganova's initiative, motivated by her communist attitude toward work has been emulated by thousands of Soviet workers and farmers.



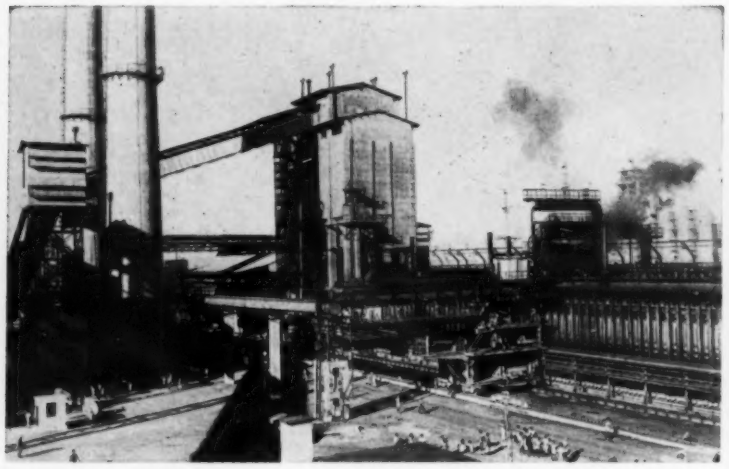
AN ATOMIC POWER STATION going up near Voronezh, one of many under construction in the first year of the seven-year plan. Atomic stations will absorb an increasingly larger share of the country's power balance. This year marked the fifth anniversary of the Soviet Union's—and the world's—first atomic station that pioneered an intensive atomic power development program.

THREE COSMIC ROCKETS were launched this year in the Soviet Union's space exploration program. Their flights were followed by young and old all over the world.

Memorable Events of 1959

BRITISH PRIME MINISTER Harold Macmillan made an official visit to the Soviet Union. The fruitful talks between Mr. Macmillan and N. S. Khrushchev led an almost twofold increase in the exchange undertakings between Britain and the Soviet Union. The Prime Minister's visit was one of a number of meetings with foreign statesmen this year which contributed to improved international relations.

ANASTAS MIKOYAN, the USSR's First Deputy Premier, made a cross-country tour of the United States in January. His talks with Americans of many different walks of life helped to build better understanding between the Soviet and American people



FRIENDLY ASSISTANCE given to underdeveloped foreign countries with no political strings attached. This is one of the buildings in a metallurgy plant constructed in Bhilai, India, this year by Soviet and Indian workers. Projects like this one are financed by Soviet long-term, low interest loans.

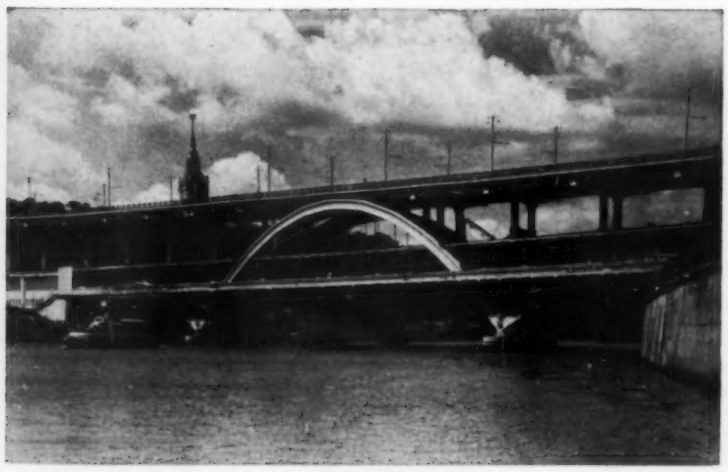
AT THE LEIPZIG SPRING FAIR, one of many exhibitions at which the Soviet Union displayed a large assortment of industrial and consumer goods. During 1960 the USSR plans to take a larger part in these fairs, which promote friendship by providing a medium for better understanding among nations.

THIRTEEN HUNDRED DELEGATES represented the country's 53 million industrial and office workers at the Twelfth Trade Union Congress which met in Moscow in March. The Congress considered the job required of the unions by the seven-year plan.

THE AVIATION INDUSTRY turned out many new models of passenger planes during the year. Both the TU-104B, a turbojet which carries 100 passengers, and the turboprop TU-114, shown in this photo, went into service in the Soviet Civil Air Fleet.

ART EXHIBITIONS seen by Muscovites this year included a show of the Art of the Socialist Countries, paintings from New Zealand, modern Greek engravings and the fine arts of Iceland. Soviet Artist Sergei Konenkov opening one of the art shows.

PEOPLE'S UNIVERSITY is the term usually used to describe the USSR Exhibition of Economic Achievements in Moscow. People from all over the country come to see the displays of outstanding factories, farms, design and research institutes, to learn about the latest developments in every field of endeavor.



A NEW TWO-DECKER BRIDGE to span the Moscow River was built this year. It carries the cars of the expanding Moscow Metro and cuts travel time to the southwestern section of Moscow, one of the fastest growing parts of the city, where whole blocks of apartment houses have been built at a very fast rate.

USSR SUPREME SOVIET DEPUTIES visited Britain this spring. The delegation headed by Mikhail Suslov (second from left), met with Members of Parliament and political leaders to exchange legislative experience and further interparliamentary contacts.

Memorable Events of 1959

A LENIN PEACE PRIZE was awarded to Nikita Khrushchev this year for his work on behalf of world peace, and to the American scholar William DuBois, the German labor leader Otto Buchwitz, the Greek writer Kostas Varnalis and the British journalist Ivor Montagu.

FOR OUTSTANDING CONTRIBUTIONS to science, technology, literature and the arts Lenin prizes are awarded annually. A group of this year's winners (left to right), playwright N. Pogodin, actors B. Smirnov and M. Straukh, film director Y. Solntseva, sculptor A. Kibalnikov and composer A. Khachaturyan.

AN AGREEMENT concluded between Great Britain and the Soviet Union in March very much broadened the areas of exchange between the two countries in the arts, education, science and technology. G. Zhukov (right) and K. Mayhew sign the agreement.

THE AMERICAN NATIONAL EXHIBITION opened on July 24 at Sokolniki, one of Moscow's most popular parks. It was officially opened by Vice-President Nixon who flew to the USSR for the occasion. It ran for 42 days and was visited by more than 2 million people from all over the Soviet Union who came to get acquainted with the United States.

A WORLD YOUTH and Student Festival was held in Vienna during the summer. Attending as delegates were 800 young Soviet workers and students. The Soviet and French delegations get together.

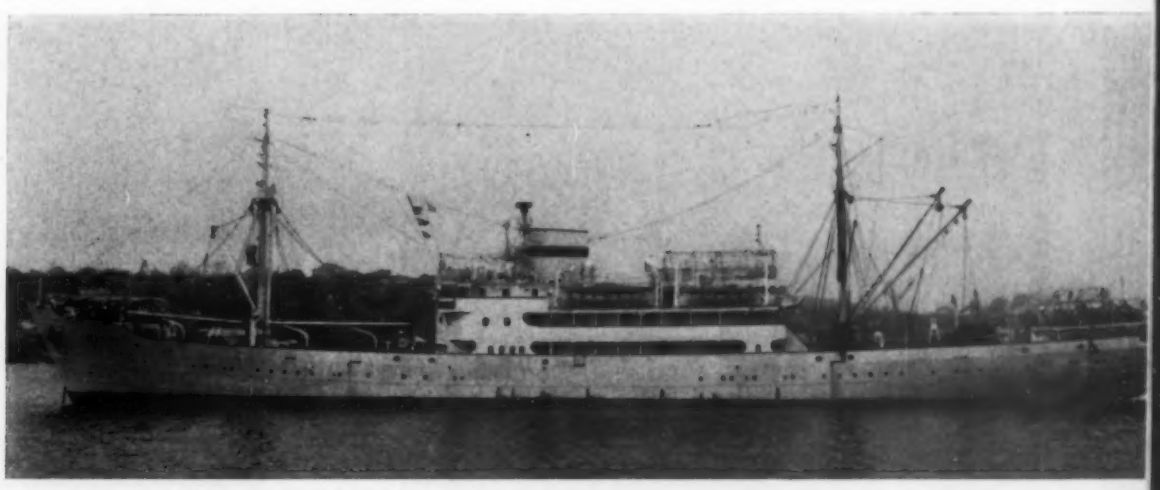
THE ANGARA RIVER IS DAMMED OFF. The great project was completed in an extraordinarily short time. The builders are now working on the hydroelectric station, trying to get that too done ahead of schedule. It will be the largest in the world.

THE SOVIET EXHIBITION OF Science, Technology and Culture held at the Coliseum in New York last summer was opened by Frol Kozlov, USSR First Deputy Premier. During the 42 days of its run, 1,200,000 Americans saw 10,000 displays which gave them a glimpse of the life and work of Soviet people.

THE THIRD WRITERS CONGRESS met this year. Men of letters from 49 of the nationalities of the USSR participated. The discussion emphasized the greater demands that Soviet writers were making on themselves with regard to the quality of their material and their sense of responsibility to society.

A HOUSE OF FRIENDSHIP with Peoples of Foreign Countries was opened in Moscow this year to serve as a center for international meetings, art exhibitions, seminars, film festivals, concerts and other events that help to build understanding.

TOWARD MANNED FLIGHT. On July 10 one of these dogs made his fourth cosmic voyage. These veterans bring back invaluable data.



THE WORLD'S OCEANS were explored and a comprehensive program of scientific investigation carried on by such floating laboratories as the "VITYAZ," part of a flotilla of Soviet scientific ships that include the "Zarya," the only non-magnetic vessel in the world; the "Ob" and the "Lena" that explore the Antarctic waters, and the "Mikhail Lomonosov" that dropped anchor in New York for the Oceanographic Congress.

Memorable Events of 1959

LET US DISARM, Khrushchev said in a speech to the General Assembly of the United Nations when he visited the United States this fall. He proposed a plan for complete and general disarmament within a period of four years so that no nation would have the means with which to wage war. "The new proposal of the Soviet Government," he said, "is prompted by the sole desire to secure a truly lasting peace."

SOVIET-AMERICAN cultural exchange program had a successful year. The Bolshoi dancers were among the Soviet artists who performed in the USA, while Soviet audiences applauded visiting American artists.

NATIONAL FESTIVALS have become traditional, providing the opportunity to review the artistic achievements of the various republics. This is a dance company at the ten-day festival of Karelian cultural arts held in Moscow this summer, during which opera groups, choruses and drama companies performed in the theaters of the capitol.

AMERICANS IN LARGER NUMBERS visited the Soviet Union this year. All of them met with the customary Russian friendliness and warmth. Here a group interested in atomic developments is on a visit to the Institute of Joint Nuclear Research at Dubna.

WORLD'S FIRST ATOMIC ICEBREAKER, the "Lenin", was launched this year as part of the USSR program for development of atomic energy for peaceful purposes. John McCone, who is head of the United States Atomic Energy Commission, is taken through the new ship by builder V. Chervyakov.

MISSION OF PEACE AND FRIENDSHIP is what people the world over called the visit of the head of the Soviet Government to the United States, hailing it as the most important step in postwar years toward the establishment of lasting peace.

MEETINGS WITH AMERICANS convinced us, said Nikita S. Khrushchev that American people do not want war and are for peace and friendship with the Soviet people. Mesta machine plant workers in Pittsburgh asked the Chairman to convey their warm greetings to the workers of the Soviet Union.

AMERICAN FARMERS on a tour of the USSR find that Soviet farm machinery handles well. This exchange delegation was one of many which bore witness to this year's growing USSR-USA contacts.

ON A VISIT TO CHINA with a Soviet government delegation Nikita Khrushchev is greeted at the Peking airport by Mao Tse-tung and Chou En-lai. The delegation arrived to celebrate the tenth anniversary of the People's Republic of China. The friendly visit demonstrated the friendship and fraternal cooperation that exists between the two great socialist countries

AUTOMATION of industrial plants was speeded up during the year to meet the target figures of the seven-year plan ahead of schedule. The work was spurred by a plenary session of the Central Committee of the Communist Party that was held in June.

THE SUPREME SOVIET met before the close of the year to consider a report on progress made during 1959 and to adopt a budget for the year ahead whose allocations for higher wages, more housing and social services and larger quantities of consumer goods attest to a constantly rising Soviet living standard.

MISSION OF PEACE A

APPROVED BY TH

IT IS a basic precept of socialist democracy that government officials, whether they hold a village post or lead the nation, report on their activities to the people. It was in affirmation of this principle to which the Soviet Union has adhered since its founding days that Nikita S. Khrushchev went directly from the plane which brought him home from his historic American visit to a great meeting in Moscow attended by 15,000 people. There he made his report to the nation.

Following that welcoming rally he spoke at a mass meeting in Vladivostok, then to the builders of the giant Bratsk hydroelectric project in Siberia, then to the people of Krasnoyarsk and Novosibirsk.

After the Chairman's reports, meetings were held in every town and village, every factory and collective farm at which the Soviet people discussed the visit, its values and its probable consequences. Together with peace-loving people in every other country, they were unanimously agreed that N. S. Khrushchev's historic mission was a great contribution to world peace.

At these meetings of machine builders in a Moscow plant, metal workers in a Siberian mill, clothing workers in a Moldavian factory, cotton growers on an Uzbek collective farm, men and women pledged their efforts to build for peace by completing the country's seven-year economic plan ahead of schedule.

Typical of the meetings held elsewhere in the Soviet Union was the rally at the Tryokhgornaya Mills, one of the oldest textile plants in Moscow. As is customary at important public gatherings, the most highly respected workers of the mill sat in honored places on the stage beneath a portrait of Lenin. The auditorium was festooned with a great streamer that read "Long live friendship and cooperation between the people of the United States and the Soviet Union in their joint work to end the cold war and bring peace to the world."

This was the theme of the meeting. It began with a report by Vsevolod Parkhitko, correspondent of the newspaper *Sovietskaya Rossia (Soviet Russia)*, who together with forty Soviet newspapermen had covered N. S. Khrushchev's tour across the United States. The speaker termed the visit an event which had stirred the minds and hearts of people everywhere in the world. After a short account of the Chairman's visit the floor was thrown open for discussion.

CE AND FRIENDSHIP

BY THE PEOPLE

The first person to speak was **Darya Smirnova,** a spinner, who has been working at the mill for the last 26 years, ever since she finished trade school.

"Like everybody else," she said, "I followed Nikita Khrushchev's tour with great interest, for he was taking the trip on our behalf, on behalf of all the Soviet people, as an emissary of peace. It was we, the Soviet people, who had authorized the Chairman to tell the American people and their statesmen that we do not want war.

"We authorized Nikita Sergeyevich to tell the American people that the Soviet people want to live in peace and friendship with them.

"The last war left many wounds in our hearts which will never heal. I was 23 years old when it began. My husband went to the front and never came back. It is sad to be widowed at 23. That is what the war did to me and that is why I hate it.

"N. S. Khrushchev expressed my hatred for war in his American speeches. He was perfectly right when he said that war could and should be avoided, that countries with different social systems could and should dwell on one planet together.

"One feels like thinking, reading, and talking about such events as this visit all the time. Particularly important, to my mind, was Nikita Sergeyevich's speech at the United Nations General Assembly. Like most of my countrymen, I welcome the Soviet Union's proposal for general disarmament. The realization of this plan would free enormous resources for peaceful purposes: for the development of industry and agriculture, science and culture, and a better life for all the people in the world.

"N. S. Khrushchev was our emissary for peace and he fulfilled his mission well. We Soviet people have the custom that the good actions of one man must be followed by the good actions of others. Nikita Sergeyevich worked honestly for the glory of peace, and we must not lag behind him. Our sphere is labor. Let us fulfill the annual production plan a month and a half ahead of time. Let us meet the target figures of the seven-year plan in five years. It is altogether possible."

Carpenter **Alexander Savrasov** then asked for the floor on behalf of the war veterans.

He said: "This is the first time in the history of the Soviet State that the Chairman of the Council of Ministers of the USSR went to America. N. S. Khrushchev's visit and his talks with President Dwight Eisenhower have already yielded results. The ground has been laid for establishing stable peace. The road has been opened for friendlier relations between the people of the Soviet Union and the United States. War as a means of solving differences is slipping into the past. There must be no place for war on earth.

"I was a soldier and spent the whole of the second World War at the front until I reached Berlin. All those years I saw the death and ruin of war. I saw the tears of Russian and German mothers. Now I am working at this textile mill and my son is working here with me. I don't want him ever to have to go to war. N. S. Khrushchev's visit to the United States is one of the guarantees that he will not have to. War veterans welcome the Khrushchev-Eisenhower agreement that all international disputes must be settled not by force but by peaceful means."

The next to speak was young weaver **Antonina Sivukhina.** Just past 20, Antonina came to the Tryokhgornaya Mills three years ago straight from secondary school. She took a training course and became a weaver. She is now enrolled for an advanced correspondence course at the Moscow Textile Institute.

Her sincere words about the hopes and aspirations of the Soviet people, the hope that Nikita S. Khrushchev's visit to the United States will strengthen world peace, were warmly applauded by the workers.

"I am very glad," said Antonina Sivukhina, "that N. S. Khrushchev has visited the United States. It is difficult to express the importance of his mission in a few words, but the main thing, in my opinion, is that now the people have a clearly-stated plan of peaceful coexistence with no misinterpretation possible. This plan is understandable to all: to disarm and live in friendship.

"Nikita Sergeyevich has expressed our thoughts and wishes, and that is why we young people have been reading his speeches so eagerly. We, the young people, need peace, for it is on this that our hopes for the future are pinned."

Young engineer **Cecilia Rosinskaya,** a shop superintendent, spoke of the hopes of the Soviet and American people for a lasting peace.

"The great American, Abraham Lincoln," she said, "once declared that the best thing a man could have was a friend. This splendid idea fully expresses the cherished aspirations of the Soviet and American people. The correctness of Abraham Lincoln's words is shown by Nikita S. Khrushchev's successful visit to the United States."

Let's Work Together

By Vyacheslav Yelyutin

USSR Minister of Higher Education

ALL OF US who accompanied Nikita S. Khrushchev on his historic visit to the United States were most gratified to observe with what warmth Americans welcomed the head of our government. It attested to the fact that there are no insuperable barriers to normal, friendly relations between our two great countries.

Increasing Contacts

Scientific and cultural exchanges are playing an important role in fostering better mutual understanding and friendly, good-neighbor relations between the Soviet Union and the United States. In line with a provision of the exchange agreement signed two years ago, 22 American graduate and undergraduate students studied at Soviet universities in 1958 and 17 Soviet students studied at American universities. This year the process was repeated with 27 students from each country.

We talked with our Soviet exchange students attending the University of California. There is no doubt whatsoever, judging by that conversation and others we had with Americans, that the exchanges are mutually serviceable.

American scientists and educators who visit our country are unfailingly impressed by the earnest desire of the Soviet people for peace and their resolution to build their industry, agriculture, science, education and culture in a world without war. They see evidence of that in the unceasing efforts of the Soviet colleges and universities to promote international communication; in the training provided by Soviet colleges to students from 47 foreign countries; in the active participation of our scientists in international congresses. This is being done in the interest of developing education. It serves the noble aims of disseminating scientific knowledge and bringing up a well-educated young generation.

During our American tour we visited the Universities of California, Columbia, Drake University in Des Moines and Iowa State University, and talked with the presidents and many of the professors and students. They all stressed the desirability of closer contacts between American universities and colleges and ours.

Education of the Soviet People

American university people were very much interested in our methods: the way we combine theory with practical and productive work training; how we train our specialists; in the fact that our government not only subsidizes all higher education but pays maintenance stipends to more than four-fifths of the total student body.

Some American college people were surprised to find that our courses of study for the training of engineers, agronomists and others of the applied science professions include the humanities, economics, philosophy, history of the Communist Party and foreign languages. They had been under the impression that we paid only scant attention to these general education studies and concentrated almost completely on the specialized courses.

Reason Will Triumph

We came away from these conversations with our American colleagues convinced that they wished us well, that they were as eager as we to expand contacts and to communicate ideas and experience. Our talks emphasized the positive areas in which we could work together rather than those issues on which we differed. They believed with us that in order to create understanding and build friendship we must devote our greater attention to those problems which can unite us, rather than to those which may serve to divide us.

Our peoples are united by lofty, humane ideals—the struggle for the consolidation of peace, for progress and prosperity for the whole of human society. Education and science have the long-standing tradition of serving the humane purposes of a peaceful life for the people. These aims are persistently advancing new demands, namely, to unite the efforts of our scientists, the whole of our youth, of our intellectuals in the fight for the right of all nations to live in peace and to settle all questions only by peaceful means. Human reason is gaining the upper hand in international relations and it will triumph in the end.

WITH NIKITA S. KHRUSHCHEV, YELUTIN (WITH LIGHT TIE) VISITS IOWA STATE UNIVERSITY.

MINISTER OF HIGHER EDUCATION YELUTIN TALKS TO AMERICAN TEACHERS.

We Offer a Hand of Friendship

By Vasili Yemelyanov

Chief, USSR Central Administration for Use of Atomic Energy for Peaceful Purposes

IN OCTOBER 1957, when the first Soviet sputnik went into orbit, the correspondent of an influential Dutch newspaper dropped in at the Soviet office of the International Atomic Agency in Vienna. By all indications the journalist honestly wanted to understand the remarkable event and to find an answer to a question which disturbed him profoundly.

"How do you explain," he asked, "the fact that the Soviet Union was the first to build an atomic power station, to develop an intercontinental rocket, to put an artificial earth satellite into orbit? Is it because there are more gifted people in your country than elsewhere? And if so, why?"

Why indeed? The question has been bothering a great many people these past few years. Here is a country which only recently lived through a terribly destructive war that razed whole cities, amazing the world by its scientific and technological accomplishments. How was it possible?

During his memorable tour across the United States, Nikita S. Khrushchev time and again answered the question in his speeches and in his replies to questions, explaining the sources of the tremendous achievements of our socialist country.

The Soviet Union has organized its scientific research and its technology most productively. This is a fact which even economists and scientists in capitalist countries now acknowledge. But organization is not the heart of the answer. The answer lies in the immeasurable superiority of the socialist system over the capitalist system. And it is this that explains the Soviet Union's successes.

We Soviet people are well aware of the fact that America is a rich country. But we know also that our own rate of economic development is faster and that soon the Soviet Union will not only come abreast of the most productive country of the capitalist world but will forge ahead of it.

Scientific Potential

In general, American scientists and engineers appraise the potential of Soviet science and technology with a fair degree of accuracy. There are some, however, who still operate on the old comparison of a technically developed United States and a backward Soviet Union, with only an occasional Soviet scientist making a major contribution. But those times are far in the past. Today the Soviet Union graduates three times as many engineers as the United States.

Twelve years ago, when we had not yet recovered from the war, we asked American firms to sell us laboratory equipment to equip scientific institutions we were rebuilding, which had been destroyed in the war. There were certain types of vacuum pumps, for example, that pumped at a rate of thousands of liters per second that we needed to build such machines as accelerators of nuclear particles. At the time, we did not know how to make such pumps, nor were they made in Europe. A number of American firms were making pumps with a capacity of 5,000 to 7,000 liters per second.

But there were those who held rather unreasonable positions and guided themselves by this rule: Hold others back as far as possible and as long as possible. The decision was against selling vacuum equipment to the Soviet Union.

And what was the result? We learned how to make the pumps ourselves. More than that. Soviet specialists developed advanced and varied designs of vacuum equipment that were superior. And when they were needed, our scientists designed and our engineers built vacuum pumps with a capacity of 40,000 liters per second for a 10 billion electron-volt proton synchroton, the most powerful in the world.

What we needed, we ourselves built. We made our own instruments and mechanisms and in process, we reared a brilliant group of designers equipped to solve any of the problems posed by the explosive growth of today's science and technology.

When we visited scientific institutions during our stay in the United States with Nikita Khrushchev we were very much interested in what we saw, but we did not look on awe-struck. We were equals in a common search for knowledge. We spoke to our American colleagues in language we had both mastered and that we both understood. We could appreciate and respect the complex and arduous research projects American scientists had under way because we were carrying on similar studies at home. We could make a valid judgment of a new type of instrument because we too were constantly working on new designs for equipment. In any number of research areas, whether theoretical or applied, our scientists were working along parallel lines.

We met with many American scientists during our tour of America. The common and often expressed wish was for cooperation and pooling of research. At a dinner given by the Economic Club in New York, one of the speakers, Dr. M. Kelly, expressed, I believe, the feeling of most American scientists. Dr. Kelly wants to see international scientific cooperation broadened. He is for extensive development of scientific and cultural exchange. On these propositions Soviet scientists are with him to a man.

Soviet scientists are well aware that scientific progress requires peace, while the solution of new scientific problems calls for coordinated efforts by scientists in different specialties—moreover, by scientists of more than one country. That is why Soviet scientists are for cooperation.

We offer American scientists the hand of friendship.

THE USSR'S VASILI YEMELYANOV (LEFT) AND THE USA'S JOHN McCONE—ATOMIC ENERGY ADMINISTRATORS.

Fight Jointly Against Disease

By Alexander Markov

A Member of the Collegium of the USSR Ministry of Health

ON HIS U.S. TOUR, PROFESSOR MARKOV VISITED CHILDREN'S CLINICS AND OTHER MEDICAL INSTITUTIONS.

VERY little time has gone by since N. S. Khrushchev returned from the U.S.A. During this time, however, there has been, in all countries, a growing conviction about the truly worldwide importance of this event. In all countries, press commentators with the most widely differing views are writing that the ice of the cold war is breaking up and melting and that the air is becoming warmer.

Our meetings with Americans became increasingly cordial with every day we spent in the United States.

An important condition for improving the relations between the U.S.A. and the U.S.S.R. is mutual acquaintance with the life of the peoples in our countries. Our stay in America was naturally too short to give us an opportunity to study that country in every detail. Nevertheless many of the features of the life of the people of the U.S.A. did not escape our notice.

Undoubtedly the people of the United States are distinguished by their industry, initiative and enterprise and have achieved much in the all-round development of their country.

One carries away a striking impression of the American cities, with their dazzling neon lights, their skyscrapers, their heavy motor and pedestrian traffic. We should like to note, as one of the good characteristics, the discipline of American pedestrians. No one crosses the street when the lights are against him.

A cursory acquaintance with America very clearly revealed to me one feature which has entirely disappeared in our society. I have in mind the social contrasts.

As a medical specialist I was naturally interested in the way medical assistance to the population is organized. I wanted to see clinics and medical research centers, and also to meet doctors, health workers and scientists.

In big American cities there exist what are called out-patient clinics—the nearest approach to our own polyclinics. But in America it is necessary to pay in order to have a medical examination. Therefore the doctors working in those clinics cannot even dream of preventive examinations of the population.

It is to the credit of American medical workers that they are trying to find various ways of providing medical services and are preaching the ideas of the doctor's duty to give disinterested medical aid.

Beyond doubt, American scientists are skilled specialists, very competent in their own branches of science. As a rule, however, they have little knowledge of the work of Soviet scientists as they do not know Russian and do not read Soviet scientific magazines in a systematic way. In our conversations they admitted this shortcoming and pointed out that Soviet scientists do keep abreast of the progress made by medical science in the West.

For Broader Contacts

As a rule our proposals for increasing contacts in the field of medical science met with a favorable response from American scientists. Many of them have visited the Soviet Union in the past few years; most of them dream of paying such a visit.

Among the medical practitioners and public health officials we met, we found a similar desire for broader contacts and for friendly joint work with Soviet medical workers in combating disease. They said that all mankind stood to gain from the competition between the United States and the Soviet Union in medical science, no matter who took first place. To some extent, allowing for the social conditions existing in each country, that is true.

So let us develop peaceful coexistence and let us compete in a friendly way in ensuring the well-being of our peoples—such is the will of the peoples of the United States and the Soviet Union. Let the American and Soviet medical specialists fight jointly against disease.

CONFERRING WITH SOVIET COLLEAGUES AT HOME.

Develop Our Contacts

By Nikolai Tikhonov

Chairman, Dniepropetrovsk Economic Council

I HAD THE GOOD fortune to accompany Nikita S. Khrushchev on his visit to the United States.

The economic contact that developed between our countries during the years before World War II, and particularly during the war years, helped to defeat our common enemy and to bring the American and Soviet people closer together. During the postwar years, however, these contacts were reduced to the vanishing point.

We here in industrial management are keenly interested in American progress. We would all like to visit American plants and see how they organize production. Not that we underrate our own organizational methods and production techniques. We do not consider them at all inferior to those used in American plants. In some areas of pure and applied science and engineering we lead the way. But we are eager to learn from American experience and apply what we find helpful to our own industrial development. Two-way exchanges of this kind cannot help but be mutually beneficial.

We were provided the opportunity of visiting and inspecting the modern computer IBM plant in San Jose, Calif., and were favorably impressed. We also made the rounds of the John Deere farm machinery works, the Firestone tire plant in Des Moines and a factory producing jet nozzles. The factories we did visit cannot, of course, give anything like a full picture of today's American industry. The newest of the works we saw were probably those manufacturing electronic computing machines, jet nozzles, and tires. Compared with our comparable plants there is no noticeable difference between them. As for the John Deere farm machinery plant and the Mesta works, we would not consider them the most up-to-date at all. True, the Mesta works has splendid designing personnel who make it possible to manufacture highly efficient metallurgical equipment.

We were impressed, at every plant we visited, with the order and neatness of the shops and the plant grounds. I had noted the same thing on a tour I made of a steel mill on a previous visit. This is an example for us to emulate.

NIKOLAI TIKHONOV (IN THE FOREGROUND ON KHRUSHCHEV'S LEFT) AT THE MESTA PLANT IN PITTSBURGH.

ECONOMIC COUNCIL CHAIRMAN NIKOLAI TIKHONOV.

From talks with the American metal workers during our trip through the country we learned that after last year's exchange of delegations between U.S. and Soviet steel specialists, the Americans started to intensify the construction of agglomeration mills in order to improve the efficiency of blast furnaces. Our blast and open-hearth furnaces are now about 20-25 per cent more efficient than those used in the United States, and we hope to improve them in the very near future.

Mr. Jenks, Vice-President of U.S. Steel, the world's largest steel producer, visited our country with a steelmen's delegation last year. He told me he was most interested in Soviet methods and wanted to visit soon again.

American steelmen, I learned, want to be kept informed of future blast-furnace developments in the USSR, particularly our use of natural gas. The director of a Des Moines tire factory was interested in Soviet tire production methods.

At present our countries do not have either consistent or extensive economic, scientific, technical or cultural contacts. Does this help or hinder progress? The answer is obvious. Lack of systematic exchange makes for inevitable duplication of efforts. The same scientific and technical problems are sometimes worked on simultaneously and with absolutely the same approach and solution by researchers in both countries. Given normal relations, this could be avoided, thereby speeding research progress in both countries.

We favor a greater exchange of technical information and more frequent meetings of American and Soviet engineers. The strengthening of economic, technical and cultural relations will benefit both countries and will help to consolidate world peace.

The First Year of

OUR AIM is to give the Soviet people a standard of living higher than any country in the world has yet achieved. Some describe this as our challenge to the United States. "But what's wrong about that?" asked Nikita S. Khrushchev. "No matter who wins in this competition—you or we—both the Soviet Union and the United States will gain, because our nations will live in conditions of peace and far better than we do now." What are the realities of this economic challenge? What headway has the Soviet Union made this year in peaceful competition with the most advanced capitalist nation in the world?

The two countries are generally comparable in such factors as population, natural resources, percentage share of industrial workers and overall industrial and agricultural pattern. Both have a highly productive and many-faceted economy.

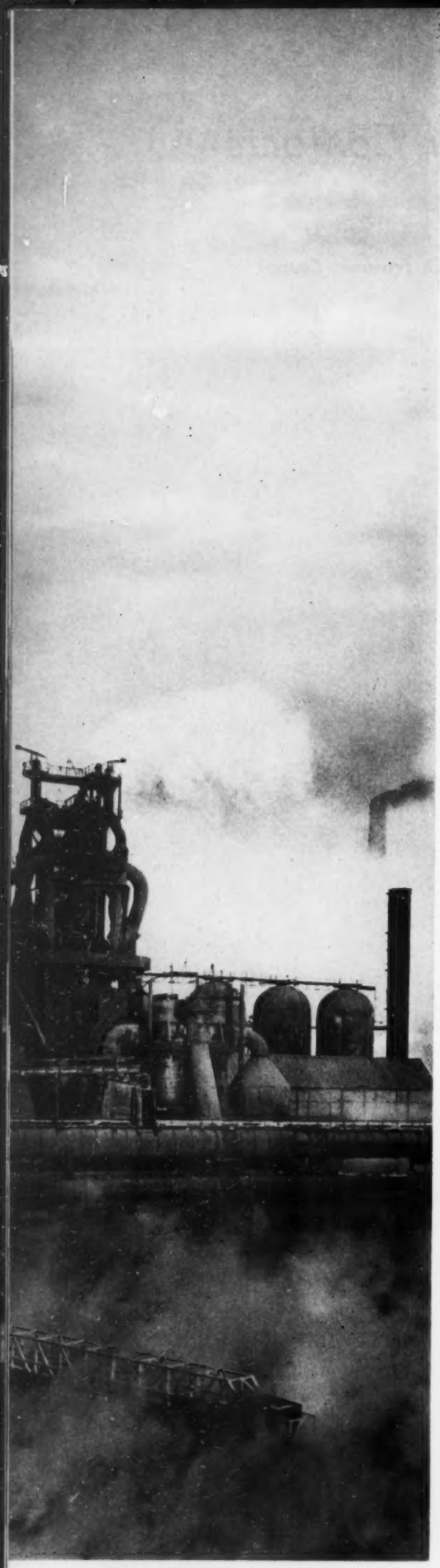
They have gone through different courses of development. In its 42 years, the Soviet Union has had to fight two incalculably destructive world wars and each time has rebuilt its gutted factories and burnt farms. The United States has gone through a relatively unimpeded 150 years of evolution; it has not suffered the ravages of a war fought on its own soil. Nevertheless, the comparative graphs of economic development show that the Soviet Union is destined to outproduce the United States.

The statistical evidence is now acknowledged by economists everywhere. There has been no denying the fact that the socialist economy of the USSR over a long period has been growing at a faster rate than that of the United States and other capitalist countries. Thus, in the period 1930-1957 the average annual rate of growth for the USSR was 11.5 per cent while for the USA it was 3.2 per cent; for Great Britain it was 2.2; for West Germany, 3.3; and for France, 1.3.

Were it possible to rule out the war years and the time required for reconstruction and to consider only the eleven pre-war years and the eleven post-war years as an uninterrupted period of development, the differentials would be even more startling: USSR—16.2 per cent; USA—2.7 per cent; Great Britain—3.2 per cent; France—3.1 per cent.

Catching Up with American Industry

As a result, the gap between the USSR and the USA in production of major commodities has been narrowing with each passing year in both absolute and per capita figures. For 1958, the per capita output of Soviet steel was 40 per cent lower than that of the U.S.; the year before, 1957, the figure had been 58 per cent. Similarly in 1958, the tonnage of cotton fabrics produced was 41 per cent short of the American figure as compared with 58 per cent for the previous year.



IN 1959 INDUSTRIAL OUTPUT ROSE BY 12 PER CENT.

NEWLY-BUILT CANALS BRING WATER AND LIFE TO THE DESERT

NEW CHEMICAL PLANTS ARE BUILT IN THE SOUTH

...of the 7-Year Plan

By Yuri Pokataev and Georgi Karkhin

As of the present the total volume of industrial output of the U.S. and the USSR compare in the proportion of 1.8 to 1; for farm produce the lag is only 20-25 per cent. In per capita figures—with population differences taken into account—the U.S. and USSR compare in the proportion of 2.1 to 1 in industrial output; the corresponding farm output lag is 40 per cent.

These figures become very meaningful when one compares them with Russia's industrial output before the Revolution. In 1913, prior to World War I, per capita output of the U.S. and the USSR was in the proportion of 13-14 to 1. By 1937, the proportion had been narrowed to 6.3 to 1. Looked at another way—in 1913 Russia contributed only 2.6 per cent of the world's industrial output; by 1937 the figure had jumped to 9.2 per cent and by 1958 to 20 per cent.

USSR Beginning to Lead

As a result of this accelerated rate of economic development, within recent years the USSR has begun to lead the USA in absolute annual increase of a number of manufactured items. For the period 1953-1957 the USSR's absolute annual increase of cast iron production was 2.4 million tons as compared with 0.8 million tons for the U.S. The figures for other commodities shows a similar tendency. For steel, the USSR increase was 3.2 million tons; for the U.S. it was 0.3 million. For cement the comparable figures were 3.2 and 1.2 million tons; and for oil, 11.4 and 8.8 million tons. The USSR also leads the U.S. in rate of increase of aggregate industrial output.

These trends are reflected in the preliminary figures now available for 1959, the first year of the seven-year plan. Output figures are larger than those set up as goals a year ago. To judge by the data at hand, incomplete, but unquestionably predictive, Soviet industry will top the year's target figures by 4 to 5 per cent. Planned for was an increase of 7.7 per cent over the previous year; the actual production increase will be in the neighborhood of 11 to 12 per cent. This means 40 to 50 million more rubles worth of clothing, footwear, TV sets, furniture and foodstuffs than was originally planned.

Food output for the first nine months of 1959 shows an accelerated rise. The output of meat packing plants went up by 37 per cent, of whole milk products by 20 per cent and of sugar by 16 per cent.

While gross industrial output rose by 12 per cent, the manufacture of such consumer items as television sets rose by 30 per cent, refrigerators by 20 per cent and furniture by 26 per cent. These household items and a large list of other consumer goods will be put out in increasingly larger quantities this coming year and succeeding ones. The larger quotas to increase consumer goods production have already been assigned to the industries concerned.

These returns for 1959, so much larger than were called for by the plan, prompted the Supreme Soviet at its budgetary session in November to raise the quota figures for the year ahead. This is a guarantee that the seven-year plan as a whole will be completed well ahead of schedule.

The Program for 1960

Gross industrial output in 1960 will rise by 8 per cent as compared to this year's figures. The producer-goods increase will be 8.8 per cent and the consumer-goods increase 6.4 per cent. This is a thoroughly realistic forecast and is based on the larger potential provided by streamlining and automation of existing plants and the large scale industrial construction in progress.

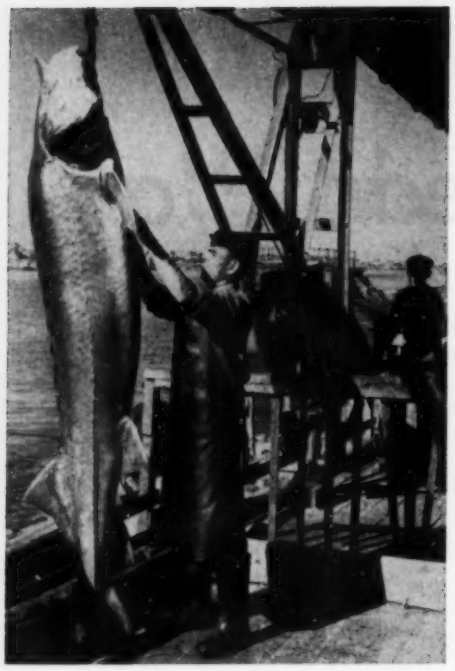
Larger capital outlays are provided by the national budget for 1960, upwards of 255 billion rubles, some 5.7 times that for 1940 and 2.8 times that for 1950. If capital outlay for 1959 is figured at 100, the corresponding 1960 figure is 111. Four rubles of every ten will be channeled to Kazakhstan, Siberia, Central Asia and the Far East for economic development.

Capital outlay in 1960 to build up a larger chemicals industry will be 30 per cent greater than for 1959. Twenty per cent more will be spent for the iron and steel industry, 15 per

MECHANIZATION GREATLY INCREASES PRODUCTIVITY. THIS IS RADIOLOGICAL EQUIPMENT USED FOR OIL-WELL RESEARCH.

GAS PIPELINES ARE BEING LAID IN MANY REGIONS.

IN 1959 MORE CONSUMER GOODS WERE PRODUCED



. . . . . AND MORE VARIED FOOD PRODUCTS

MANY NEW YOUNG SPECIALISTS WERE TRAINED

First Year of the 7-Year Plan

cent more for the gas and oil extraction industry. Housing and public construction will take a quarter of all capital outlay, more than 64 billion rubles.

Already diversified, Kazakhstan's industry, during the coming year, will be producing pig iron, coke, rubber, transformers and a variety of other goods.

Byelorussia, turned into a "scorched land" by the Nazis during the war, will continue building up its towns and villages and will be expanding its heavy and light industries.

The Latvian Republic will account for 20 per cent of the country's increase of production next year in such consumer items as refrigerators.

The Russian Federative Republic's food processing plants will be augmented by 9 new sugar refineries, 22 meat packing and 40 milk processing plants.

The Ukraine will expand its plastics and synthetic fibers industries.

Azerbaijan will be developing its chemical industries around oil gas.

To provide the republic with more electricity, work will begin on a 600,000-kilowatt station at Tbilisi, capital of Georgia.

Uzbekistan will be producing more silks, footwear and canned foods.

And so for each of the republics.

Along with an increase in the amounts allocated by the budget for peaceful construction comes a reduction in the proportion devoted to military expenditure. The Soviet armed forces have been reduced by more than 2 million in the past few years. Less money, consequently, has been allocated for defense in the 1960 budget. The figure is 12.9 per cent as opposed to 19.9 for 1955.

The Soviet citizen will be paying less in taxes in 1960 than he did the year before. His share in the 1959 budget was 7.8 per cent; it will be only 7.4 in 1960. One of the immediate aims of the seven-year plan, to reduce taxes, has been accomplished to the extent of an annual reduction of 12 billion rubles. The longer range aim is to eliminate taxes altogether in the relatively near future.

The end and purpose of all Soviet economic planning, whether for machine tools or toys, tractors or television sets, is to provide the worker with a fuller, easier, richer life. This is evident in the economic plan for 1960 as reflected in the annual budget.

By the end of 1960 the changeover to a 6-7 hour workday will have been made for all Soviet industrial and office workers. It was begun in the last quarter of 1959 for all personnel in engineering, metal working, gas and oil industries. In specified industries—mining and other underground trades, steelmaking, the nonferrous industries, chemicals, cement and others, the working day is already reduced to six hours.

This shorter workday is not accompanied by wage cuts. Wages, as a matter of fact, will be going up. The lowest paid workers are to get the largest wage increases. The budget puts aside 14 billion rubles for this purpose.

In spite of a shorter workday, the plan for 1960 foresees a 5.8 per cent increase in labor productivity, to be achieved largely through mechanization and new construction. Special measures are to be taken during 1960 to speed production in the light and food industries. Capital outlay for these industries will be 13.6 per cent greater than in 1959. As one example, an output of close to 8 billion yards is expected from the textile industry as a result of old mills being renovated and new ones completed during the year.

More Consumer Goods Available

Food production is scheduled for large increases. Grain, meat and dairy output will be very measurably increased. By comparison with 1958, Soviet consumers will be eating 19 per cent more dairy products, 36 per cent more meat and 14 per cent more eggs this coming year.

There will be a large rise in the manufacture and sale of furniture and appliances. During 1960, there will be 48 per cent more furniture, 60 per cent more refrigerators, 95 per cent more washing machines and 70 per cent more TV sets sold as a result of special measures proposed by the government last fall to increase production, extend variety and improve the quality of consumer goods.

This year the government built a total of 925 million square feet of urban housing; in 1960 it will build more than a billion. During the coming year about ten million people will be moving into 2.4 million new apartments. The enormous scope of this new housing is more clearly visualized when one realizes that all the urban housing in prerevolutionary Russia amounted to no more than 2,066 million square feet—about the equivalent in space of 1959 and 1960 housing construction.

As the national income mounts, the real incomes of industrial and office workers and farmers go up accordingly. During the year the rise will be 5 per cent. This means a real income for industrial and office workers more than double the 1940 level, and for farmers almost two and a half times that year's figure.

Allocated in the 1960 budget are some 247 billion rubles for social and cultural needs, 15 billion more than were spent last year. About 102 billions of the total are budgeted for education, science and culture as compared

OUTPUT OF MEAT AND DAIRY PRODUCTS INCREASED CONSIDERABLY ON BOTH COLLECTIVE AND STATE FARMS.

with 94 billions spent for the same purposes in 1959. This increase will make for large numbers of better trained specialists in all fields of work. During the year Soviet colleges and specialized secondary schools will graduate 119,000 engineers.

About 4 billion rubles more will be spent for social insurance this coming year than the 98 billion of 1959. Physical culture and public health services are scheduled for an increase of 3 billion rubles.

This is a sampling of the Soviet Union's ambitious economic program for 1960, the second year of the seven-year plan, as pictured in the annual budget.

Production in 1970

By 1965, with the seven-year plan completed, the Soviet Union expects to reach the present American production level in staple farm products, both absolutely and in per capita equivalents. As for the major manufactured commodities, Soviet output is expected to reach America's present level in some items and go beyond that level in others. In per capita terms, USSR industry will need an additional five years to overtake and surpass the U.S.

By 1970, perhaps earlier, the Soviet Union will be first on the list of world producers both in absolute and per capita terms. This development is inevitably determined by the comparative rates of growth of the United States and the Soviet Union.

The high Soviet rate of growth is the result of a number of forces—planning, socialist labor and the creative spirit of an educated people dedicated to a common task.

This last is the most crucial and determining force. In numbers of highly-trained experts in all fields of science and engineering, the USSR has run ahead of all other countries, the United States included.

The country's natural resources are abundant and are being exploited, both extensively and intensively. In explored reserves of iron ore the USSR now surpasses the USA, Great Britain, West Germany and France taken together. It stands first in explored reserves of manganese, copper, lead, zinc, bauxite, tungsten, mercury, sulphur, potassium salts, phosphates, oil, peat and other mineral wealth.

Fed by these resources are the newly built industrial enterprises and plants converted to increase their productive capacities. The largest enterprises of the country are being completely mechanized. Automatic production lines are operating in machine-building plants, in iron and steel mills, in oil refineries, chemical plants and a widely expanding complex of other basic industries. By 1965 the increased potential from automation will account for as much as 75 per cent of the rise in industrial output. All of these factors point to an increasingly accelerated rate of development.

The current plan is part of a longer-range design covering a 15-year period now being blocked out by Soviet economists. The 1975 picture shows the USSR running far ahead of the U.S. both in absolute and per capita output figures.

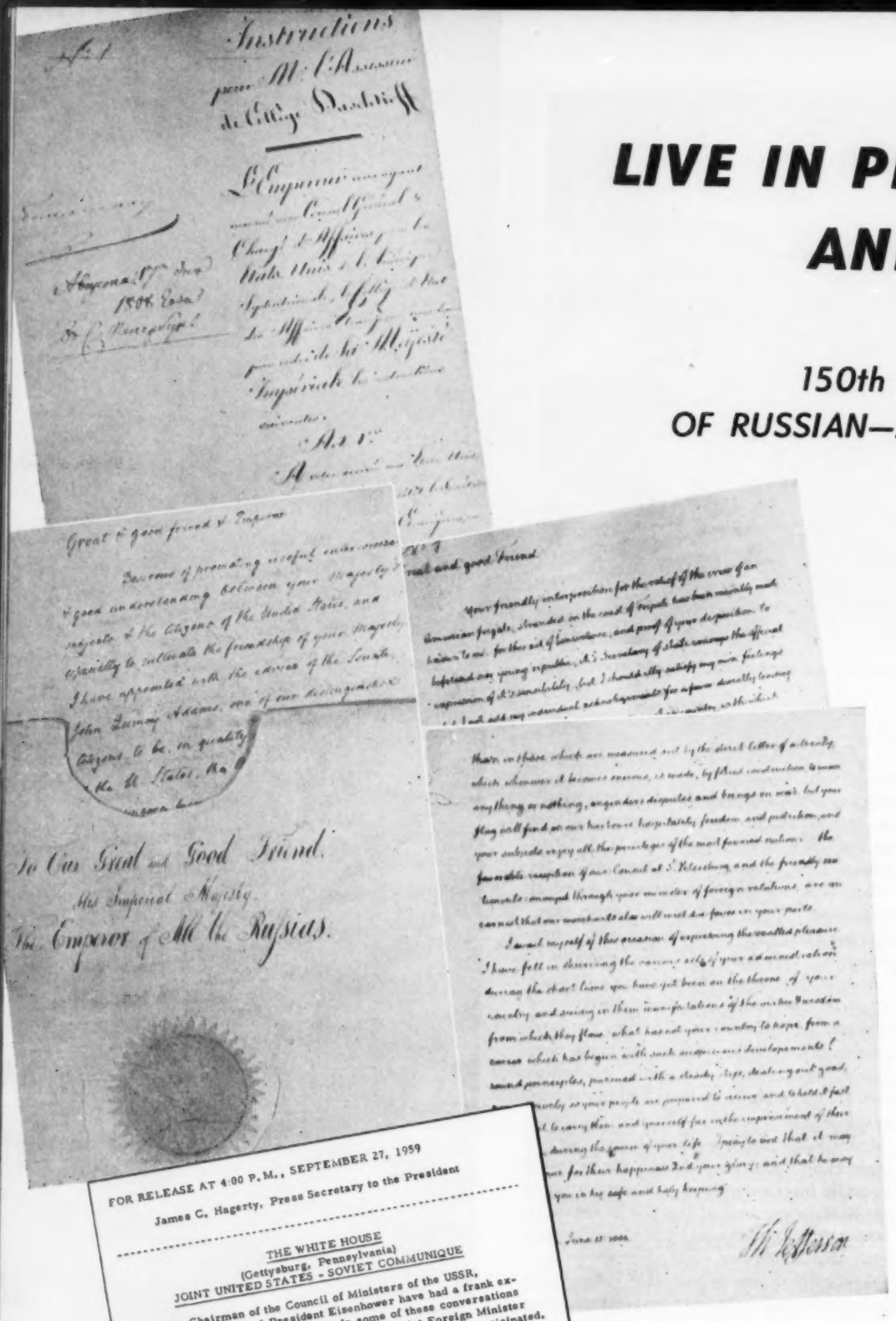
Tentative figures point to a total volume of production—both industrial and agricultural—one and a half times as great as the U.S. In per capita figures, the lead will be 33 per cent.

But this is the future. For the present—the immediate present—the Soviet people are harvesting the rewards of their labor in shorter working hours, in an abundance of food products, in increasing quantities of consumer goods, in more housing. In the offing—the very near offing—is an abundance of goods and services of all kinds, the complete abolition of all income taxes, enough new housing to end the shortage, a still shorter working day—in sum, a constantly rising standard of living. This is the immediate and ultimate aim of socialist planning—to build an economy of plenty.

PROCESSED FOODS HAVE BECOME MORE PLENTIFUL.

LIVE IN PEACE AND FRIENDSHIP

150th ANNIVERSARY OF RUSSIAN—AMERICAN RELATIONS



FOR RELEASE AT 4:00 P.M., SEPTEMBER 27, 1959

James C. Hagerty, Press Secretary to the President

THE WHITE HOUSE
(Gettysburg, Pennsylvania)

JOINT UNITED STATES - SOVIET COMMUNIQUE

The Chairman of the Council of Ministers of the USSR, N. S. Khrushchev, and President Eisenhower have had a frank exchange of opinions at Camp David. In some of these conversations United States Secretary of State Herter and Soviet Foreign Minister Gromyko, as well as other officials from both countries, participated.

Chairman Khrushchev and the President have agreed that these discussions have been useful in clarifying each other's position on a number of subjects. The talks were not undertaken to negotiate issues. It is hoped, however, that their exchange of view will contribute to a better understanding of the motives and position of each and thus to the achievement of a just and lasting peace.

The Chairman of the Council of Ministers of the USSR and the President of the United States agreed that the question of general disarmament is the most important one facing the world today. Both governments will make every effort to achieve a constructive solution of this problem.

In the course of the conversations an exchange of views took place on the question of Germany including the question of a peace treaty with Germany, in which the positions of both sides were expounded.

With respect to the specific Berlin question, an understanding was reached, subject to the approval of the other parties directly concerned, that negotiations would be reopened with a view to achieving a solution which would be in accordance with the interests of all concerned and in the interest of the maintenance of peace.

In addition to these matters useful conversations were held on a number of questions affecting the relations between the Union of Soviet Socialist Republics and the United States. These subjects included the question of trade between the two countries. With respect to an increase in exchanges of persons and ideas, substantial progress was made in discussions between officials and it is expected that certain agreements will be reached in the near future.

The Chairman of the Council of Ministers of the USSR and the President of the United States agreed that all outstanding international questions should be settled not by the application of force but by peaceful means through negotiation.

Finally it was agreed that an exact date for the return visit of the President to the Soviet Union next spring would be arranged through diplomatic channels.

1809. Pages of Thomas Jefferson's historic letter to Alexander I presenting Ambassador John Quincy Adams, the first envoy of the United States to Russia. Below is the Joint Soviet-American Communiqué published after Khrushchev-Eisenhower talks at Camp David held in September, 1959.

ON NOVEMBER 5, 1809, John Quincy Adams, the first American Ambassador to Russia, who later became U.S. Secretary of State and President of the United States, presented his credentials to Alexander I.

A century and a half is a sufficiently long period in which to test the vitality of the idea of friendship and cooperation between our two countries. These 150 years provide clear and distinct proof that friendship between the Soviet and American peoples rests on a sound foundation. The consolidation and development of this friendship is extremely important not only for our two countries but for the future of world peace.

The establishment of a good-neighbor relationship with our country was of prime importance for strengthening the position of the young American republic.

Russia was one of the first countries in the world to manifest sympathy—and in concrete terms—for the struggle of the American colonists for freedom. Even before diplomatic relations were established, the Russian government turned down the request of King George for an expeditionary force of 20,000 troops to suppress the American Revolution. It went further by declaring a policy of "armed neutrality" in 1780 whose practical effect was to break the foreign blockade of American ports.

Documents of Friendship

Preserved in the archives in the Soviet capital are documents attesting to the long history of friendship between the two countries—an 1804 exchange of letters between President Thomas Jefferson and Emperor Alexander I which antedates diplomatic recognition, and correspondence between Nikolai Rumyantsev, Russian Minister of Foreign Affairs, and John L. Harris, American consul in St. Petersburg.

Following recognition, the good-neighbor relationship between the young republic and our country is documented by a letter from Ambassador Adams to Rumyantsev dated 1809 which conveys America's gratitude to Russia for urging the King of Denmark to free an American merchant vessel detained in a Holstein port.

1959. NIKITA S. KHRUSHCHEV'S VISIT DEMONSTRATED THAT ALL POSSIBILITIES EXIST FOR RESTORING THE TRADITIONAL FRIENDSHIP BETWEEN THE TWO COUNTRIES.

Profitable Trade

In a letter to Alexander, Jefferson says. "I see with great pleasure the expansion of trade between our two countries." Russia then exported iron ore, flax, hemp, textiles and other goods to the United States. In the early 1800's the volume of U.S. imports from Russia exceeded 1.5 million dollars—a very brisk trade for the times. American ships carrying cotton, sugar and coffee unloaded at Russian ports.

An interesting old paper in the archives contains "Instructions of the Foreign Affairs Department to Andrei Dashkov on his Appointment as Russian Consul General in Philadelphia and Chargé d'Affaires to the United States of America." It instructs the appointee to encourage mutually profitable trade between the two countries.

Diplomatic correspondence of the period makes it clearly evident that Russia was then, to all intents and purposes, the only Great Power friendly to the young republic. This was also made manifest at other crucial periods.

Sacred Alliance

During the American Civil War the Russian policy of favorable neutrality actively helped the Union cause. The good-will visit of two Russian naval squadrons to New York and San Francisco in the fall of 1863, undertaken at the request of American officials, assumed the character of a demonstration of solidarity for the North. Some historians describe this step taken by Russia as "the decisive chapter in the history of the Civil War." The *Herald Tribune* wrote that of all the powers "Russia was the one which displayed a truly friendly and cordial attitude toward the United States." And William Seward, Lincoln's Secretary of State, noted that Russia "had early become our friend."

During the same year two American envoys, Fox and Murray, were sent to St. Petersburg to convey the thanks of the American people. Following a hearty welcome they proposed "that a sacred alliance be concluded between the two great nations"—not to threaten war, but to promote the happiness and welfare of mankind.

Pupils Worthy of Teacher

From its inception the Soviet Government sought to restore the tradition of friendship between our two countries. Describing the general line of Soviet foreign policy, Lenin stressed that the Soviet Union was firmly in favor of economic agreements with all countries and particularly with the United States. The attitude of the Soviet Government was received with understanding by the American public.

"After the Revolution," said N. S. Khrushchev in his speech at the luncheon given in his honor by Twentieth Century Fox studios in Los Angeles, "the Soviet Union set itself the task of learning from Americans. We sent our engineers to study here. They studied in your colleges and universities, worked as ordinary workers at the Ford plants and at other factories.

"At the present time our motor industry is directed by engineer Strokin, a minister of the Soviet Government. He is one of the best engineers in our motor industry. He worked at Ford's and Ford, greatly appreciating him, suggested to Strokin that he should stay at his plant. If Grandfather Ford were alive he could tell you what this pupil of his is worth.

"The Order of the Red Banner of Labor was awarded to Colonel Cooper, an American engineer, a consultant in the construction of the Dnieper Hydroelectic Station. Hundreds of American engineers worked in our industry in the years of the First Five-Year Plan. We are grateful to you for this and we bow to you in appreciation of your assistance. Be proud of our achievements as a good teacher, as a professor, is rewarded for his efforts by his pupils becoming worthy of their teacher."

Fought Shoulder to Shoulder

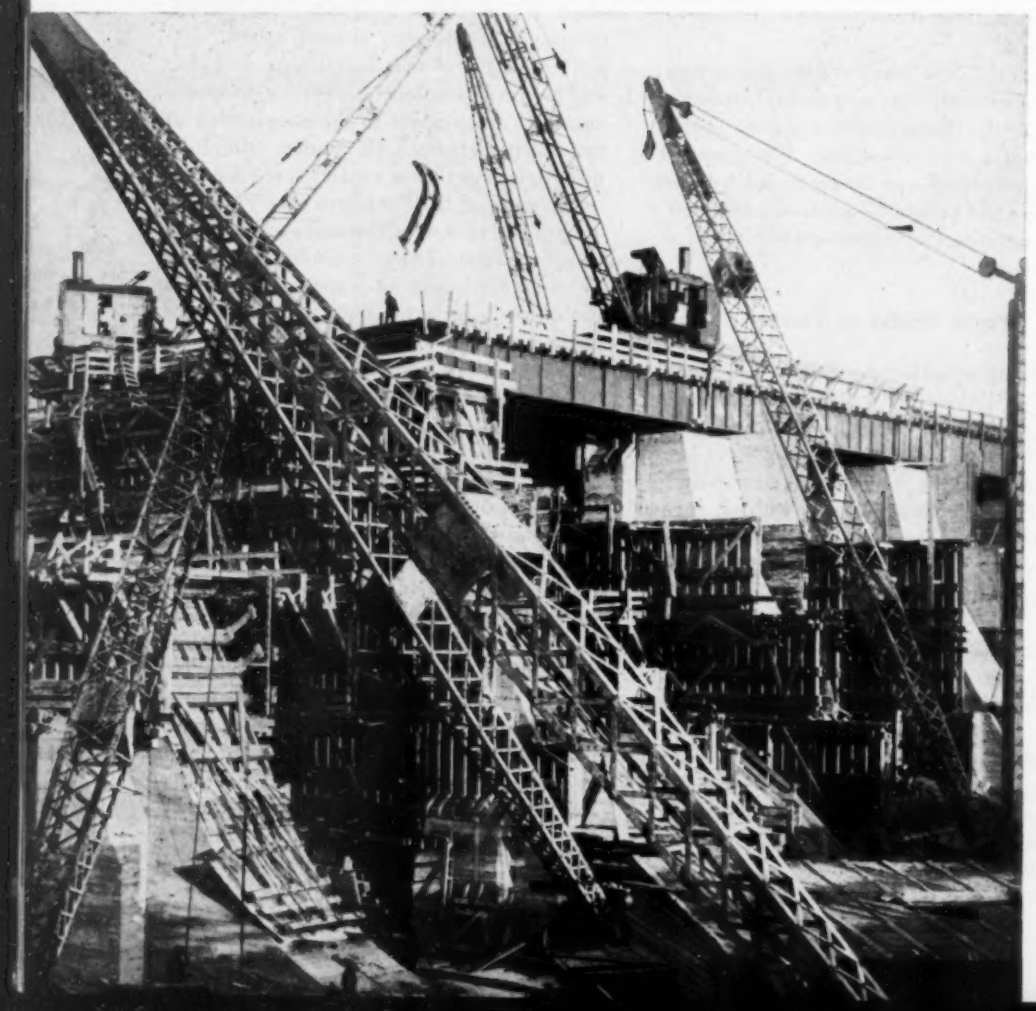
Among the great services Franklin D. Roosevelt rendered the people was his realization, with particular clarity, of the absurdity and danger of the absence of normal relations between our two countries in the years when fascism was beginning to cast its deadly shadow over the world. Roosevelt's policy with regard to the Soviet Union was a reflection of the understanding displayed by farsighted circles in the USA of the fact that the people of our two great states should stand together in the most crucial periods of history.

This found particularly striking confirmation in the years of World War II when American and Soviet people fought shoulder to shoulder. Cooperation between the USSR and

1920. SENATOR MAGNUS JOHNSON IS RECEIVED BY MIKHAIL KALININ, FIRST PRESIDENT OF THE SOVIET UNION.

LIVE IN PEACE AND FRIENDSHIP

1929. AMERICAN ENGINEERS WORKED WITH THE SOVIET PEOPLE ON THE FIRST 5-YEAR PLAN.



the USA in the years of that war graphically showed that the interests of peace and progress of the peoples insistently demanded friendship between our nations.

The 150-year history of the relations between our great countries shows that the Soviet Union and the United States did not have in the past and do not have now any territorial questions to interfere with good, friendly relations between them.

Restore Traditional Friendship.

The Soviet people sincerely want to strengthen and develop friendly relations with the American people. They want the century and a half experience of friendly cooperation between the peoples of our countries to be consolidated and extended still further in present day conditions in the interest of strengthening peace in the world.

"The Soviet Union," said the Chairman of the USSR Council of Ministers N. S. Khrushchev, "stands for the improvement of Soviet-American relations in the belief that this accords with the interests of both countries.

"The establishment of friendly relations between our countries would be a big step toward strengthening universal peace and good relations among all peoples. All mankind now pins great hopes on the Soviet Union and the United States making a big contribution toward settlement of the major problems

of our time, toward the strengthening of peace.

"If we succeed in improving relations between our countries, in arranging mutually profitable trade, in extending still further cultural, athletic and other contacts, we shall thereby be making a big contribution to the cause of easing international tension, to the cause of peaceful coexistence, of strengthening world peace. And this in turn will have a favorable effect on the life of all peoples, of all mankind.

A unified effort to maintain peace should be the starting point of cooperation between our nations. Everyone understands that the balance will be tipped more quickly in favor of peace if two such great and mighty powers as the USSR and the USA work together.

The historic visit of Nikita S. Khrushchev to the USA created real possibilities for the restoration and the further development of the traditional friendly relations between the Soviet Union and the United States. In the relations between our countries a warm wind—the wind of friendship and cooperation—is beginning to predominate.

N. S. Khrushchev's visit to the United States and the friendliness with which he was welcomed by peace-loving American people represents a crowning point in the traditional relations between the peoples of our countries over the past 150 years. The forthcoming visit of President Eisenhower to the Soviet Union will be another important step in improving Soviet-American relations.

History shows that the Soviet and the American peoples can live in peace and friendship. It is the demand of our time.

1933. USA-USSR DIPLOMATIC RELATIONS ARE ESTABLISHED. MAXIM LITVINOV AND CORDELL HULL

1945. THE TWO NATIONS FOUGHT SHOULDER TO SHOULDER AGAINST FASCIST GERMANY. THE HISTORIC MEETING OF SOVIET AND AMERICAN SOLDIERS AT THE ELBE RIVER.

Sixteen men with different backgrounds and temperaments united by a single aim—"We work not for ourselves alone but for the team and for everyone else in the country." They repair diesel locomotives at the Moscow-Sortirovochnaya Depot.

COMMUNIST WORK TEAM AT ARA

The depot museum tells the story of the origin of Communist Work Teams.

THE repair depot for locomotives at the Moscow-Sortirovochnaya railroad station is much the same as anywhere else, and its workers have about the same problems as in any other depot. The repair jobs are often complicated and are always closely interdependent. The parts in each engine do not wear out evenly, so that the job on hand is always different from the one that came before. It's not work a man can do by rote. Besides the basic skill and experience, what is required is a high degree of collective responsibility.

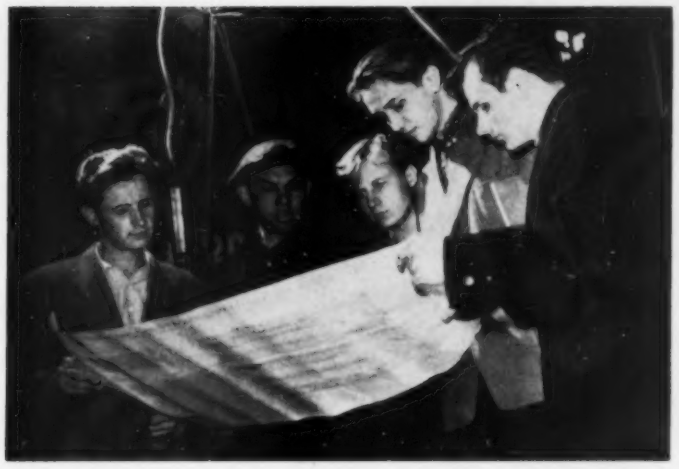
That is not at all an uncommon attribute of Soviet workers. The feeling of *our* job rather than *mine*, or *our* factory, *our* plans, *our* problems, is deeply rooted in their consciousness. This attitude was aptly expressed by Nikita Khrushchev when he said in one of the talks during his American tour: "I am a man of the socialist system, of a new world outlook and of new conceptions. And in our country the conception of *mine* is withering away and a new conception of *ours* is striking root."

What has been emerging is a new quality that develops out of that consciousness—a heightened sense of responsibility that a Soviet worker has toward himself, his work, the people he works with, and toward his country as a whole.

The first year of the seven-year plan is drawing to a close—the first step along the road of accelerated progress in all areas of economic and cultural life. Workers everywhere are trying to do their best to contribute to the building of communism.

It is this pattern of thought and living for which a sixteen-man team at the Sortirovochnaya depot headed by Gennadi Malkov has earned itself the honored title "Communist Work Team." The team has won a national reputation and has set the example for working groups elsewhere in the country.

Through coordination and mutual study and assistance, the sixteen have worked out numbers of technical improvements to make work easier and more productive. In process they have helped each other—and many people besides—to grow and develop. In process also, they have helped the country to meet the high goals set by the seven-year plan.



An exchange of ideas between depot workers and students of nearby colleges is a mutually rewarding experience.

Sergei Grevtsov tells a workers' meeting how the Communist Work Teams operate.

A study group organized at Sortirovochnaya and led by top engineers helps the workers qualify for college entrance.

There's time for work, study and community activity and enough left over for recreation.

A RAILROAD DEPOT

By Lev Petrov
Photos by Dmitri Chernov

This idea of collective effort has a tradition that goes back forty years or more. The level to which it has developed, however, is new to judge by the demands upon the individual implied by the title "Communist Work Team" member. It betokens the emergence of a new type of man—the citizen of the communist society which the Soviet people are building.

This is a man of high moral standards both in his social and personal life. He is in the front ranks on the job and is always ready to help his shopmates. He is continually growing, striving to broaden both his technical skill and his general knowledge. It is not the success of the individual but that of the whole collective that governs him.

A Tradition of Service

In 1919, during the crucial days of civil war, the workers at Sortirovochnaya depot were the first to come out for a Communist Subbotnik—overtime labor freely given on days off. In those days the team's predecessors worked for their country on their off Saturday afternoon and all through the night to Sunday to repair locomotives sorely needed for the front.

They were inspired by these words of Lenin: "Communism begins where selflessness is shown in coping with difficult work, where rank-and-file workers are anxious to boost labor productivity and to preserve every pood of grain, coal, iron and other products destined neither for themselves nor those who are near and dear to them, but for those who are far away, that is, for society as a whole, for the scores and hundreds of millions of people."

It was this same open-hearted sentiment that actuated the depot repair team when they coined the phrase Communist Work Team, the first shop group in the country to do so when the target figures for the seven-year plan were still being discussed.

Before any production task is tackled it is carefully examined by the entire team with an eye to cutting labor costs and improving quality. This is now general practice at the depot. A laboratory has been set up—the workers call it the creative lab—with this guiding motto: "First think about it, then put it down on paper, then make it, and then try it in practice."

When news got around that this laboratory was being organized, Nikolai Kitayev, a retired diesel specialist, got in touch with the team, invited them to his home and presented them with his *Technical Encyclopedia*, a work in many volumes.

The Team Members

Who are the team members? They are men with quite different and very individual backgrounds and temperaments. Together they form a cohesive and most amicable working unit.

The team leader, Gennadi Malkov, comes from a family of railroaders. His father and grandfather both drove locomotives. He, too, began his railroad work with locomotives, first as apprentice, then as helper, and finally as driver. He did not stop there, however, but went on to college to take his degree in engineering. When he came back to the depot he was chosen to head the team.

Vladimir Minakov is one of the best repairmen at the depot. When five years ago vast

A characteristic of the team is the way they are always ready to help each other, older workers eagerly passing their experience on to the younger ones.

expanses of virgin lands in the East were put to the plow, he volunteered to go there with thousands of other young people from all parts of the country. He felt it his duty to help develop new areas and worked on a state farm for two years. Then he took his tour of army duty as an artilleryman and after that returned to his job at the depot. In a very short time he won back his old skill and facility with tools and engines.

The career of Boris Polyakov, fitter and diesel specialist, is somewhat more checkered. To please his father, a high school principal, he went to a teachers' training college. Shortly after graduation he was called to the army and there decided he didn't care enough for teaching to make a career of it. But fearful of hurting his father, who thought teaching was the finest and noblest of professions, he took a job as teacher in a children's home. The children liked him, the administration was eager to have him stay, but Boris didn't have his heart in it. So he took the decisive step. One day he threw up his teaching job and hired on as apprentice at the depot. He says he hasn't been sorry for even a minute since.

Fitter Ivan Filyuyev is a recent newlywed. His wife Raisa is a student at Moscow University majoring in history. For a time the couple lived in the suburbs and commuting took care of any free time they might have had. Ivan took the traveling philosophically, and now that they have a new apartment near the depot—a product of the big housing program scheduled under the seven-year plan—he jokingly complains that it has cut down on all the reading he used to do on the train.

Anatoli Pavlyutkin was only seventeen when he came to the depot after barely scraping through seven grades of school. He hadn't gotten along at home with his mother—his father was dead—and had been impossible with his teachers. At the depot the workers put up with him for the sake of his father, who had been one of Sortirovochnaya's best mechanics. His son, they thought, was everything but that—a sloppy worker, short-tempered and quarrelsome when he was criticized. Somehow or other he was chosen for the team and the change, although slow, was so com-

COMMUNIST WORK TEAM AT A RAILROAD DEPOT

The fame of the depot's Communist Work Team has spread all over the country and the boys often get letters from workers who want to organize similar teams.

plete that it's hard to remember the old Anatoli. He's one of the team members who have pledged to get through evening technical school so that they can qualify for the railroad institute, a school on the college level.

Says Anatoli: "To stay on the team I've got to know more. That's why I've gone back to school. I spend three evenings a week at class and three . . ." just so nobody will think he's gone soft, ". . . training. I've taken up boxing and the coach thinks I have possibilities."

"Reach for a Book"

Vladimir Stanelevich is one of the original team members. He came to work at the depot as a fitter in 1952. Since then he has gone through evening college and won his engineering degree. Stanelevich is constantly pushing the young team people to keep educating themselves. "To study," he insists, "means more than just improving one's skills and getting ahead on the job. It means growing in all sorts of ways."

He is the one who got the whole team to subscribe to this rule of behavior: "Reach for a book whenever you have a minute free. Technical school and college is waiting for you to pass the entrance exams. To be as useful as you possibly can to your people, you must educate yourself."

The depot has organized a study group for those who wish to prepare for college entrance. The team is well represented in this group. As a matter of fact, this learning process is a perpetual one for the team workers. They learn from the lectures they like to attend on subjects ranging from world affairs to space rockets, from visits to film studios, from concerts and plays.

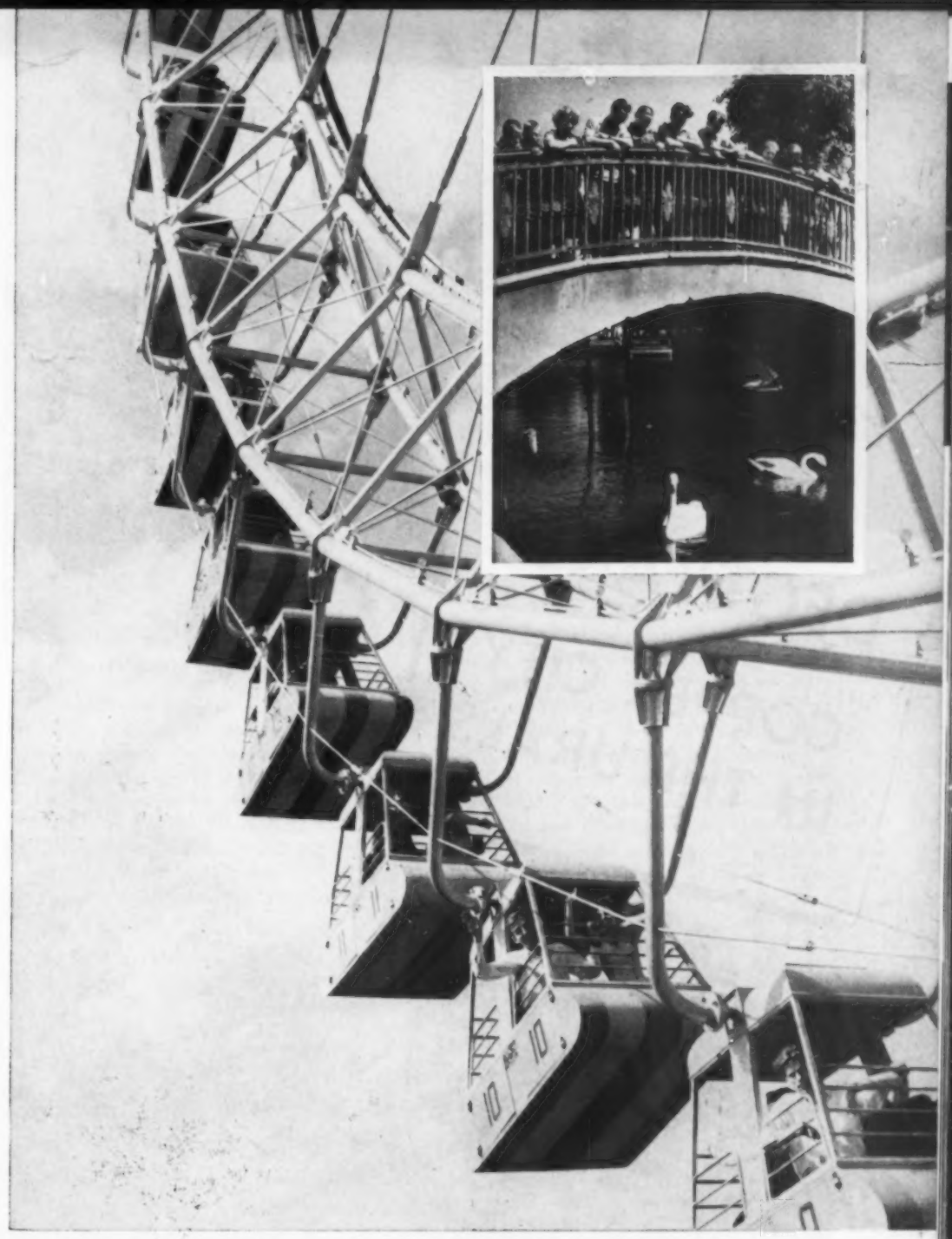
For Everyone Else

In addition to their work and study, the team members are pledged to do volunteer community work. They have each undertaken to spend at least eight hours a month helping depot workers build their own homes. Some of the men have arranged to keep the machines of the collective farms on the city's neighboring outskirts in good running condition.

Others work with the local high schools and teach the youngsters the skills they have. This volunteer teaching works out fine. The men learn a great deal themselves by the systematic lesson plans they have to prepare before each session. The children, proud to be working with this famous Communist Work Team, do their very best. The worker-teachers have grown very much attached to their students and follow their progress as closely as the parents do.

The team members have gotten so used to working and studying together that they spend much of their leisure time together. Among the sixteen there are ardent fishermen, weekend painters, amateur photographers, and what-not else. They've become more than teammates; they are friends and like doing things together.

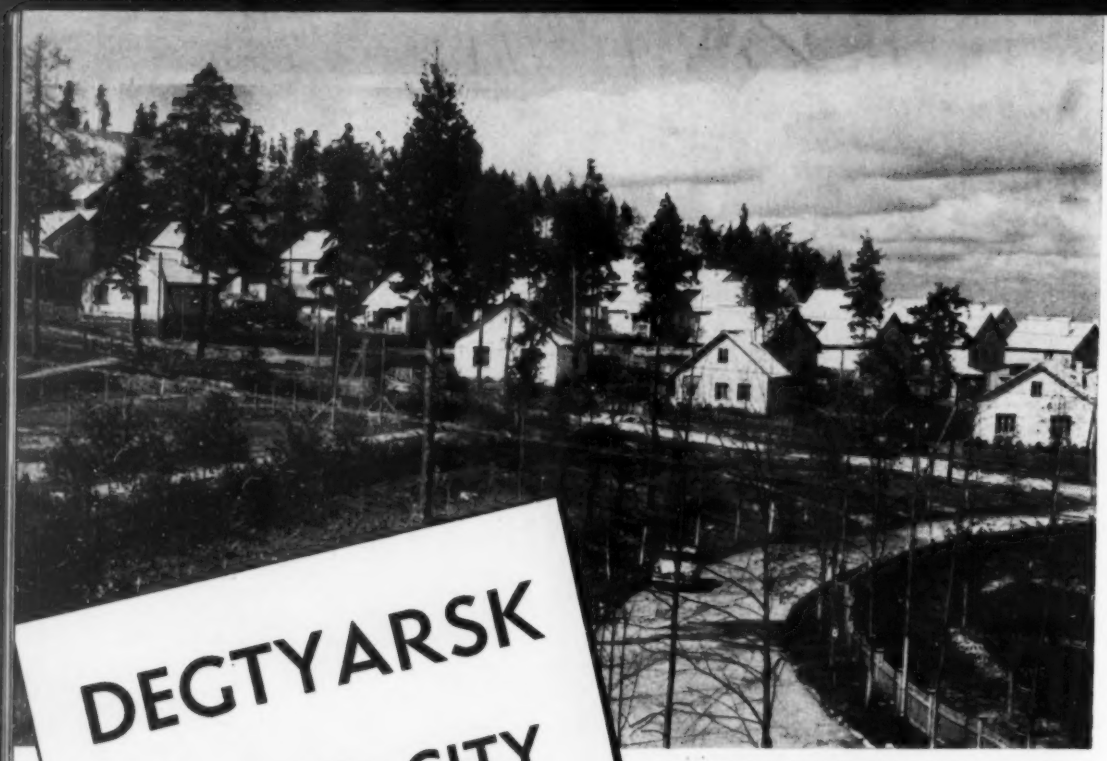
They put it simply: "We find living and working and even playing more interesting that way. We like the feeling that we're working not for ourselves alone but for the team and for everyone else in the country."



Many team members prefer to spend their leisure time together—whether it's an afternoon jaunt to a nearby amusement park or a week-end fishing or camping trip.

Moscow Operetta Theater artists frequently visit Sortirovochnaya and put on shows for the workers.

The wives and girl friends of team members join the party.



DEGTYARSK
COPPER CITY IN THE URALS

ONE OF THE NEW STREETS OF SINGLE-FAMILY HOUSES

MINER ANATOLI KALYAGIN IS IN THE CENTER.

By Yakov Mikhailov

WHENEVER Anatoli Kalyagin describes Degtyarsk, the copper mining city in the Urals where he lives and works, he always makes it a point to say that he lives on two continents—Europe and Asia. And this is quite true. On the highway that runs across the Ural Mountains, there is an obelisk near Degtyarsk that marks the invisible continental borderline.

The people of Degtyarsk, which has not yet celebrated its tenth birthday, can still remember the first wooden houses built for the miners who settled near the rich copper ore deposits. They remember, too, the city's first brick building, the mine's offices. The forest near the ancient neighboring town of Revda has been beating a fast retreat these ten years to make room for the spreading settlement which is becoming an industrial center known throughout the country.

City of Automation

A tribute to its progress was the national conference on the mechanization and automation of the ore mining industry held there last year. The hundreds of delegates from industrial plants, research institutes and design offices who attended found that there was quite a lot they could learn in this new little city where a good number of the ore extraction processes have already been automated. All-round automation of production processes will be completed by 1962 in the Degtyarsk mine.

Automation is one of the projects Degtyarsk miners included in their seven-year plan to increase output of copper ore. It will be completed much earlier than originally scheduled. The plan as a whole has gotten off to such a good start and the production figures for this first year are so far ahead of schedule that Degtyarsk confidently expects to chop a year off the seven-year plan.

Seven-Year Plan in Six Years

The first year of the seven-year plan introduced many new things into the life and work of the miners of this small city in the Urals. Starting on the fulfillment of the seven-year plan at their mine at the beginning of 1959, they clearly understood the tasks confronting them, especially with the growth of the mine in the next seven years.

The workers themselves drew up the seven-year plan for the development of their mine. It was the subject of long discussions at meetings, and many a page in the local press carried letters from readers and articles discussing the merits of the proposals and making suggestions for improving them.

From the very beginning of 1959 the miners began to overfulfill the plan. Every worker and engineer tried to figure out new ways to increase the output of copper ore. And the ideas came fast and furiously.

That they were successful is evident from Anatoli Kalyagin's experience. "There hasn't been a single day this year that I haven't overfulfilled the shift plan," Kalyagin told us. And he wasn't boasting. He said that all the other miners of Degtyarsk had done as well and there were many who had done even better. As a result there are copper mining teams in Degtyarsk today which have achieved the highest productivity in the world.

The thing that's interesting about these expert copper miners, and by and large this is true of Soviet workers in general, is the way they accept a self-imposed obligation to teach fellow-workers the tricks and short cuts they devise in extracting ore. By helping their comrades to improve their professional skill and by the example they set through their own work, they inspired all the Degtyarsk miners to fulfill the seven-year plan ahead of schedule—in six years.

In 1959 copper miners in this small city in the Urals won first place for high productivity in a national competition among the Soviet copper ore enterprises. And they're determined to break their own record, because more copper mined means better living conditions not only for Degtyarsk miners but for workers throughout the country.

A NEW SCHOOL FOR THIS FAST-GROWING CITY.

CLOSE TO THE CITY IS A MINERS' HOLIDAY RESORT.

VICE-PRESIDENT NIXON ON A TOUR OF THE MINE.

Rising Standard of Living

Anatoli Kalyagin, his wife and three children live in a new two-bedroom apartment on Kalinin Avenue, Degtyarsk's main street. Anatoli calls it a "moving street" because it has been spreading steadily in two directions and is a mile and a half long now.

This busy little street carved out of the forest ten years ago is now lined with houses of two, three and four stories. The city's secondary school and two big stores—one selling clothing and one shoes— are located here. In 1959 more than 200 of the people who work at the mine moved into new apartments on Kalinin Avenue. They are built with every modern convenience and rent comes to a fraction of the family income. Kalyagin, for example, who earns about 40,000 rubles a year, pays 187 rubles a month for rent and all utilities, including telephone.

Before 1965 comes to an end Degtyarsk will have 1,700 more apartments, two new schools, two kindergartens, four nurseries, a movie and a new stadium large enough to accommodate half the adult population of the town.

Time for Study

Since the Degtyarsk miners work only six hours a day, standard for underground workers in the Soviet Union, they have plenty of time for rest, recreation and study. This last is a very popular activity with 150 towns-people enrolled at the local branch of the Sverdlovsk Mining and Metallurgy School. The course runs for four years and the students are able to combine work in the mine with attendance at school. All of them passed their examinations last year and fifty of them earned diplomas upon graduation that qualified them for better jobs at higher pay.

American Guests

Last summer U.S. Vice-President Nixon and his party visited the Urals. They went to Degtyarsk where the people warmly welcomed the Americans and showed them around their city and mine.

Mrs. Nixon and Mrs. Thompson, the wife of the U.S. Ambassador to the Soviet Union, visited the Kalyagins in their home. Anatoli and his wife Yevdokia chatted with their guests for almost two hours. Mrs. Thompson speaks Russian so conversation was easy. When she spotted an accordion in the apartment, she wanted to know who played it.

"I do," said Anatoli.

Whereupon the guests asked Anatoli to play "Moscow Suburb Nights," a song which they had often heard in the Soviet Union. Hosts and visitors sang a number of other popular Russian songs together.

When it was time for Mrs. Nixon and Mrs. Thompson to go, they wished the Kalyagins health and happiness and hoped that the new member of the family, to be born before very long, would fulfill their wish for another son.

On the day when N. S. Khrushchev returned from his historic visit to the United States, Anatoli, Yevdokia and their eldest son, **Felix,** listened to the report made by the head of their government to the people of the country on his meetings with the American people and his talks with President Eisenhower. They eagerly listened to every word of the speech, so full of humanism and love of man.

Yevdokia held in her arms a rosy-cheeked, month-old son. And looking at their baby, the parents thought with special emotion of the happy time when war would no longer threaten the world.

THE DEGTYARSK POPULATION IS GROWING FAST. A GROUP OF YOUNGER CITIZENS—KINDERGARTNERS

PEOPLE'S U

By Adolf Antonov
and Pavel Pavlovsky

More than 3,000 young people from all over Stalingrad meet after work and arrive in groups at the Palace of Labor where "university" classes are held.

Frequent visits to the studios of the top-notch painters and sculptors who instruct the classes in the fine arts give substance to their classroom lectures.

FEW nations or people are today more passionately committed to education than the Soviet Union and the Soviet people are—this was the conclusion reached by a panel of American educators headed by Commissioner of Education Lawrence G. Derthick in a report published by the United States Office of Education early in September.

This "passionate commitment"—a well-chosen phrase—is perhaps most dramatically evidenced in a new type of school which has recently sprung up all over the country. The oldest has just celebrated its first birthday but there are better than a million worker-students attending the two thousand schools already functioning all over the country.

They arose more or less spontaneously, founded by workers in factories and offices, in response to desire and need. They go by various names but most of them are called "People's University of Culture," which aptly explains their purpose. These universities differ as to their course offerings but the students are all spurred by the same wish—to learn more about art, literature and music, to make themselves cultured citizens, worthy of the communist society they are building.

Recently a national conference of these universities of culture was called to sum up and generalize the first year of experience. Nikolai Mikhailov, USSR Minister of Culture, told the large audience of the work done by the government to foster this burgeoning adult education movement. The ministry has published large numbers of popular books on art, whole series of recordings of classical music, color reproductions of works of art and other such study aids.

Besides government aid, material support has come from such public organizations as the Communist Party and the trade unions. Scientists, writers, actors and musicians of national note volunteered their services as teachers.

Variety of Courses

The People's University of Culture in Stalingrad was founded about a year ago and is quite representative—as to courses of study, students and their very enthusiastic interest.

There are some 3,000 young people enrolled in classes in ethics, music, fine arts, literature, international relations and astronomy. They come from all parts of this city, which stretches for some 45 miles along the right bank of the Volga. Neither distance nor weather keeps these young people from flocking night after night to the Palace of Labor where the classes are held.

In the fine arts classes, students learn how to appraise paintings and sculpture, both classic and modern, and acquire an understanding of the relation of art to social development. Through slides and museum visits they become acquainted with the world's art treasures. From time to time they visit the studios of Stalingrad painters and sculptors to watch work in progress and learn how and why a working artist selects his theme and plans his composition.

As a result of these visits and talks with artists, some of the students have been moved to try their hands at painting or sculpture. Ivan Golovcheko, a worker at the Petrov Plant, is one of a number who have become dedicated Sunday painters.

Many of the literature students, taught by present day writers like novelist Victor Chekhov, author of *On the Right Flank*, are working on poems, essays and short stories of their own. By trade Nastya Subacheva is a crane operator on a big housing project going up in Stalingrad; by avocation she's blossoming into a poet.

"Can you give definitions of the words rhapsody, sonata, musical image, melody, timbre? If you don't know them, you miss a lot listen-

'S UNIVERSITIES

ing to music." This is a student at one of the music classes persuading a friend to enroll.

Stanislav Vagramyan, a young mechanic, is in the drama class studying the work of Stanislavsky. He hopes eventually to enter a theater institute, and, if fate is kind, become a producer. His friend and classmate, Svetlana Stepanenko, a sales clerk in a retail store, has acting ambitions.

Wander into one of the many well-filled classrooms of the Stalingrad Palace of Labor. In this class in ethics interested young men and women are discussing character and will power, love and friendship. Participating are steelworker Yevgeni Gorbunov, mechanic Nikolai Kondrashov, seamstress Alla Nemichenko, college student Nadya Vereshchak and others of the most diverse occupations.

In an adjoining room there is a lecture demonstration on "How to Set an Attractive Table." The course is one of a number in homemaking. Across the hall there is an excited round-table discussion. The topic is "The Creative Imagination." Music, literature and science quizzes are held frequently in the spacious auditorium.

Students in the astronomy classes make frequent visits to the planetarium where they observe the movement of the planets and the artificial satellites, learn to handle astronomical instruments and see relevant popular science films.

How to Found a University

Socrat Shanturov, a 19-year-old woodworker, was one of the founders of the People's University at the Ship Repair Plant in Baku, the capital of Azerbaijan. Shanturov is a Lak by nationality; his people live in

The lecturers, who are all specialists in their field, know that a bit of humor livens the class, holds its interest and helps the learning process.

The astronomy class of Stalingrad's university of culture takes a trip to the city planetarium where the instructor visually demonstrates a point.

A LIVELY ROUND-TABLE DISCUSSION ON ETHICS TAKES UP THE TOPIC OF LOVE AND FRIENDSHIP AND THE RESPONSIBILITIES OF THE INDIVIDUAL IN HUMAN RELATIONSHIPS.

PEOPLE'S UNIVERSITIES

The Baku public libraries are always filled with worker-students who go there to prepare a class assignment or find original supplementary material.

the Caucasus Mountains. No longer than twenty-five years ago, the Laks had no written language. But that is all ancient history. Shanturov, like every Lak boy and girl, went through high school.

Many of his friends went on to college. He fell behind somewhat and now is eager to catch up. He has a passion for ships and the sea and wants to qualify for study at a shipbuilding institute. He spends his evenings preparing himself for the entrance exams, studying about things his sheepherding ancestors had never even heard of.

Socrat and his friends at the plant—they include mechanics Kasym Abdullayev, Pyotr Subbotin and Mekhti Mailov, smith Stanislav Gopanyuk, grinder Alek Kengorli, laboratory assistant Nellie Kasimova, and Boris Khasmetdinov, secretary of the plant's branch of the Young Communist League—are all intellectually curious young people, interested in music, theater and books. They decided they ought to know more, so they betook themselves to the task of organizing a people's university at the plant for more systematic study.

Their first job was to get some of Baku's leading figures in the field of culture interested in the project. They had no difficulty on that score. Composer Totik Kuliyev, Library Director Tatyana Rudneyeva, opera star Amina Del-bazy, educator Tovgi Agayev, music critic Ramazan Khalilov and a number of others promised to help draw up the program of studies and volunteered to teach.

These were some of the courses announced: "How to Read a Book," "Good Speech," "Love, Marriage and the Family," "Modern Azerbaijan Music," "How to Dress Well." It turned out that the most popular course was "How to Read a Book," not too surprising since Soviet people generally are avid readers.

Most of the courses were given as lecture series, supplemented by slides, records and films. The USSR Ministry of Culture now circulates about 100 films on painting, drawing and sculpture and 134 films on the theater and literature. But the most interesting part of the class is always the give and take of discussion. A discussion that begins with Renaissance painting, for example, will not infrequently range the whole spectrum of aesthetics before it is over.

The course of study in the People's University at the plant runs about ten months and is figured for 82 study hours, divided more or less as follows:

Soviet culture—8 hours. Lectures are given here to explain the main tasks in the field of culture under the current seven-year plan.

Aesthetics—14 hours. Students are taught the fundamentals of art,

AFTER AN INTERESTING SESSION ON THE HISTORY OF ART, THE CLASS GOES TO THE MUSEUM WHERE THE LECTURE MATERIAL CAN BE RELATED TO THE ORIGINAL PAINTINGS.

the relation between art and reality, the beautiful in art and life, the laws of art development, the social role of art.

Literature—16 hours. This is mainly a survey of modern fiction, both Soviet and foreign.

Music—10 hours. Studied are such themes as music and society, the folk song in composition, music and individual expression.

The theater—16 hours.

The motion picture—10 hours. Here students receive an outline history of world cinema. They also see the best of the Soviet and foreign films and visit the Baku Cinema Studio to see how a film is made.

Fine arts and architecture—8 hours.

This program was worked out by the board of the plant's "university of culture." The course of study, to judge by the response, seems to be what the people at the plant want. It is not frozen, of course, and is altogether subject to change.

The schools in Stalingrad and Baku are typical of the other people's universities in the country. Young people predominate in the sixty Moscow schools, but they by no means account for the entire enrollment.

Television, which has long been used as an educational medium in the Soviet Union, on October 31 started to present lectures for a new mass People's University. By the time the People's University at Moscow's Polytechnical Museum was ready to open in October, it already had 5,000 students signed up for its four departments and 130 scientists who had volunteered to teach the courses without pay. The slogan of this school is "Knowledge for the People," and it can aptly be applied to all the other people's universities as well.

If the first year of the people's universities is an indication of their future, it is safe to predict that they will continue to broaden in scope and content to keep pace with the growing interests of a most exacting and demanding student body. Their students are eagerly awaiting new lectures, discussions and excursions. There are no tuition charges for any of the courses, no examinations, no diplomas. The only entrance requirement is interest, and there is plenty of that.

The students' interests determine the curriculum of the universities, and the subjects range from "how to read a book" to "how to dress well."

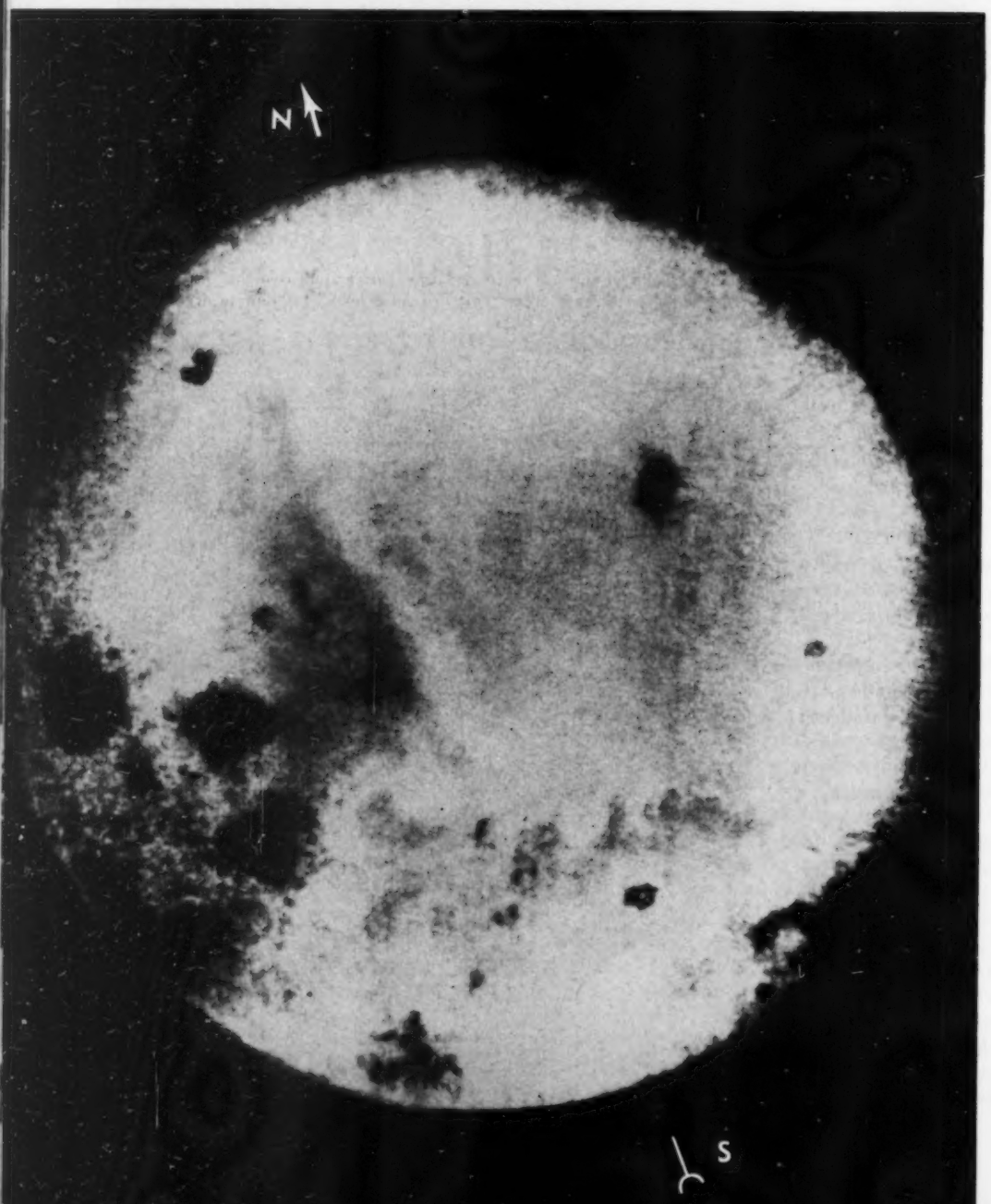
THE MOON'S HIDDEN S

photographed by Soviet space ar

WHEN THE CAMERA EYE of Lunik III —the automatic interplanetary station placed in orbit by the third Soviet cosmic rocket—peered at the far side of the moon and transmitted its photo pictures to the earth, it was the first time man had ever viewed the hidden side of our satellite.

Like our planet the moon has its days and nights. The moon-day is approximately 27 times longer than an earth-day. The time between sunrise and sunset on the moon is about two earth weeks. It also takes about the same time for the moon to complete its circle around the earth. This time correspondence means that the moon always shows the same face to the earth. The photographs transmitted by Lunik III revealed to us the perpetually concealed side.

THIS IS AN UNRETOUCHED PHOTOGRAPH OF THE HIDDEN SIDE OF THE MOON SHOT BY THE SPACE CAMERA.



New Maps of the Moon

From time immemorial man has tried to explain the moon. Ancient philosophers arrived at the conclusion that it was an independent celestial body much like our earth. Serious study of the moon, in our modern sense of the term, began in 1609 when Galileo aimed his primitive telescope at the lunar surface and detected plains and mountains.

In these three and a half centuries astronomers of many countries have filled in the picture of the moon seen from the earth, and we now have fairly accurate maps. But until now only the side visible from the earth could be mapped. These maps show circular mountains and mountain ranges, dark areas that early observers named seas, and other relief formations.

Photographs obtained by Lunik III show that the hidden side of the moon has much the same face in its essential characteristic features as the already known side. The moon was photographed at that moment when the automatic interplanetary station was on a direct line connecting the sun and the moon. that is, when the moon was a completely illumined disk with reference to the station. The station's camera took pictures continuously for a period of 40 minutes. Different exposures were used so as not to make any mistakes.

The photographs show the part of the moon's surface concealed from the earth plus a small section with formations already identified. By relating the previously invisible features of the lunar surface to those already known, it became possible to determine their coordinates.

Viewed from the earth the seas located at the very edge of the lunar disk appear long and narrow because of perspective distortions. and their actual form had hitherto been speculative. Seen from the interplanetary station these seas stretch a good way from the visible edge and their shape is only minimally distorted by perspective. As a consequence, for the first time we know the actual shape of a number of lunar formations.

The photographs show mountain regions predominating on the hidden side of the moon and very few seas similar to those that dot the visible side. The crater seas in the southern and near equatorial regions stand out prominently. Seas situated near the edge of the visible side are shown to continue on the hidden side.

The new formations were named by a commission of the USSR Academy of Sciences. A

N SIDE

ace camera

large crater was named Sea of Moscow, in honor of the Soviet capital. The Gulf of Astronauts was named for those first men from the earth who will visit the moon. Craters Tsiolkovsky, Lomonosov and Joliot-Curie perpetuate great names in science. The name Soviet Mountains records the monumental achievements of the Soviet Union and its people; the Sea of Mechta—or the Sea of Dreams, in English translation—is named after the first cosmic rocket launched last January, and it marks mankind's age-old dreams, now becoming reality, to master the cosmos.

The Rocket's Orbit

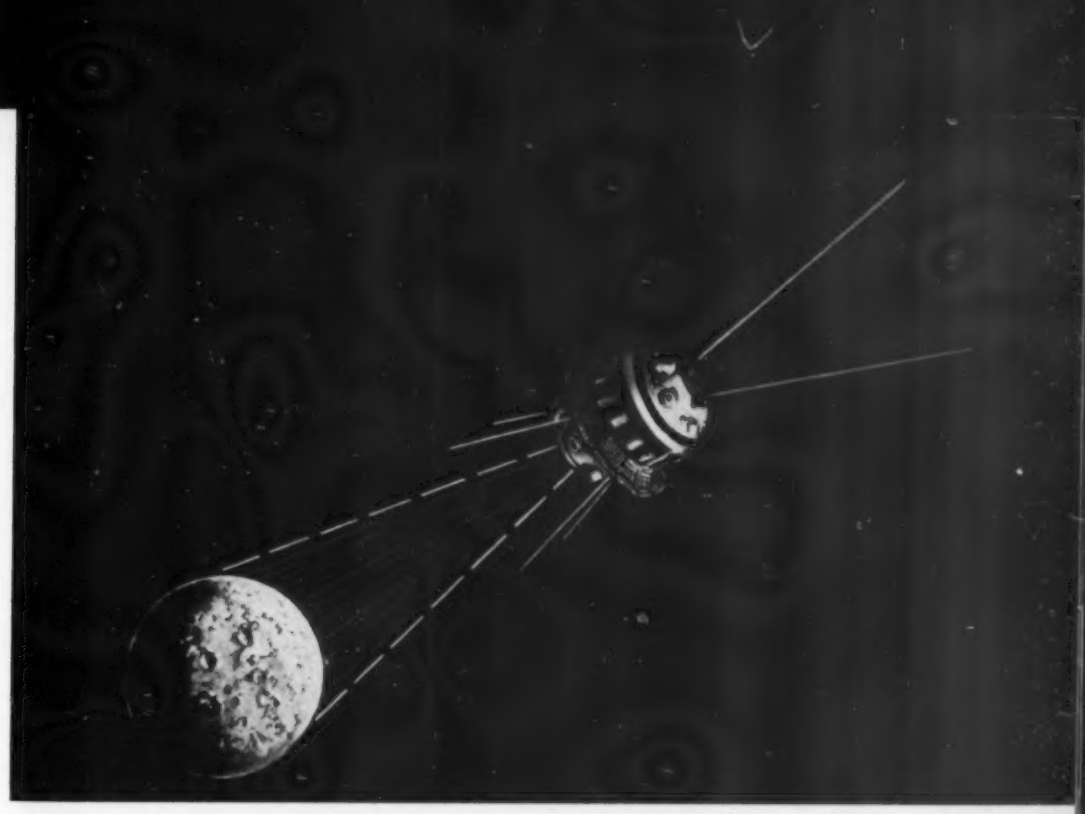
The orbit of the automatic interplanetary station was preselected for the particular studies to be undertaken and ensured the receipt of the greatest amount of information during the first loop, especially at short distances from the earth. With this in view, the best possible conditions for radio communications with the interplanetary station from points situated on the Soviet Union's territory had to be provided.

The station passed at a distance of 7,900 kilometers (some 4,900 miles) from the center of the moon. The trajectory was chosen so that at the moment of maximum closeness the station would be south of the moon and then, as a result of its attraction, would deviate to the north. This deviation was so significant that the return to the earth was made from the side of the northern hemisphere.

On the way from the moon the maximum height of the station above the horizon increased from day to day for the observation posts in the Soviet Union and other parts of the northern hemisphere. Accordingly, the intervals during which direct communication was possible also increased in length. When the station had approached the earth sufficiently closely, it could be seen in the northern hemisphere as a permanent celestial body.

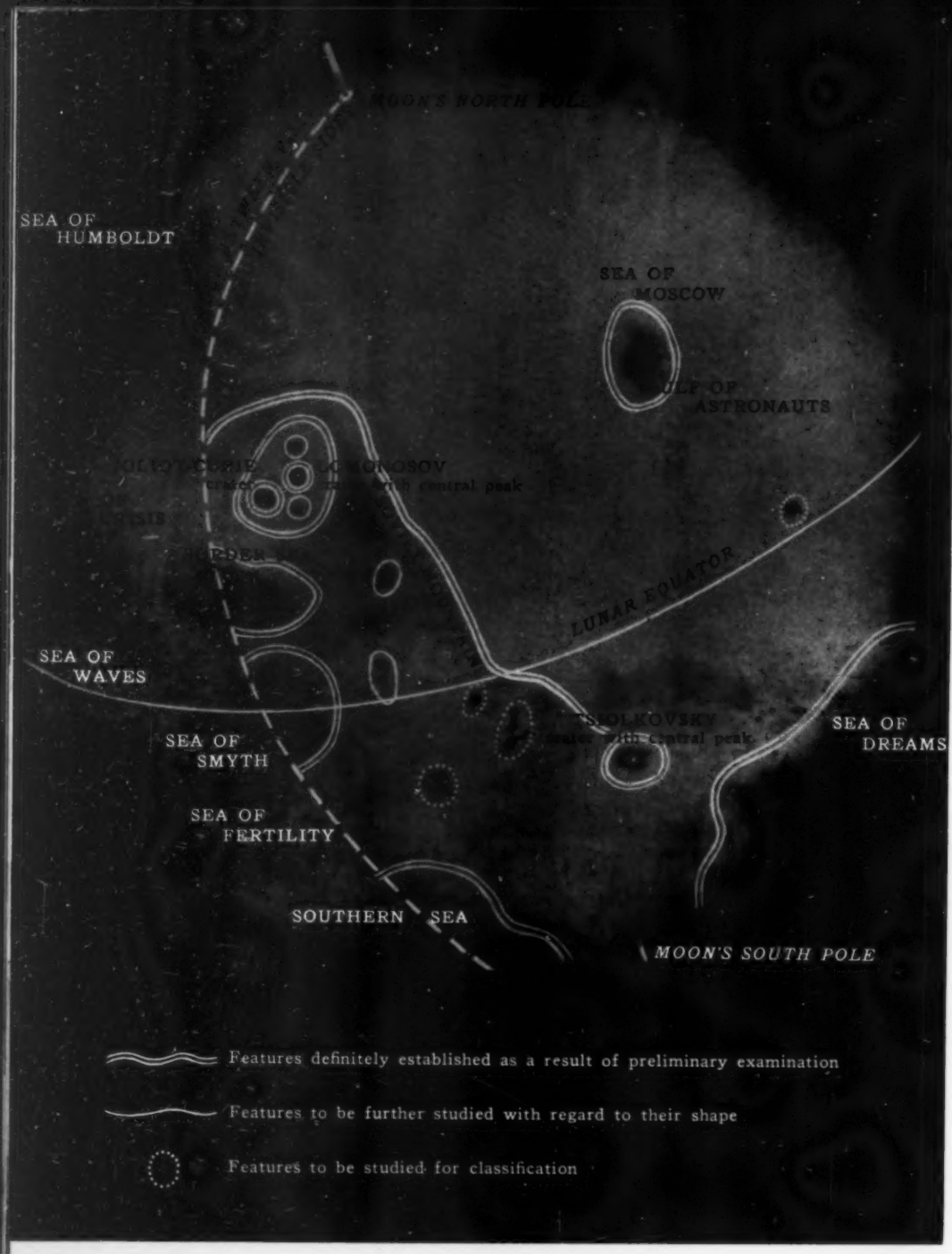
During its return to the earth in the first revolution, the station did not enter the atmosphere and did not burn up. It passed at a distance of 47,500 kilometers (some 29,500 miles) from the center of the earth, moving on an elongated orbit of extremely large dimensions, close to elliptic in form. Its greatest distance from the earth was 480,000 kilometers (some 298,000 miles).

The flight of the interplanetary station in the vicinity of the earth is taking place at such great distances from its surface that there is no slowing down as a result of the resistance of the atmosphere. Therefore, if it were mov-

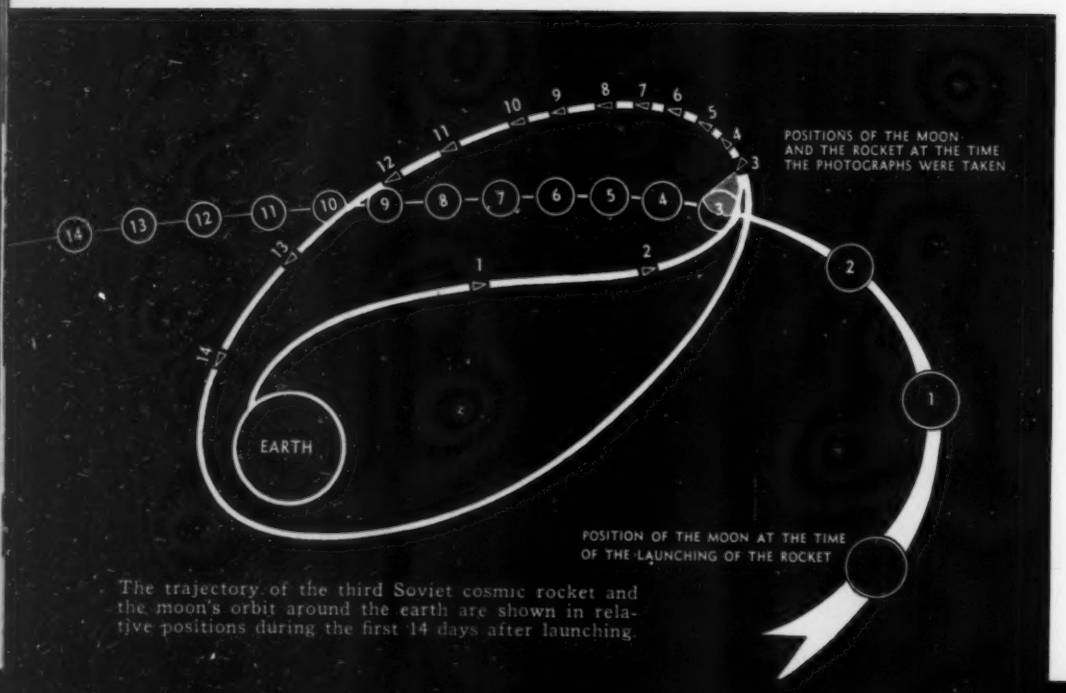


POSITION OF THE AUTOMATIC INTERPLANETARY STATION WHEN ITS CAMERA WAS SHOOTING THE MOON

A LARGE SCALE PHOTOGRAPH OF THE HIDDEN SIDE OF THE MOON. THIS ONE IS ALSO UNRETOUCHED.



THE MOON'S HIDDEN SIDE



The trajectory of the third Soviet cosmic rocket and the moon's orbit around the earth are shown in relative positions during the first 14 days after launching.

ing only due to the force of the earth's attraction, the station would be a satellite of the earth with no limit to its period of existence.

In reality, however, the station has a limited period of movement. Due to the perturbation of the sun's attraction, the orbit's closest distance from the earth—the height of the orbit's perigee—is constantly dropping. Therefore, after having completed a certain number of revolutions, the station will in one of its returns to the earth enter the dense layers of the atmosphere and burn up.

The extent to which the perigee diminishes in one revolution depends on the size of the orbit and particularly on the height of the apogee—the greatest distance of the orbit from the earth. As this height increases, the orbit shrinks more and more rapidly. Therefore a trajectory had to be chosen where the apogee should be possibly smaller and should not be much greater than the distance from the earth to the moon, while the perigee should be possibly greater on the first circuit. Upon these two requirements depend the number of the station's revolutions around the earth and the length of the station's existence.

The picture of the movement of the automatic interplanetary station under the simultaneous influence of the gravitational forces of the earth, moon and sun is very involved. The influence of the moon is not limited to the effect it produces during the period of initial close approximation. Disturbances in the orbit of the station as a result of lunar gravitation do not have the same regular character as disturbances resulting from solar gravitation, and depend to a marked degree on the period of the station's rotation round the earth.

In the event of a repeated close approximation, the movement of the station may change substantially. If it passes the moon from the southern side, as in the first approximation, the number of rotations will increase greatly and so will the time the station continues to exist with the basic property of its trajectory intact—that is, to approach the earth from the side of the northern hemisphere. In case it passes the moon from the north, the height of the orbit's perigee will decrease, and if the disturbances are strong enough, the station may strike the earth during its next period of return.

The moon exercises some influence on the movement of the station even in those loops where close approximation does not ensue. Although the force of lunar gravitation in that case is very small, still by acting on a considerable number of loops it may have a noticeable effect on the movement of the station. The perigee will diminish and so will the time the station remains in its orbit.

The preliminary processing of the trajectory measurements now shows that the automatic interplanetary station will travel along its orbit until April 1960, making 11 to 12 revolutions around the earth.

Guidance System

Since no corrections are made in the movement of the station and its whole trajectory is determined in the last analysis by the parameters of its movement at the end of the

launching phase (basically by the extent and direction of the speed), it is clear that the guidance system of the carrier-rocket must be highly perfected.

Imagine an inclined plane which passes through the center of the moon perpendicularly to the line earth—moon. Calculations show that with a deviation of 1,000 kilometers (621 miles) from the set point of the station's passage through the inclined plane, the minimum distance between the earth and the station during return will change by 5,000 to 10,000 kilometers (3,107 to 6,214 miles) and the time of its greatest approximation to the earth by 10 to 14 hours.

If the utmost deviation of the minimum distance between the earth and the station should not exceed 20,000 kilometers (12,427 miles), the precision of guidance in the period when the rocket is brought into orbit must ensure a deviation of no more than 3,000 kilometers (1,864 miles) at the point where it intersects the inclined plane. At first glance this demand on the system of guidance seems an easier one to satisfy than the task of hitting the moon, since to hit it, the utmost deviation of the rocket from the point at which it is aimed, or the calculated point at which it is to intersect the inclined plane, must not exceed the radius of the moon, in other words must be about half of 3,000 kilometers. However, in a circumlunar trajectory mistakes in getting the rocket into orbit influence the deviation in the points of its intersection of the inclined plane much more than in the lunar-landing trajectory realized by the second Soviet cosmic rocket.

Indeed, deviation of only one meter (3 feet 3 inches) per second in the velocity of launching the rocket to the free flight phase in the hitting-the-moon version results in a deviation of the intersection point by 250 kilometers (155 miles). In the round-the-moon version this deviation will be 750 kilometers (465 miles), or three times as great. Only a comparison of these figures shows that the round-the-moon version requires not less but even greater accuracy of the rocket guidance system than in the hitting-the-moon version.

Automatic Interplanetary Station

Photographing the concealed part of the moon was the most important but not the only function of the third cosmic rocket. To carry on a comprehensive program of research the rocket carried a veritable laboratory of instruments in a thin-walled hermetically-sealed cylindrical vehicle with spherical end plates. Its length, without the aerials, is 1,300 millimeters—4 feet 3 inches—and its maximum diameter is 1,200 millimeters—3 feet 11 inches.

The laboratory is an automatic interplanetary station equipped with an intricate complex of radio, photo-television and related apparatus; a system for orientation control; an installation for program guidance of the apparatus on board; a system for automatic heat regulation; and power supply sources. The research equipment is designed to continue the studies in space begun with the two previous Soviet cosmic rockets launched in January and September.

The apparatus is guided both by radio from the earth and by autonomous program installations on board. This type of combined system guarantees the most effective control and communication with any sector of the orbit within radio-visibility range of terrestrial tracking stations.

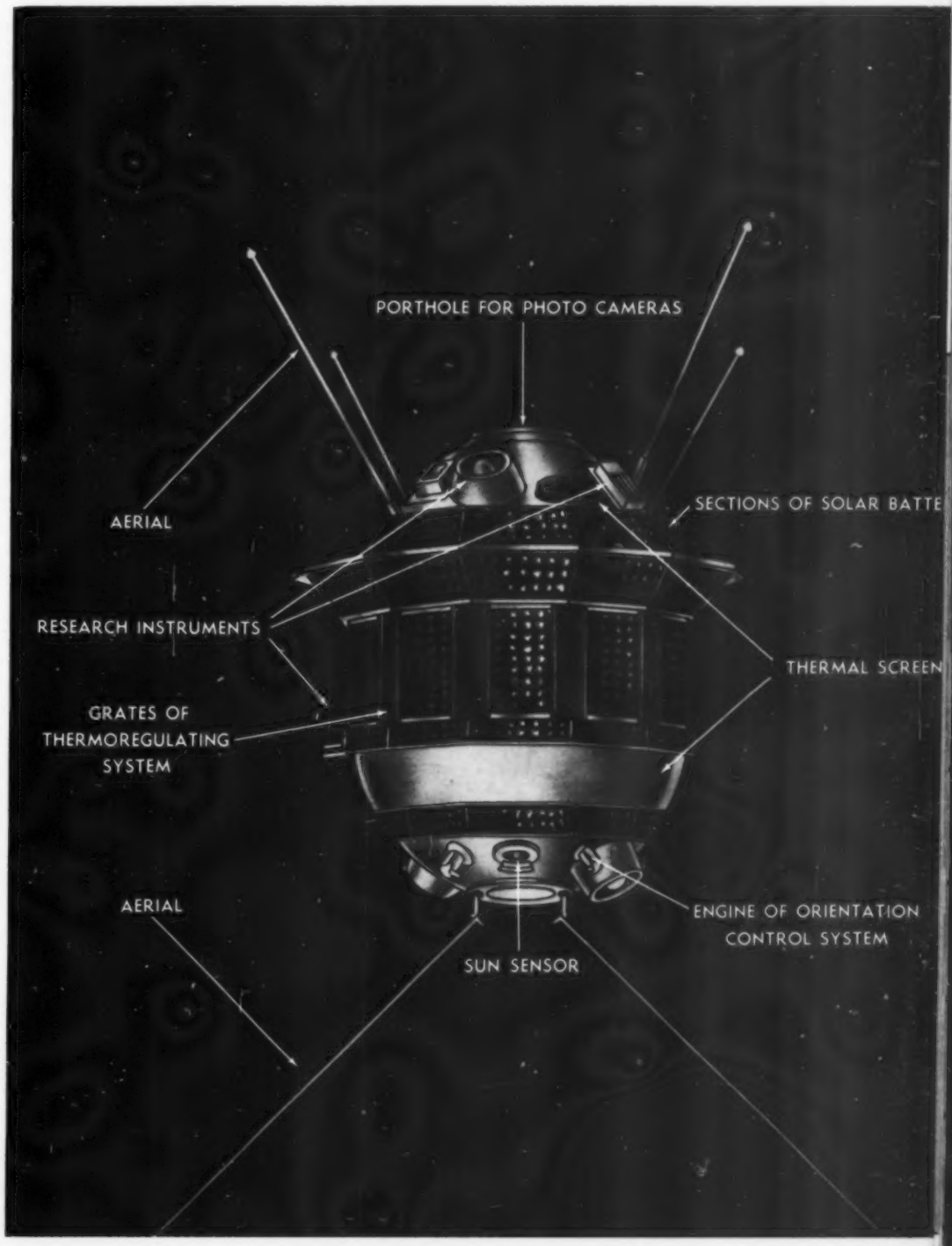
An automatic thermoregulator maintains the required temperature regime. Heat generated by the operating instruments is vented to surrounding outer space through a special radiation surface. To regulate heat irradiation there are shutters on the outer skin of the vehicle which open the radiation surface when the temperature inside reaches 25° Centigrade (77° Fahrenheit).

Instruments that function for short periods are powered by independent blocks of chemical batteries. There is also a central buffer chemical battery whose expended power is replenished by solar batteries.

The apparatus and chemical power sources are mounted on a frame inside the vehicle. Some of the instruments, the aerials and sections of the solar battery are mounted on the outer surface. A porthole, set in the upper end plate, has a cover which opens automatically for photography. In the upper and lower end plates are small portholes for the sun sensors of the orientation control system. The guiding engines for this system are mounted on the lower end plate.

Orientation Control System

The interplanetary station is illuminated by three bright celestial bodies—the sun, the moon and the earth. To photograph the lunar



THE MOON'S HIDDEN SIDE

body, its trajectory was chosen so that the station would be on a direct line connecting the sun and the moon.

An arrangement whereby the station's camera is trained on the moon by turning the entire vehicle was found best. The orientation control system was switched on when the distance to the moon was 60 to 70 thousand kilometers (some 37 to 43 thousand miles), as predetermined.

Immediately the arbitrary rotation of the vehicle around its center of gravity stopped. Then its lower end plate was trained on the sun with the aid of solar sensors and this trained the camera in the opposite direction, on the moon. Another optical device, which now could not "see" the earth and the sun, switched off the orientation on the sun and ensured accurate orientation on the moon.

Lunar Photography

A signal from the optical device, showing that the moon was in focus, started the automatic picture-taking. During the entire photographing time the orientation control system kept the station steadily trained on the moon. After all shots had been exposed, the orientation control system was switched off.

The basic unit of the photo-television equipment in the interplanetary station was a camera with two lenses. Their focal distances were 200 to 500 millimeters and they shot pictures simultaneously in two different scales. The 200-millimeter lens produced an image of the lunar disk which fit into the picture fully. The large-scale image produced by the 500-millimeter lens exceeded the bounds of the still and gave a more detailed picture.

The photographs were made with automatic changes in the exposure to obtain negatives with the most advantageous densities. The entire process of photographing and processing the film was done automatically according to a set program.

Special 35-millimeter film was used which can be processed at high temperature. To prevent the film from being veiled because of cosmic radiation, special protection was provided chosen on the basis of investigations conducted with the help of the sputniks and cosmic rockets.

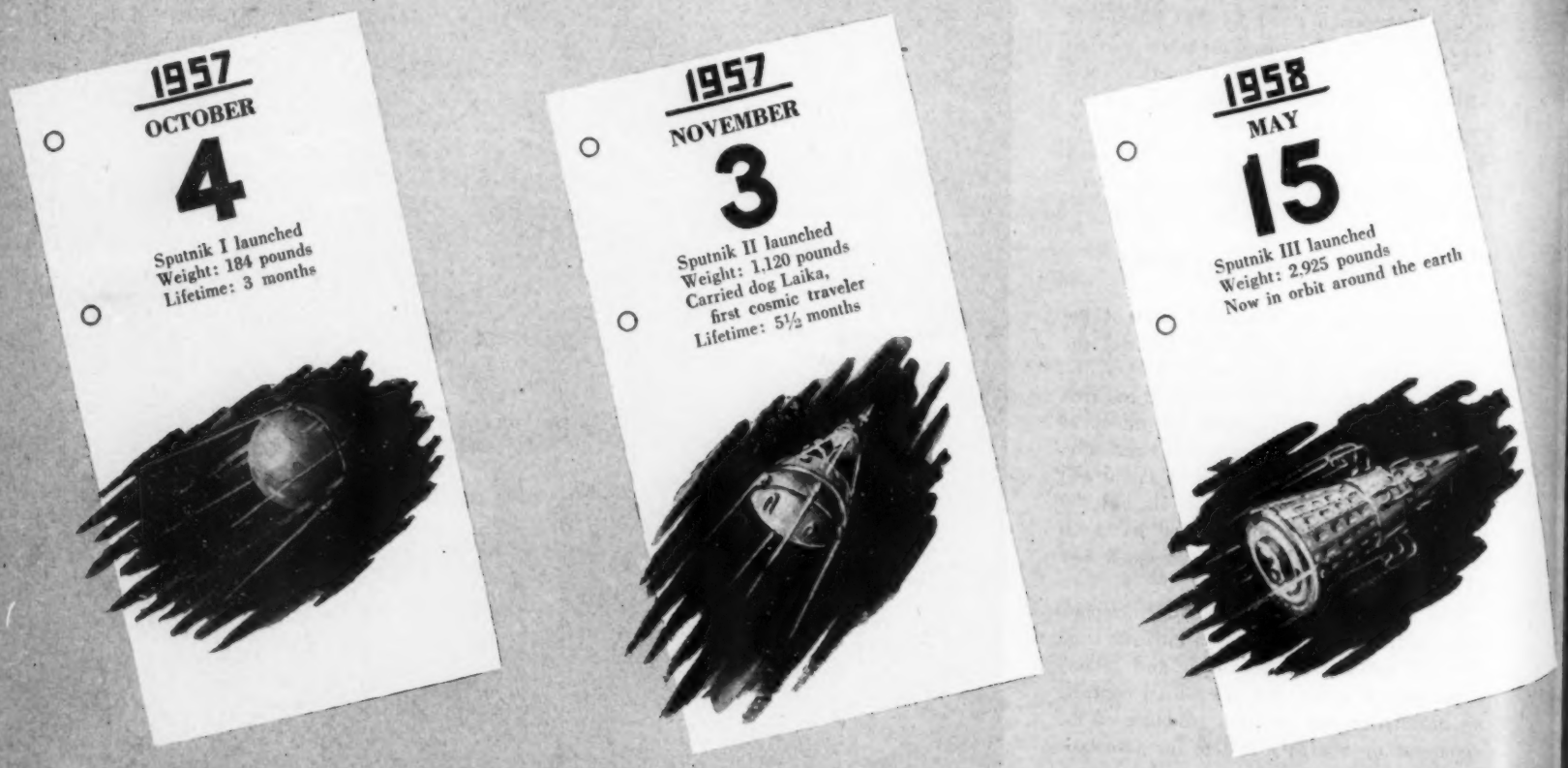
After the film was shot, it entered a small automatic developing and fixing device. After the film was treated, it was dried to ensure its preservation. Then it was passed into a special case and was prepared for transmission of the pictures.

To transform the image on the negative, a small scanning tube with a high resolving capacity and stable photoelectronic multiplier was used. Provision was made for the pictures to be transmitted in two regimes—slow transmission over large distances and fast transmission for shorter distances as the station approached the earth. The television system made it possible, in accordance with the conditions of transmission, to change the number of lines into which the picture was broken up. The maximum number of lines reached 1,000 per still.

Transmission of the pictures to the earth was effected in the same way motion picture films are transmitted from TV studios. Lunar photographs had to be transmitted over super-great distances by a very low-capacity radio transmitter. That is why the speed by which images were transmitted was tens of thousands of times lower than the speed by which images are transmitted from ordinary TV centers.

To ensure high-quality transmission of low-contrast pictures, the television apparatus was provided with automatic means for adjusting the scanner tube's brightness. Self-adjusting devices were also used to ensure reliable and faultless operation of the setup in changing regimes. The coordination of the work of all units of the photo-television equipment was effected through a special system of automatics and programming.

The pictures of the moon were transmitted



from the interplanetary station along the radio communication line which served at the time for measurements of the parameters of the movement of the station itself (distance, velocity, and angle coordinates) and also for the telemetric transmission of the results of the scientific experiments. The various devices on board the station were switched on and off and their regimes changed by special orders transmitted from the earth over the same radio line.

To transmit all the data, continuous emission of radiowaves was employed as distinct from the impulse radiation used previously in certain cases. This is the first time such a combination of functions in one radio-communication line working under continuous transmission has been attempted. It ensured reliable radio communications even at maximum distances, with the least possible expenditure of energy on the station itself.

The total volume of scientific information transmitted by radio, including the photographs of the moon, far exceeds the volume of information that was transmitted from the first and second Soviet cosmic rockets.

The entire equipment of radio-communication lines both on board the station and on the earth was duplicated in order to increase the reliability of communication. In the event that one of the radio instruments on board was out of order, or the resources needed for its work were exhausted, it could be replaced by the reserve instrument through a corresponding order given from a guidance post on the earth.

To economize electric power, the capacity of the radio transmitters on board was only a few watts. Transistors and other modern parts and materials were used in the receiving and transmitting radio apparatus. Particular attention was paid to reducing the volume and weight of instruments to a minimum.

To ensure that communication with the station is not suspended as it revolves, the station's aerials emit radio signals evenly in all directions so that the power of emission for a unit of surface is the same for all the points of the imagined sphere in whose center is the station.

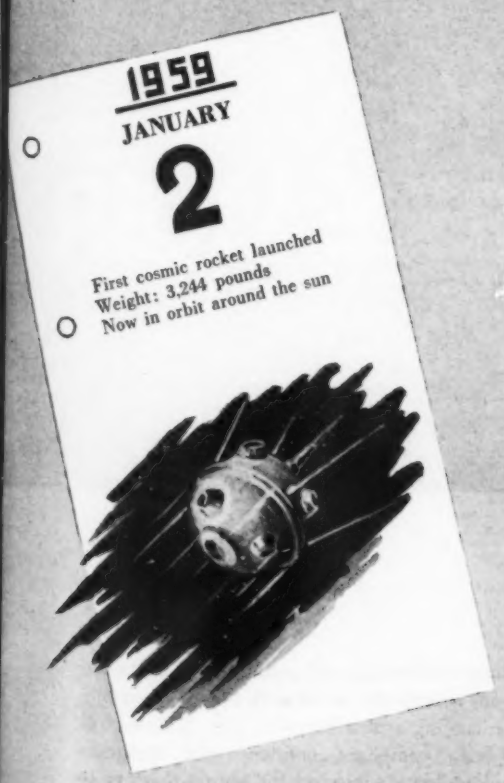
Only part of the power transmitted to the ground is picked up by receiving aerials. That is why large receiving aerials are used to intercept the signals from the station. But even with this, the part of the power emitted by the transmitter on board that is actually intercepted, when the station is at a maximum distance from the earth, is 100 million times weaker than the average power intercepted by an ordinary TV set. Extremely sensitive receiving devices, with low static, are used to intercept such weak signals.

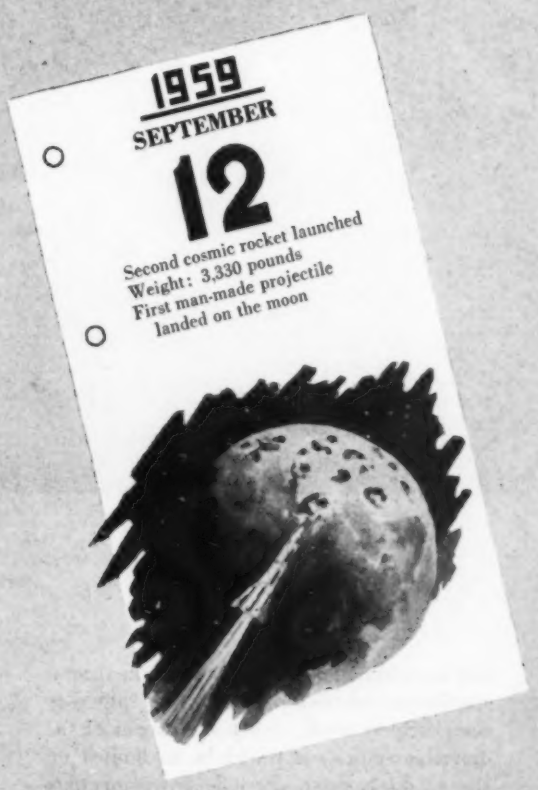
Economical consumption of the power aboard the station; employment of radio-communication lines with continuous radiation and combined functions; application on the earth of special receiving aerials and highly sensitive reception devices; the use of special methods of processing and transmitting signals—all this has made it possible to ensure reliable radio communication with the interplanetary station, faultless operation of the command radio line, and systematic reception of photographic and telemetered scientific information regarding the moon.

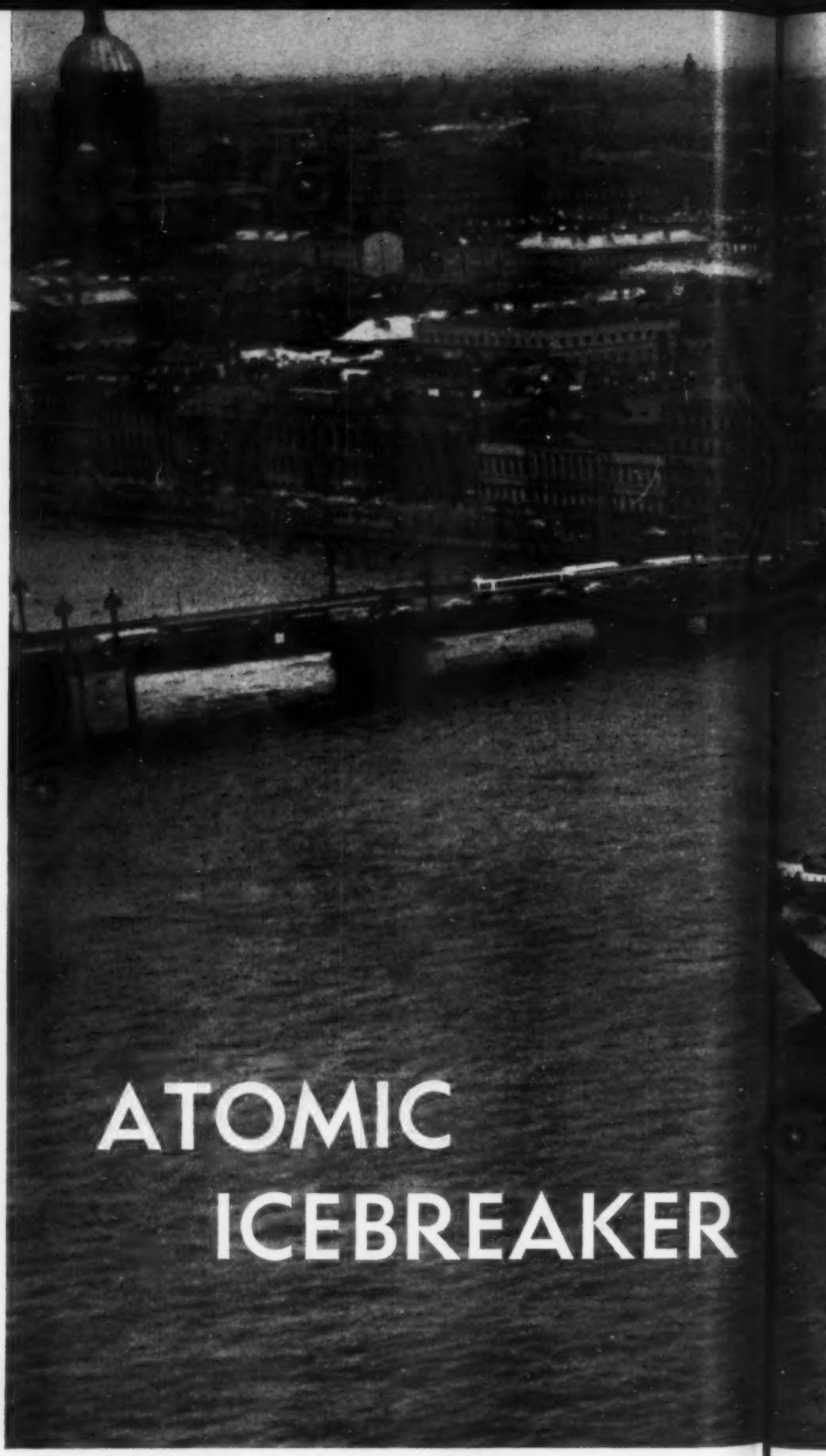
The television signals received by the ground stations have been recorded by various instruments, which ensured the necessary preservation and made it possible to control the course of transmission and exclude specific distortions caused by the peculiarities of the communication line and recording devices.

The television system on the interplanetary station has transmitted pictures over a distance of up to 300,000 miles. Thereby the possibility of transmitting half-tone images of high accuracy without any essential specific distortions in the process of radiowave propagation has for the first time been confirmed experimentally. This opens up wide prospects of studying the planets of our solar system.

The flight of Lunik III has opened a new chapter in the history of world science. Penetrating into outer space, Soviet rockets will now be able to transmit to the earth not only data of the physical characteristics of the cosmos, but also photographs. With the automatic interplanetary station, astronomy has moved its instruments infinitely closer to the celestial bodies.







ATOMIC ICEBREAKER

THE atom-powered icebreaker *Lenin*, the flagship of the Soviet Arctic fleet, has recently left the Admiralty Shipyard in Leningrad. Commenting on its launching, Nikita Khrushchev said in his speech upon arrival in the United States, "We are happy about this concrete expression of the striving of all peoples to have nuclear energy used for peaceful purposes only."

Atomic seagoing ships of various types are now being designed or built in many countries. The icebreaker *Lenin* is the world's first above-water vessel powered by the energy of the atom to go into service. The Soviet Union began with an icebreaker because it is in ships of this kind that the use of atomic power is especially advantageous.

An icebreaker of the conventional type has to refuel quite often which results in certain limitations on its operation. A ship the size of the *Lenin* would need some 200 tons of oil a day. Now this will be replaced by only a few dozen grams of atomic fuel. The icebreaker *Lenin* is expected to refuel only once every second year. This means that it will be able to sail an almost unlimited range without calling at ports.

The use of atomic energy made it possible to attain a high level of driving power per unit of the ship's weight. The *Lenin* is far and away the most powerful of icebreakers presently in use anywhere. Its three-shaft, 44,000-horsepower installation has a push of 330 tons. The ship can cruise easily through six-foot-thick ice. It will double the present shipping season on Arctic Ocean runs, and new routes farther to the north can be opened.

The icebreaker *Lenin*, equipped with a special ballast system, cuts through ice in somewhat the same way a woodsman chops through close-grained wood. When his ax catches in the wood, he pushes down on the handle to release it. When the ship gets stuck in thick ice, water is quickly and automatically forced back from the prow to the stern. This frees the prow and the vessel can climb up on the ice floe. Then the water is pushed back in the opposite direction just as quickly and the weight of the vessel breaks the ice.

These are the basic specifications of the icebreaker *Lenin:* displacement—16,000 tons; length—440 feet; width—92 feet; maximum draught—30 feet; cruising speed in open water—18 knots. Even without the superstructures, it stands as high as a five-story building.

Three atomic reactors constitute the heart of the vessel. Its power installations can provide enough electricity to meet the needs of a city with a population of several hundred thousand.

Since the icebreaker will be operating for long stretches in seas remote from ports of call, the power installations must be completely reliable. Of the ship's three reactors, one is kept in permanent reserve. The use of electric screw propellers makes for added reliability since the ship can work at more or less constant power even when ice conditions may necessitate frequent and abrupt changes in the navigation regime.

The design of the atomic power unit had to meet many complex and, in some cases, contradictory requirements. It had to be compact, relatively light in weight and thoroughly foolproof. There had to be certainty that even under the most extreme emergency conditions radiation safety on the ship was completely ensured——that the spread of radioactive substances would be so limited or slowed down as to preclude any dangerous concentrations of these substances in the surrounding area. At the same time the reactors had to be self-regulating, with their active zones designed so that there would be no significant discharge of radioactive substances even should an accidental breach occur in the cooling system.

With complete confidence the designers and builders subjected the ship's reactors to the most exhaustive tests in the Admiralty Shipyard which is located in the very heart of metropolitan Leningrad.

To further ensure the biological safety of

the crew, the service personnel of the ship's atomic installations enter and leave the service premises only through a special control room. At this sanitary post their bodies and clothing are carefully checked for radiation. Sensitive dosimeters everywhere on the ship will register even a slightest concentration of radioactivity.

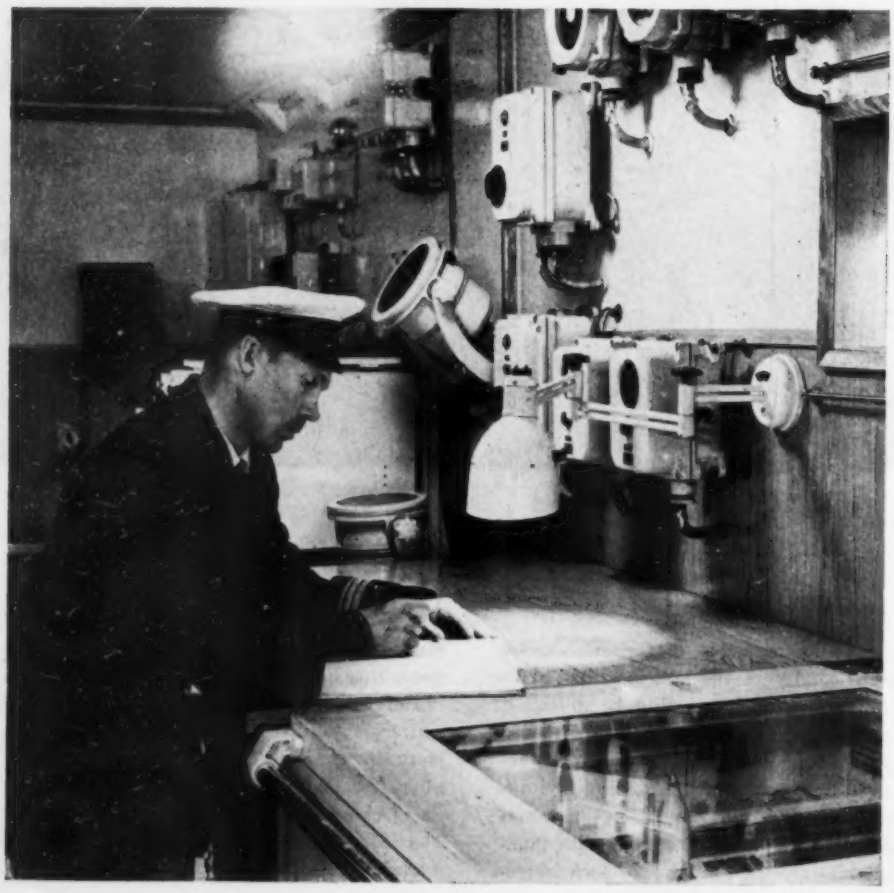
The safety control system on the icebreaker is so carefully regulated that under normal operating conditions the crew is exposed to no more radiation than would be given off by a wrist watch with luminous dials, and that presents no hazards whatsoever. To reduce even that very minimal possibility, however, the builders did not follow the usual practice of equipping instruments with luminous dials, since the radiation of such instruments exceeds the very rigid safety requirements that had been set for the *Lenin*.

The control system of the icebreaker is entirely automatic. Even the course is automatically charted. Ship-to-shore and ship-to-aircraft communication is maintained round the clock no matter where the icebreaker goes. The ship carries a helicopter equipped with a telecamera for ice reconnaisance. The ship's

Pavel Ponomarev is the captain of the atom-powered icebreaker which is able to sail an almost unlimited range without refueling.

ATOMIC ICEBREAKER

Control of the icebreaker is entirely automatic, even to charting the course. The operator pushes a button to start the machines, and a light on the panel signals the job's completion.



captain is kept informed of the condition of the ice not only via radio from the cruising helicopter but also by TV pictures it transmits. These are flashed on a screen on the bridge.

An important feature of the atomic icebreaker is the amount of space allotted to the crew's quarters. In an ordinary ship about a third of all space is taken by fuel bunkers. On the *Lenin* the designers utilized this space for the comfort of the crew. The seamen are provided with the maximum of conceivable conveniences to make their life easier during long Arctic voyages.

The single and double berth cabins are very commodious. Each one is equipped with armchairs, desk, wardrobe and wash basin. All cabins are air-conditioned. The *Lenin* has a music room, large clubroom for movies, a 3,500-volume library. Its hospital is equipped for X-ray, dental work and major surgery. The ship's offices, laundry, dining room, electric kitchen, bakery, refrigeration rooms and all other premises are unusually spacious.

The atomic icebreaker *Lenin* is in a real sense the creation of the entire country. Hundreds of industrial plants and scientific institutions contributed their resources, both material and mental, to build the ship. It has successfully passed a final series of shipyard tests and soon will be forging its way through northern seas, clearing the way for ships carrying the most peaceful cargoes for peaceful people.

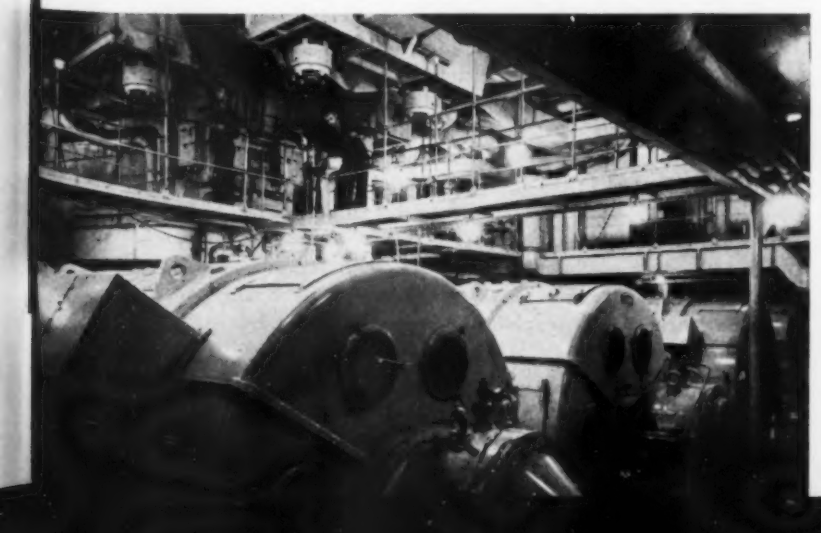
The space usually taken by bunkers on conventional icebreakers is used for comfortable cabins, big clubrooms, a library and a hospital for the crew.

The 440-foot long, 92-foot wide, five-story high *Lenin* has a 16,000-ton displacement and a cruising speed of 18 knots.

The atomic reactor installations, sealed and operated by remote control, are designed to protect the crew from exposure to dangerous radiation.

Radio receivers and transmitters keep the icebreaker in touch with shore, planes and other ships, and its own helicopter is used for reconnaisance.

These turbogenerators run motors with a capacity of 44,000 horsepower, creating a push of 330 tons for getting through ice six feet thick with ease.



A few grams of atomic fuel enables the power plant to produce enough electricity to service a city with a population of several hundred thousand.

DYNAMO SPORTS SOCIETY OPENED THE NATIONAL GAMES WITH A GYMNASTIC DISPLAY. SEVENTEEN TEAMS COMPETED FOR TOP HONORS IN THE EXCITING AUGUST CONTESTS.

TRACK AND FIELD EVENTS LISTED A HOST OF NEW NAMES ALONG WITH THE OLD

TWELVE NEW RECORDS WERE SET FOR THE SOVIET UNION AND 154 FOR THE REPUBLICS.

MORE THAN 8,000 ATHLETES OF 43 NATIONALITIES COMPETED IN 21 SPORTS.

USSR

By Victor Kuprianov

IN SPORTS what happened in August is usually stale by December. The Spartakiada—the USSR National Sports Games—is an exception. It was not an ordinary event—it was a landmark.

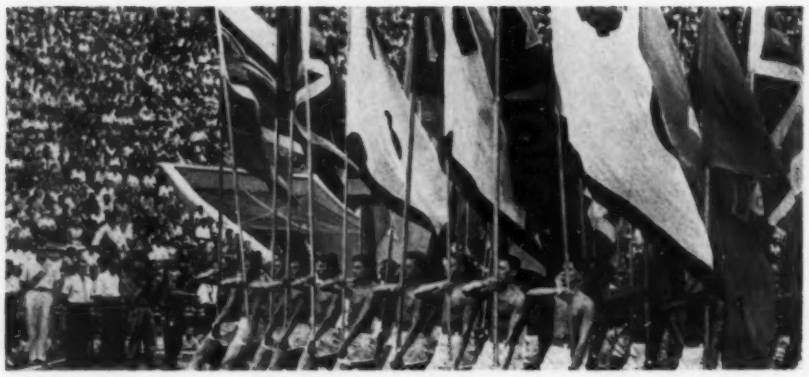
Take the Olympic Games, double their scope, and you have an idea of the Spartakiada. Over 8,000 athletes from all over the country converged on Moscow in August to compete for top honors in 21 sports and chess. These were the lucky ones who had survived the one-year qualifying preliminaries that began with an over-all entry list of 40 million.

Spartakiada days were hectic ones for Muscovites. First of all no one stadium was large enough, so the contests were scattered all over the city and outside it. Spectator facilities were planned for about a quarter million onlookers a day. But arenas proved sadly undersized at times, especially during the basketball and volleyball tournaments.

The Moscow finals were something more than a mere spectacle. They were a review of sports mastery and physical fitness, not only of the individual contestants and teams, but of the entire country. They were a review of how much had been accomplished and a reminder of how much was still to be done. From this standpoint both the athletes and the fans looked at the Moscow Spartakiada with one eye on the Rome Olympics.

The Spartakiada had much to offer to the winners: a USSR crown and a place on the Olympic team. The games were conducted on a team and individual basis. There were 17 teams competing—one each from the 15 constituent republics of the Soviet Union plus teams from Moscow and Leningrad.

WORLD DECATHLON CHAMP VASILI KUZNETSOV AND 100-METER FINAL WINNER GALINA POPOVA



COLORFUL BANNERS OF THE COUNTRY'S SPORTS SOCIETIES IN THE OPENING-DAY PARADE

RNational Sports Games

After the officials and computing machines were through with the complicated business of point counting, it appeared that Moscow had placed first, with the Russian Federation and Leningrad close runners-up. Competition was keen all the way through and surprises were the order of the day.

During the Spartakiada a total of 154 new records were set for the republics of the Soviet Union, Moscow and Leningrad. USSR records were shattered 12 times. Three of the performances were better than corresponding world highs.

Anatoli Vedyakov of Moscow walked 50 kilometers in 4 hours 3 minutes 52.2 seconds—that is the fastest a human being has ever walked since the beginning of time. In weight lifting Rudolf Pluckfleder, a Siberian miner, surpassed Jim George's world record only to have the result bettered by a Moscow strongman, Vasili Pegov, exactly two minutes later. Although their lifting highs are not credited as world records—because world records are recognized only if they are set at an international match with at least three countries taking part—the feeling is that if the boys could lift these weights at the Spartakiada they would be able to repeat their performance at the Rome Olympics without too great difficulty.

One of the innovations at the Spartakiada was the tournament for factory, mine, farm and other local sport clubs, with more than 70 competitors in five events. The Leningrad Optical Plant placed first. This enterprise has long been famed for its athletes and sports activities in general. Galina Zybina, former world record holder in the shotput, comes from there, as do some other top-notch athletes.

Galaxy of New Stars

The age span of the contestants was unbelievably broad. The youngest was a schoolgirl from Lithuania not yet 12 who aspired to table-tennis honors; the oldest, a sharpshooter from Latvia, who insisted that 77 is not old.

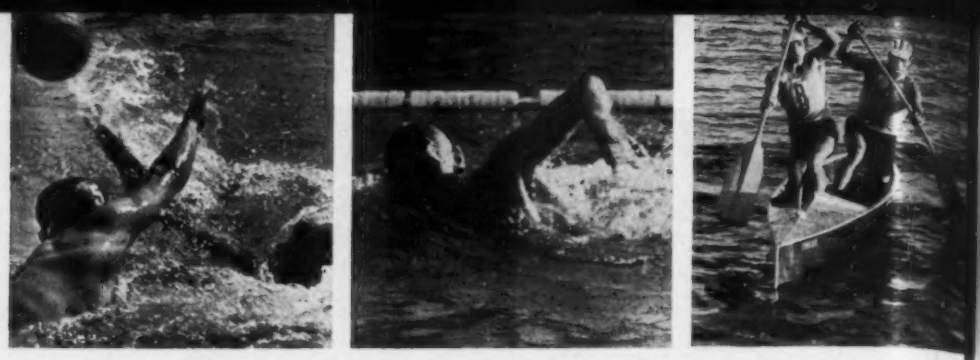
What is perhaps even more heartening is the galaxy of new stars that came to the fore in all events. The youngest champion was a girl from Leningrad, 16-year-old Larisa Victorova. She is a backstroker who may be up front at the Rome Olympics.

In boxing all the USSR champions were deposed. Five of them did not even get as far as the semi-finals. And of the ten current crown-holders nine had never been prize winners at championship tournaments before. Nineteen-year-old Alexander Izosimov is a case in point. He is the new heavyweight champion and he placed first in a list that included Andrei Abramov, a boxer who won the European laurels twice. He looks like world champion material.

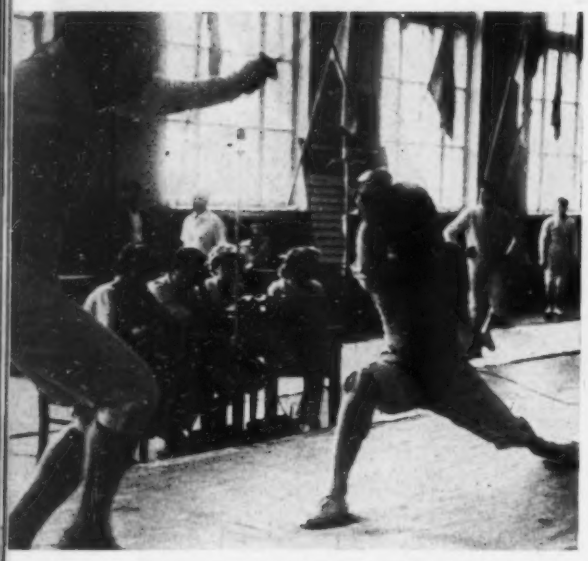
In track and field the newcomers also made a very strong bid in all of the events.

After the USA-USSR match in Philadelphia last July, many American sports scribes said that the Soviet Union had made no progress because the team that appeared against the United States included so many old-timers. The conclusion they drew was that the United States would stay at the top in the sprints, the middle distance races, broad jumping, pole vaulting and the shot-put. To the Soviet Union they conceded the remaining field events and the distance running.

ONE OF THE COUNTRY'S MOST POPULAR SPORTS.



SOME OF THE BEST SWIMMERS, CANOEISTS AND OARSMEN CAME FROM REGIONS WHERE WATER IS SCARCE.



500 ENTRANTS TOOK PART IN THE FENCING MATCHES.

AN AESTHETIC QUALITY HAS BEEN ADDED BY SOVIET SPORTSMEN TO THE WORLD'S OLDEST ATHLETIC EVENT.

USSR National Sports Games

The Spartakiada changes the picture. Although results were not world shattering, they did indicate that the Soviet Union has many gifted youngsters who will be growing up into stars any day now. New names figured in all the finals. In the girls' broad jumps, for instance, there were four new names among the six finalists. In the discus throw Tamara Tugushi, a Caucasian girl, outdistanced everyone in the preliminary round, and in the finals placed second to the world star Nina Ponomareva. And this is her first appearance in a major tournament!

The same trend, although on a lesser scale, was shown by the men—the younger generation coming up to take the place of the veterans. Observers in Europe were very much impressed by the showing made by Pyotr Bolotnikov who won both the 5,000- and 10,000-meter races. In the 5,000-meter run he showed the best time of the season in a close dramatic finish and came to within 7.8 seconds of the world record held by Vladimir Kutz. Bolotnikov believes he can do better and the general feeling is that he can and will.

Coach Gavriil Korobkov believes that in about four to five years there will no longer be any division into "American" and "Soviet" events in track and field. "We will be able to fight for first place in all events," he says.

After the Spartakiada the selectors got into a huddle and named a new national track and field team to face West Germany, one of the strongest teams in Europe. More than 20 new names appeared in the line-up that went into action in Philadelphia. Is this scrapping the old-timers? No, it is giving the newcomers the international experience they need. Later, when the British athletes came to Moscow, more new names were added to the line-up.

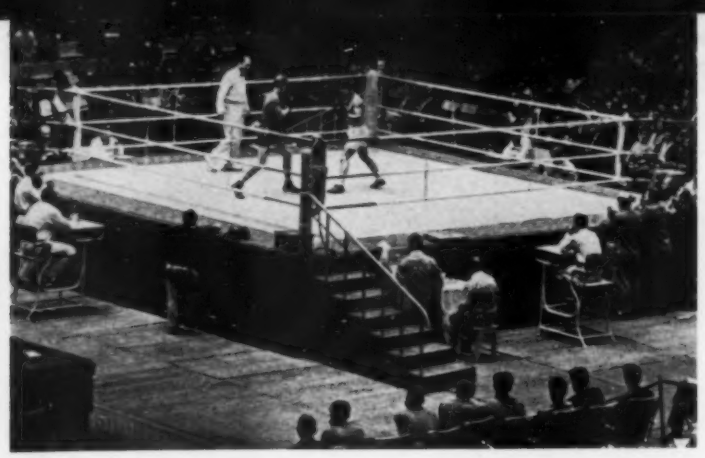
The selectors planned their campaigns with one eye on the Rome Olympics. Emphasis was on youth with a sprinkling of veterans for seasoning. The selectors will be kept busy spotting the new hopefuls. But old-timers have not faded out of the picture.

Vasili Kuznetsov topped the 8,000-point mark again in the decathlon for the fifth time—he has done it more often than any other athlete in the world, including Rafer Johnson. Among the women Galina Popova at the age of 27 is the country's best sprinter and she will undoubtedly see action at the Rome Olympics. Nina Ponomareva at 30 is still heaving the discus most energetically and successfully—and she has appeared at two Olympics already. Our male discus luminary, Otto Grigalka, is still in the running at the age of 34. He is the oldest athlete in the national team.

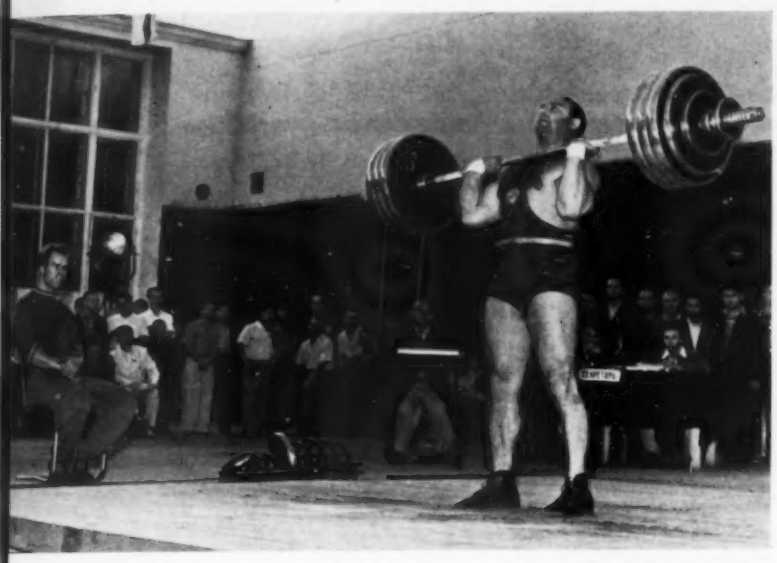
But our main stake is on the youngsters, and this is true in other sports as well, including basketball. What is notable is that the Spartakiada indicated a definite improvement in technique and tactics and showed there was a sizable reserve of manpower—and womanpower—to draw from. That is heartening and promises a bid for first place at the Rome Olympics.

One of the most exciting games of the year was the basketball game played at the Spartakiada between Latvia, former USSR champion, and Georgia. At the final whistle the score was even and an extra period was played. The score stayed even. Another supplementary period was played, and still another, but both sides continued running neck and neck. Then Georgia broke ahead. But the personal foul rule had decimated the team—only four men remained on the court, then three.

Three men on the court holding a slim lead with only 12 seconds to play. The stands roared the count-down as the skyscraper Latvian team came out in force on a steam roller attack. Many a heart skipped a beat but the Georgian trio held tight. This is a story that will be handed down from basketball generation to generation.



IN BOXING ALL THE OLD USSR CHAMPIONS WERE DEPOSED BY NEWCOMERS.



THERE WAS GOOD MATERIAL FOR THE ROME OLYMPICS AMONG THE STRONGMEN.

Where Do New Names Come From?

The Spartakiada contestants came to Moscow from all the geographical zones of the country. While there is nothing surprising about an athlete coming from afar, it does seem rather unusual to learn that champion canoeist Ibrahim Hasanov comes from Tajikistan where a drop of water is worth its weight in gold. It was also startling to learn that there are crack women athletes in Central Asia, where not so long ago women wore thick horsehair veils and were not permitted by custom to appear in public.

This breaks down old notions of geography in sports. If crack Alpine skiers can come from Moscow, which has nothing remotely resembling a mountain, why can't oarsmen come from desert regions? Indeed, why not?

Sports in the Soviet Union is a grass roots movement based on physical fitness. That is the basis of all training. More than 2,000 stadiums, a quarter of a million sports grounds, 600 swimming pools and 9,000 gyms have been placed at the disposal of the country's physical fitness scheme.

Our goal is to get 50 million people into sports activities by 1965. That means virtually every family. It also explains the giant dimensions of our tournaments. In the USSR school sports tournament that preceded the Spartakiada 12,200,000 boys and girls took part.

The formula for our modern sports-minded generation is "1+2=3". What this means is that every athlete gets two of his friends into sports. For the family of the writer it means that his daughter gets up bright and early to do her morning exercises. That is the "1". The "2" in this formula is that mommy and daddy are shooed out of bed to do likewise.

We are sure that this business of getting every family into the physical fitness scheme will work wonders. It will help us raise a healthy generation and keep the grown generation healthy. And it will ensure us a bumper crop of notable performances at the next and subsequent Spartakiadas.

THE GAMES SHOWED THAT BOTH TECHNIQUES AND TACTICS ARE IMPROVING.

Still from *Fate of a Man* (Soviet Union)

Still from *Wir Wunderkinder* (West Germany)

PEACE AND FRIENDSHIP

theme of 44-nation cinema review in Moscow

FORTY-FOUR COUNTRIES sent movies and delegations of cinema people to the International Film Festival held in Moscow last August. Among them were several countries of Europe, Asia, Africa and Latin America that never before had participated in any world film contest. To judge by the results, the Moscow Festival was the most representative and complete review of the world's finest motion pictures that has yet been held.

All countries were invited, with no distinctions made between kinds of producing groups. Entry conditions were alike for all. The guiding motto—"For Humanism in Cinema Art, for Peace and Friendship Between the Peoples"—gave the contest a sense of profound social significance.

Participants were agreed that this was the most creative of film festivals. Note the tenor of their comments reprinted on the following pages. On view were some 200 full-length films and shorts—a comprehensive survey of present-day motion picture production with its new and varied approaches in camera technique.

A novel feature of the Moscow Festival which set it off from those held in previous years at Venice, Cannes and Karlovy Vary was the emphasis on discussion of the social role and significance of the film, script-writing, the critical review, and many other creative problems. The participation was general and the interest high.

During the festival period the competing films were viewed by large Moscow audiences at motion picture theaters and workers' clubs.

The jury, made up of world-famous film people from different countries, awarded first prize, the Grand Prix D'Or, to the Soviet film *Fate of a Man*, based on a story by Mikhail Sholokhov, a passionate cry and protest against war's horrors. The Soviet picture was praised for its impressive direction, acting and photography, but noted particularly was the penetrating universality of its characterization and its most powerful humanistic impact.

The West German film *Wir Wunderkinder* won a Gold Medal for its theme—the terrible destruction of body and spirit by fascism—developed with great motion picture artistry.

The Pakistan entry, *The Dawn Must Come*, a film built around the lives of fishing folk, was the surprise winner at this year's festival. It shared a gold medal with the Czechoslovak *Break Away from Shadows*, a study of the relationships and conflicts between members of a single family.

Some countries with a rich tradition of film-making, Italy and France in particular, in the opinion of the judges submitted films notably below their best standards. Unfortunately the United States did not participate in the festival, although one film, *The Diary of Anne Frank*, was sent for showing outside the contest.

A great number of entries in the Moscow Film Festival were marked by a concern, expressed through gifted direction, acting and camera work, with humanistic themes, with mankind's striving for a better and richer and more peaceful life.

Still from *The Dawn Must Come* (Pakistan)

Still from *Break Away from Shadows* (Czechoslovakia)

Festival Jury members (left to right): Christian Jacques of France, Henri Storck of Belgium, Sergei Yutkevich and Sergei Gerasimov of the USSR.

Sergei Bondarchuk (left), director and lead in *Fate of a Man*, Zinaida Kirienko, who co-starred in the film, and French film director Abel Hans.

20th Century-Fox showed *The Diary of Anne Frank* but did not compete. The company's President S. Skouros and his wife at the Festival.

The International Film Festival brought to Moscow many of the world's leading film people—producers, directors, actors, screen writers from forty-four countries.

Interviews with Participants

Wonderful Success

Arthur Watkins, *President*
British Film Producers' Association

In our view the Festival has been a brilliant success, and we would like to pay tribute to the good organization.

We are very proud that the British film, *Room at the Top*, was selected to open the Festival and that our British films have been so well received. My colleagues and I find that almost all the films shown at the Festival are of high quality and great interest.

Ideas of Humanism

Chang Chun-hsiang, *Script Writer and Director*
(People's Republic of China)

The Festival's noble motto—"For Humanism in Cinema Art, For Peace and Friendship between the Peoples"—gave apt expression to the spirit of creative encounters among the members of the world's film industries. All the participants won in this Moscow contest, since the Festival indubitably served the cause of rapprochement among the peoples.

Film of Great Merits

Gerald Severen, *Vice President of MJP Enterprises Inc.*
(United States)

I am in complete agreement with the decision of the Festival's jury to award the Grand Prix to the Soviet film *The Fate of a Man*. It is an outstanding work from the point of view of both directing and acting, and there can be no two opinions as to its great merits.

Forum of Cinema Workers

Kieshiko Ushihara, *Director (Japan)*

I have taken part in many international film festivals of Europe and Asia. But this one was perhaps the most interesting and significant of all. It was a real forum of cinema workers the world over. The creative discussions on the cinema's place in life, its ways of development, and its importance for peace and progress, were an important part of the Festival.

Discussed by Movie-Goers

Sergei Bondarchuk, *Actor and Director (Soviet Union)*

The most remarkable and happy feature of the Moscow Festival was its popular character, its unusually broad scale. I have had occasion to attend many international film reviews, and I believe that none of them compare with the Moscow Festival in the number of ordinary moviegoers who viewed, discussed and appraised the contesting films.

To Depict Our Contemporaries

Professor Anton Brousil, *Jury Member (Czechoslovakia)*

Our main duty in cinema art has always been to depict our contemporaries, ordinary people striving for a better life on earth. We saw them everywhere in Moscow. We encounter them in our countries as well. We are indebted to these people.

Candid Cartoons

by Georgy Pirtskhalava

of some of the world's famous film personalities whom he met at the International Film Festival in Moscow.

British star
Carole Lesley

French star
Marina Vlady

French director
Abel Hans

French director
Christian Jacques

Dutch director
Joris Ivens

Polish star
Maria Czeselska

Czechoslovak director
Jiry Sekvens

British star
Dana Wilson

Japanese director
Kieshiko Ushihara

For the Film Festival the Moscow Sports Palace was turned into a giant motion picture theater that seated 12,000 people. On view were as many as 200 full-length films and shorts, a comprehensive survey of the best in world cinema. The competing films were also shown at the city's movie houses.

The Festival delegates managed time for sightseeing and fun in spite of a crowded program that included round-table discussions of creative problems in film making.

USSR Minister of Culture Nikolai Mikhailov (second from right) talks to foreign film people about the possibility of joint productions.

Sergei Yutkevich (center), Soviet film director, plays host to his French cinema friends whom he met at festivals at Cannes and Venice.

The delegates were invited to view film techniques developed by Soviet producers. This group is watching a scene for a new film being shot at the Mosfilm studios.

American National Exhibition in Moscow

ENTRANCE TO THE EXHIBITION WAS AT THE PAVILION WITH THE GEODESIC DOME.

FORD, GM AND OTHER CAR MANUFACTURERS SHOWED THEIR LATEST MODELS.

THE most important display, one not listed in the guide books, is friendship—this was a Soviet visitor's comment on the American National Exhibition in Moscow's Sokolniki Park. That remark, made in passing, is very likely a more fundamental evaluation of the purpose and value of the exchange of exhibitions between the United States and the Soviet Union than the reams of newspaper copy that must have been written about it.

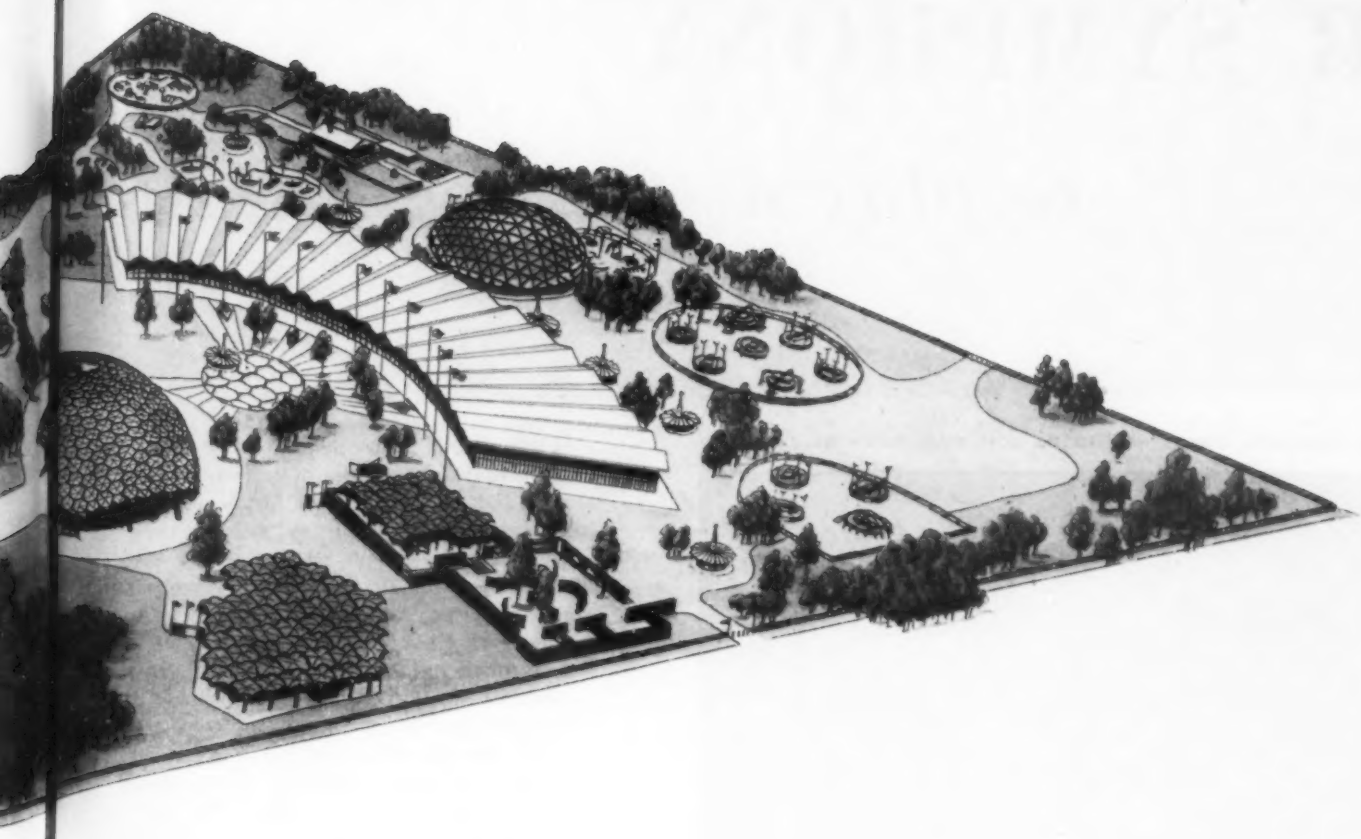
Certainly, whatever reservations the American visitor to the Coliseum or the Soviet visitor to Sokolniki may have had with regard to one or another display, there is the important fact that both were learning more about each other's way of life. And in our time when understanding can well be equated with world peace, that is a very valuable consideration indeed.

Soviet people who visited the American National Exhibition in Moscow—and they ranged from government officials to housewives—wanted to know how America lived and worked and spent its leisure. They wanted to get a better knowledge of the achievements of American science, technology and culture. Much of what they saw they liked, some of what they saw they questioned. Comparisons were inevitable. Some were favorable, others were not. But the American guides and interpreters will give evidence that here were intensely interested visitors and most friendly critics.

What was the average Soviet citizen's reaction? He would have liked to see more of the way Americans lived, more of the fine photographs in Steichen's "Family of Man" exhibit, more on American life specifically. He would have liked more facts about the American educational system, the country's medical and social services. He would have liked more details concerning America's industrial prowess.

The visitors were interested in American cars and plastics and household appliances. But they would have been more interested in seeing how all these goods are manufactured, assembly lines of Detroit's automobile plants, for example, or new techniques of producing artificial fibers.

After a tour of the exhibition any visitor, no matter what his personal interest was, would say he welcomed this opportunity to get a closer insight into the American way life. To be friends, he would say, means to know more about each other. This idea was well expressed by Nikita Khrushchev when he said that both the Soviet Exhibition in New York and the American Exhibition in Moscow were "events of considerable importance which, it is hoped, will play a positive role in improving relations between our countries."



NOT NEARLY ENOUGH EQUIPMENT HERE TO SUIT FARMERS.

MOST POPULAR: *FAMILY OF MAN* PHOTO EXHIBIT.

FOR CHILDREN: MODEL TOY TRAIN DISPLAY.

A FUTURE FIRE-FIGHTER CHECKS EQUIPMENT.

THERE WAS AN INTEREST IN LABOR-SAVING DEVICES.

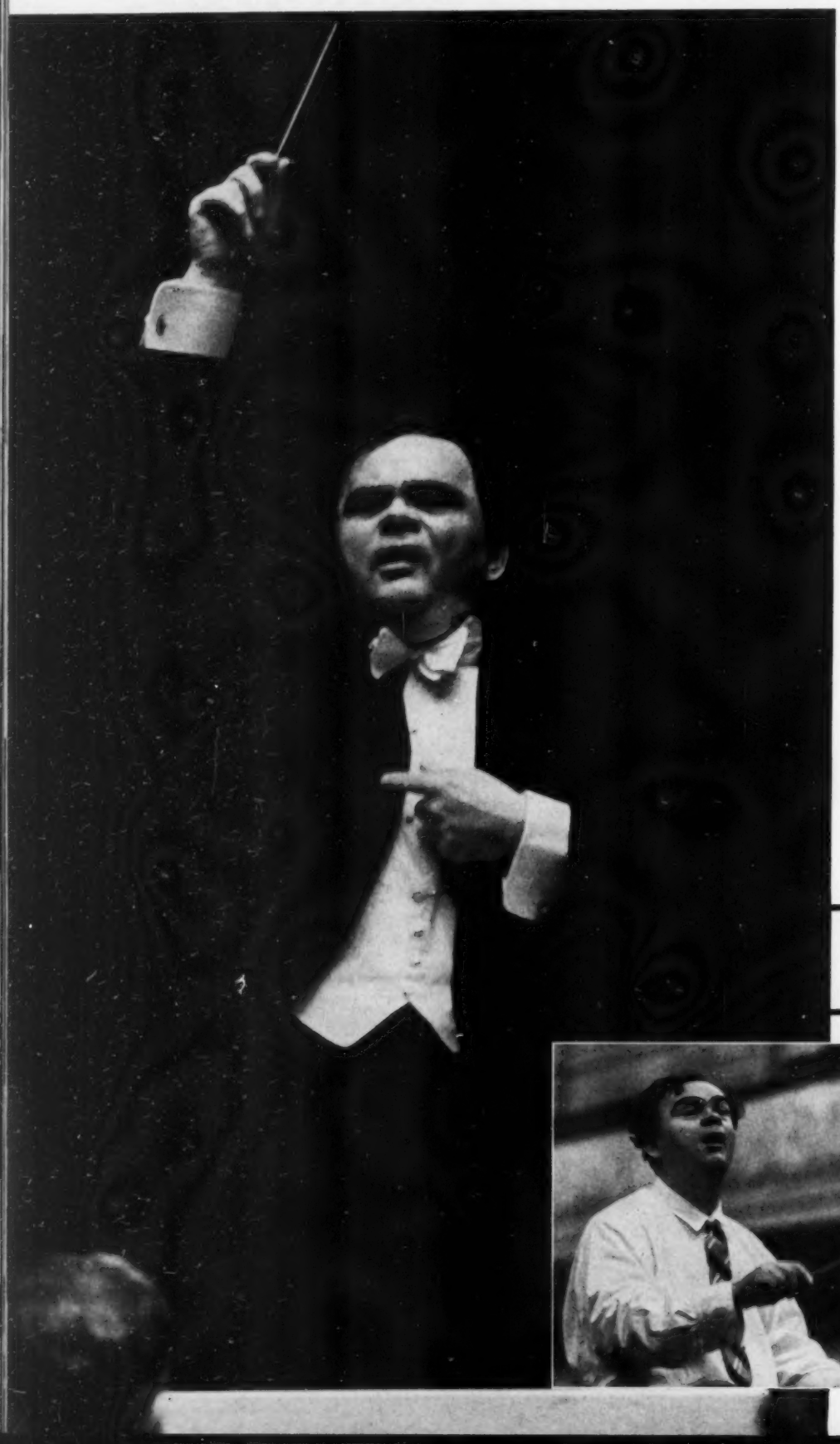
IBM'S RAMAC ANSWERS QUESTIONS ABOUT THE U.S.

USSR SYMPHONY

to play at Carnegie Hall

By Ivan Martynov

THE NOTED CONDUCTOR KONSTANTIN IVANOV HAS LED THE USSR STATE SYMPHONY SINCE 1946.



THE USSR State Symphony Orchestra, scheduled for a series of concerts in Carnegie Hall in January, is the first Soviet symphony group to play in the United States. There is every reason to believe that the Soviet Union's leading orchestra will be as resoundingly applauded by American audiences as the New York Philharmonic and its conductor Leonard Bernstein were by Soviet music lovers. Its musical tradition is as rich and its virtuosity as brilliant.

The State Symphony Orchestra was founded in 1936 in Moscow when the Soviet capital had two other orchestras— the USSR Radio and the Moscow Philharmonic. In the 23 years since its founding it has given nearly 3,000 concerts. Like other music ensembles of top rank, the State Symphony Orchestra plays as frequently at workers' Palaces of Culture in towns and cities as it does in formal concert halls. It has toured in all parts of the country and visited Poland, Rumania and China. Last year it performed at the Brussels World's Fair and in Ostende, Belgium.

The orchestra's repertory is broad and includes the classic and modern composers— Beethoven, Brahms, Wagner, Mahler, Richard Strauss, Debussy, Stravinsky, Aaron Copeland. Elie Siegmeister, Ernst Bloch, Roy Harris. Samuel Barber, George Gershwin and others. A prominent place is given to Russian composers, both classic and modern. Close contact with Prokofiev, Miaskovsky, Shostakovich. Khachaturyan and Kabalevsky has helped the orchestra interpret contemporary scores.

IN THE 23 YEARS SINCE THE USSR STATE SYMPHONY ORCHESTRA WAS FOUNDED IT HAS GIVEN NEARLY 3,000 CONCERTS. IT HAS A BROAD CLASSIC AND MODERN REPERTORY.

The orchestra has been directed by all the Soviet leading conductors. Among its guest conductors have been Otto Klemperer, Erich Kleiber, Hermann Abendroth, Carlo Zecchi, Georges Georgescu, Andre Cluytens, Josef Krips and Malcolm Sargent.

The Carnegie programs of the USSR State Symphony Orchestra will include works by Beethoven, Rachmaninov, Prokofiev, Shostakovich, Khachaturyan and a good deal of Tchaikovsky—the First, Fourth, Fifth and Sixth Symphonies, the Suite No. 3, Romeo and Juliet, Francesca da Rimini, the First and Second Piano Concertos, the Violin Concerto, Variations on a Rococo Theme, the Letter Scene from *Eugene Onegin* and the Canal Scene from the *Queen of Spades*.

Konstantin Ivanov

Konstantin Ivanov has been the orchestra's chief conductor since 1946. His keen temperament and bold, yet emotional, interpretation coupled with the fire of his rendition have completely captivated his audiences. He is noted particularly for his readings of the Beethoven and Tchaikovsky symphonies and contemporary Soviet works.

Evan Senior, publisher of the British periodical *Music and Musicians*, considers Ivanov one of the most outstanding of the many brilliant guest conductors London has heard in the recent past. Ivanov has also conducted in Belgium, China, Mexico, France, Czechoslovakia and other countries. Comments everywhere have been most laudatory.

Ivanov did not arrive at the leadership of the country's leading symphony orchestra by any short cuts. He was born in a poor family and his parents died while he was young. He therefore gave up his plan of studying music for which he had a real passion. Fortunately, his talents were discovered and he was enrolled in an army music school, after which he was accepted for study at the Moscow Conservatory. He graduated with high honors and his name is carved in gold letters on the marble Board of Honor, alongside those of other celebrated graduates of the Conservatory.

In 1938 Ivanov won the title of laureate at a nationwide contest of conductors. He holds the honorary title of People's Artist of the USSR, the highest national award conferred on artists.

Kirill Kondrashin

Kirill Kondrashin, whom American concertgoers heard when he visited New York and other cities with Van Cliburn and then was guest conductor at the Chicago Opera, will also lead the USSR State Symphony Orchestra at

GUEST CONDUCTOR KIRILL KONDRASHIN.

EMIL GILELS, WHO RANKS WITH THE GREATEST LIVING PIANISTS, HAS PLAYED TO LARGE AMERICAN AUDIENCES. HE WILL BE THE SOLOIST WITH THE VISITING ORCHESTRA

USSR SYMPHONY

its Carnegie Hall concerts in New York City.

Kondrashin, the son of a violinist in the Bolshoi Theater orchestra, graduated from the Moscow Conservatory in 1936 and conducted at the Leningrad Maly Opera Theater for a number of years. His experience there developed a deep feeling of coordination for which he is highly appreciated by the soloists who appear with him. But he not only supports the soloists with excellent conducting, but is also known as a musician of vivid artistic individuality.

Kondrashin is a conductor widely commended for his readings of Rimsky-Korsakov, Tchaikovsky, Debussy and Cesar Franck among the older composers, and Prokofiev and Shostakovich among the modern. Having conducted at the Bolshoi Theater for some time, he is now devoting himself entirely to concert work.

The Soloists

Four soloists—pianist Emil Gilels, violinist Valeri Klimov, cellist Daniil Shafran and singer Galina Vishnevskaya—will appear with the USSR State Symphony Orchestra.

Emil Gilels hardly needs an introduction to American music lovers. He has played in New York and elsewhere and his recordings are sold in large numbers. He won first prize in a national contest in Moscow when he was 17. In 1938, when he was 23, he won the Grand Prix at the Brussels Competition. He ranks with the greatest of living pianists and has played for deeply appreciative audiences in many countries.

Valeri Klimov is a pupil of the famous David Oistrakh. He first came to public attention after his performance at the Prague Music Festival of 1956, when he won first prize. Two years later, at the Tchaikovsky International Contest in Moscow, he took another first. Though still young, he is considered an outstanding violinist.

Daniil Shafran is one of the best Soviet cellists. He has won a large following and music critics have eulogized his beautifully subtle tones. He was recently awarded an honorary title by the St. Cecilia Academy of Music in Rome.

Galina Vishnevskaya made her debut at the Bolshoi Opera in 1952. Critics use words like "pure" and "beautifully mellow" in describing her voice. She has won wide commendation for her performances as Leonora in *Fidelio*, Tatyana in *Eugene Onegin*, also as Catherine in *Taming of the Shrew* by Soviet composer Vissarion Shebalin.

Violinist Valeri Klimov and singer Galina Vishnevskaya will be new to US audiences.

HAPPY NEW YEAR

1960

JOLLY GRANDFATHER FROST AND LOVELY SNOW MAIDEN BRING NEW YEAR'S CHEER

HELPING DAD CARRY THE FIR TREE?

IN THE HALF HUNDRED languages spoken by the people of the Soviet Union we convey New Year's greetings to our American readers. In Russian it's *S novym godom* and in Ukrainian it's *Z novym rokom* and in Georgian it's *Moguilotsaft ahal tsels*. In Armenia they say *Tsankanoum enk bakhtavor nor tari*, and in Estonia, *Eome teye terviseks sovine edu teole*. But in whatever language New Year's greetings are expressed the sentiment is the same—best wishes, friend, for a happy, peaceful and prosperous year.

The signs for such a year are promising, more so than in a good many years preceding 1960. This new year begins with brighter prospects for peace. People the world over share a new confidence, and the word peace will recur in celebrations held everywhere. In the Soviet Union it will be the subject for countless toasts at innumerable parties.

COME AND SEE US AGAIN

Stepanida Georgiyevskaya
Collective Farmer

IT WAS 14 years ago, in the fall of 1945, that this photo of Dwight Eisenhower and myself was taken on a visit he made to our collective farm Pamyat Ilyicha with his son. He walked round the farm and orchard and looked at things in a way that made it clear that he knew farming. If I remember rightly, he liked the gooseberries I asked him to taste.

The guest from across the sea asked about my background and that of the other collective farmers. I told him that although both my parents died of typhus during the First World War and I was raised in an orphanage, I had been given an education and learned a trade as gardener.

We were not in particularly good shape at the time. The war had done very serious damage to our collective farm and had affected the life of every one of our families. Things are greatly changed now. When you visit our country in the spring, Mr. President, come and be our guest once more and you will see how abundantly our farmers have been rewarded for their labors during these years of peace.

Our annual income, which was less than a million rubles then, has reached the 8-million mark. The young orchard you saw now spreads over 300 acres.

I am a grandparent now, just as you are, and my grandchildren hope to greet yours this spring and have a picture taken with them that they can place in the family album alongside this fourteen-year-old one.

Collective farmer Stepanida Georgiyevskaya keeps this treasured snapshot in her family album. It was taken in 1945.

WHAT'S YOUR CHOICE—CONCERT, PLAY, BALLET? ALL BY THE COUNTRY'S BEST ARTISTS.

DID GRANDFATHER FROST LEAVE THESE NEW YEAR GIFTS OR WAS IT DAD AND MOM?

HAPPY NEW YEAR

The New Year holiday is a gay and happy time. Adorning Moscow's spacious boulevards are booths painted in a fantasy of colors. Near the Kremlin, in the very center of the city, a brightly decorated giant fir tree stands so high that it seems to reach to the tops of the ancient towers close by. In all major squares and in every park fir trees glitter with innumerable colored lights and ornaments.

On the eve of the holiday the stores are jammed with people doing their last minute gift shopping. The telegraph offices and the telephone exchanges do a land office business in Happy New Year messages. Everyone seems to be talking about the same thing—how best to celebrate, and where.

There are as many ways of celebrating as there are people. Some prefer

NO CHILDREN'S PARTY IS COMPLETE WITHOUT A DECORATED TREE TO DANCE AROUND.

the quiet family dinner at home, others like a festive party with friends at a restaurant or a factory club. There are people, especially the youth, who celebrate the New Year under a growing fir-tree right in the forest.

The New Year's holiday is an especially happy one for children. School is out for two weeks and the time for long-to-be-remembered fun-making finally comes. Moscow school children, their guests from schools elsewhere in the Soviet Union and visitors from abroad make merry in the Kremlin Palace, the Palace of Sports in Luzhniki, the House of Trade Unions and at concert halls and theaters.

The smaller children wait expectantly for Dyed Moroz—Grandfather Frost—to come. They are inclined to think that he will be arriving this year in a

OUR BEST WISHES

Ivan Kazin
Chairman, Kuntsevo District Soviet of Working People's Deputies

RECENTLY Mayor Charles Graubner of Webster Groves, Missouri, sent a thank-you letter to the citizens of Kuntsevo for the cordial way they had welcomed him when he visited our city and district.

We were happy to show our American guest something of the way we live and the peaceful progress our citizens have been making. We were pleased to be able to take him through our factories and mills, collective farms and public buildings, to show him how we live and work.

As Chairman of the Kuntsevo District Soviet, an official post somewhat similar to Mayor Graubner's, and on behalf of our citizens, I say: "You are very welcome, indeed. We were glad to be able to make a contribution toward better understanding between your country and ours. Our best wishes for much more of the same during the New Year now beginning."

TOAST TO ART

Viktor Komissarzhevsky
Director, Drama Theater, Moscow

AS THE OLD YEAR runs out, I should like to get together, even if only in thought, with all those Americans I met when I visited the United States last August.

I should like to greet this incoming hopeful year with young actress Susan Strasberg, the charming and talented daughter of my host; with director David Ross, that ardent advocate of Chekhov's plays; with playwright Arthur Miller, who is so popular in our country; with his wife Marilyn Monroe; with those fine artists Paul Newman, Geraldine Page. Jennifer Jones and Christopher Plummer. I should like to see the New Year in with Harry Belafonte, with a wishful toast that he realize his cherished dream of portraying our great Russian poet, Alexander Pushkin, on the screen; and with James Morris, whom I saw in a memorable performance in a play about Stephen Foster, the American folk composer.

I should like to drink a New Year toast with all those American friends who agreed with me that it is far better to send symphony orchestras and ballet companies across the ocean than lethal missiles.

TO THOSE WHO ASKED ME QUESTIONS

Olga Bayar
Architect

LAST SUMMER, I worked as a guide at the Soviet Exhibition in New York. During those several weeks at the Coliseum I met and talked to dozens of people every day, people of every vocation—from bricklayers to big businessmen. I was very glad to see for myself that Americans were so interested in our country. The questions people asked me ranged far beyond the particular displays that I was supposed to be covering—housing.

Practically everybody was interested in the full-scale model of a three-room apartment we displayed. I was bombarded with questions like these: Who gets the new apartments? What part of his wages does a Soviet worker pay for rent? How about somebody who wants to build his own one-family house?

Most visitors were very much surprised to learn that rent is no more than 4 to 5 per cent of a family's budget; that some 20 to 25 million families will have moved into new apartments by 1965, the end of the seven-year plan; and that it is no problem to get a long-term government loan if you want to build your house in a suburb or in the country.

The one impression that remains with me most strongly is the very real desire of Americans to find out what is happening in the Soviet Union, to know more about how we live and what we are doing. For most of the people we talked to, it was obviously the first time they had ever met and talked to a Soviet person. I am certain that these exchanges we had helped them to understand our aims and hopes.

On this New Year's eve I would like to use the opportunity to convey my cordial greetings and best wishes through the magazine *USSR* to all the Americans I met at the Soviet Exhibition in New York, and especially to Mr. Frank Y. Schneller Jr. of *Civil Engineering* Magazine and to Mrs. Ester Palmer of *Furniture Review* Magazine. I would like also to convey my New Year's greetings to Mr. Warren Wallace of CBS Television Network, who helped me a great deal during a TV show, and to Mr. Carrol V. Newsom of New York University.

To the thousands of Americans who visited the Soviet Exhibition and to those very many who asked me questions, I am happy to be able to send my best wishes for a Happy New Year through the pages of this magazine.

A FANCY COSTUME IS VERY MUCH THE THING FOR NEW YEAR'S BALLS

HAPPY NEW YEAR

space ship rather than in his old conveyance. Space ships are no longer in the realm of fantasy. They are real enough for a child to think that when he grows up he may—if he studies hard—become the pilot or navigator of some future cosmic fleet.

There are parties and balls everywhere in big cities and tiny hamlets to ring in the New Year. It is a night that is celebrated in the drifting camps around the North Pole and in the Mirny community at the South Pole, in the Chukotka tundra and in the Turkmenian desert, in the farthest reaches of this great country that spreads onto two continents.

Radio reports come in early from Vladivostok. That part of the country seems to be celebrating rather early. Check the global clock and you'll see

PARTY HATS AND FAVORS FOR EVERY MERRYMAKER.

A NEVER-FAILING LAUGH-INDUCER IS THIS ONE-MAN ORCHESTRA AND PUPPET SHOW

why. Vladivostok begins celebrating seven hours before Moscow because of time changes. Should you feel so inclined, you can book passage on one of the big jet airliners running from Vladivostok to Moscow and you can see the old year out seven times over.

By 11:30 or thereabouts almost everybody will be at a party somewhere or other. An occasional hurrying guest will be rushing along to arrive where he is going before the stroke of midnight. He drives past a red light and is hailed by the shrill whistle of a traffic officer and the greeting: "A Happy New Year to you. Ten rubles fine, please."

As the New Year is rung in, the guests around the gaily-bedecked tables will probably give a passing thought and thanks to those who must work on

GREETINGS TO U.S. AUTO WORKERS

Pyotr Kireyev, Moskvich Plant
Auto Worker

THIS IS the traditional time of year to check off the good things against the bad and to see what the 1959 balance sheet looks like. Mine looks pretty good.

I should like to extend my warmest congratulations and good wishes to all Americans, especially to my counterparts in the automobile industry.

My acquaintance with Americans goes a long way back to the Second World War, when the Soviet and American soldiers were comrades-in-arms. At that time, I, a Soviet sailor, happened to visit Alaska with my outfit where I met Americans. Unfortunately, time has erased from my memory the names of US Navy boys I met there. But I shall never forget their friendly handshakes and their wishes for our common victory.

For the last fifteen years I have been working as an electrician in the plating shops of the Moskvich Automobile Plant in Moscow. We put out the small car of the same name. Many of you saw it on display at the Soviet Exhibition in New York last summer. It is running on the highways of 24 countries.

As far as the plant is concerned, we reached the year's production target figures with time to spare. For me personally, this was not just a matter of national statistics. It meant some very concrete benefits. My monthly wage this year averaged 1,500 rubles as compared with last year's 1,100 or 1,200. I turned out more work with less effort because of the new and more efficient machinery we installed.

This year the plant built new blocks of apartment houses for workers and I helped many of my shopmates celebrate at housewarming parties. For my vacation, I stayed at a holiday resort in Germany, my trade union paying the bill. My two children spent their summer at a camp run by the plant. All told I had to pay only 200 rubles for both of them, a small part of the cost, the larger part being paid by my union.

There are many other items on the year's credit side, too many to list. One very large item I should mention, however. All this was possible because 1959 was a peaceful year and a year of promise for peace in the future.

With my neighbors and shopmates I have every expectation that next year will be an even better one than this. I wish the same to you, my American friends.

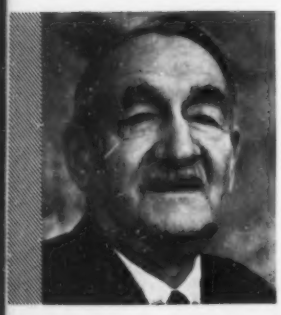
CLIMATE OF PEACE FOR ALL

Matvei Manizer
Sculptor

SOME MONTHS before Nikita Khrushchev's historic visit to the United States I had the chance to see your country with a group of Soviet artists and sculptors. When Khrushchev made his report to the nation the day he returned, the impressions he gave of his trip across America were especially meaningful to those of us who had been there.

We found our own trip and the chance to rub shoulders with American graphic artists, and people of the film and theater most stimulating. It is this kind of first hand contact and exchange of ideas that is so helpful and necessary in creative work of any kind.

My very best wishes for a productive New Year not only to the many artists we met but to all those in the United States who are working, as we are, to create a climate of peace in which art can flourish.



JOINT SCIENTIFIC WORK

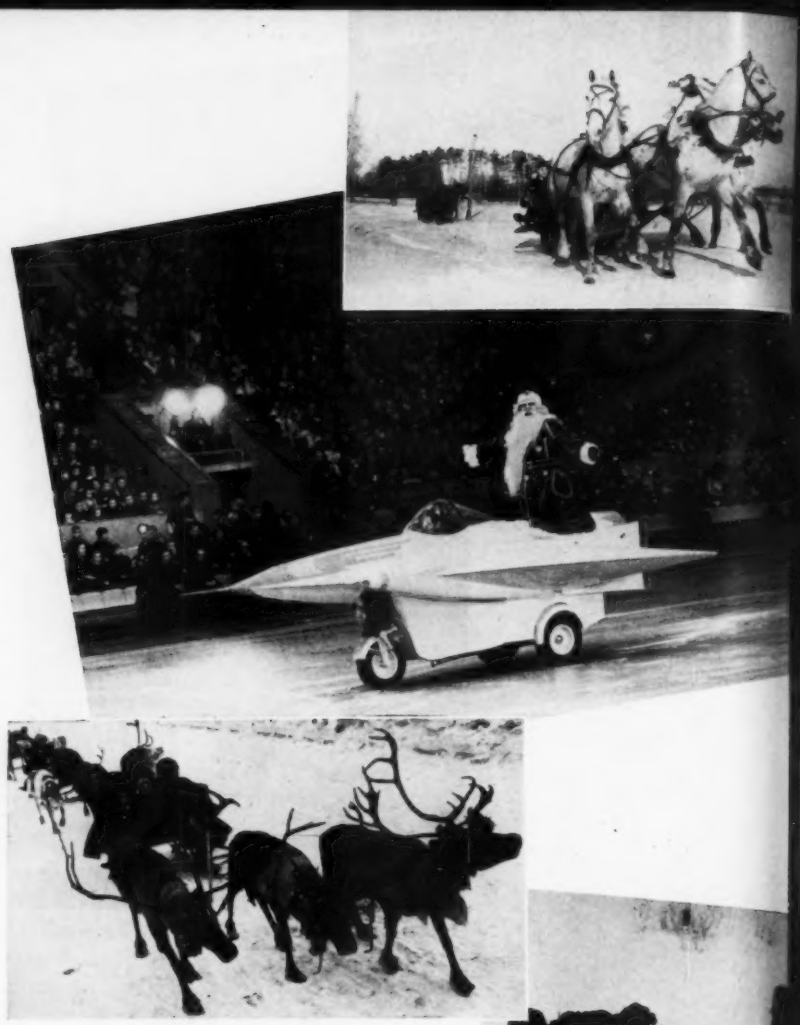
Dmitri Shcherbakov
Academician

SINCE scientific research is directed to benefit the whole of mankind, rather than any one corner of the world, it should be simpler for us scientists to reach understanding than for people in other, less universal areas of endeavor.

It is gratifying that Soviet and American scientists have been meeting each other more often. Last spring I was pleased to shake hands with Professor Joseph Harris of Chicago at the 100th Anniversary celebration held in Berlin for the great 19th century explorer Alexander von Humboldt.

At the First Oceanic Congress in New York I was able once again to exchange ideas with American scientists whom I had met at the 20th International Geological Congress in Mexico and at the Pacific Congress in Thailand. At the New York congress we worked together not only as colleagues but as friends, and laid the basis for joint research by oceanographers of the entire world.

To my esteemed American colleagues, I convey the hope from Soviet scientists that 1960 will further cement the ties between us and lead to broader joint efforts.



In these days of Sputniks and Luniks, Grandfather Frost likes to keep right up-to-date. No troika for him. He comes in a jet plane.

Not all the fun on New Year's is indoors when there's all this inviting snow around.

HAPPY NEW YEAR

this holiday so that others may be able to celebrate—to workers on duty at power plants and other essential services, to locomotive engineers, to pilots on ships and planes, to those who must keep the wheels of industry rolling.

Standing with glass in hand and an arm around the shoulder of a friend or loved one, it is natural to look back on the happenings of the year going out. The old year was a good year. The work the Soviet people hoped to get done was done, and in fact they did even more than had been planned. It was a year which contributed its share—and in many ways more than its expected share—to a better life for everyone in the country.

There is every reason to look forward with confidence to the future, to the new year and to greater accomplishments.

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THE GRAND PALACE OF THE KREMLIN IS THE SCENE FOR "HAPPY NEW YEAR" FESTIVITIES. STUDENTS AND YOUNG WORKERS DANCE UNTIL THE SMALL HOURS OF THE MORNING.