

GENERAL INFORMATION

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GENERAL INFORMATION

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THIS SCULPTURE BY VERA MUKHINA ATTRACTS THE ATTENTION OF VISITORS TO THE NEW SOVIET EXHIBITION.

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Front and back covers: General view of the USSR Exhibition of Economic Achievements which opened in Moscow in June.

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Engineer Pavel Chernyshev, who attended the Plenary Meeting of the Central Committee of the Communist Party held in June, tells his fellow workers at the Leningrad Metallurgy Plant about the proceedings. Automation was the session's keynote.

For the Well-Being of the Soviet People

IN THE few months since January when the Twenty-first Congress of the Communist Party of the Soviet Union convened to discuss the target figures for the seven-year plan, so many steps have been initiated by workers in every field of endeavor to save time, labor and materials that there is every prospect of overfulfilling the plan much before the deadline. This nationwide initiative sparked by the Congress was the major topic for discussion at the Plenary Meeting of the Central Committee held in June.

The agenda had been published in the press months before the session to allow time for discussion at factory meetings and technical and scientific conferences. This is normal practice for major party meetings to provide for the widest possible participation. The decisions taken at the Plenary Session therefore represent the sentiment of many millions of people in addition to those who were present in person. Participants included Party and government officials, industrial workers, farmers and scientists from every part of the Soviet Union.

Discussion centered on concrete problems—automation of production processes, complex mechanization in industry and construction, modernization of existing equipment—those immediately pertinent to progress of the seven-year plan.

Detailed reports were given by the chairmen of the Economic Areas of Moscow, Leningrad, Sverdlovsk, Stalino and Dnepropetrovsk which showed that up-to-the-minute equipment in the way of automatic lines and automated units had already been produced in quantity. Konstantin Petukhov, Chairman of the Moscow City Economic Council, reported that more than 300,000 Moscow engineers and technicians had contributed in one way or another in the half year since the Congress to mechanize the shops or departments they worked in. He attributed the rapid progress in automation in the Moscow Region and in the country generally to this very wide unity of effort.

Nationally, more than 90 per cent of all the pig iron and steel is now smelted in mechanized and automated furnaces. All district hydroelectric stations are entirely automated. More than 40 per cent of the machine tools manufactured are automatic or semi-automatic. Work is under way to automate the major shops in nitrogen, soda, sulphuric acid, chloride, alcohol, synthetic rubber and tire plants.

Progress in the Chemical Industry

A year ago, a comprehensive program for stepping up development in industrial chemicals was adopted. The Plenum heard a report on the renovation of old chemical plants and the construction of new ones. This year's figures show 162 machinery plants producing 1,300 new kinds of instruments and apparatus for the chemical industry. Technical re-equipment has been further speeded up by the purchase of advanced apparatus—in some cases for entire plants—and technological flow-sheets from business firms in Britain, the Federal Republic of Germany, Sweden, Italy, France and other countries.

By 1965 it is expected that 270 large chemical plants will have been built or thoroughly modernized. The Saratov Artificial Fiber Plant is one of a number now under construction. In 1965 the chemical plants in the Saratov Economic Area alone, exclusive of those elsewhere in the country, will be turning out enough synthetic fabrics to clothe 55 million people.

The textile industry is one of the oldest in the country. Many of the mills, especially those in the central region of the European part of the Soviet Union, are centuries old. In the past forty-odd years many of these ancient mills were completely overhauled and hundreds of additional cotton, wool, silk and knit-goods mills were built. Some, like the Tashkent Textile Mill in Uzbekistan, are unequaled anywhere in the



A group of workers of the Moscow Caoutchouc Plant meet to discuss the plenary session and exchange ideas on how to put the decisions into practice.



For months before the session took place and while it was in progress, its agenda and proposals were the topic of lead articles in all newspapers.

For the Well-Being of the Soviet People

world for their output and the number of skilled workers they employ.

At present, there are more than 2,000 textile mills in the country employing 1,300,000 people. The output of fabrics is rising steadily. In 1958 it amounted to 8 billion yards, more than is produced by any other country with the single exception of the United States.

Under the seven-year plan, 11.5 billion yards of fabrics will be woven by Soviet textile mills in 1965. Divided among the men, women and children living in the country, it would come to 60 yards per person.

To reach this high production figure, it was pointed out at the Plenary Meeting of the Party's Central Committee, would require considerable renovation and new construction. By 1965 all the older spinning frames will have been replaced by new models, the number of automatic weaving looms will equal 72 per cent of the total number and all dyeing and finishing departments will be equipped with continuous dyeing units.

The plan calls for construction of fifty-odd automatic production lines for the manufacture of cotton and wool yarn and an automatic bleaching and finishing plant. The introduction of stream-production lines in the textile industry will go a long way toward meeting the ambitious target figures.

Ahead of Schedule

One theme was emphasized in all the reports presented at the Plenum—that the first half year of the plan unquestionably shows that every

possibility is present for reaching the target figures ahead of schedule. This was stressed in the discussion from the floor by speakers who came from all parts of the country and from all vocational areas—machine builders from Moscow and the Urals; Byelorussian instrument makers; engineers from Vladimir; chemists from Gorky; nonferrous metallurgy workers from Kazakhstan; weavers from Ivanovo, the oldest textile center in the country; collective farmers from every one of the republics.

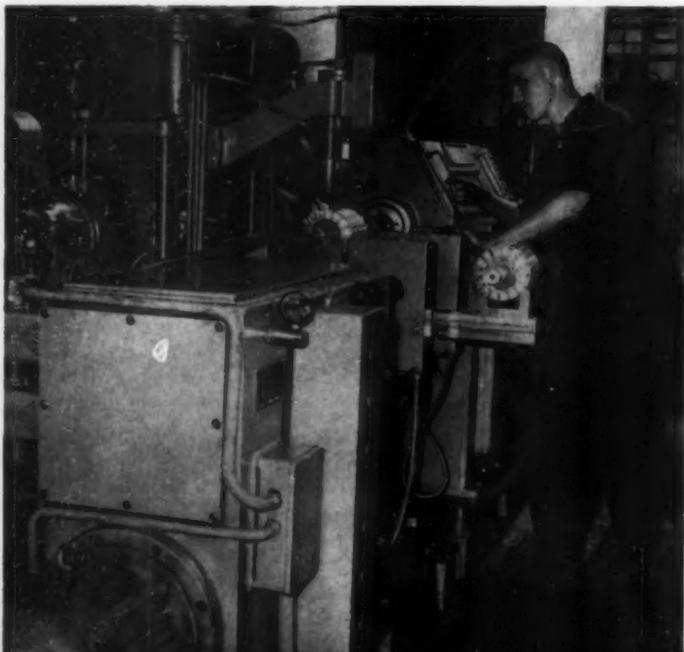
Detailed reports of the sessions were published in the entire Soviet press and elicited thousands of letters from people everywhere in the country who wrote in to express their individual points of view on one or another question.

One of the many letters addressed to the Plenary Meeting came from workers in the Kirov Plant, the oldest Leningrad enterprise. Having calculated their own and the plant's production potential, the workers wrote to inform the Central Committee of the Party that they aimed to reach the level of output planned for 1965 a year sooner.

The major report at the closing session was given by Nikita S. Khrushchev, Chairman of the USSR Council of Ministers and First Secretary of the Central Committee of the Communist Party. While acknowledging the very good start that the seven-year plan had gotten off to, he was critical of those economic sectors which were lagging. His speech paid tribute to the strength of will of the Soviet people and expressed a profound certainty of a near future rich in material and spiritual resources.

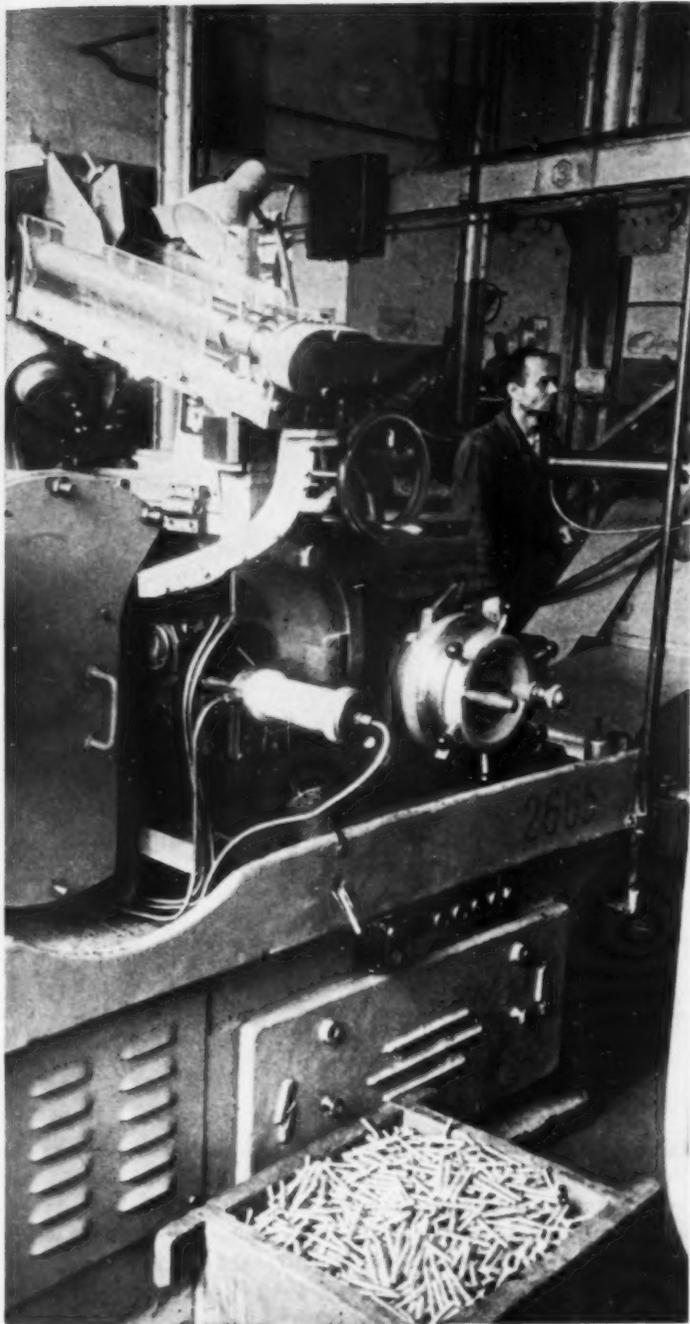
That sentiment was embodied in a statement of the Plenary Meeting addressed to the Soviet people which declared that the single and primary aim of this great effort to automate industry was to obtain a productive potential that would give the Soviet worker a standard of living unmatched by any other country in the world.

A NEW AUTOMATIC LATHE IS BEING TESTED AT THE URAL ELECTRIC MOTOR PLANT.



HUNDREDS OF APARTMENT HOUSES ARE GOING UP FOR THE ANGARSK WORKERS.

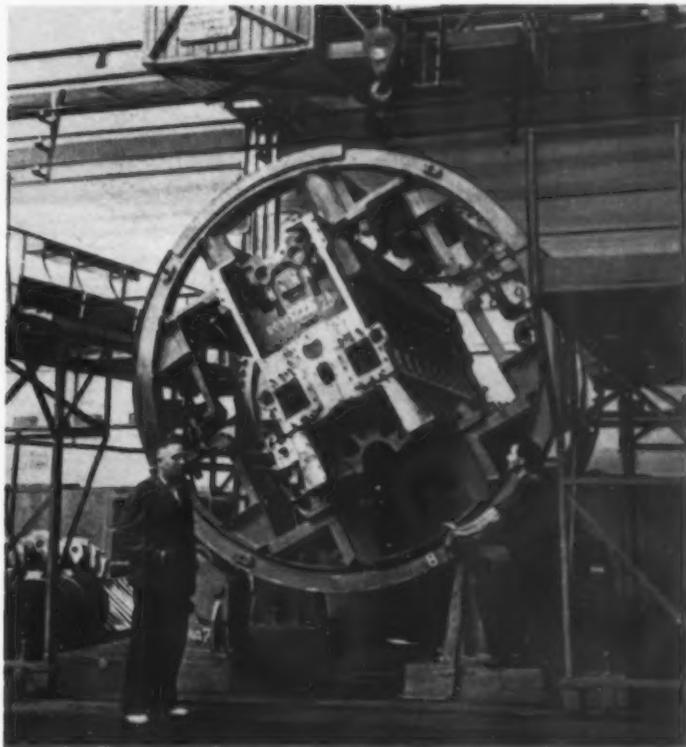




An automatic conveyor at the Sestroretsk Plant, which will be completely automated with the installation of the third line at the end of 1959.



The Kolomna Diesel Locomotive Plant near Moscow and others like it are helping to solve the problem of modernizing the country's railway system.



Large diesel engines are now being assembled on mechanized revolving stands at the Kharkov Transport Machine-building Plant in the Ukraine.

ALTHOUGH IT IS A COMPARATIVELY NEW CITY IN SIBERIA, THE PACE OF CONSTRUCTION IS FAST MAKING IT ONE OF ITS BIGGEST CULTURAL AND INDUSTRIAL CENTERS.

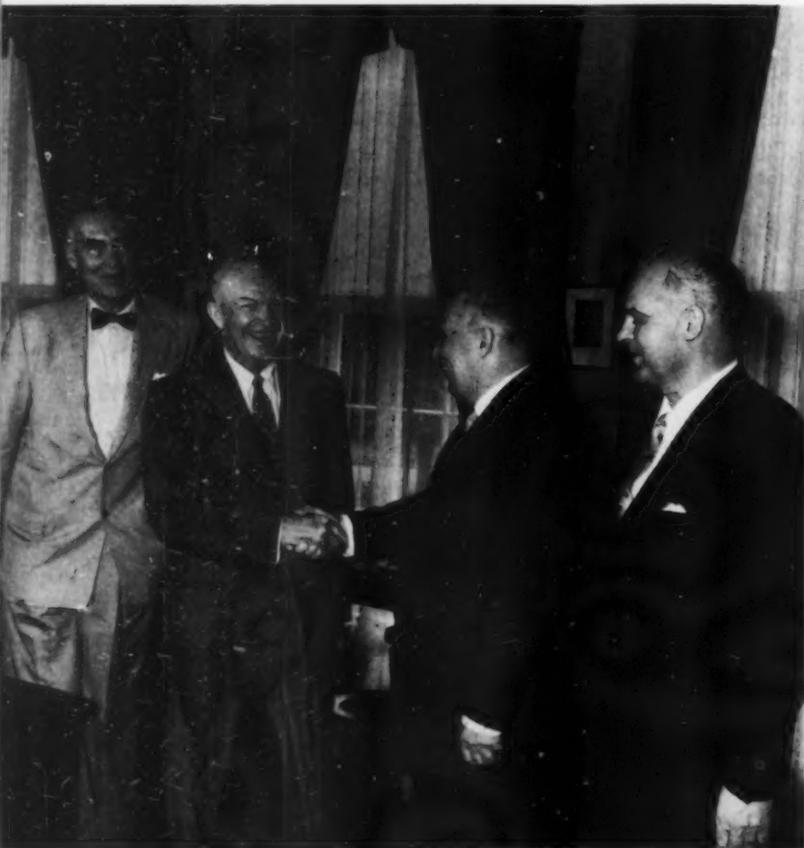




FROL KOZLOV AND HIS PARTY ARRIVED IN THE UNITED STATES ON JUNE 28 TO OPEN THE SOVIET EXHIBITION AFTER A NONSTOP FLIGHT FROM MOSCOW ABOARD A TU-114.

FROL R. KOZLOV visits

Accompanied by Soviet Ambassador Menshikov (right), Frol Kozlov is received by President Eisenhower and U.S. Secretary of State Herter.



“ONLY eleven hours ago we were back in our country, and now, while the sun has not yet traversed one-half of its daily circuit, we have the pleasant opportunity of greeting you here. It would seem, with the present state of modern engineering, as though the distance between our two countries, located in different hemispheres of the earth, has decreased and the opportunities for reciprocal meetings have grown.”

These were the first words spoken by Frol R. Kozlov, Soviet First Deputy Premier, to newsmen when he alighted from the big turboprop TU-114 airliner that brought him nonstop from Moscow to Idlewild International Airport on June 28. The formal reason for his visit was to open the Soviet Exhibition of Science, Technology and Culture which gave American visitors by the tens of thousands their first view of Soviet life. It was, in addition, a welcome opportunity to talk to Americans and to see something of the United States.

With Deputy Premier Kozlov were President of the Presidium of the Supreme Soviet of the Uzbek Republic Yadgar S. Nasriddinova, an Uzbek woman prominent in Soviet public life; Ivan G. Bolshakov, Deputy Minister of Foreign Trade for the USSR; Vladimir N. Novikov, Chairman of the State Planning Commission of the Russian Federative Republic; and Alexander A. Soldatov, chief of the American Division of the USSR's Foreign Ministry. The Soviet Ambassador to the United States, Mikhail A. Menshikov, joined the official party at the airport.

The following afternoon the Deputy Premier escorted President Dwight Eisenhower through an hour-long preview of the Exhibition just previous to the official opening. Deputy Premier Kozlov and Vice President Richard Nixon spoke on behalf of their respective governments at the opening ceremonies.

In his address, Frol Kozlov expressed the hope that the Exhibition would give Americans some understanding of the way Soviet people live and work, of their achievements, their aspirations and their earnest wish for greatly expanded contacts in every field of endeavor. He followed his own address with a greeting he conveyed from Nikita S. Khrushchev,



DURING ONE OF KOZLOV'S STOPS IN THE UNITED STATES HE WAS ABLE TO GET ACQUAINTED WITH THIS AMERICAN YOUNGSTER WHO ASKED HIM FOR HIS PHOTOGRAPH.

its the UNITED STATES

in which the Soviet Premier stressed the urgent need for the USA and the USSR to join their efforts in safeguarding the peace of the world.

En route to Washington the party stopped off at the Camden, New Jersey shipyards where the atomic merchant vessel *Savannah* is being built. Frol Kozlov told the shipbuilders of the atomic icebreaker *Lenin* being built in the Soviet Union. He cited this kind of rivalry—the use of atomic energy for peaceful pursuits—as salutary and constructive, a service to humanity.

Official Calls in Washington

The Soviet guests were met at the National Airport in Washington by Vice President Nixon. The following three days were spent in official visits and meetings. The Deputy Premier and Secretary of State Herter met for a one-hour exchange of opinions on the Geneva Conference. Accompanied by Ambassador Menshikov and Alexander Soldatov of the Foreign Ministry, Deputy Premier Kozlov called on President Eisenhower.

The two statesmen, with Secretary Herter participating, talked for an hour and a half. Commenting to reporters afterward, the Deputy Premier said that his talk with the President had been most friendly and that he was altogether hopeful that world peace would be cemented and that it would be a firm and enduring peace.

He lunched with members of the Senate Foreign Relations Committee and then, accompanied by a large crowd of newsmen and onlookers, saw the sights of the Capital. He concluded the sightseeing tour at Vice President Nixon's Congressional office where the two officials talked, among other things, of their projected trips—F. R. Kozlov's tour of various cities in the United States and Richard M. Nixon's visit to the Soviet Union to open the American Exhibition at Sokolniki Park in Moscow.

The Vice President and Mrs. Nixon were host to the Soviet party at the lovely old Blair and Blair-Lee mansions which served as official

On a street in Sacramento, California, a passerby introduced herself to Soviet Deputy Premier Kozlov, and the two chatted for a while.

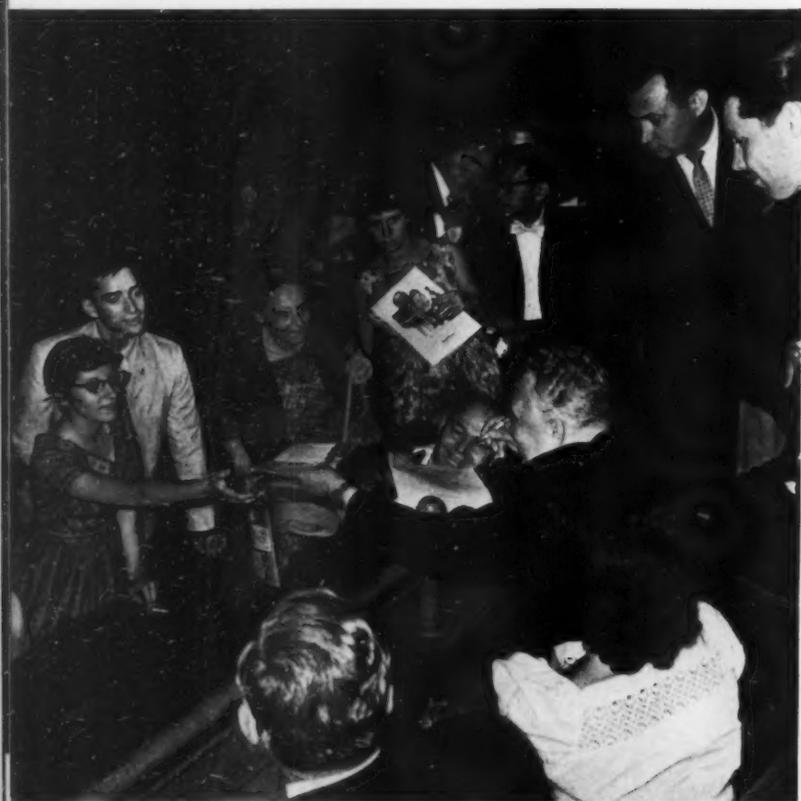




Newspapermen were told by Frol Kozlov that he was grateful to the American people for the friendliness with which they received him.

FROL R. KOZLOV VISITS THE UNITED STATES

At a performance of the Soviet Song and Dance Festival in Madison Square Garden, many people asked Kozlov to autograph their programs.



guest quarters. The Deputy Premier had another hour-long conversation with the Vice President the next evening at a reception held at the Soviet Embassy.

Earlier that day more than 300 American and foreign newsmen attended a luncheon given by the National Press Club and the Overseas Writers Association for the Deputy Premier. In a televised address Frol Kozlov conveyed the warm greetings of the Soviet people and their hope for cordial American-Soviet relations.

He commented on the enormous suffering which war brings, the tragic price paid by the Soviet Union in human lives and devastated cities to defeat the Nazi invaders. "We are striving," he declared, "to do everything . . . to promote peace," and he cited the voluntary cuts in the Soviet armed forces by two million men, the reduction in the military budget, and the dismantling of military bases on foreign territory as concrete proof of the country's will for peace.

The West Coast

The Soviet delegation left the following day on a cross-country flight to the west coast. After a warm welcome at the California capital by Governor Brown, the party traveled on to San Francisco and a cordial reception by Mayor George Christopher. In his speech at the City Hall, the Deputy Premier indicated that a sizable growth in American-Soviet trade would be of mutual benefit. "The shores of our two countries," he said, "are washed by the same Pacific Ocean. We want to see merchant ships crossing back and forth from the Soviet Union to the United States."

Billions of dollars of potential trade was the theme, too, when the Soviet visitors took a cruise around the San Francisco harbor with a group of west coast businessmen aboard the yacht *Adventuress*, owned by Don London. That same topic was reverted to at a barbecue-garden party given at the Hillsborough home of Cyril Magnin, chairman of the San Francisco Port Authority. Mr. Magnin was one of a large group of Bay area businessmen who visited the Soviet Union late in August.

On Sunday morning the Soviet party motored through the beautiful Sonoma Valley country, were shown through the Korbel Winery near Guerneville by owner-brothers Ben, Paul and Adolf Heck, and lunched with members of the Bohemian Grove Club under giant redwoods. The conversation made it evident that better American-Soviet economic relations would have the hearty endorsement of Californians, businessmen and farmers alike.

Sunday evening the visitors strolled from the Mark Hopkins Hotel where they were staying to various points of interest. The Deputy Premier rode on one of the cable cars that ran down Powell Street to Market, the city's main thoroughfare. At the top of the famous Nob Hill he paused to admire the bright stars in the very clear sky. "Where's Mars?" he asked, and then remarked on a big burning object that had landed in Siberia some years ago.

He said that some people thought it a meteorite, and that others, somewhat more imaginative, identified it as a rocket ship that had burned up when it passed through the earth's atmosphere. One newsman suggested that if the situation repeated itself, a Soviet-American alliance might be needed against the Martians.

The Deputy Premier laughed and said that very likely the Martians were altogether peaceful people—why the need for warlike alliances against them? "Let us start," he said, "with problems closer to home, like dissolving both the NATO and the Warsaw Pacts, and worry about the Martians when we have to."

The morning of July 6 the party called on the East Bay area's eminent scientists. At the University of California in Berkeley they toured the campus with President Clark Kerr. Dr. Edwin M. McMillan escorted them through the Lawrence Radiation Laboratory with its 6.2 billion electron volt Bevatron. The Deputy Premier remarked on the similar but larger atom-smashing research machines that the Soviet Union had built and concluded that here was another field for peaceful rivalry—to advance scientific knowledge.

Auto and Steel Country

Late that night the visitors arrived at Detroit's Metro Airport where they were greeted by Walker L. Cisler, president of Detroit Edison, who was guest of the Soviet Union last year when he visited with a group of power engineers. The following morning, led by Henry Ford II and Ernest R. Breech, Chairman of the Board, they made a guided tour of the River Rouge plant. Mr. Ford remarked during the lively discussion



KOZLOV TOLD HIS CALIFORNIA HOSTS: "THE REDWOOD TREES THAT WILL GROW IN THE SOVIET UNION FROM SEEDS PRESENTED ME WILL SYMBOLIZE OUR FRIENDSHIP."

which accompanied the tour that it was good to talk things over and exchange points of view, to which the Deputy Premier gave a hearty assent.

The Soviet party dined with directors of the Greater Detroit Board of Commerce and with some of the company executives whose products were to be displayed at the American Exhibition in Moscow. The Deputy Premier spent an hour in conversation with Michigan's Governor G. Mennen Williams at the Pick-Fort Shelby Hotel. Among the many Detroit citizens with whom he exchanged impressions were Mrs. Phyllis King and Lola Sparkie, two charming hostesses in the hotel's coffee shop.

The Soviet delegation proceeded to Chicago, where they were met at the Midway Airport by Mayor Daley's special events director, Colonel Jack Reilly, and followed the reception with a whirlwind tour of the Inland Steel Mills. Frol Kozlov is an old steel man; before World War II he worked at a blooming mill in the Urals. He put scores of technical questions to his guides Al Korner, superintendent of the mills' open-hearth shop, and Frederick Jaicks, general manager of Inland's North Mills. He stood in the heat and glare of the open-hearth furnace, very happy to talk shop with furnace bricklayer John Cook.

It was apparent that the Deputy Premier most enjoyed his brief talks with people at work. Earlier, when the delegation had toured the Detroit Edison's River Rouge plant, one of the workers addressed the Deputy Premier in Russian. The two men shook hands warmly and chatted for a few minutes.

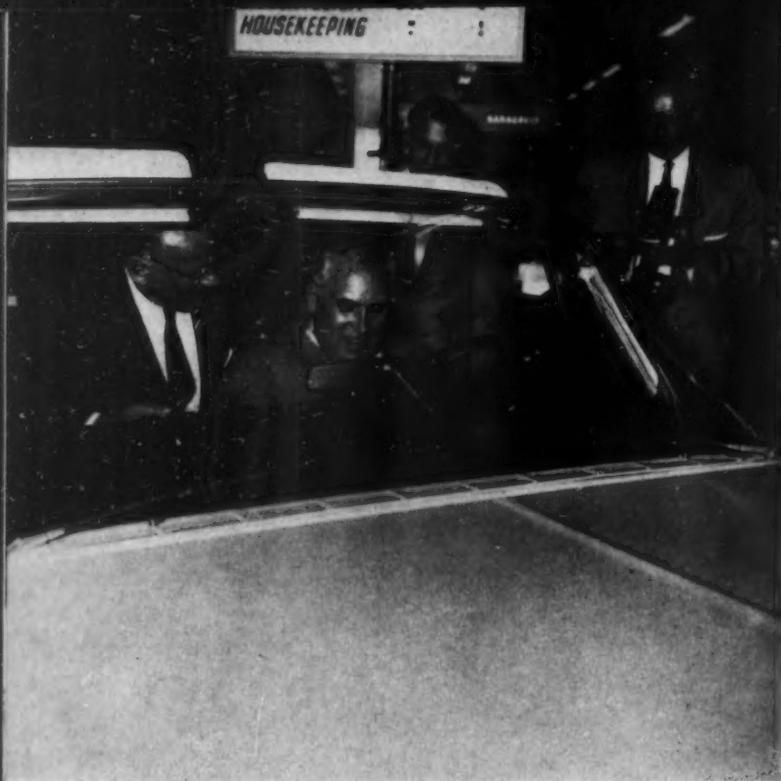
A tour of the Gary-East Chicago steel mill area was followed by a dinner given by Edward Logelin, vice president of U.S. Steel, at the South Shore Country Club, with some 25 steel executives among the guests. In his speech, the Deputy Premier compared Soviet-American relations with a steel ingot that ought not to be discarded because it has imperfections. Good steel men would, he said, eliminate the imperfections, not throw the ingot away.

Midwest Farms

The morning of July 9, after a brief visit to the Chicago City Hall and a friendly discussion with Mayor Richard J. Daley on housing and other municipal problems, the party left for the Crundy County farm

In Detroit, while visiting the Edison River Rouge plant, Kozlov had a good time talking to the workers and inspecting the equipment.





Kozlov obviously liked what he found when he got behind the wheel of this car during his tour through the Ford River Rouge plant.

FROL R. KOZLOV VISITS THE UNITED STATES

area around Morris, Illinois, some 55 miles southwest of Chicago, on a tour sponsored by the Illinois Agricultural Association.

The first stop was the 500-acre dairy farm of John Hauschild near Coal City. Despite the heat, swarms of newsmen and a very tight schedule, Kozlov found time to talk with Mrs. Mildred Hauschild, her son Vernon, her daughter Mrs. Phyllis Jones, and to view 13-month-old Debora Jones—all this in addition to an attentive inspection of the entire farm.

James F. Holderman, who farms 850 acres ten miles southwest of Morris, showed the guests his 700-acre cornfield and a "resort for pigs"—he breeds 2,000 to 2,500 annually.

The party visited other farms owned by Russell Benson, Edwin Phillips, Lloyd Taylor, Gordon Foss and William Limbach.

In the late afternoon the Soviet guests met with a group of prominent Chicago citizens at the Indian Hill Club and then spent the evening at Ravinia, at a concert given by the Chicago Symphony Orchestra with Walter Hendl conducting. Byron Janis, the soloist, played Tchaikovsky's No. 1 Concerto in B-flat Minor, to the great pleasure of the guests and audience.

Before leaving Chicago for Pittsburgh, the Soviet visitors made a 45-minute tour of the International Trade Fair.

Pittsburgh, Pennsylvania, was the last city on the itinerary of the Soviet group before they returned to New York on their way home. At the Greater Pittsburgh Airport they were greeted on behalf of the mayor, who was out of the city at the time, by Council President Frederic G. Weir.

Visiting the Homestead Plant of U.S. Steel Corporation, Kozlov made time to speak with about a dozen of the steel workers. He had a talk on wages with Jim Haygood, first helper on an open-hearth furnace, and discussed working conditions with John Getsy, furnace worker. Many of the mill workers stopped working to crowd around and listen. One of them, John Mayor, put his arms around Kozlov and they posed together for photographers. Robert A. McClure, general superintendent of the plant, presented the Soviet guest with a stainless steel table cigarette lighter by which to remember the visit.

The members of the Soviet official party were guests in the home of Edward H. Litchfield, head of the Governmental Affairs Institute, where they spoke with people in the social sciences. Governor David L. Lawrence of Pennsylvania was among the guests.

THE SOVIET GUESTS WERE SHOWN SEVERAL FARMS IN THE CHICAGO AREA. THEY ALSO SPENT SOME TIME AT THE INTERNATIONAL TRADE FAIR AND ATTENDED A CONCERT.



Subsequently the party visited the Shippingport atomic power station, where Vice Admiral Hyman Rickover led the tour.

Warm Reception

At a press conference in New York on July 12, Frol Kozlov commented: "We have visited New York, Washington, Sacramento, San Francisco, Detroit, Chicago and Pittsburgh and have seen factories, farms, scientific institutions and educational establishments. We met with government officials as well as with businessmen and industrialists. We talked with workers and farmers. I had two pleasant and useful meetings with President Eisenhower.

"I note with pleasure that everywhere we representatives of the Soviet people were accorded a kind and hospitable reception. Availing ourselves of this opportunity, we offer our thanks to all those people who sought to make our visit to the United States both pleasant and useful.

"During our visits to your factories and farms we have seen interesting innovations in engineering, metallurgy and agriculture. It would be useful for us to study this experience. We also believe that it would be useful for you to study the experience of our Soviet industry and our agriculture."

After the press conference, Kozlov toured New York City. A top-to-bottom look at Manhattan took more than an hour. The Soviet visitors boarded car 713 at the Fifth Avenue subway station at 53rd Street, and Kozlov took a seat beside Shirley Gaskins, a young Negro woman. The seat directly in front was taken by Yadgar S. Nasriddinova. Newsmen pointed out that the skin of the Uzbek president was the same color as that of Mrs. Gaskins and the Deputy Premier said: "You see, we have something in common even in this area."

Later the Soviet visitors were taken to the observatories of the Empire State Building by Colonel Henry Crown, Chairman of the Board of the corporation that owns the structure. After a tour of the United Nations Building and one more subway ride, Kozlov visited the home of former U. S. Ambassador to the Soviet Union, W. Averell Harriman. Admiral Alan G. Kirk, another former American Ambassador, was also present. Earlier, Senator Warren Magnuson, Democratic Representative from Washington, had called on the Soviet Deputy Premier and invited the Soviet Union to participate in the World Science and Pan-Pacific Exposition which opens in Seattle on May 10, 1960.



On the last lap of Kozlov's trip, Vice Admiral Hyman Rickover took the Soviet party through the Shippingport atomic power station.

Leaving for Moscow on July 13, Deputy Chairman Kozlov, in a statement at the New York International Airport at Idlewild, said:

"On returning to our homeland, we shall be happy to convey the good wishes of the American people to the Soviet people, as workers, farmers, businessmen, scientists and representatives of culture in the USA have asked us to do. Good-by, my best wishes to all of you and my hope for a stable, inviolable peace between our peoples."

FROL KOZLOV, WHO WORKED IN A URAL BLOOMING MILL BEFORE WORLD WAR II, FELT VERY MUCH AT HOME AT THE INLAND STEEL MILLS AND ASKED INNUMERABLE QUESTIONS.





USSR E

By Vladimir Novakovsky

*Deputy Director,
USSR Exhibition of
Economic Achievements*

FIVE hundred and twenty acres in the northwest of Moscow have been converted into a mammoth fairground for the USSR Exhibition of Economic Achievements. The broad avenues are lined with 71 strikingly designed pavilions that house thousands upon thousands of displays, and with theaters and concert halls that accommodate 6,000 people simultaneously, set amidst 40,000 trees and masses of flowers.

This is not the first such exhibition of the country's work, but it is the most comprehensive ever held—larger in size and scope than the whole of the Brussels World's Fair.

In essence, the Exhibition is a visual summary of 41 years of accomplishment, the springboard from which the Soviet Union is able to make the gigantic economic leap forecast by the seven-year plan.

The exhibitors are industrial plants, collective and state farms, construction enterprises, research institutes, design offices, educational and cultural centers. Those Soviet citizens of all trades and professions who have made an especially significant contribution to the

SUNLIT DOME OF THE KAZAKHSTAN PAVILION.



R EXHIBITION OF ECONOMIC ACHIEVEMENTS IN MOSCOW

country's industrial, agricultural, scientific and cultural progress are also exhibitors. Displaying their work are 1,300 industrial enterprises, 350 research and design organizations and 300 individual inventors.

The industrial section of the Exhibition shows newly developed equipment and machinery for both light and heavy industry, the new automatic lines and automated aggregates that have vastly increased the productive capacity and potential of Soviet factories.

The keynote of the agricultural exhibit is also higher production. Here past achievements are contrasted with new approaches to demonstrate the ways in which output of wheat, cotton, sugar beet, potatoes, vegetables, meat, butter, milk and wool is being raised. Dramatized displays show the changes that have been taking place in the collective farm villages in these past five or six years.

The section of the Exhibition devoted to construction displays model houses and apartments that are being built by the many thousands everywhere in the Soviet Union today. Prefabricated sections delivered to the building site from the factory and assembled there and other such advanced construction methods make it possible to forecast that a third of the total Soviet population will be rehoused within the next half-dozen years.

The pavilions of the light industries and the meat and confectionary industries are graphic evidence of the marked rise in the standard of living already achieved and the very high level aimed at by the target figures of the seven-year plan for food production, clothing, footwear, furniture, appliances and many other items that make for easier living.

15 Republics on Display

Each of the 15 republics has its own pavilion designed to reflect the traditional architectural motifs of the region. The displays show the independent economic development

of the republic as well as its peculiar contributions to the national economy.

Three pavilions dramatize the position the Russian Federative Republic occupies as the large industrial base of the country. Its newer industrial regions—Siberia and the Far East—are developing rapidly alongside the older and more developed industrial centers.

Visitors at the Ukrainian Pavilion are met with an enormous three dimensional, sound-wired map. Its 420 bulbs show the location of the republic's industries, farm regions and mineral deposits.

Byelorussia's transformation from a region of bog and marginal farm land into a highly industrialized production center is illustrated by its display of tractors, metal-cutting lathes, motorcycles and radio and TV sets.

Kazakhstan now holds a leading place in the country for lead, copper and zinc. Its new industry concentrations are chemicals and machine tools. The republic's pavilion displays material on the big metallurgy plant now being built near Karaganda. Also shown are models of the centralized control and automatic block system used for mine transport, models of new shaft-sinking machines and the tunneling machine "Karaganda-1."

On exhibit at the pavilion of the Uzbek Republic are new spinning machines, a model of the unique Bukhara gas deposits, and a miniature of a cotton plantation with tiny sprinklers operating between the rows.

Among the displays at the Kirghiz Pavilion is an electrified, sound-wired model of the rejuvenated Chu Valley, turned into flourishing sugar and jute country by irrigation.

The Turkmen Pavilion has a working model of the Kara-Kum Canal irrigating desert land and beautiful samples of the world-famous Turkmen rugs.

Of particular interest in the Tajikistan Pavilion are an operating model of a cotton-refining factory and a floating pumping station.

The Estonian, Latvian and Lithuanian



ENTRANCE TO THE UZBEK REPUBLIC PAVILION.



GEORGIAN (LEFT) AND ARMENIAN PAVILIONS.



THE PAVILION OF THE BYELORUSSIAN REPUBLIC.

DECORATIVE FACADE OF UKRAINIAN PAVILION.

PAVILION OF THE CENTRAL ASIAN TURKMEN REPUBLIC.

DISPLAY THEME OF THIS PAVILION IS GRAIN.



USSR EXHIBITION OF ECONOMIC ACHIEVEMENTS

Pavilions display illuminated maps and panels that describe the economic progress of their republics and dramatic material that pictures the Baltic people at work and play. There are displays of schools, community centers, summer camps and the famous Baltic Seacoast resorts.

The pavilions of the Trans-Caucasus republics—Georgia, Azerbaijan and Armenia—all illustrate through a variety of interesting visual media progress in industry, farming and education.

The stands of the Moldavian Pavilion are loaded with succulent fruits and grapes, fine

tobacco and samples of the republic's canning industry.

The Innovators

Guides at many of the exhibits are the very people who invented the machine on display, or harvested the bumper crop described, or engineered the irrigation project shown in model.

Vladimir Karasev, a Leningrad lathe operator, tells interested visitors at his stand about the method for cutting metal he innovated. Alexander Gitalov and Nikolai Manukovsky

describe the methods they used to grow record corn crops. Sergei Mitrofanov explains his technique for group-machining of parts.

Guidebooks and descriptive folders are available in Russian and foreign languages. Lectures, seminars and technical and scientific conferences are held daily at the Exhibition and reported in newspapers and on radio and television.

The Exhibition has attracted great crowds of visitors from the very first day it opened, hundreds of thousands who come to see what the Soviet Union has already achieved and what it will be achieving tomorrow.

"HIGH-SPEED MOLE"

Yakov Gumennik, inventor of the "Mole," a coal-cutting combine that tunnels 98 feet an hour.



FOREIGN coal operators and mining engineers who visit the Machine-building Pavilion at the Exhibition invariably stop for a long look at a bright red machine, a high-speed coal-tunneling combine, and a talk with Yakov Gumennik, its designer.

They tend to be a little skeptical that this light and compact caterpillar installation can burrow its way to a coal seam pressed down by a great wall of rock. But the figures reported daily from the pits of the Kuznetsk coal region in Siberia, where the machine is in use, speak in incontrovertible numbers. They say that its tunneling speed is an astonishing 98 feet an hour.

Yakov Gumennik has built a whole series of high-speed combines. The idea of creating a machine for vertical shaft tunneling came to him one day when he was helping to dig out miners who were trapped by fallen rock.

Gumennik assembled a small tunneling machine and tried it out before an audience of miners and mining engineers. What they saw was a low carriage carrying a wide cylinder. Gumennik backed it up against the seam. The air was switched on and disks with hack teeth emerged from the cylinder. As the disks revolved, they broke the coal. The machine crawled upward, its caterpillars gripping the walls of the drilled tunnel. The installation reminded the onlookers so much of the burrowing long-snouted animal that they christened it on the spot—"high-speed mole."

When scientists and machine designers came to see Gumennik's "mole," they raised objections to the hack teeth on the disks. "You're behind the times," they told him. "Why don't you use saw teeth?"

Gumennik didn't argue the point. He went out of the workshop and came back with two big chunks of coal. He gave one of the scientists a sharp saw and said, "Go ahead, saw the coal."

The scientist worked away at it, but he was so long at the job that the saw heated up. Gumennik waited until the scientist had sawed his way through, then he picked up the second chunk and said, "Watch this." With a single blow he broke it in half. Then to make his point again, he broke the halves in two.

"Nothing wrong with the idea of hacking," he said. "It does the job fine and has been for a long time. Now the hack teeth I put on the disks work on the same principle and they break the coal easily." That settled the argument.

The first machine was followed by another, then a third and fourth, all of them with hack instead of saw teeth. Gumennik's original combine weighed 11 tons and tunneled 65 feet an hour. That was far and away ahead of anything that had been done before, but it didn't satisfy the inventor. He decided to build a combine with a hydraulic transporter to carry away the cut coal. The new machine was a thorough-going success, its weight cut down to eight tons and its tunneling speed stepped up to 98 feet an hour. It won him the coveted Lenin Prize.

This tall restless inventor is something of a speed demon. He has squeezed speeds nobody would credit out of every car he has owned. When that palled on him, he switched over to motorboats and juiced them up to a dizzying 50-60 miles an hour. He is looking around now for new kinds of hot rods.

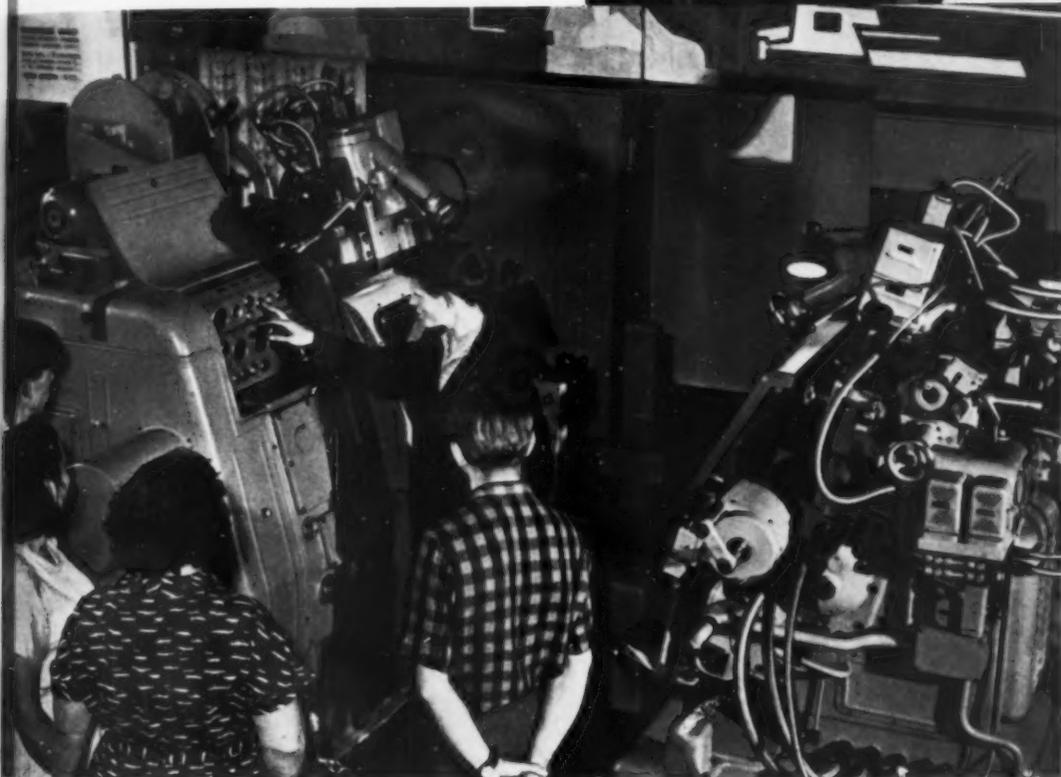


EXHIBITION AND LIFE

By Iona Andronov
Photos by Georgi Petrusov
and Dimitri Chernov



Most popular display in the Science Pavilion—full-scale models of the earth and sun sputniks.



There are more than a thousand of the most modern Soviet-made machine tools on exhibit.

The processing of plastics and synthetic fabrics is featured in the Chemical Industry Pavilion.



EVERY day an average of 60,000 to 70,000 curious visitors go to the USSR Exhibition of Economic Achievements in Moscow. They come from Moscow, the towns and villages of the Soviet Union and from different countries of the world.

The exhibition reminds you of a journey through the boundless land of the Soviets. It gives a concentrated and vivid display of the versatile nature of the Soviet people's life, the abundant fruits of their labor, the country's industrial might, its progress in the development of agriculture.

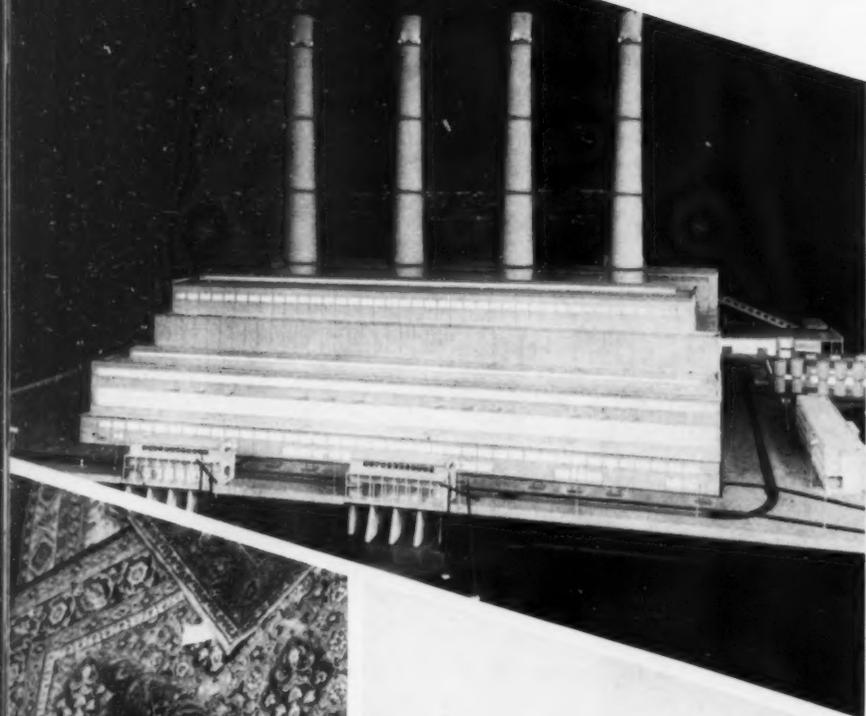
Youngsters and old men speaking different languages, in European and colorful Eastern costumes, look with equal interest at the latest machinery, shower questions at the guides, try to memorize or jot down their answers,

and have long discussions with specialists on questions of interest. They come here not only as sightseers, but to learn, trying to derive benefit for themselves, the enterprises at which they work, their workmates at plants or collective farms, or colleagues in colleges or research institutes. There is plenty to see and even more to learn.

A Hundred Thousand Exhibits

The exhibition is often called "The Seven-Year Plan in Operation" or "The Soviet Union in Miniature." Both are correct. We know that the seven-year period began in 1959. Already in the first six months of this year the plan for the growth of the country's industrial output was overfulfilled by 5 per

A few of the many thousands of varied displays at the Exhibition. They illustrate every aspect of Soviet life and activity and range from scale models of super-giant thermal electric power stations, ultrasonic instruments, farm machinery and books, to bright hand-woven rugs and Uzbek skull caps embroidered in traditional designs.



cent, the total growth amounting to 12 per cent. In the previous years the figure was 10 to 11 per cent. There has been even a greater rise in the output of agricultural produce: the collective farms and state farms increased meat production by 38 per cent, milk production by 19 per cent.

The vigorous development of the Soviet economy is illustrated by the host of things collected at the exhibition. Over 100,000 exhibits illustrate the peaceful constructive labor of the Soviet people, their way of life, and culture.

Almost everything is new in this exhibition which is so unlike what it was in previous years. This time it displays not one, but a whole series of sputniks and containers of high-altitude rockets. And now there is a whole series of models of atomic electric power stations of different types and capacity. The 1959 exhibition shows super-powerful thermal and hydroelectric stations with capaci-

ties of 2.4 and 4.2 million kilowatts, a unique high-tension power line (500 kilovolts). On one of the exhibition's liveliest squares stands the TU-104, the new Soviet jet airliner, in company with others of the latest passenger planes.

At this year's exhibition the Chemical Industry Pavilion alone displays 10,000 exhibits: the first motorships with plastic hulls and sprocket gears made of polyethylene instead of metal; almost weightless materials which are ideal insulators against noise and cold; two-meter tubes and delicate artificial capillary blood vessels made of durable fluoplastics.

It's the same all over the exhibition:

amazing new synthetic materials and technological processes, machines and instruments, and new products of the food and textile industries.

Let Machines Do the Work

In the exhibition pavilions you will see portraits of innovators, champions of high labor productivity, inventors of new machines

EXHIBITION AND LIFE

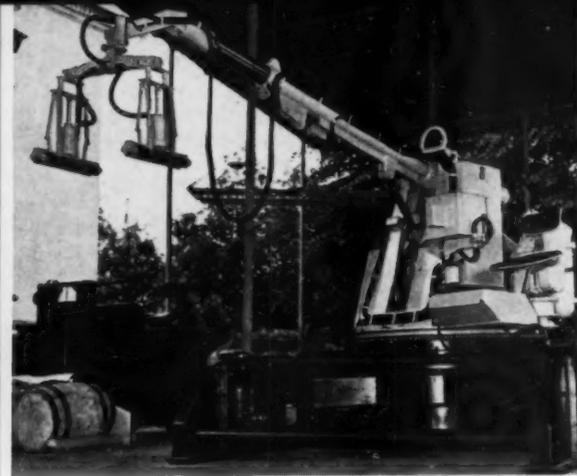
Dominating the Radio-Electronics Pavilion is this symbolic rocket on the right plunging out into the immensities of unknown space in an endless quest for scientific knowledge. The recurrent theme of the Exhibition is the application of scientific and technological knowledge to provide a richer life for the people of the Soviet Union. The light industry pavilions, with their colorful displays of artificial furs, dresses, toys, confectionary and other consumer items attract thousands of young and old visitors daily.



and new technological processes. Soviet people make up the wondrous force which is turning the Seven-Year Plan into a Six-Year Plan, and in some branches of national econo-



Leningrad port workers Ernst Rassa and Konstantin Lukashunas, shown with the machine they designed to load ships.



Soviet economic progress has been immeasurably accelerated by contributions of worker-inventors in every branch of industry.

EXHIBITION AND LIFE

my even into a Five-Year Plan. The exhibits illustrate the methods of work of these talented workers, farmers and scientists.

There you see the portrait of Nikolai Tikhonov, tunneling team leader from Novo-Butovka Mine, of the Ukrainian Soviet Socialist Republic. Preparing a new mine for operation, his team in a single month cut and timbered 264.6 meters of vertical shaft, thus establishing a world record. This record was achieved thanks to the implementation of a unique installation, consisting of a set of tunneling mechanisms evolved by a group of scientists, engineers and miners. Using the new installation, Tikhonov and his mates now cut an average 300 meters of vertical tunnel a month.

Each exhibition pavilion shows men of this type. Among them are tractor drivers Alexander Gitalov, Nikolai Manukovsky, and others who showed the way of growing and gathering large crops of corn without the utilization of any manual labor. There is Mikhail Grin, leader of an oil drillers' team. Thanks to the famous Soviet turbodrills his team drilled in six months as many oil wells as were planned for a whole year. In the past months Soviet drillers of oil and gas wells have three times beat their own world records of speed drilling.

The innovators and their exhibits seem to say: let machines do more work, let them save time for man.

Especially in the pavilion of radio-electronics you can graphically see the Soviet Union's vigorous technical progress. Last year, at the Brussels World's Fair, Soviet electronic equipment won 25 prizes, including six Grand Prizes, and this year's exhibition in Moscow already shows many new electronic instruments evolved after the Brussels Fair.

Among these are: continuous action computing machines, instruments which pilot planes flying in the sky and control mining machines working underground, telemechanic centers for operating whole plants and underground gas pipelines. Other instruments help to study the structure of the sea-bottom, or, operating as automatic shears on rolling mills, help to save great quantities of metal. There

are also new color television sets, dozens of new radio sets and semiconductor instruments.

At the exhibition one is gratified to see automatic production lines and halls full of automatic machine tools using ultrasound and spark methods of processing. The Soviet Union produces the greatest number of metal-working machine tools in the world: last year it produced 138,000, and in the first six months of this year 74,000.

The Soviet people know that technical progress brings happiness to all people. The continuous growth of production, accompanied by automation, does not at all reduce chances for employment. On the contrary, the demand for labor constantly grows in the country. As compared with the same period of last year, the number of workers, engineers, and other specialists engaged in the national economy increased by 1,800,000. The number of employees engaged in trade, health service, schools, colleges and research institutes has correspondingly increased by 800,000.

Agricultural Progress

At the exhibition Soviet agricultural progress is portrayed at more than twenty special pavilions, separate halls in individual republic pavilions, a number of open display grounds, plots with exhibit crops and models of irrigation systems. The collection of agricultural crops displays over 260 types of different plants, and over 1,660 high-yielding varieties of crops produced by Soviet selective plant breeders. Collective farms and state farms demonstrate scientific methods of running socialist agriculture, the organization of large publicly owned agricultural establishments, and high standards of mechanization in farming and animal husbandry.

Machine builders have sent over 530 tractors, combines and other agricultural machines of new design to the exhibition. Among these there are quite a lot of very powerful ones, used extensively on state farms and collective farms, which often have arable areas covering 60 to 75 thousand acres. Agricultural specialists speak with respect of the powerful Soviet tractors. Next to the giant

140-horsepower Chelyabinsk tractor one can see the midget Rioni tractor weighing only 385 pounds. These miniature tractors, produced in the Georgian Soviet Socialist Republic, are being effectively utilized at livestock farms, orchards and flower gardens.

The wide-scale mechanization of agricultural production substantially promotes labor productivity in collective farms and state farms, helps to increase yields of agricultural crops and expands arable areas. The experience of collective farms and state farms displayed at the exhibition serves as a graphic illustration of the achievements of Soviet farmers and livestock breeders: in the past five years the gross output of grain in the country increased from 82 million metric tons to 140 million metric tons, and ever growing quantities of animal-husbandry products are being produced.

A feature which characterizes the rapid development of Soviet agriculture, and particularly the strengthening of a fodder base for livestock raising, is the expansion of areas under corn. This is graphically shown in the newly-opened Corn Pavilion. In 1953 there were only seven million acres in corn in the country. Now areas in corn have reached 57 million acres. Over 50 state research institutes are growing premium corn for the country, 67 seed-growing state farms propagate it, and over 2,000 seed-growing enterprises cross this strain with ordinary corn, obtaining special hybrids distinguished for their high-yielding qualities.

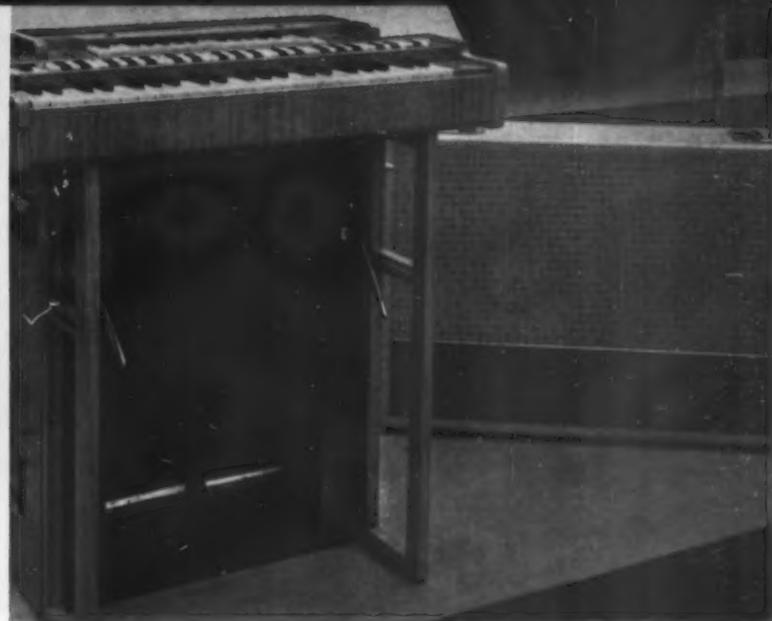
Better Living Standards for the People

The intensive development of industry and agriculture is accompanied by a constant growth in the population's income and general improvement in the standard of living.

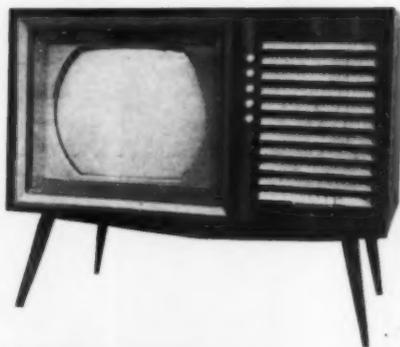
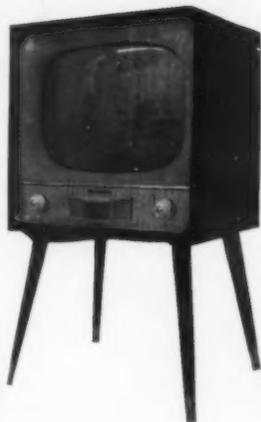
All the aspects of organization of health services for the Soviet population are shown in detail in the Public Health and Medical Industry Pavilion. Concentrated here are exhibits on medical, disease-prevention and curative treatments, carried out completely at the expense of the state, and free for all the country's citizens.



Soviet-made transistor and portable radios displayed in the Radio-Electronics Pavilion.



The electrically operated Equadine reproduces the sounds of a symphony orchestra. Andrei Volodin, engineer-musician, invented it.



New models of both black-and-white and color television sets.

The numerous pavilions, exhibiting products of the food industry, and the latest goods of the textile, shoe and chemical industries show eloquently how the growing demand of the Soviet people for consumer goods is being satisfied. The chemical industry displays various synthetic materials, as well as high quality inexpensive fabrics, rugs, furs, varnishes and paints, furniture and kitchen utensils, toys and medical equipment made from them.

Some 2,000 textile factories of the country have sent to the exhibition a great variety of new and pretty woolen, silk and cotton fab-

rics, outstanding because of their durability and low price. There is also an abundance of different models of clothing sent by garment factories. Each republic's pavilion displays its national handicraft wares: ornaments and toys, clothing and footwear, and household articles. At the exhibition music fans can try the tune of pianos produced by factories of Estonia, Byelorussia, the Ukraine, and other Soviet republics.

One of the main sections of the exhibition is devoted to construction.

The exhibition gives one a vivid sense of the vast scale of construction work in the

Soviet Union in which almost six million workers are occupied. The exhibits show all the details of the reconstruction of large industrial centers and ancient villages, the efficient planning and construction of new towns in the formerly uninhabited and desolate parts of the country.

The intensive housing construction in urban localities is done by industrial methods. Exhibition visitors can see cross-sections of standard model houses which are assembled completely from prefab parts. Construction of houses from large prefab panels is assuming mass scale in the country, its purpose being to ensure sufficiently spacious and modern lodgings for each Soviet citizen. This program is being successfully fulfilled. In the seven-year period as many as 22 million families will move to new lodgings.

They Study How to Work and Live Better

Several of the exhibition pavilions show the giant scale of general and special education in the country. Detailed illustration is given of the activities of the new type 11-year general education school and agricultural college in the town of Kostroma, a college of mining and metallurgical engineering in Magnitogorsk, and of vocational and technical schools of which there are 3,200 in the country.

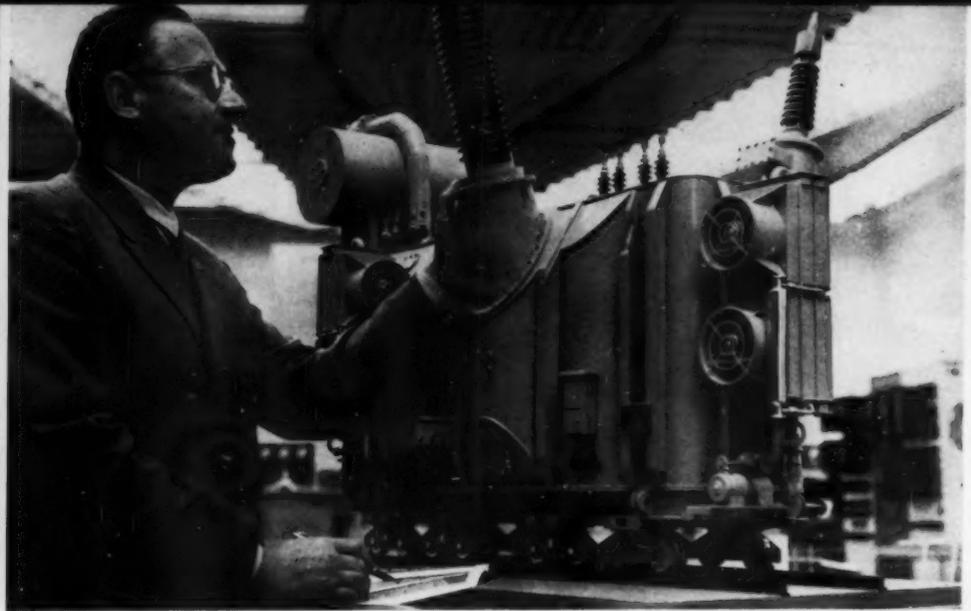
In the Soviet Union one rarely meets a family in which no one is studying. Out of the country's population of 209,000,000 over 54,000,000 engage in various kinds of studies.

The country's 400,000 libraries have 44,500,000 regular readers. About 3 million volumes of new books in 87 languages of the peoples of the Soviet Union and 44 foreign languages are published daily for the perusal of millions of Soviet readers.

The USSR Exhibition of Economic Achievements is regarded as a popular university by millions of its visitors. Its exhibits show people how to work and live better.



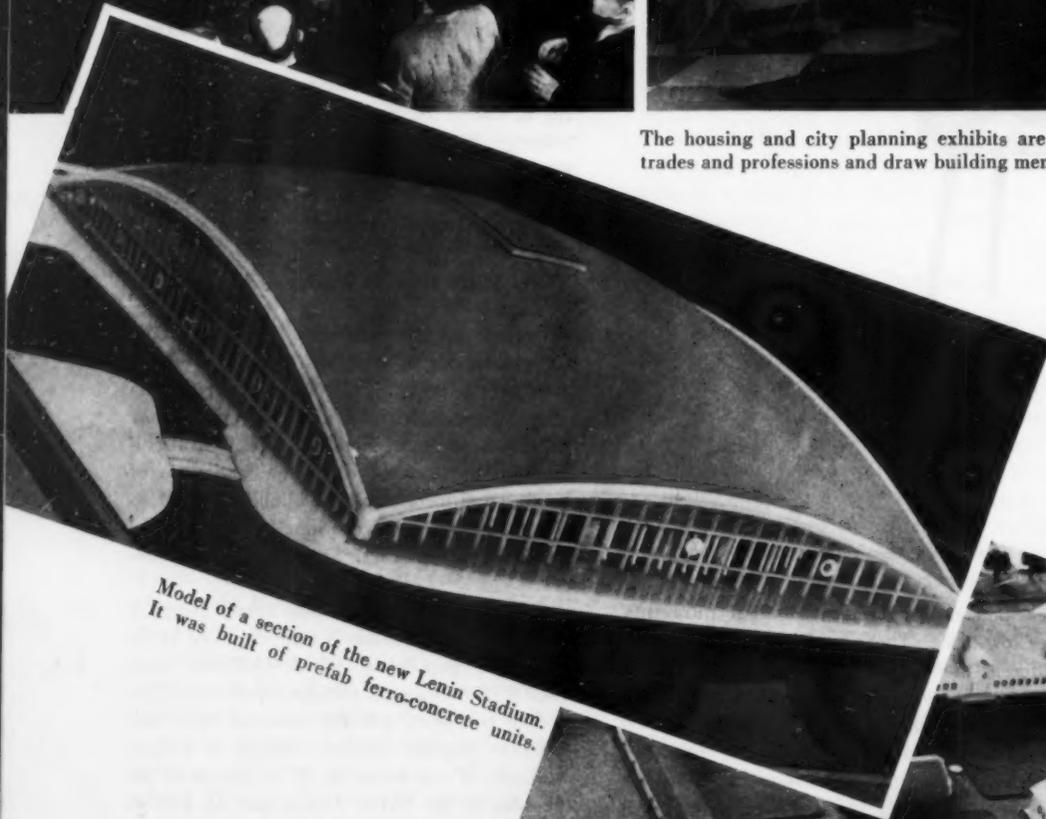
Pylons for 500-kilovolt transmission lines at the Electrification Pavilion.



A variety of visual media is used to illustrate new developments in electric power engineering and work in progress throughout the country. This is a model of a 500-kilovolt transformer.



The housing and city planning exhibits are directed principally to workers in the related trades and professions and draw building men and architects from every one of the republics.



Model of a section of the new Lenin Stadium. It was built of prefab ferro-concrete units.

Dairy building construction standard for collective farms.

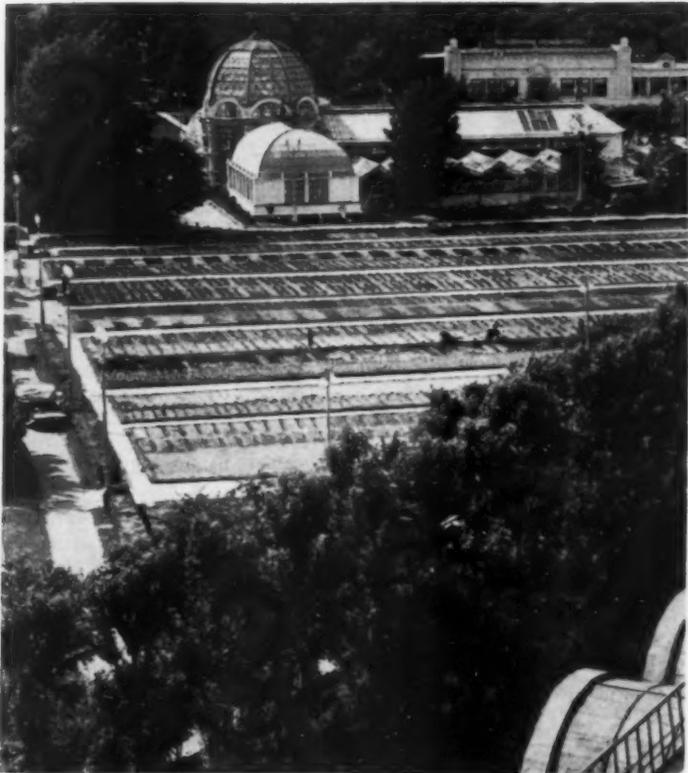
EXHIBITION AND LIFE



An attractive consumer display—fine wines from Moldavian grapes to grace Soviet dinner tables.



The walls of the Grain Pavilion are hung with graphs to show progress in cereal cultivation and photos of farmers who have raised bumper crops.



Ivan Loginov, a tractor mechanic from Kazakhstan, demonstrates an automatic tractor he invented that can operate without a driver.

The grounds and hothouses of the Flower Pavilion are adorned with two thousand different species of flowers indigenous to the Soviet Union.

MACHINE-GROWN CORN

ONE OF the pavilions at the USSR Exhibition of Economic Achievements is called "Corn." Its walls are hung with portraits of collective farmers and tractor drivers whose work was responsible for extra large harvests of that cereal crop. One of the most prominent is a portrait of Nikolai Manukovsky.

Four years ago, at a meeting of the Kirov Collective Farm in the Voronezh Region, Nikolai Manukovsky and Ivan Lukin, another tractor driver, proposed that corn be grown entirely by machine, without recourse to hand labor. Together they undertook to grow and harvest 325 acres of corn.

The members of the collective farm listened to the proposal with some misgiving. Here was a job that ordinarily took the labor of some 30 to 40 farmhands. But Manukovsky and Lukin insisted that their proposal be tried.

In spring the two young men moved their tractors out to the field. They worked round the clock in two shifts and sowed the grain very carefully. In two weeks the first shoots appeared. The sowing machines were replaced by cultivators mounted on the tractors. During the summer the field was cultivated three times and not a single weed was left. That first year Manukovsky and Lukin harvested their crop at one-thirtieth of the usual cost.

The following year Manukovsky teamed up with another tractor driver, Ivan Vysotsky, a less experienced driver. Manukovsky put him through a course of training and together they worked on a 400-acre field. Their harvest was three times larger than any of the other teams. Last year they gathered an even larger crop.

As a result, both Nikolai Manukovsky and the Kirov Collective Farm are familiar names throughout the country. Machine operators and specialists come from the Ukraine, Byelorussia, Kazakhstan, the Kuban and other regions to study Manukovsky's method, now in use by more than 70,000 farm machine operators.





By Nikolai Ivanov

THERE is a special pavilion at the USSR Exhibition of Economic Achievements to show progress in science and another designated "Atoms for Peace."

The USSR Academy of Sciences is the hub from which the country's research radiates. The organization and work of the Academy was described in some detail in the February 1959 issue of this magazine. At the time there were 136 affiliated research institutes located in various parts of the country, about a third of them founded in the past three years. Supplementary research facilities included 25 independent laboratories and scientific councils, 13 institute divisions, research expedition bases, and botanical gardens, museums and experimental centers by the scores.

This research network has since been expanded. By 1965, the end of the seven-year plan, the Academy will have at least 34 new affiliated institutes.

The Academies of Sciences in each of the republics are also in process of expanding their research facilities. By 1965 they will have founded 135 new institutes and doubled their scientific personnel.

There are other research agencies besides these which coordinate their work with that of the National Academy of Sciences—the specialized academies of architecture and construction, medicine, agricultural sciences; independent experimental and development institutes; and the laboratories of universities and scientific societies. This huge research effort is correlated through the Council of Coordination of the USSR Academy of Sciences headed by the Academy's president.

There are hundreds of journals covering every field of study issued by the Academy's own publishing house. All research activity is liberally financed by the national government and the republics.

The chemical industries display at the Exhibition is a particularly striking illustration of the way in which research is directed to the practical needs of the country. Soviet chemists have been making notable progress in studies of polymer synthetics and have developed a number of high-quality polymer materials and new techniques of raw-material

Speculative model of an interplanetary station. The top photo shows a model of the last stage of the sun sputnik. The photo below is a model of a solar power station being built in Armenia.

SOVIET SCIENCE — *Present and Future*

production for the synthesis of polymers.

In other areas chemists are studying new methods of processing natural gas, timber, coal and agricultural waste products. They are developing new building materials and top-quality synthetic fibers that will make better and cheaper textiles and clothing than the natural raw materials.

The industrial contributions made by Soviet researchers in electronics, automation and other fields are on display at the Exhibition. In serial production is a multi-purpose high speed computer which is generally acknowledged to excel all similar devices of foreign make. Unique self-adjusting systems of automatic control are in operation in industrial plants. New principles of current control have been worked out for semiconductor devices. Direct-viewing mechanisms have been developed for use in solid-state and liquid media.

Research laboratories set up on the premises of industrial plants and large farms help to promote this creative collaboration between the theoretical scientist and the technologist. In some cases the USSR Academy of Sciences sets up its own research laboratory in a plant. Typical is the automation laboratory at the Moscow Ball-Bearing Plant, sponsored jointly by the Academy's Institute of Mechanical Engineering, the Economics Institute and the Institute of Automation and Telemechanics. The laboratory studies the more complex problems of automation and its technological and economic effects and formulates general conclusions for use by the whole machine tool industry.

Through the Academy's Institute of Automation and Telemechanics more than 80 specialized institutes and plant laboratories coordinate their research in this crucial area of automation upon which future industrial growth depends.

Illustrated at the Exhibition of Economic Achievements are the areas of basic research in which Soviet scientists are presently engaged. Major stress is on physics, and rightly so, since progress in most other fields of study, not to speak of industry and agriculture, is dependent on this most fundamental of sciences. Soviet physicists are concentrating upon studies of cosmic rays, controlled thermonuclear reactions, elementary particles, and semiconductors.

The Academies of Sciences of the republics are working on important problems in pure physics with emphasis upon nuclear studies. The Armenian Republic has a powerful particle accelerator. Georgia has its own research center to explore the structure of elementary particles. A nuclear research institute is under construction in Uzbekistan.

Along with research in controlled thermonuclear synthesis, the key to the power source of the future, Soviet scientists are exploring the more immediate problem of increasing the efficiency of presently operating hydro, thermal and nuclear power stations and of high-voltage transmission lines; methods of trans-

formation and wide-scale use of all energy sources, including solid, liquid, gas and nuclear fuels, as well as water flow energy; and other power engineering problems.

On display at the Exhibition is dramatic evidence of high altitude and space research already done—the earth and sun sputniks—and of work in progress. Soviet astro-physicists are exploring the nature of space radiation and such physical phenomena as are found to be productive of high-energy space particles. These explorations of the cosmos have engendered new techniques and unique optical and electronic instruments for astronomical study.

The study of solid-state phenomena is given high priority by the Academy of Sciences research program. Under intensive investigation are such characteristics as strength, elasticity, magnetization and super-high pressure behavior. Particularly accented is work in crystallography with special attention to electronic applications of crystalline substances. Automation is also an Academy-wide research project since it involves so many related fields of study.

Research in physics and chemistry has contributed immeasurably to the biological sciences and their very important practical offshoots, medicine and agriculture. Medicine, and biology in general, has been able to move out in new directions as a result of the basic studies done by physical chemists

in protein structures and protein-containing compounds. These studies have significant bearing on work now under way on control of metabolic processes. Biochemistry, biophysics, microbiology, selection, genetics and virology are among the fields being given major research attention.

Radioelectronics in its practical uses carries over to medicine and biology, in addition to its more apparent applications in space flight, automation and controlled thermonuclear reactions.

Some of the specific problems in mechanics being studied include motion stability, oscillation and auto-oscillation of mechanical systems, interaction between solid-state bodies and gas or liquid streams overflow process with respect to bodies flown at supersonic speeds, deformation under momentous stresses and under high pressures and temperatures.

In geology the task is to formulate the principles of mineral distribution in the large territory contained within the Soviet Union and to explore mineral resources.

Students of the humanities are doing basic research in economics, philosophy, history, the arts.

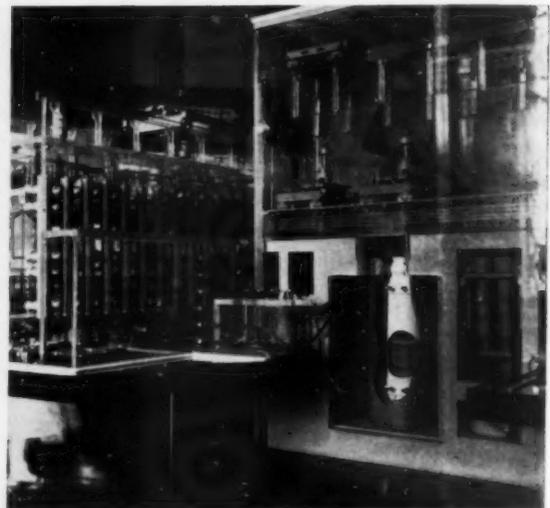
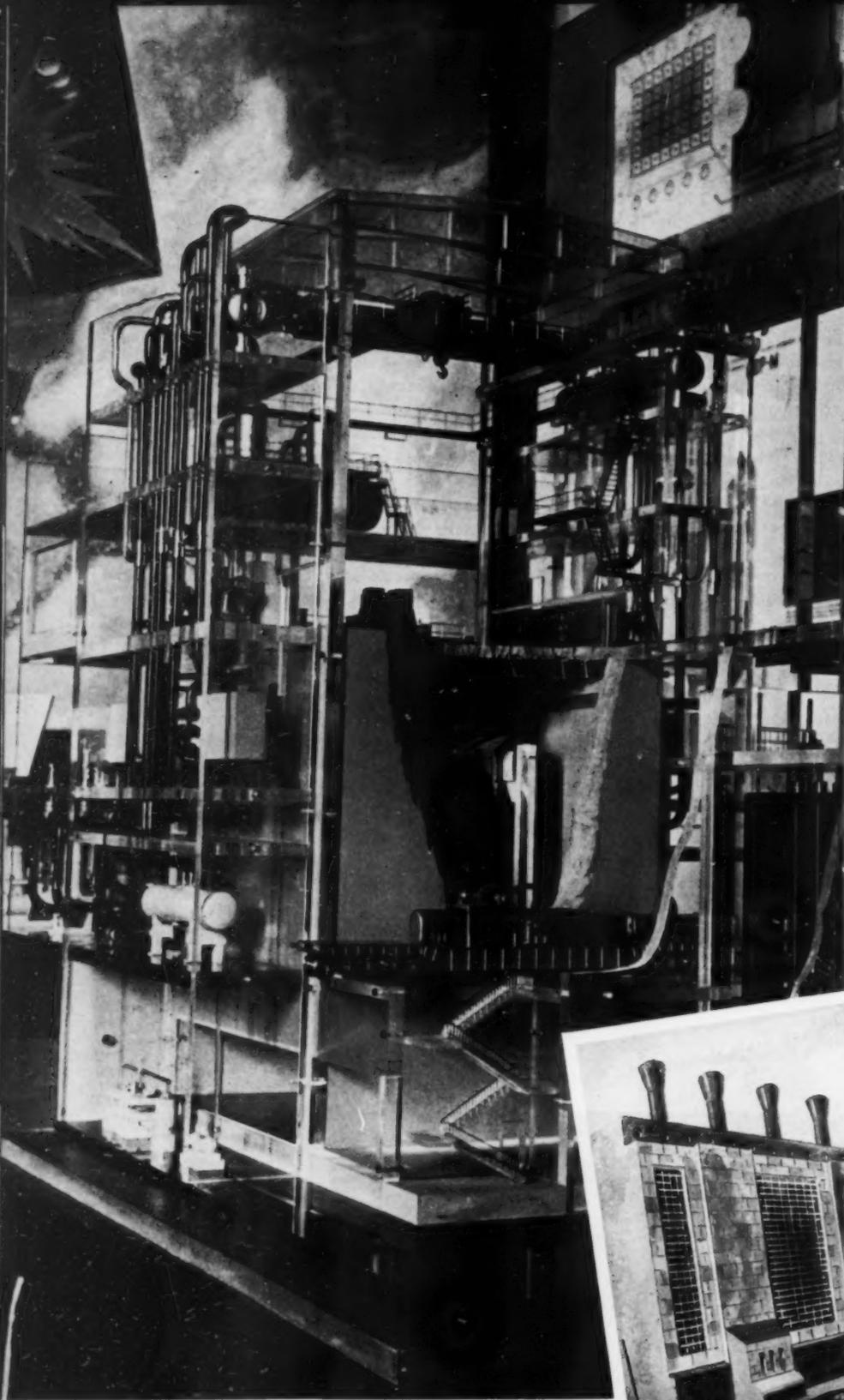
Evident throughout the Exhibition is the close tie between theory and practice, between basic research and technology. Every display emphasizes the fundamental purpose of Soviet scientific research, theoretical or applied, to improve the well-being of the people.



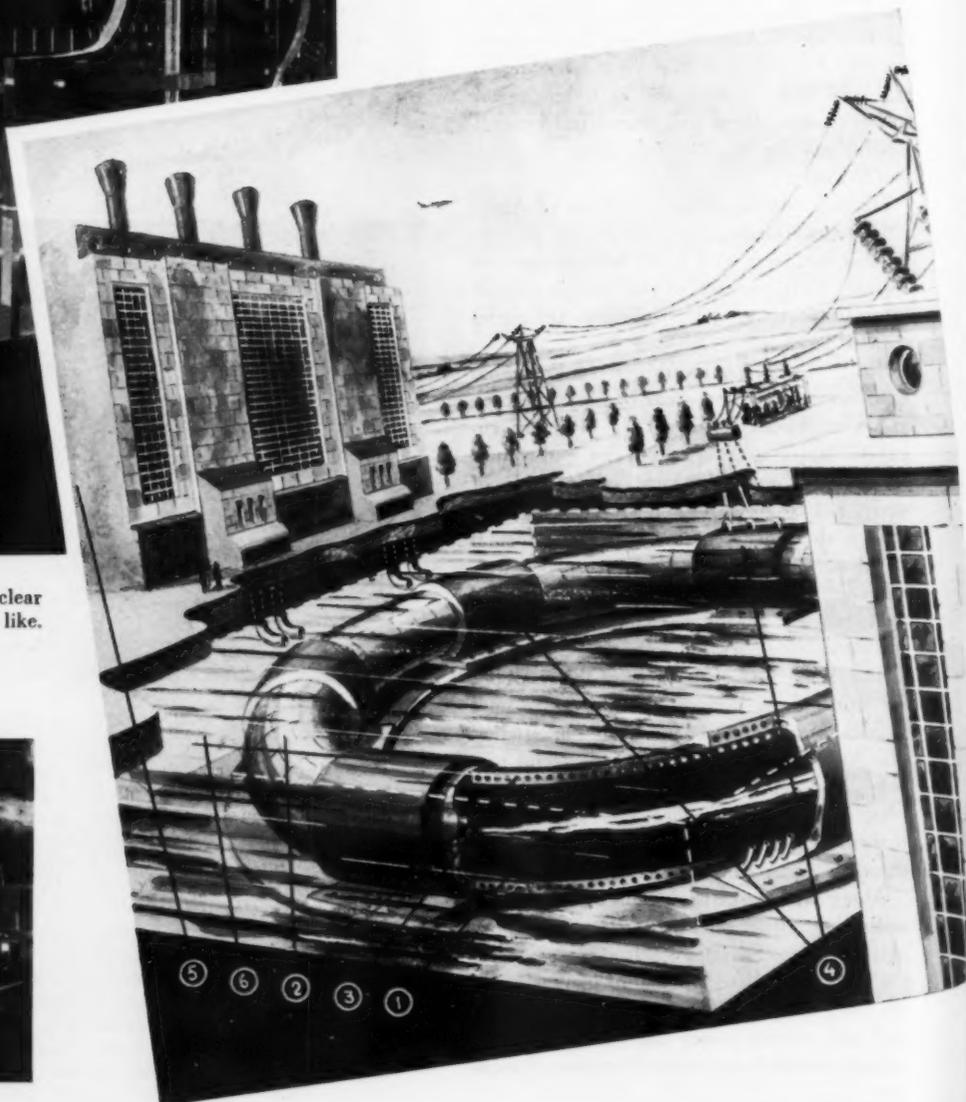
Space Travelers

These two dogs and the rabbit made the journey into outer space at the beginning of this summer as passengers in an intermediate range geophysical rocket which was shot to an altitude of 280 miles with a payload exceeding two tons. The container carrying both test animals and a variety of scientific instruments returned to earth safely with the animals in top-top shape. These test flights are made regularly to study the effect of high altitudes and speeds on the human organism in preparation for future manned flight. That day, say Soviet researchers, is not too far distant.

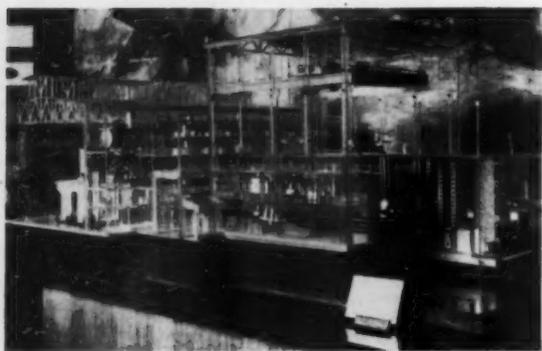




On display at the Exhibition are models of various types of atomic power stations in use or in process of construction.



(Right) This is what the "doughnut" type of thermonuclear electric station of the future will very probably look like.



THERMONUCLEAR ELECTRIC STATIONS OF THE FUTURE

IN THAT not very distant future when science learns how to control thermonuclear synthesis and the enormous power stored in the atom is available as a source of energy, designers will be tackling the complicated job of building a thermonuclear electric station.

What will such a station look like? We can foresee its general outlines. It will probably be a compact installation resembling a closed "doughnut" chamber of an intricate type. Inside the "doughnut" a plasmic "cord" will burn at a very high temperature. Around it will be complex mechanisms to carry current and to fuel the coil windings of the main magnetic field. There will probably be several coils around the "doughnut" also to give additional stability to the plasmic "cord." All this will be submerged in a water jacket to absorb neutrons and to cool the walls of the "doughnut." It will also be possible to use this generated heat at ordinary thermal electric stations.

If the "doughnut" is made with a diameter of some 33 feet and is 3 to 6 feet thick, the electric station will have a capacity of approximately a million kilowatts.

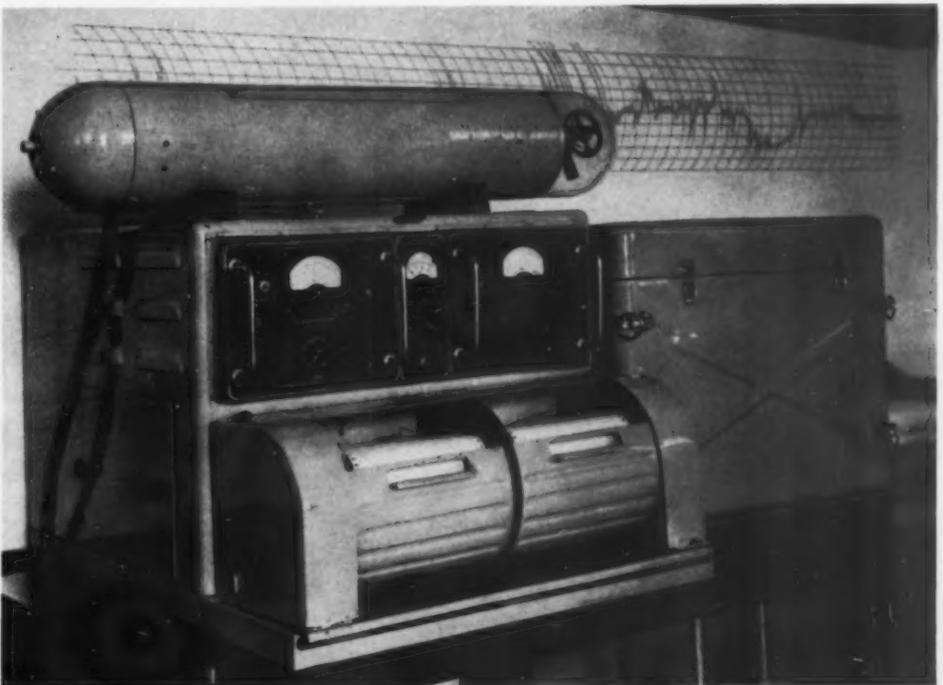
It is theoretically possible to transform part of the thermonuclear energy directly into electricity. The plasma, when it begins to expand after having been tightly compressed, will push the lines of force of the magnetic field back toward the walls of the chamber. The lines of force will cross the coils wound around the "doughnut" and induce current in them. The plasma, while it pulsates, will be operating like the revolving armature of a dynamo.

Should it ever become possible to operate such an electric station on pure deuterium—and this is not likely for some considerable time to come—we can expect that about half the station's energy will be transformed into electricity directly.

The drawing on page 22 shows what this thermonuclear electric station of the future will probably look like. A plasmic "cord" (1) pulsates in a torus (2) controlled by an electromagnetic coil field (3). Electric current is induced in the coil windings (4) when the pulsating plasmic "cord" crosses the electromagnetic field. Steam turbines in the building (5) use the steam built up in the boiler (6) when the electric station is in operation. The boiler end is not shown in the drawing.



Radio engineers are especially interested in this model of a solar power transmitter which was carried in the third earth sputnik but it attracts large numbers of curious lay people too.



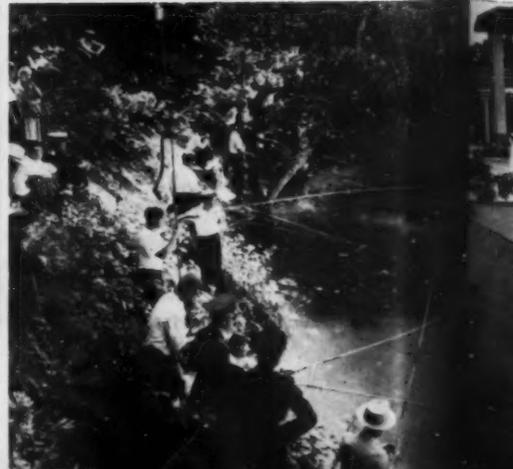
The scientific apparatus display shows this multi-purpose aero-physical installation for geological survey aircraft used in prospecting for uranium ore and other related mineral deposits.

Many of the multiple uses of electronic devices in industrial processes are exhibited in the Radio-Electronics Pavilion. This is a Soviet-made computer to determine metal-cutting accuracy.





The Exhibition has an eighty-acre recreation area, planted with trees, shrubs and flowers from contrasting parts of the Soviet Union and dotted with ponds and lakes for boating and fishing enthusiasts, stadiums for sports fans, greens for croquet players, rinks for roller skaters, a bowling alley, a range for riflery and another for archery. There are motion picture theaters, concert halls and dozens of restaurants which serve tasty regional delicacies.



VISITOR AT THE EXHIBITION

By Yuri Grafsky

A SINGLE visit hardly does justice to the display portion of the Exhibition, let alone the many side attractions. I arrived early but by the time I had gone through the last of the pavilions it was getting dark and the lights were being turned on. The square in front of the main pavilion was crammed with people, and I joined them to listen to a concert.

The steps leading to the colonnade of the pavilion had been converted into an amphitheater and the wide landing into a stage. At the piano was a young girl, somewhat nervous, playing Khachaturyan's "Toccata."

To an exacting musical ear, the performance might have seemed less than perfect and even to my untutored ear, the acoustics left much to be desired. But the girl played with such warmth and such evident depth of feeling that I was moved. And to judge by the ovation so were the many other thousands in the audience.

When the announcer let us know that we had not been listening to a professional pianist but to a worker from a chemical plant in Dzerzhinsk, a town in the Volga Region, there was a renewed and even heartier burst of applause. The plant's products were on display at the Chemical Industry Pavilion and to exhibit their avocational interests, the plant personnel had sent along a group of amateur musicians, actors and dancers.

Many other exhibitors had done likewise. Collective farmers from the Penza Region in Central Russia had supplemented their farm display with concerts offered by their regional folk chorus, instrumental ensemble, dance company and amateur theater group.

Aside from these very interesting amateur performers, regularly scheduled concerts are given by professional orchestras and leading artists. I heard a portion of a symphony concert conducted by Professor Leo Ginsburg with Maria Yudina as soloist and listened for

a while to Eddie Rozner, the well-known Soviet trumpet player, lead his jazz band.

Food of All Nations

I had dinner at one of the five large restaurants on the Exhibition grounds. Besides the restaurants, there are 30 cafes, some 800 stalls and carts selling sandwiches and 180 food-vending machines.

The various republics represented at the fair seem to vie with each other not only in their displays but in their choice dishes as well. In the Vostochnaya cafeteria near the Georgian Pavilion, visitors are offered Caucasian *shashlyk*—highly spiced mutton grilled on spits.

One of the cafes serves Siberian meat dumplings—*pelmeny*, they are called—a regional delicacy. In the Leto restaurant, decorated in Ukrainian style, one may sample *vareniki*, a dish prepared from dough, curds and sour cream.

The Lebed cafe is done up in the style of the old Russian tea house, with lots of carved woodwork brightly painted and tea served in old Russian samovars.

Perhaps the most attractive of all is the Chaikhana restaurant close to the Uzbek Pavilion—a gay openwork structure with graceful airy staircases and sparkling fountains. Here the hungry viewer may order the national Uzbek potato soup seasoned with tart herbs and spices or the juicy Uzbek *shashlyk*, grilled in the Central Asian style.

Play Area

The Exhibition has an 80-acre play area, luxuriously planted with trees and shrubs from contrasting regions of the country—beeches from Transcarpathia, spruce from the far-eastern Ussuri taiga, palm trees from the south and the Russian birch. Near the

Physical Culture Pavilion, almost hidden by greenery, are basketball and volleyball courts, a roller skating rink, croquet grounds, a bowling alley and verandas for chess and checkers. Close to the Hunting and Fur-Farming Pavilion are two shooting ranges—one for small-bore rifles, the other for archery. There are lakes and ponds in the recreation area for boating and fishing.

Among the several motion picture theaters is a cinerama, new to Soviet audiences, which attracts large numbers of viewers daily.

There was much too much to see and hear and enjoy in one short day.



SOVIET CIRCORAMA



IT IS an unusual cinema hall surrounded by a high circular screen. There are no seats and the spectators walk about as they please.

When the lights go out and the picture begins, its first shots take the spectator to offshore oil fields. Wherever you look there is the sea with the sound of its splashing waves audible. Then the scene changes and you see a high-speed plane racing above the plains of Central Russia, across Siberia, and over the mountains of the Caucasus. The impression is that you are up in the plane and you completely forget that you are only watching a film. When the film is over you leave feeling that you have made an exciting trip.

This circorama cinema theater accommodating three hundred spectators has been erected on the territory of the USSR Exhibition of Economic Achievements. It is a round structure of glass, steel and plastic.

The building was put up in slightly more

than three months with the most modern apparatus for it sent from factories in Moscow, Leningrad, Kiev, Samarkand, Odessa and Shostka. The 22 huge projectors were hoisted by cranes and gently deposited in the circular projecting room.

The complete set of apparatus for the circorama was designed under the technical guidance of the USSR Cinephoto Research Institute. Vladimir Kotov, the engineer in charge, showed the first spectators the control panel which simultaneously sets in motion all the projectors.

"Here is the heart of our circorama," he said. "Apart from the projectors the panel controls the stereophonic sound track apparatus and many other machines. As distinguished from the American circorama system with only one band of screens, our system has two—one under the other below the cupola of the auditorium. Another difference is that while

in the American circorama you hear only the music and the announcer's words, in our system the sound is synchronized with the action, accompanies it, illustrating all that is shown on the screen."

Vladimir Kotov explains why there is such an amazingly "live" sound. He points to the floor pits and the apertures in the ceiling and behind the screen from where the smooth velvety sounds flow, reproduced by thirty-six loud-speakers. To make the 400-square-meter gleaming white screen encircling the auditorium transmit sound it is perforated with minute holes.

The first Soviet circorama film was the twenty-minute-long *The March of Spring*, produced jointly by the Central Documentary Film Studios and the Animated Cartoon Film Studios. It was directed by Vasili Katanyan and Leonid Makhnach and the cameramen were Igor Bessarabov and Andrei Semin.



INSIDE THE CORRIDOR DOORS IS THE 360° SCREEN. THE SPECTATOR SOON FEELS HIMSELF A PARTICIPANT IN THE ACTION TAKING PLACE.

THE FIRST CIRCORAMA FILM SHOWN IN THE SOVIET UNION WAS *MARCH OF SPRING*, DIRECTED BY VASILI KATANYAN AND LEONID MAKHNACH.





TENS OF THOUSANDS OF AMERICANS FLOCKED TO NEW YORK'S COLISEUM TO SEE HOW PEOPLE IN THE SOVIET UNION LIVE, WORK AND PLAY.

AMERICANS COMMENT ON THE SOVIET EXHIBITION IN NEW YORK

FOR THOSE interested in gauging American public sentiment with regard to friendlier relations between the United States and the Soviet Union, we recommend a leaf through the Visitor's Book of the Soviet Exhibition of Science, Technology and Culture. The sentiment for friendship and better understanding between the two countries is unequivocal. Americans are for it—and in large numbers.

That was made plain on the first day the Exhibition opened last June when scores of thousands of Americans—New Yorkers and people from every other state in the Union—crowded into the Coliseum to see for themselves how people in a socialist country live, work, study and play. They left with the feeling—many of them stopped to write their comments in the Visitor's Book—that there was very much more Soviet people had in common with Americans than they had believed.

That was the reaction, too, of the large numbers of Soviet citizens who visited the American Exhibition in Sokolniki Park in Moscow. Certainly this is a happy omen for the future, one with which every peace-loving person, whatever his political belief, will be gratified.

The two fairs were products of the exchange agreement concluded between the United States and the USSR two years ago. The Soviet Exhibition ran for 40 days and was conceded by all hands to be the most popular and well attended the huge exhibition building had housed since it was built.

Coincident with the Exhibition a two-week festival of Russian music and dance ran at the Madison Square Garden where leading Soviet artists performed for packed audiences. Simultaneously two Soviet cinerama films were shown at the Mayfair Theater on Broadway.

Questions and Answers

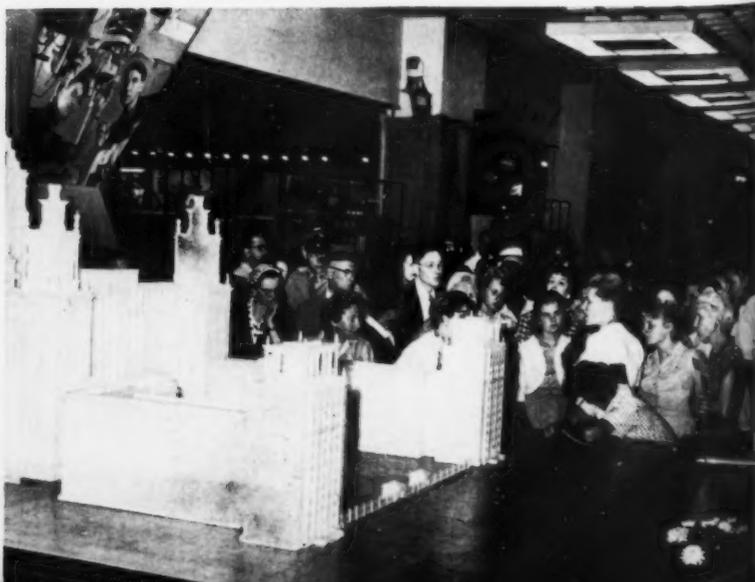
Although the 10,000 displays stressed the scientific and technological progress the Soviet Union had made in an astonishingly short four decades, there were exhibits of fashions, foods, TV sets, kitchen appliances, books, passenger cars, a three-room furnished apartment, schools, vacation resorts, an art gallery—all this designed to round out the Soviet picture for American viewers.

As important as the visual impression was the opportunity for actual

THE LARGEST CROWDS GATHERED AROUND THE LIFE-SIZE SPUTNIK MODELS.



THERE WAS MUCH INTEREST SHOWN IN THE COUNTRY'S CONSTRUCTION PROJECTS.





AN INTERESTING DEMONSTRATION OF HOW AN AVERAGE AIRFIELD FUNCTIONS. RECORDED EXPLANATIONS OF THE PROCEDURE ARE HEARD OVER THE PHONES.

contact between Russians and Americans. The guides and interpreters at the Coliseum Exhibition were thanked time and again for their unfailingly patient answers to questions they must have been asked hundreds of times. The guides, in their turn, were as eager to exchange ideas on every question under the sun with their American visitors. This was reciprocity in practice and was welcomed by questioners and answerers both.

Eminent Visitors

Some of the people who wrote their comments in the Visitor's Book noted their vocations. Others were too eminent to require that identification. The signature on the first page of the Visitor's Book is Dwight Eisenhower. Visitor Richard M. Nixon wrote, "A splendid Exhibition;" and Andrew H. Berding, Assistant Secretary of State, "A fascinating Exhibition."

Carl Sandburg, poet, left this entry: "Salutations and ever good wishes to this Soviet Exhibition. It makes for good will which is a requisite for peace."

Edward Steichen, the noted photographer, wrote: "Great greetings to the people that accomplished this Exhibition which is *choudna, choudna, choudna* (wonderful)."

Charles Luckman, the architect, expressed the sentiment of millions

of American and Russians both when he said, "To all who helped create this wonderful exhibit which can help our countries understand better our hopes and ambitions, my sincere congratulations."

"As an industrial designer, I was very much impressed with the fine construction of the television equipment." "An excellent and well arranged exhibit, with well-selected examples of the wide range of Soviet machine-tool production." These two were typical of many from engineers, industrial editors and businessmen.

"We Like Your Pretty Pictures"

"These exhibits are created for peaceful uses. Let's all use them peacefully," writes a student from Hewlett, New York. And another young visitor, obviously with a scientific bent, comments, "I think that this exhibit is very interesting and a boy or man can learn a lot in here. The thing I liked most was the satellite and radioactive materials exhibits. They are very well planned (like everything else) and I enjoyed them. One of the most amazing things was the airport with the many different planes and jets. I came here with my family and I know every friend I have would love to come here."

"A Mother" writes, "Congratulations—your advances are the advances for all of mankind. You give us hope for the future." And an unsigned comment reads, "To the Russian children. We like your pretty

AN EXHIBIT OF SCULPTURES AND PAINTINGS BY CONTEMPORARY ARTISTS.



WORKING MODELS OF VARIOUS MACHINES MADE BY TRADE SCHOOL STUDENTS.



AMERICANS COMMENT ON THE SOVIET EXHIBITION



THIS CITY PLAN INCLUDES MODERN HOUSING AS WELL AS SERVICE, CULTURAL AND RECREATIONAL FACILITIES.

pictures." One of the displays showed drawings, sculpture and handicrafts done by school children from every one of the Soviet republics.

Written by a man whose hand obviously fits more readily around a tool than a pen is this statement, "I have been a worker for 42 years. I wish the Soviet people success in their seven-year plan."

Friendly Critics

A visitor from Fair Lawn, New Jersey pens a friendly criticism. "Enjoyed your show immensely! Both cultural and scientific exhibits need a basic description and more pamphlets and written material should have been made available. I hope there will be more and even better shows in the future."

There were unfriendly comments, too, but they were in the vast minority. Some viewers, like the visitor who signed himself "M. H.," had mixed reactions. He wrote, "As a person who disagrees with the basis for your way of life, I was much impressed by the material and organization of your display in New York City. I was impressed mainly by your cultural exhibit on the top floor. Communistic Russia has done much to be proud of in the way of technological achievement in the last fifty years—too bad they have forgotten the individual and God."

But the overwhelming preponderance of comments is typified by that of "Anon" who wrote, "I have just one word—Great!" and by "M. S." who commented, "Most wonderful exhibition I ever saw. Wish I had six pairs of feet so I would never tire."

"Peace," "Friendship"

What was most striking, however, was the recurrence of the words "peace," "friendship," "mutual understanding" in one comment after another. Hardly surprising—these are the most crucial words in our contemporary dictionary.

A Pittsburgh visitor writes, "The Exhibition is of great interest to all America. It shows that we can share our differences peacefully. I hope that the USSR is enjoying our exhibition."

"An American" comments, "This exhibit is interesting and informative. It will do a lot for the relationship of our countries."

Another "Anon" says, "All this is simply magnificent—a fine tribute to the quality of Soviet society—May we all live in peace."

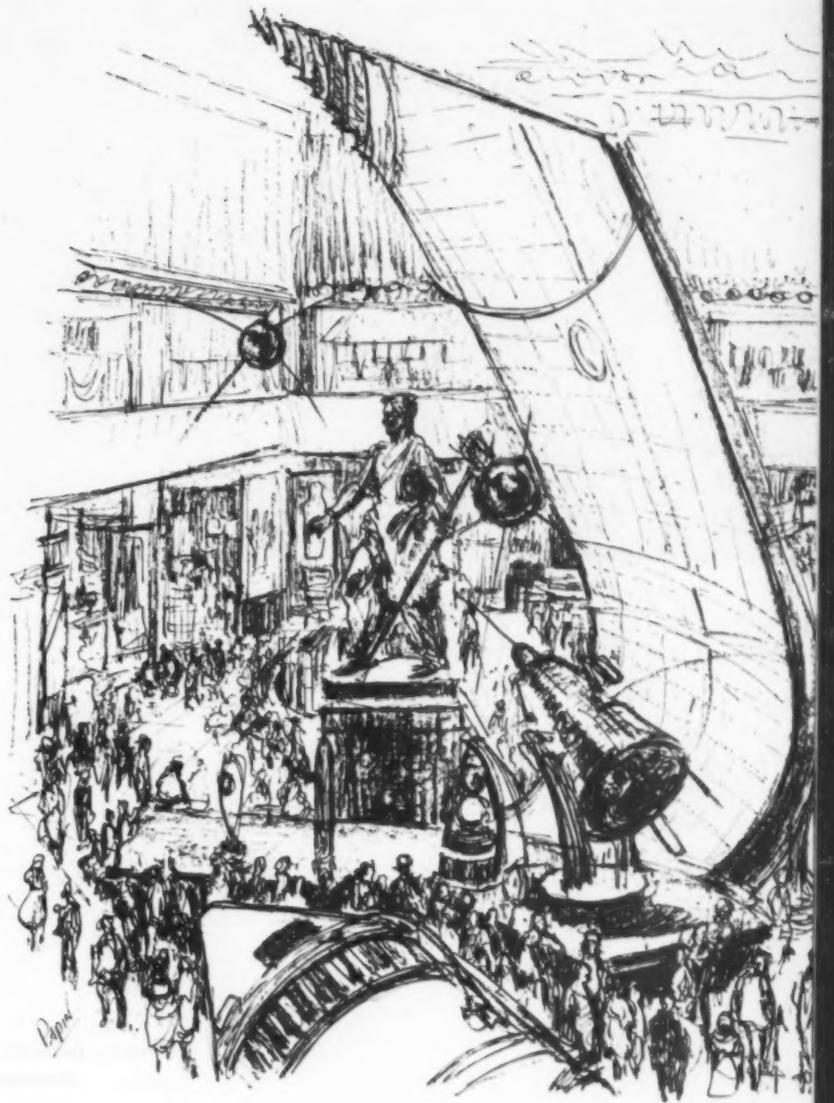
And "J. R." is moved to write this long comment which perhaps pleads more eloquently for exchanges of exhibitions, artists, scientists, ideas and opinions than any we can make. "After looking at your wonderful exhibit I wish that all the people in our country could see it as well as all people in the rest of the world, for I have come to realize and understand that the people in the USSR are really working to free themselves from poverty and are developing all their material and spiritual resources to lift the standard of living of all the people as a whole. I can realize now that the Soviet Union is working for peace, not only for their people but for the whole world. Hope you make this exhibit in many other countries. Forward to the brotherhood of all mankind."

PRETTY GIRLS MODELED THE LATEST SOVIET STYLES AT THE FASHION SHOW.



THE MOSCOW METRO IN MINIATURE ILLUSTRATES A CITY SUBWAY SYSTEM.





The American artist Joseph Papin is known for his vivid sketches of city life. For the past few years he has been primarily concerned with reportorial art and has attempted to depict the streets and people of the city of New York. The drawings on this page are the artist's conception of the highlights of the Soviet Exhibition at the Coliseum.

Seen through the eyes
of an AMERICAN ARTIST





The country's vacation resorts are all subsidized so that guests pay only a fraction of the cost of accommodations. Facilities for recreation and medical care make them equally attractive to people whose health needs attention and those who just want to have a rest and some fun.

HOW THEY SPEND THEIR VACATIONS

By Evnica Svetlanova

This group setting out on a hike consists of a bricklayer, engineer, weaver, machinist, student, doctor, construction worker and a professor.



THOUSANDS of sanatoriums, rest homes, resort hotels and tourist camps all over the country have always opened their doors to the multitudes in search of a good rest. Everything is at the disposal of the holiday-makers—excellent doctors and medical rooms, movies and outdoor dance halls, beaches and libraries . . . Whole armies of recreation officers devoted themselves to working out interesting routines, dolling up the parks and gardens, planning tourist excursions and hikes, thinking up different kinds of entertainment and even whole “rest evenings” for holiday-makers!

But there are a great many who do not care to tie themselves down to any sanatorium rules and regulations, who shun the beauty of

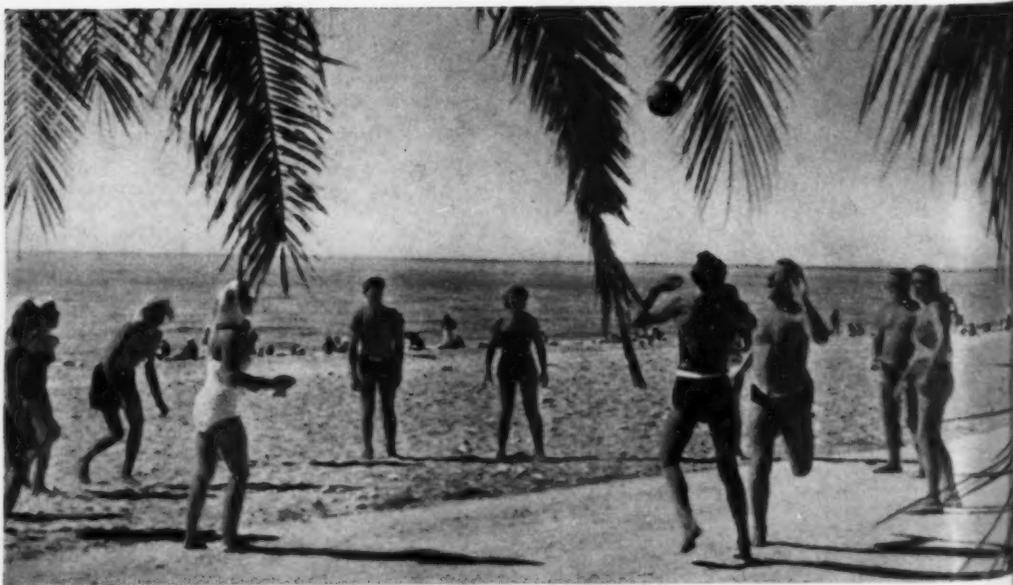
trimmed flower beds and prim graveled pathways, preferring the “wild” woods and open spaces to the studied geometric pattern of trees in fenced-off parks.

For them there are plenty of special routes and spots which can be traversed and reached by train or ship, rowboat or car, or simply by hiking.

These “free lancers” usually set off in small groups of families, and sometimes singly, with the intention of spending the holiday all alone. But it is a rare person who can stick it out by himself—and he never regrets it if he doesn't.

Summer . . . We link so many of our hopes with this happy season of the year! Nature itself helps us to shed our cares of the winter, and as for the new ones that heap up on us

In the lush subtropical climate of the Black Sea, these volleyballers take shelter in the cool shade of palm trees. They've made their own rules for the game, and the penalty for muffing the ball is a ducking. But since everybody planned to go swimming, they all figure there's not much to lose.





Proving that the eyes are the windows of the soul. This isn't trick photography but a double reflection of some of the advantages of spending a vacation at Gagra, one of several hundred resorts on the Black Sea coast, where the blue sky, green sea and golden sun combine to make a perfect setting for summer pleasures.



An invigorating dip in the surf before dinner. It's not so bad once you're in—but that first step leaves you breathless.



Gorodki takes a good eye and plenty of skill. When the bat lands, it has to displace a complex pattern of wood blocks.

A peaceful cove is an invitation to rest after an exciting afternoon of boating and water-skiing. This ideal vacation spot offers an infinite variety of ways to fill the carefree days of anyone's summer holiday.



Some anglers like the quiet of slow moving waters; others prefer the roar of rapids and a stiff battle with a fighting salmon. Both are satisfied in this vast country that abounds in rivers, lakes and streams.



HOW THEY SPEND THEIR VACATIONS

with the advent of summer—they're nothing but a joy. The girls get busy replenishing their wardrobes with new dresses and slippers of every hue and shade, while the men besiege the sportswear shops for fishing tackle, vests, broad-brimmed hats, sleeping bags and collapsible boats. The stores anticipate our desires, and their show windows display brightly painted children's pails and shovels; gaily-

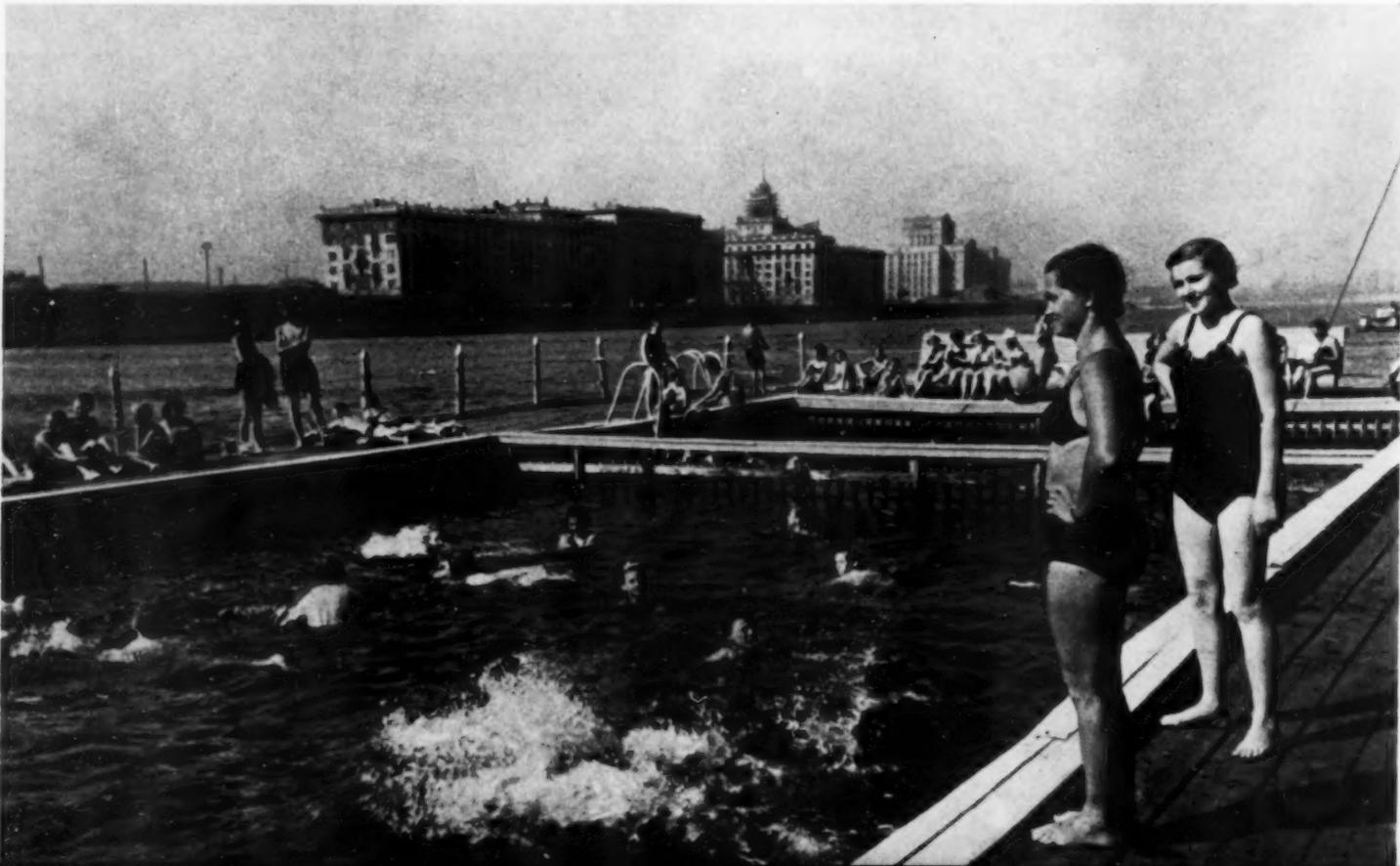


In secluded wooded areas all over the country, amateur artists find inspiration for colorful landscapes only a stone's throw away from their summer cottages.



Families who like to get away by themselves load the car, drive out to the country and set up camp. If you know how to do it, this kind of life can combine the comforts of home with the added pleasure of getting close to nature. Here's a rig that includes a garage and porch.

THERE'S GOOD SWIMMING IN THE MOSCOW RIVER, CLOSE TO HOME, AND WHEN THE WEATHER IS WARM, CITY DWELLERS DON'T WAIT FOR THEIR VACATIONS TO ENJOY IT.



printed sarafans, skirts and bathing suits; sun glasses of every shape and kind; lacy plastic basket-bags; tennis rackets, balls.

For most of us, summer vacation spells the river or the seaside. Have a look at these pictures taken in various parts of the country and you will see why.

This is the way thousands of Soviet people spend their vacations. And when they get back to their jobs in schools and laboratories, stores and institutes, factories and offices, they are rested, beautifully sun-tanned, and ready to pitch in with renewed vigor. Many an evening afterward is spent in telling friends about the people they met, the new places they saw, and—where they would like to go next summer.



Sailing is a popular sport in the Soviet Union and many people belong to boat clubs that arrange all sorts of outings and racing contests for their members. Boating has the added advantage of making it easy to reach otherwise inaccessible picnic areas and bathing beaches.



An accordion at a vacation resort is sure to find somebody who spontaneously breaks out into his favorite dance, and before long the whole group joins in.

A BICYCLE FOR AMATEURS WITH LOTS TO RECOMMEND IT: IT'S EASY TO LEARN HOW TO RIDE IT AND NOBODY HAS EVER BEEN KNOWN TO SKIN HIS KNEES TRYING.





A CAMP FOR THE CHILDREN OF THE MOSCOW ENGINEERING PLANT'S WORKERS. SIMILAR CAMPS IN THE COUNTRY ACCOMMODATE 5½ MILLION CHILDREN.

It was a wonderful summer!

A sense of responsibility is developed in the children by having them plant the flower beds and keep the grounds and sports fields in order.



EVERYWHERE in the Soviet Union you are able to see the deep concern shown for children by the Soviet state and public organizations. "The best for the children," is the slogan governing life in the Soviet Union.

Camps in the country, playgrounds and vacation spots are very popular among children, 5,600,000 of whom enjoy their summers at these places. Children's summer camps are situated in picturesque spots throughout the country, in oak groves and forests, on river banks and lake shores. In the Moscow countryside alone, there are 640 camps where 350,000 Moscow school children spend the summer.

These camps are maintained at the expense of the trade unions and state enterprises. One of them belongs to the Moscow Engineering Plant. Situated in a forest far from the road, it accommodates 1,500 children of the plant's workers. The parents and the young workers of the plant do everything possible to give the children a delightful holiday. They have at their disposal handsome buildings with airy bedrooms, spacious verandas, libraries, a young technicians' house, a stadium, and even a zoo.



THE TERRAIN SURROUNDING THE CAMP ABOUNDS IN WILD PLANTS. A RARE SPECIMEN LIKE THIS IS QUICKLY TRANSPLANTED FOR CULTIVATION IN SPECIAL FLOWER BEDS.

The campers spend part of their time helping out at nearby collective farms, for which they are paid in fruits, vegetables and other produce.



The boys thought this bear from the campers' zoo needed a bath. He didn't agree, so they got a rope and tugged. Once in, Bruno didn't mind a bit.





The boys built the boats, correct in every intricate detail, at the arts and crafts circle and are now launching them for their maiden voyage.



Each year a sports carnival is held at the camp stadium, with the best of the campers displaying their feats of skill. These are the gymnasts.

IT WAS A WONDERFUL SUMMER

ALL THE CYCLING ENTHUSIASTS SIGN UP FOR THE OBSTACLE RACE, AND IN THE NATURAL ENVIRONS OF THE CAMP THEY'RE NEVER SURE OF WHAT THEY'LL RUN INTO.





The children are able to work at the hobbies of their choice, and these photo fans are making lasting mementos of their vacation. Equipment is supplied by the camp.



There's nothing more exciting for the chess devotees than to have the champion counselor take on the best players.

A DAY THAT HAS BEEN FILLED WITH A DOZEN DIFFERENT ACTIVITIES COMES TO A QUIET END WITH SONGS AND SWAPPING OF STORIES AROUND A BONFIRE.



GORKY



AUTO PLANT

BY 1965 THE SOVIET AUTOMOBILE INDUSTRY WILL BE TURNING OUT 50 PER CENT MORE CARS, WITH THE GORKY PLANT ACCOUNTING FOR MORE THAN HALF THE INCREASE.

*By Ivan Kiselev
Director, Gorky Auto Plant
Deputy, Supreme Soviet of the
Russian Federative Republic*



THE Gorky Auto Plant is the largest in Europe to turn out passenger cars and trucks. It was built in record time—a year and a half—and celebrated its twenty-fifth anniversary two years ago, in 1957. On January 25, 1932, the first one and a half ton truck rolled off its conveyor line. Later that year the plant began production of Gaz-A passenger phaetons and in 1935 quantity production of limousines. To date, plant designers have developed 37 experimental models. More than 50 of the designs were mass-produced.

The many shops—forging, casting, body, engine, wood, instrument, power, assembly and others—employing scores of thousands of skilled workers, are now spread over a much larger area than that taken by the original plant. Besides the Gorky plant itself, there

are 700 factories in key sections of the country that manufacture or process parts that go into the finished vehicles.

The cars turned out by our designers, engineers and skilled mechanics are used widely in the Soviet Union and abroad. We sell cars to 35 countries, including England, Denmark, Finland, Greece, Holland, India, Norway, Pakistan, Sweden and Uruguay. Our Volga and Chaika passenger cars and our Gaz-52 truck won the Grand Prize at the 1958 Brussels World's Fair.

New Models

In these next seven years the output of the Soviet automobile industry is to increase by 50 per cent, and by 1965 our plant alone will be turning out more cars than all the existing

and projected plants put together. This is the major goal of Gorky's ambitious seven-year plan. We want to replace all the trucks and car models we now make with new and more economically designed cars.

Our Pobeda has already been replaced by the Volga, a more up-to-date model that compares very favorably with the world's best cars in this design and price range—the British Ford and the West German Opper-Kapitan—and has a number of improved features besides.

The Volga has wider back seats for more comfortable riding, and a reclining front seat that makes up into a bed. It has an efficient heating system and a defroster for winter driving. The 70-horsepower engine will do a maximum 80 miles an hour. Although we consider this a successful model, we are still making improvements. At present, for example, we are using tubeless tires on this car. Our daily production figures for the Volga have already topped those of the Pobeda.

At the end of 1958 we began to turn out a new seven-seater model, the Chaika, with automatic push-button shift, power steering, electric window control, full-view windshield and larger windows. The car is fitted with tubeless tires and the usual accessories, including heater and five-band radio. The 195-horsepower engine is capable of a maximum speed of 100 miles an hour.

Our trucks, too, have been redesigned. In 1960 we will begin turning out a one and a half ton truck with a four-cylinder overhead valve 85-horsepower engine and a one-ton truck with four-wheel drive.

In 1961 our plant will begin manufacturing a two and a half ton truck with an 85-horsepower six-cylinder overhead valve motor, operating, for the first time in car-building history, on the prechamber fuel spray combustion principle, which will be a decided gas saver.

In 1961-62 we will be making a truck with a collapsible cab—an overhead-type vehicle with an eight-cylinder engine.

These are only a few of the new models which will come rolling off our conveyors between now and 1965.

Higher Wages, Fewer Working Hours

How will this affect the men in the shops? Our 50 per cent output increase will be accompanied by a steady and continuous rise in wages of all plant personnel, an estimated minimum rise of 40 per cent by 1965.

As of last April our plant switched over from an eight- to a seven-hour workday with no reduction in wages. Our seven-year program calls for a still further cut in the workday. In 1964 we will begin the switchover to a five-day, 35-hour workweek, also without any cut in the general wage scales, which will be a good deal higher by then.

The plant management and the trade unions will be allocating increasingly large sums to improved health and working conditions and the prevention of accidents and occupational diseases. At present, we spend an annual 12 to 14 million rubles on these undertakings.

Our plant has two polyclinics, a hospital, a night dispensary and a first-aid station in each shop, with a total medical complement—doc-

tors, assistants and nurses—of 500. There is no charge to the workers for medical services. The funds to pay for all of this come from plant management, the trade union and the national budget. In most of the shops the workers take a break twice a day for setting-up exercises done under the supervision of physical training instructors.

A Booming City

Car-builder's City—that is what people call our section of Gorky where the auto plant is

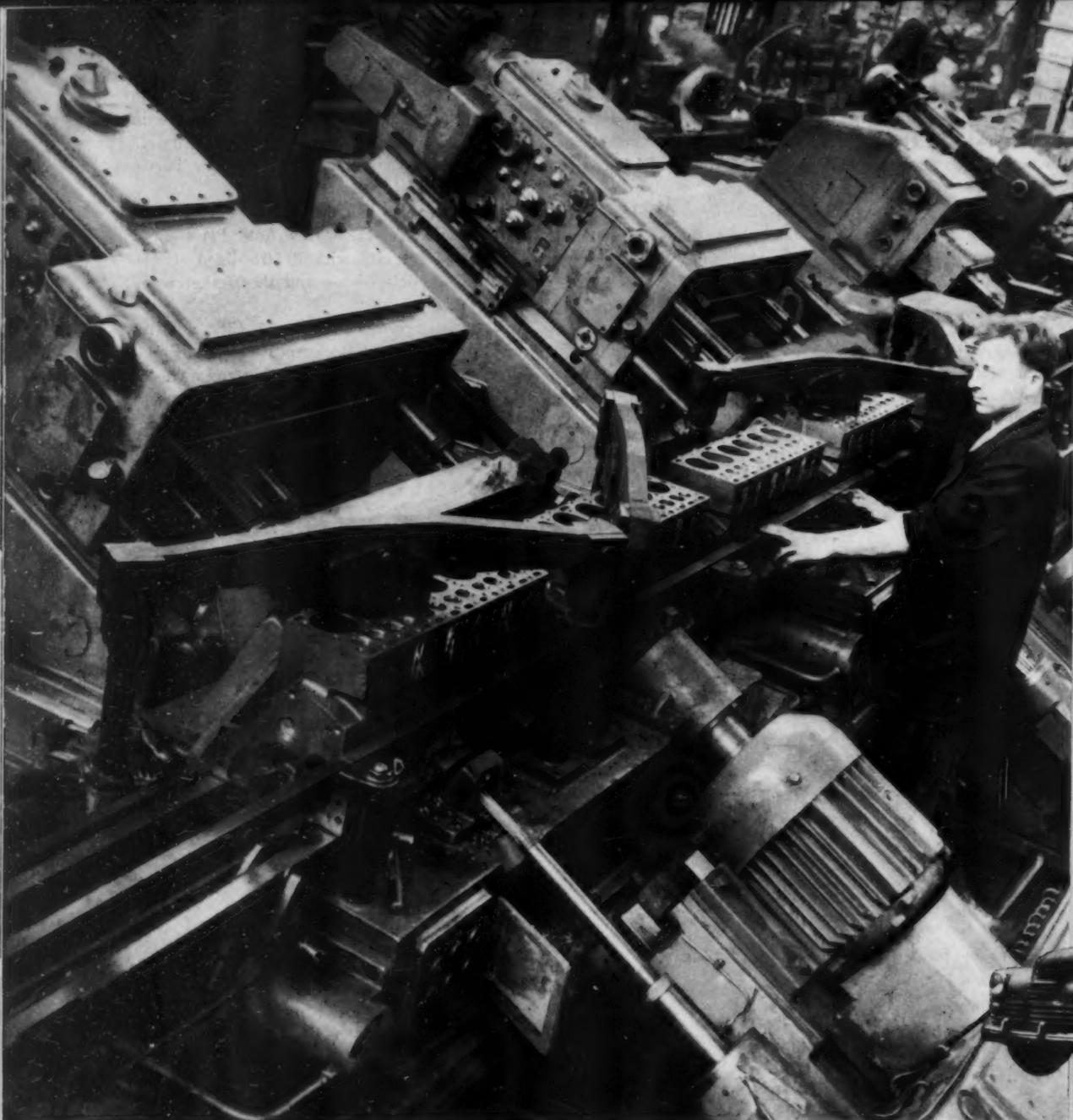
located, and the population is large enough to merit the title. As many people live in Avtozavodskii, the auto worker's district, as in Ottawa, the Canadian capital, or Berne, the capital of Switzerland.

Thirty years ago this part of town was all wasteland. As the Gorky Auto Plant grew, the pleasant city with its tree-lined streets, parks, schools, shops and theaters grew up around it.

Between our Car-builder's City and the older sections of Gorky city proper there is still a large stretch of meadowland. This is

The plant is undergoing extensive retooling. More than 100 automatic transfer lines like this one are being installed in the mechanical shops, a large number of their machine tools are being switched to high-speed cutting, and the largest wheel shop will soon be completely automated.





Automation is a decisive factor in increasing production and decreasing the workweek. Workers displaced by these automatic assembly lines are retraining for more skilled jobs at higher pay.

GORKY AUTO PLANT

gradually being narrowed by the housing construction being done from both sides. Before the seven-year plan is completed, we expect that the car-builders' new homes will extend to Gorky proper and merge with the other city districts.

We propose to better the high national

planning figures for housing construction. Instead of the estimated ten to twelve years to end the housing shortage throughout the country, we propose to end ours in a matter of seven years. We shall be putting up an annual 3,500 to 4,000 apartments. Along with this, by extending easy loans and providing technical help and building materials for private citizens, we shall encourage individuals who wish to build their own one-family cottages.

The Last Word in Automation

Our ambitious production schedule has meant changes in our equipment and methods of work.

To modify all our models within the next few years will require over-all retooling, complete reconstruction of the plant. And that is what we look forward to, the last word in ma-



1936 - M-1



1946 - POBEDA M-20



1955 - M-72





1932 - GAZ-A



1943 - GAZ-67



1950 - ZIM



1958 - CHAIKA



Vsevolod Konev, who helped build the plant, and Engineer Kupriyan Mukhin, who started to work there during the war, explain the job to Sergei Tatarin, just out of school.

chine tools that incorporate the experience accumulated by automotive and machine tool engineering at home and abroad. We expect to rebuild our plant pretty much from the ground up without interfering with production and, in the process, our men will be retrained for the new skills required by the changeover.

What is involved is the installation of some hundreds of automatic lines, some thousands of new machine tools and several miles of conveyors. State allocations of millions of rubles have been appropriated for the job.

The plant's heat and power station, forge and casting shops will be changed over from coal to gas. Molding, charge mixing, cupola charging, the knocking out and cleaning of castings will be completely automated.

Instead of the noisy steam forging presses, the forge shop will be re-equipped with prac-

tically noiseless machines. For the first time in forge practice two semi-automatic lines for stamping auto valves are operating at our plant. Almost all the processes involved in the production of valves will now be automated.

High-speed and multi-spindle presses, "mechanical arms," automatic stamping and assembly lines, mechanical transportation of waste—all these high-efficiency tools and techniques that involve little or no human effort—are to be used in the forging and stamping departments. Those of the old presses which can be modernized will be rebuilt.

Our plan calls for integrated automation of the mechanical shops, the most critical area in auto production. More than a hundred transfer lines are to be installed in these shops and a large number of their machine tools switched over to high-speed cutting. The

GORKY AUTO PLANT

plant's biggest wheel shop will be entirely automated.

Although this very comprehensive automation will eliminate a large number of jobs, not one worker will be laid off. The change-over will create new jobs in plenty. Every single worker will have the opportunity to retrain and learn a new skill at no expense to himself. As a matter of fact, not only will we be holding on to every one of the workers we have, we will be hiring new ones to make up for those who retire on pension and those who leave for other reasons. Among them will be many young workers who leave the plant for study at technical schools and colleges.

A School for Car-builders

Another name for the Gorky Auto Plant could very appropriately be the "Gorky School for Training Car-builders." More than four thousand of our people work and study at the same time. Besides the general schools, in the neighborhood of the plant there are a branch of the Polytechnical Institute, two automotive secondary schools, five evening secondary schools and five trade schools. We also provide advanced training courses for some 12-15,000 mechanics and engineers annually.

The cost of this training is met by the gov-

The Gorky plant has a reputation for training excellent workers who have no difficulty qualifying for skilled jobs in any auto plant in the country.



ernment. Students pay no tuition fees of any kind. Every worker who attends a branch of the institute or a special technical school is entitled to two ten-day paid leaves for taking examinations—this is besides his regular vacation. As a rule, men and women who study do not work the late shifts.

At the plant we have whole families who study while holding down jobs. Genrikh Skazhev was graduated from secondary school in 1949 and was called for military service shortly thereafter. When he left the army he took a job at the plant. At first he worked at a lathe and then transferred to the malleable iron casting department. Shortly afterward,



Millions of rubles have been allocated in the state budget for retooling the plant for the production of economical, up-to-date models. The Volga, at the left, has already replaced the more expensive Pobeda. The new passenger cars have automatic transmission, power steering and tubeless tires. Newly designed trucks will begin rolling off Gorky conveyors in 1960.

he enrolled in the evening division of the Polytechnical Institute.

Skazhev has a family of four—himself, his wife Lyudmila, three-year-old Yelena and two-year-old Larisa. Lyudmila, a graduate of an agricultural institute, works for the Public Gardens Department. She is thinking of moving into another field and is preparing for it at the correspondence division of the Moscow Institute for Economic Planning.

The other two students in the Skazhev family are Larisa and Yelena, both at nursery school.

The two elder Skazhev students get three paid annual leaves from their jobs—their reg-

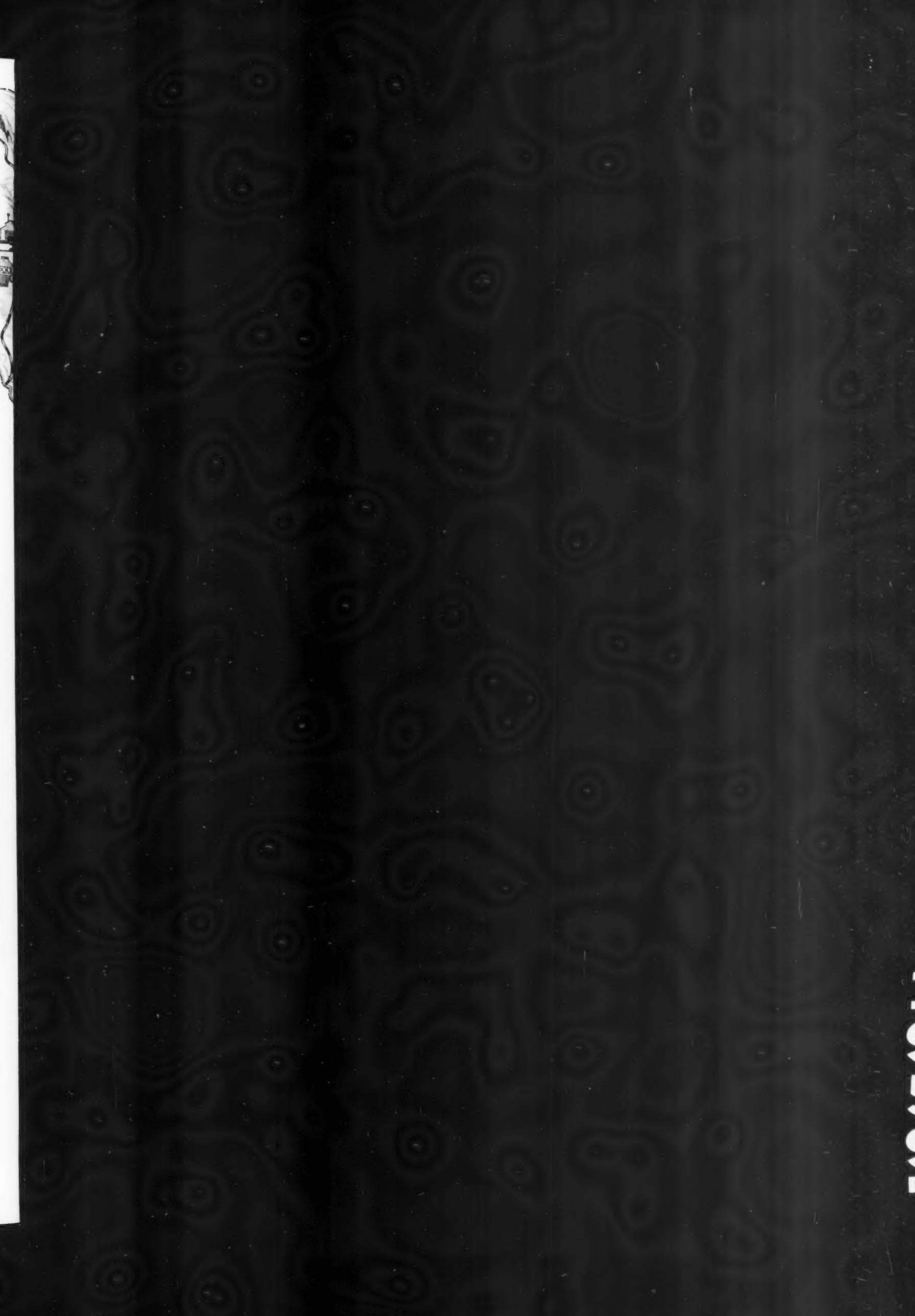
ular 24-day vacation and two 10-day leaves to prepare for and take their examinations. After they complete their studies, the couple will work at the plant—he as a foundry engineer, she as an economist.

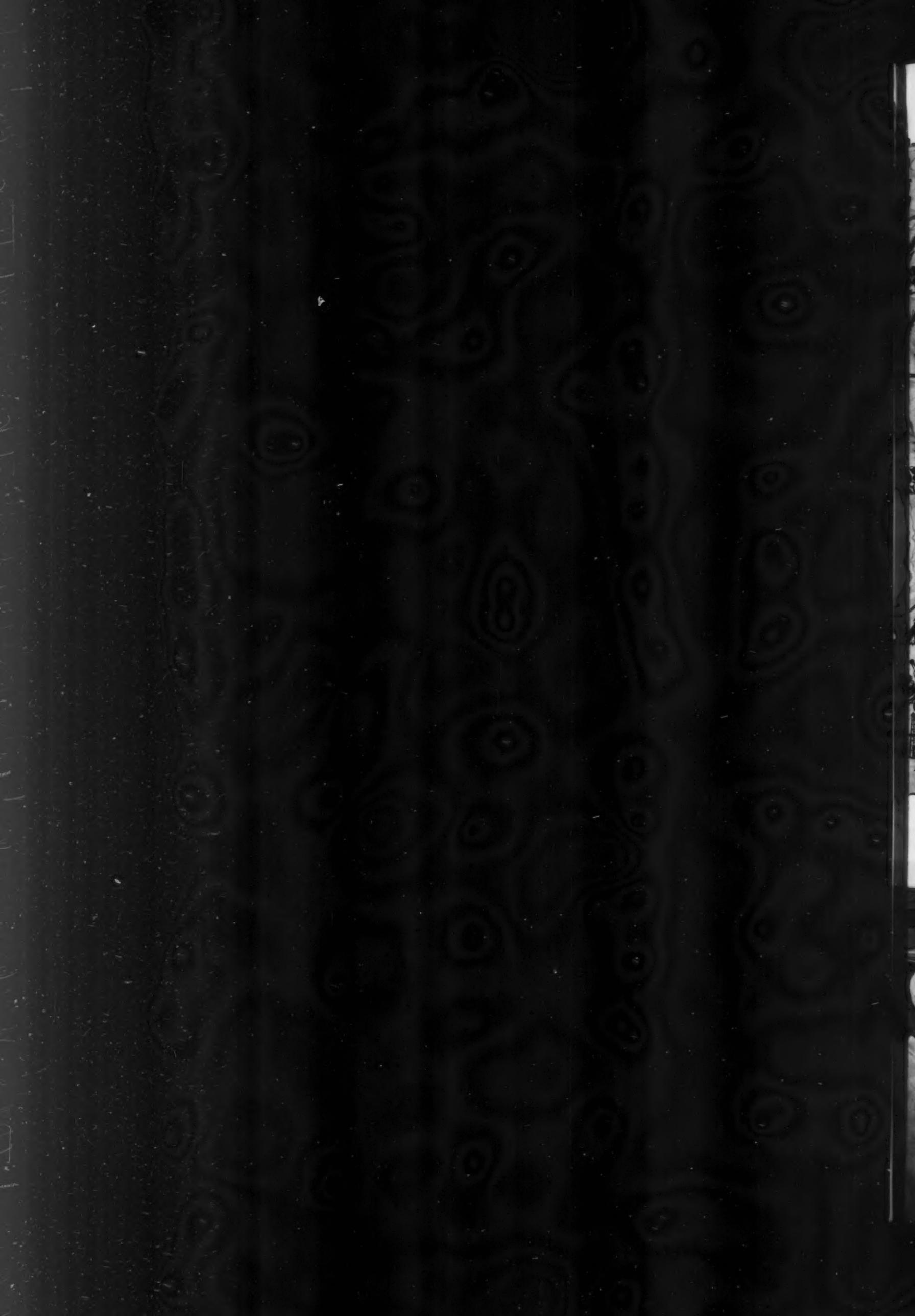
Every facility at the plant is available to those who wish to do advanced study. Engineers are free to use the plant laboratories and equipment and the plant's files of statistics for research studies. There are people who have been trained at Gorky in every auto plant in the country. From our plant have come engineers who are now national leaders—trade union officials, heads of economic councils and ministers of state.

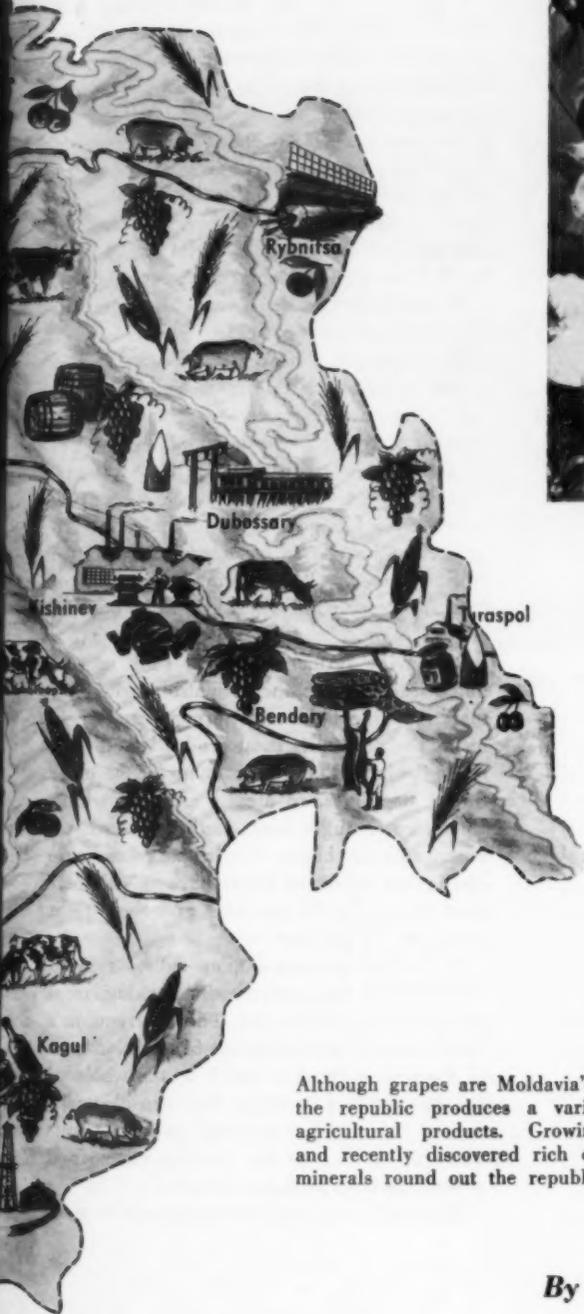
The Moldavian Republic



MOLDAVIA'S VINEYARDS COVER 500,000 ACRES OF FERTILE HILLS AND VALLEYS IN THE SOUTHWESTERN PART OF THE COUNTRY, A THIRD OF THE TOTAL GRAPE ACREAGE.







Although grapes are Moldavia's major crop, the republic produces a variety of other agricultural products. Growing industries and recently discovered rich oil fields and minerals round out the republic's economy.



To mark the republic's contributions to the nation N. S. Khrushchev arrives to present it with the Order of Lenin on behalf of the USSR Supreme Soviet.

With illiteracy a thing of the past, Moldavia has trained people in all the professions. Alexander Dobromyslov and Ivan Kurlov are eye specialists.



A collective farm board plans its construction program for the next 7 years.



By Iakim Grosul

President of the Moldavian Branch of the USSR Academy of Sciences

RIVERS have determined the history of many nations whose people settled on their shores centuries ago. The Volga, Dnieper, Niemen, Seine and Thames are part and parcel of Russian, Ukrainian, Lithuanian, French and English economic and social history.

So, too, for the Moldavian people who live on both banks of the Dniester. The accident imposed upon them by geography resulted in telling consequences. Until 1940 the river cut the nation in half. In the early years after the 1917 Socialist Revolution a Moldavian Soviet Republic was formed on the left bank, while the Moldavian villages and towns on the right were held by the Rumanian monarchy which had occupied the territory after the First World War.

On August 2, 1940, Moldavians on both banks of the Dniester united in a sovereign Soviet Socialist Republic and, joined the USSR, the Union of Soviet Socialist Republics.

During the war Moldavians fought to defend the nation side by side with Russians, Georgians, Ukrainians, Lithuanians and all the other peoples who inhabit the vast multinational country.

Four years of war left deep scars. Towns and villages were pillaged and burnt, all industrial regions were leveled, thousands upon thousands of young Moldavians lost their lives.

In 1944, when the Soviet Army liberated Moldavia from Nazi occupation, the people set about rebuilding. Today Moldavia's flourishing industry and agriculture have reached a level higher than before the war. As industries were rebuilt and expanded, the cities around them were modernized and grew far beyond their old boundaries. That was the case with the capital Kishinev, industrial center of the republic, and with Beltsy, Tiraspol, Bendery, Soroki, Orgeyev, Kagul and many other urban communities.

The Moldavian Republic

Two Million Tons of Fruit

A glance at the map of our republic will show that its frontiers form the rough outline of a cluster of grapes, appropriately symbolic, for Moldavia is indeed a land of vineyards. The arms of our republic bear a cluster of grapes and a sheaf of wheat. Our vineyards spread like green sea waves over 500,000 acres of rolling valleys and hills. This is about a third of the country's total grape acreage. Just as Siberia suggests furs and lumber and the Donbas coal, so Moldavia suggests grapes.

During these next seven years Moldavia will be developed as the Soviet Union's major fruit, grape and wine region. Production of grapes is scheduled to triple. Collective and state farms are in process of planting some 450,000 acres of vineyards and 300,000 acres of orchards for fruits, berries and walnuts. Fruit-bearing trees and berry patches will be grown on a full quarter of Moldavia's territory. The harvest is expected to reach two million tons by 1965, about 22 pounds of fruit for every man, woman and child in the Soviet Union.

Moldavian farmers not only rank as top-notch fruit growers, they are also much better than middling field crop farmers and stockmen. The per-capita meat production of Moldavia is higher than that of many of the other Soviet Republics, so are its crops of winter wheat, corn, sugar beet, sunflower seed, tobacco and soy beans. In the past five years Moldavian collective farms have raised their total output by 75 per cent and their meat output by 38 per cent.

Moldavia's seven-year plan calls for rapid expansion of its canning, wine making, meat and dairy industries. By 1965 the republic's canneries will be turning out 500 million cans of food—five times as much as the whole of Russia produced in 1913. The plan also calls for 12 dairy and three meat packing plants and 100 new wineries, among other food processing enterprises to be built.

Moldavia was long held to be poor in min-



Street after street of new apartment houses flanking broad tree-lined avenues in Kishinev are part of the country-wide construction plan to provide new housing for 75 million people.

Weavers of the Bendery Artificial Silk Mill. New factories of all kinds are being built.





ONE MAN OPERATES THE DUBOSSARY HYDROPOWER PLANT BY REMOTE CONTROL. IT SUPPLIES ELECTRICITY TO THE CITIES OF KISHINEV, TIRASPOL, ORGEYEV AND BENDERY.

erals, aside from such building materials as limestone, clay, marl, sandstone and gypsum. Geologists, however, have found phosphorites in the North, natural gas in the Prut basin, lignites in the South, and in the summer of 1957 they discovered rich oil fields.

Kishinev is our largest industrial center and accounts for almost one-third of the republic's total output of manufactured goods. Beltsy ranks second. The South at present has few industries, but that picture will be changed by the dozens of factories to be built in the next seven years.

Where industry expands, so does power—and the other way round. The Tiraspol

thermal power station was built before the war to service the canning factories and the irrigation systems in the region. It was inadequate to meet growing power needs. The Dubossary hydropower station was built and in 1954 it began supplying electricity to the cities and collective farms of several districts. This hydropower plant and its substations are run by remote control from Kishinev by only one operator.

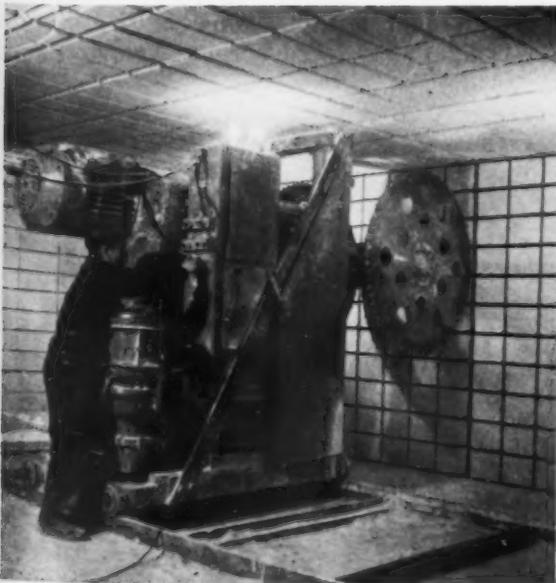
Workers Needed

There is, of course, no unemployment in Moldavia, nor is there any in the country

generally. The perennial problem of Moldavian industry is more help, rather than less. There is no factory of any size that does not offer free courses for workers to train for the many new skills created by automation. There are new schools, nurseries, theaters and blocks of new apartment houses in every city.

The illiteracy that was so general before the Socialist Revolution has been altogether eliminated. Under the czar there were only five secondary schools in the whole of what is now Moldavia, and not a single college. Now seven years of schooling is compulsory, and there are 350 secondary schools and eight colleges, including Kishinev University.

Patterns are created deep in the earth as blocks of shell rock, a valuable building material, are cut.



In a Beltsy wine and cognac factory. Food processing is a major industry in Moldavia.



A weaving mill in Kishinev, the capital and industrial center of the republic.



The Moldavian Republic

Moldavia has been training its own professional people. Working now are 26,000 native schoolteachers and physicians, 10,000 engineers and technicians. In the past four years alone 1,500 trained agronomists and 728 zootechnicians have gone to work at the republic's collective farms.

Moldavia is the seat of 29 research institutions and a branch of the USSR Academy of Sciences. Fifteen scientific journals are published in the republic. The sons and daughters of Moldavian workers and farmers who still remember the poverty and ignorance of the old days now do significant research in nuclear physics, biochemistry and other sciences; they perform the most delicate surgical operations; they write novels and plays and compose music for audiences of millions; they manage farms and factories and government ministries.

A Sovereign State

Moldavia is a sovereign Soviet Republic with its own Constitution and its own parliament, the Supreme Soviet, elected every fourth year. The republic's economic and cultural affairs are directed by the Moldavian Council of Ministers. Moldavian Economic Councils administer industry of republic-wide importance while local industry is directed by municipal or town Soviets.

As a constituent republic Moldavia is represented in the two houses of the national parliament by 34 deputies—nine in the Soviet of the Union and 25 in the Soviet of Nationalities. Together with the deputies of all the other fraternal republics the Moldavian representatives determine the domestic and foreign policy of the Soviet Union.



The village sanitation inspector stops to chat with a collective farmer. The increase in agricultural output is reflected in the rapidly rising living standards in the countryside.



Watering collective farm orchards. By 1965 the fruit harvest is expected to reach two million tons—about 22 pounds for each of the country's citizens.

A NEW TOWN HAS GROWN UP AROUND THE DUBOSSARY HYDROELECTRIC STATION, WITH GOOD HOUSING, SERVICE AND CULTURAL FACILITIES FOR ITS INHABITANTS.





These young girls, the children of shepherds, never experienced the poverty that once blighted the lives of the Gagauz.



Alongside the new roads which stretch to outlying regions of Moldavia and provide easy access to the cities stand the carefully preserved old Gagauz monuments.

THE FATE OF A SMALL NATIONALITY

OLIVE-SKINNED men wearing black hats and women muffled to the chin in varicolored scarves, speaking a language unlike the people around them, live in the southern part of Moldavia. They are Gagauzes, a people of Turkic origin who migrated from Central Asia ages ago to settle on the shores of the Black Sea.

The lot of this small nationality was a hard one under the czars. Its people were second-class citizens with no political rights, subjected to the most merciless kind of exploitation. Nor did their lives change to any degree after World War I when this part of Moldavia was occupied by monarchist Rumania. If anything, conditions were worse. Rumanian officialdom considered Moldavia a colony, to be sucked dry. No matter how much a Gagauz toiled away over his bit of land, there was not enough left over to feed his family.

It is only in Soviet times that the Gagauzes have become a free and independent people, the equal of any other. They themselves govern their villages and manage collective and state farms and industrial enterprises.

The farms which the Gagauzes work are considered the best in the republic. This is especially true of their livestock. In 1958 the Gagauz collective farms in the Chadyr-Lunga District produced more than eight tons of meat and 21 tons of milk per 250 acres of farmland, almost four times that for 1953. An especially high record was set by the Kirov Collective Farm with a yield of 11 tons of meat per 250 acres of land. With such bumper crops, the farmers of the Chadyr-Lunga region have pledged to reach their high seven-year plan target figures for meat in two years and that for milk in three years.

A Cultural Renaissance

A written language was created for the Gagauzes by their own linguists—men like poet-schoolteacher Nikolai Tanasoglo—with

the assistance of eminent language scholars from Moscow, Leningrad, Tashkent and Kishinev. Now Gagauz children are taught in the native tongue and school textbooks, scientific periodicals and fiction are published in the Gagauz language.

Raisa Kulaskiz, a Gagauz teacher, was one of the delegates at a recent national Congress of Trade Unions held in Moscow. "My native region," she said in her report to the assembly, "has changed radically during the Soviet period. We now have eight secondary schools, eleven seven-year schools, and three elementary schools. Nearly 400 teachers are giving instruction in the native tongue."

The teachers' training schools in Moldavia have founded special divisions to train Gagauz teachers. Gagauz doctors, engineers, agronomists and scientists are doing important research at the Moldavian branch of the USSR Academy of Sciences.

For the first time in the long history of this small nationality there is a newspaper in the native language. The first issue was published two years ago in Kishinev. Besides news, the paper carries stories, sketches and poems by Gagauz writers. There is also a renaissance of Gagauz music and the graceful ancient dances, with flourishing amateur song and dance groups in all the villages.

In 1958 Ivan Topchu, chairman of the Kirov Collective Farm, was elected by the people of southern Moldavia as their deputy to the USSR Supreme Soviet. Ballots were cast in his favor not only by people of his own nationality, but by Moldavians, Bulgarians, Ukrainians and members of other nationalities who live in his election district. His election was more than a personal tribute; it was a tribute paid to a small but indomitable people who have leaped the centuries in the last decade.

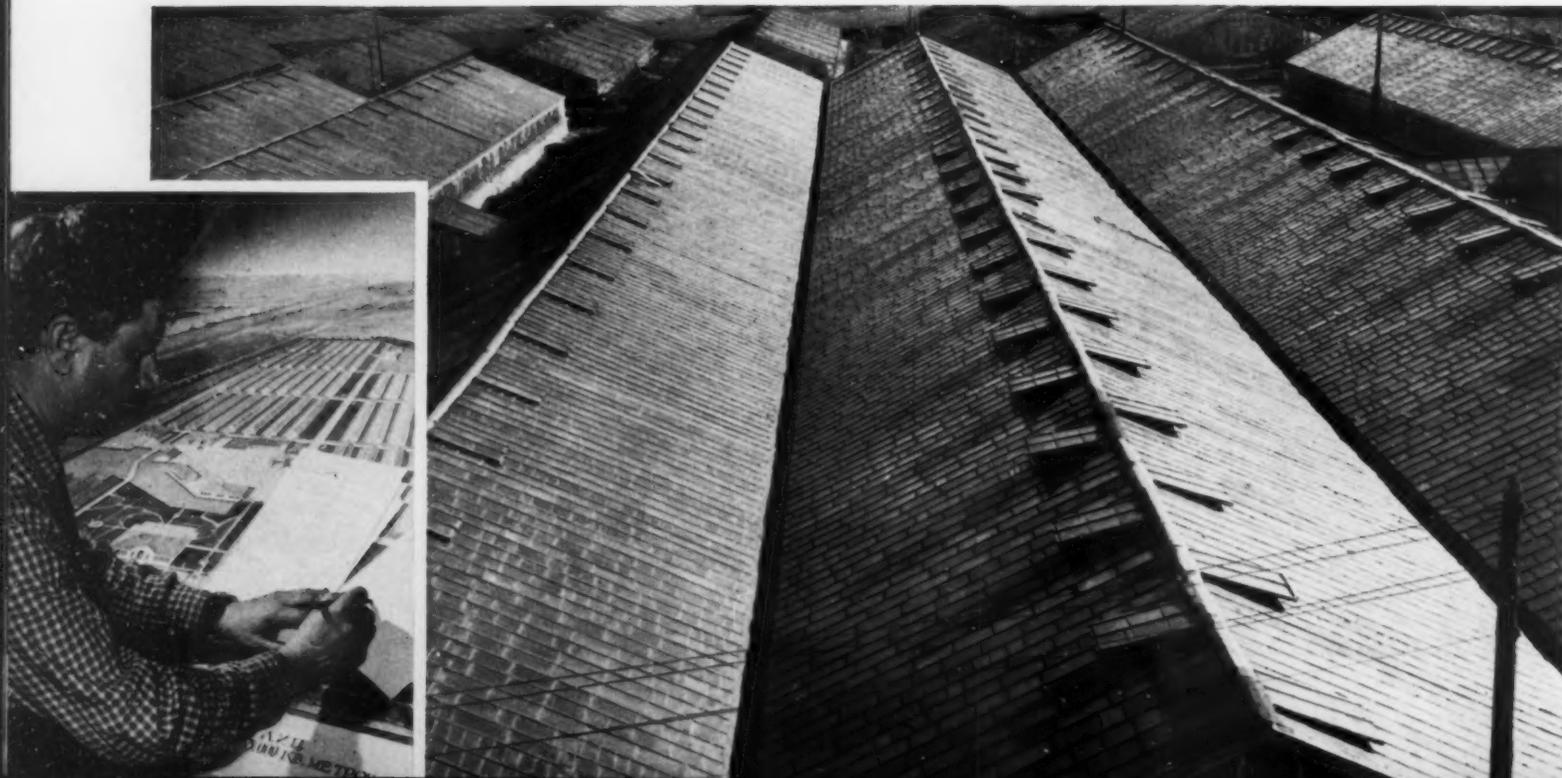
Farmers of Chadyr-Lunga District tell a Gagauz deputy to the USSR Supreme Soviet how they propose to achieve their 7-year meat target in two years and milk target in three.





THE GORKY STATE FARM'S 51,000 COLD FRAMES AND 25 ACRES OF HOTHOUSES PROVIDE SCIENTIFICALLY CONTROLLED GROWING CONDITIONS THE YEAR ROUND.

ENGINEER GEORGI PERVUSHIN CHECKS THE DRAWINGS OF HOTHOUSES NOW BEING BUILT WHICH WILL GIVE THE FARM AN ADDITIONAL NINE ACRES OF CROP SPACE.



FRESH VEGETABLES FOR MOSCOW

By Yakov Mikhailov



WHERE the factory district in suburban Moscow ends, the vegetable gardens and hothouses of the Gorky State Farm begin. Thirty years ago most of this was wasteland, an unproductive borderline between the city and the collective farms.

The soil was poor. To change its organic structure meant adding large quantities of organic and mineral fertilizer, a costly process that the very recently founded collective farms were then too young to undertake.

The growing Moscow needed vegetables, so the government took over the soil reconstruction job. A number of state farms—one of them the Gorky—were set up. The land was enriched with thousands upon thousands of tons of fertilizer, the most productive growing methods were used, and the state farms grew very quickly into large-scale, machine operated agricultural enterprises. They have been supplying the city markets with fresh vegetables for years now.

At first the Gorky farm grew its crops in open fields. But the Moscow winters are long and severe and the growing season is short. The farm, therefore, built cold frames and hothouses to stretch the growing season. Today, 51,000 cold frames and 25 acres of hot-house area supply fresh vegetables the year round. By 1965 the farm expects to increase its hothouse area by three and a half times.

Since its crops are not dependent on the vagaries of weather and season, the Gorky farm schedules its production with almost the certainty of an industrial plant. The growing period is adjusted to each crop, ripening dates

forecast and picking systematized to meet the Moscow housewife's seasonal requirements.

The Vitamin Man

Seven mornings a week the farm's big trucks, packed full of crates and overflowing baskets of ripe tomatoes, cucumbers, radishes, carrots, onions, race through the streets of the awakening city. The market people in their white overalls waiting for their deliveries call the truck drivers "vitamin men."

One of them is the old-timer Alexei Starostin, a big-muscled man of 45. When he came from his native town of Saratov on the Volga twenty-seven years ago to work at the Gorky farm, the reclamation project was still in its early stages. He was one of the group of farm hands and soil experts who turned barren land into rich truck farm.

Besides taking his turn at delivery, Starostin does tractor repair and maintenance. He is a good farmer and a first-class mechanic.

Starostin is a long way removed from the farmhand of prerevolutionary Russia who tramped the countryside looking for seasonal work that barely kept body and soul together. He has a permanent year-round job at the state farm and gets a regular wage.

In 1955 Starostin moved into his new apartment in one of the three-story brick houses built by the government. Rent averages 4-5 per cent of family income.

Anastasia, his wife, also works on the farm. They have three children—16-year-old Alexander and 12-year-old Tatiana, both at school,

MOSCOW MARKETS HAVE NO SEASONAL SHORTAGES.





MOST OF THE YOUNG PEOPLE AT THE FARM ARE COMBINING WORK WITH STUDY.



THE STATE FARM PLANS ITS PRODUCTION SCHEDULE MUCH LIKE ANY FACTORY.

FRESH VEGETABLES FOR MOSCOW

MECHANIC PYOTR KRASNIKOV IS IN CHARGE OF KEEPING THE MACHINERY IN GOOD WORKING ORDER.



and 6-year-old Elena, at the farm kindergarten.

Last year the Starostins earned a total of 26,000 rubles. That was cash income. Figure the very low rent, free medical service, free schooling, very low cost for vacations and other welfare benefits and the yearly income actually runs as much as 50 per cent higher.

Like an Industrial Plant

The organization of the farm is much like that of an industrial plant. The chief agronomist is Mikhail Kutumov, graduate of the Timiryazev Agricultural Academy. Besides him, there are nine other farm experts and two engineers.

Each of the farm's three departments is headed by a manager, assisted by team and group leaders—senior farm workers in charge of the specialized groups. At one time the farmhands worked at a variety of jobs—they did what needed doing at a particular time. Now each of the farmhands works pretty much at his own specialty—field hand, hot-house worker, machine operator, laboratory assistant, truck driver.

This kind of job specialization is more productive than the old jack-of-all-farm-trades method and is now in practice in all suburban state truck farms. Vegetable farms like Gorky have been built close to many of the big cities—Leningrad, Sverdlovsk in the Urals, Kemerovo in Siberia, Baku in Azerbaijan, Tashkent in Uzbekistan and Kiev in the Ukraine.

The Ukraine has about 200 such state vegetable farms. They supply Kiev, Dnepropetrovsk, Stalino, Kharkov, Lugansk and other cities with their daily supplies.

Nowadays most of the work on the Gorky farm is done by machine, and men like tractor-mechanic and operator Starostin are key workers. The farm has a big machine shop where its fleet of tractors and trucks and



NEW HOUSING FOR GORKY STATE FARM WORKERS.



ALEXEI STAROSTIN HAS BEEN WORKING AT THE FARM FOR 27 YEARS.



HIS WIFE AND ONE OF THEIR 3 CHILDREN.

its hundreds of farm tools—mechanical drills, planters, cultivators, spreaders—are serviced. It has a sprinkler system which is now being extended and before long will be irrigating the entire crop area.

Scientific farming is the practice on all state farms. Every field of the Gorky farm is carefully and systematically analyzed by soil experts for best crop rotation procedure, kind and quantity of fertilizer and cultivation methods. The expected yield of each acre is fitted

into the farm's annual production program.

All the workers on the farm are involved in managing the big agricultural enterprise. They elect the standing production conference—an actively functioning group to which the chief agronomist, department managers and chief engineer submit progress reports. It is the function of the conference to make suggestions on the farm's production activity and to criticize the work of the administration.

The farmhands enjoy the same rights as do

workers in an industrial plant. They have their trade union organization which annually concludes a collective agreement with the farm management.

The agreement defines the kind and quantity of crops to be grown, the quotas, wage scales and bonuses for each of the skills, hours and working conditions, new housing to be provided by the farm, increases in benefits and other matters that relate to the growth of the farm and the welfare of its workers.

HIS ELDER DAUGHTER, WHO IS IN THE FOURTH GRADE, IS STUDYING MUSIC.



HIS SON IS A PHOTOGRAPHY FAN AND ALEXEI DOESN'T STINT ON EQUIPMENT.



NINE

Ogonyok is one of the most popular magazines in the Soviet Union, with a circulation of a million and a half copies. It publishes illustrated articles and stories of life in the USSR. This article appeared originally in *Ogonyok*.

ONE OF our issues nine years ago showed this photo of second-year students listening to a physiology lecture at the Yerevan Medical Institute in the capital of Armenia. We came across the photo again very recently and thought it would interest our readers if we tried to find out what had happened to these students since, what they were doing now, and with what success.

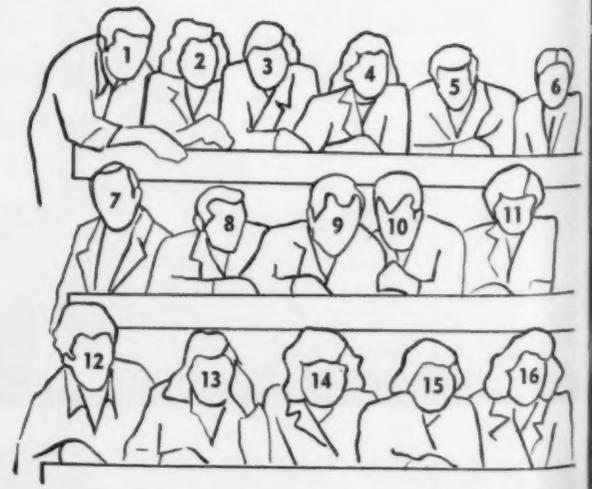
So we called in at the Yerevan Medical Institute again to see what answers we could get to these questions. First, there was the problem of identifying the students in the photo, getting their names and present whereabouts. We thought it barely possible that one of the students might be working at the Institute and asked. The answer we got after a close look at the photo was, "I don't recognize any of them," and then, after another long look, "although this one," pointing to the face we show here in the circle, "does look as if it might be our Eleanora."

And luckily it was their Eleanora—Eleanora Barsegyan, who heads the laboratory of topographical anatomy and operative surgery. When we met her she recalled her college mates without any trouble and rattled off one name after another.

Well, here was problem number one solved—we now knew the names. But here was problem number two. With some 90 faces in the photo, we would need ten times our staff to locate their owners and a half dozen writers to report our findings. And we had space available for only one modest article. We therefore had to take Draconian measures and mercilessly crop our photo to meet space limitations. Alas, we had to crop our friend Eleanora Barsegyan, too, and that didn't seem fair. But what can a magazine publisher do when a page won't stretch? However, we made her a promise. Then we started on our search. This is what we discovered about the 16 students marked off in our photo:

1-2. Stepan Grigoryan and Anjik Akopyan had been friends from childhood. They attended the same secondary school in Kirovakan, were students in the same class at the Medical Institute and sat side by side at lectures. In her fifth year at the medical school, Anjik Akopyan's name suddenly disappeared from the list of students. Dropped out of school? No. Anjik had merely assumed another name, that of her husband Grigoryan.

Anjik became a pediatrician and Stepan a roentgenologist. But that seems to be their only major point of difference. Here they are discussing an X-ray plate. They live and work in their native town, Kirovakan.





YEARS



3. Leninakan, where we met Asmik Karapetyan, is the second largest city in Armenia and a large industrial center. We found Asmik in one of the shops of a stocking factory. She has not changed her profession. She works as a physician at the clinic attached to the stocking factory and textile mill. Her job is to do more than take care of textile workers who fall ill; she sees to it that they stay healthy.



4. Rosa Markaryan from childhood wanted to become a doctor. After finishing the seven-year school she entered a medical secondary school. While she was still a student, she began working as a midwife. After graduating, she entered the Medical Institute. Her career as a pediatrician was recently interrupted, temporarily, by the birth of a daughter, Angela.

5. About Levon Saakyan's whereabouts we got the most conflicting information. At the Institute we were told he was working somewhere in the Far North, in Yakutia. Then we were given to understand that he was working near Moscow. Finally we traced him to the Tashkent vicinity. The photograph unveils the mystery of Levon's frequent changes of address. As you can see, he is an army doctor.



6-7. These two college mates of Levon Saakyan's also seemed to be on the go all the time. When Mariam Vaskanyan graduated from the Institute she left for Tbilisi, capital of Georgia, and at the time we were looking for her, she was on her way to Leninakan.

Grant Chivijyan had worked as a doctor in Lithuania but was moving to Sukhumi. We were therefore unable to photograph either one of them. But we did locate these three friends of Grant's sitting beside him and we are very glad to introduce them to you.

8. This is Zhirair Makasyan, a young man from Greece. In 1947 he came to Yerevan where he found a second home, friends and work he was happy to do. He is now a doctor at the Korovakan Maternity Hospital. He had just gone off duty when we called on him. It had been a rather busy night for he had attended at the birth of ten new Soviet citizens.



LATER

9. Akop Vaskanyan comes from the Syrian town of Khaleb. In 1920 his father, Pogos Vaskanyan, a jeweler, fled from Turkey to asylum in Syria. Young Akop continued his wanderings until he reached Armenia. Here he stayed and became a pediatrician. It was here too that he met Julietta who later became his wife. She studied biology at the University of Yerevan and is now doing graduate work at the Academy of Sciences. The patient is Pogos Vaskanyan, Akop's young son.

NINE YEARS LATER

10. Ara Bagdoyan, a friend of Zhirair Makasyan, is head physician at a polyclinic. This cheery doctor, who was born in Syria, has settled in Armenia and is a well-loved resident of Kirovakan.



11. We had quite a time getting to Silva Mikayelyan. First we traveled the highway, then a long winding road and finally we made our way across mountain paths to reach the little village of Agin. When we finally did get there, we learned that Silva, chief physician of the village medical district, had left that day for Yerevan with a very sick patient. What were we to do? Silva's colleagues helped us out with a lot of information about this young village doctor. With her colleagues and the collective farmers she got a new hospital built and has been working there for the past four years.



12. Ashot Mirzoyan is another village doctor but we were more fortunate with him—we almost found him at home. To be more specific, he was already seated on his motorcycle, ready to take off for a distant Kurd village. Had we come a few minutes later, we would have had to be satisfied with whatever information we could get from his wife, Shogik, who is also a doctor at the village hospital.

We learned from Ashot that for the collective farmers in this fertile valley of Ararat the name Mirzoyan is synonymous with the word "doctor." There are three other doctors in the family.



13. The woman in the Turkmenian national costume in this photo (at the left) is Goar Barsegyan. We had to be satisfied with an account of Goar's present activities supplied by her mother and father, who were very happy to talk about the daughter they're so proud of. They told us that Goar was married to a geologist and that she has been working in Turkmenia for four years as head physician of the hospital in Charshangu village, high in the mountains.

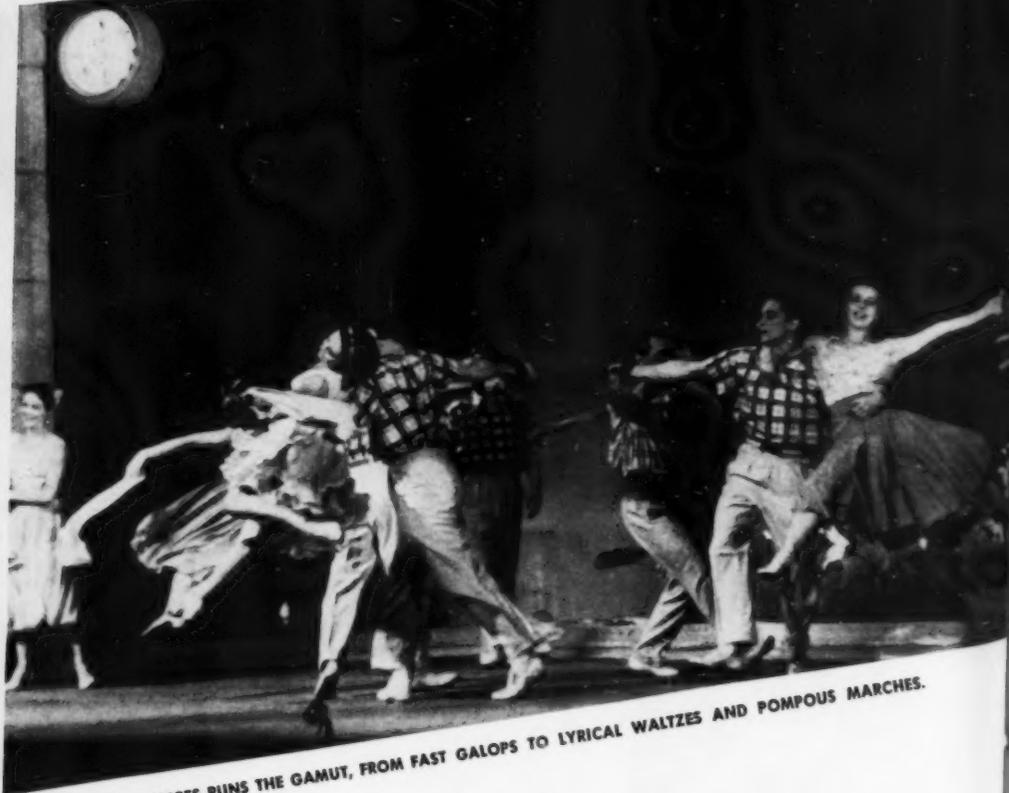


14-15-16. These three Young Communist League members and close friends Angela Agameryan, Marietta Sarkisyan and Lilik Nakhshkaryan, always sat together at Institute lectures. Here they are still side by side. Angela and Marietta are obstetricians. Lilik works at the Yerevan Tuberculosis Clinic.

17. Finally, this photo we took to keep our promise to Eleanora Barsegyan who helped start us on our search. Eleanora has been working with second-year students for the past year. And here, as in 1950, the subject of our picture is students and an experimental dog. But the person now leading the study is that very same girl who, nine years before, was herself a student at the Institute.



MOSCOW, CHERYOMUSHKI



NIKOLAI RUBAN PLAYS BORIS KORETSKY, THE MALE LEAD. MUSIC FOR THE DANCES RUNS THE GAMUT, FROM FAST GALOPS TO LYRICAL WALTZES AND POMPOUS MARCHES.

SHOSTAKOVICH COMPOSES AN OPERETTA

By Grigori Shneyerson

DMITRI Shostakovich and operetta! An incongruous combination? Not when you recall the rippling scherzos of his first and fifth symphonies, the buoyant finales of the sixth and ninth, the subtle irony of many of his chamber scores.

Shostakovich's first operetta, *Moscow, Cheryomushki*, has just been produced by the Moscow Operetta Theater to the thunderous delight of audience, critics and musicians alike.

"Since I am so fond of operetta, this gay and vivacious form, and have high regard for the work of composers like Offenbach, Lecocq, Johann Strauss, Kalman and Legare, I should like my first operetta to be worthy of the name and win the favor of our wonderful Soviet audiences," said the composer. And so it unquestionably did and will be doing for a very long time to come.

Moscow, Cheryomushki is a lively musical revue. Theme of the effervescent libretto is

housing and love. *Cheryomushki* is a great newly-built residential district in southwest Moscow. Hundreds of thousands of Muscovites have already moved into completed apartment buildings and as many are moving into new ones finished each year.

Vladimir Mass, one of the co-authors, says, "When Mikhail Chervinsky and I read our libretto to Shostakovich, he was immediately taken with it. In ten days he finished a dozen musical numbers and sent them off to the theater."

And so Muscovites are now crowding to this rollicking lyrical, satirical musical revue of Moscow housing and housewarmings. The characters are tenants—legitimate and phony; apartment superintendents—upright and crooked; and, of course, lovers.

The plot moves from the Museum of History where the hero and heroine first meet to the yard of one of the very new apartment houses where they circumvent the schemes of

the wicked house manager. Then to the apartment house garden equipped with all sorts of magical fittings—benches, for example, that extract the truth from even the most arrant of liars.

In time-honored operetta tradition, the honest tenants win out, the officious bureaucrat who tried to move into someone else's apartment gets what's coming to him, the rascally manager is led off to his well-deserved punishment and the lovers triumph to live happily ever after.

From the very first opening chord, when all the builders and tenants of *Cheryomushki* step onto the stage to sing the opening lines:

*How do you do,
How's life treating you?
Is the wife doing well?
Are the kiddies simply swell?
Have you anything to say
On the issues of the day?*

the lyrics and music capture the audience.



THE MAGIC GARDEN, WHERE EVIL IS EXPOSED AND PUNISHED IN THE BEST OPERETTA TRADITION. SHOSTAKOVICH POKES FUN AT MEDIOCRE BALLET SCORES IN ACT II.

THE VERSATILE COMPOSER OF THE HIT OPERETTA ABOUT LIFE IN MOSCOW.



Moscow, Cheryomushki



ALEXANDER TKACHENKO AS THE OFFICIOUS BUREAUCRAT DREBEDNEV AND NELLY KRYLOVA AS HIS WIFE.



TATYANA SHMYGA IN THE ROLE OF LIDOCHKA.

The musical images are developed most ingeniously and with extraordinary versatility. There is delicate humor, broad burlesque, grotesque caricature and all of it the unmistakable work of a composer of genius. The music does not "come down" to the audience, it carries the listener along with it, to the very last chords of the curtain song.

*Cheryomushki! Oh, Cheryomushki,
Where the cherry blossoms grow,
And all the hopes and dreams of those
Who live there bloom also.*

The interludes are skillfully worked in to move the action along. "Riding Round Moscow" is an engaging galop in modern tempo—by automobile. "Dream of a New Apartment" is a ballet *divertissement*, complete with languorous adagios, a sentimental waltz and a pompous march.

For his first operetta Shostakovich has drawn upon a whole century of musical rhythms. He makes use of today's "pop" tunes for his lovers and of the vulgar little polkas and cake walks popular at the turn of the century for his bureaucrats and red-tapists. With the same sure artistry that he weaves his symphony, he has worked these melodies into a dramatically justified orchestral pattern.

The musical characterizations are both tuneful and remarkably apt. Especially charming are the numbers sung by the heroine, the lovely Lidochka of Cheryomushki, sung by gifted young Tatyana Shmyga.

There are many ensemble songs, all rather

complex polyphonically, and several big chorus numbers. The general pattern of the music is based on the lyrical waltz and the Russian song with very little jazz influence, none in many cases. In spite of this the musical feeling is decidedly contemporary.

Dmitri Shostakovich says, "This was a new venture for me and I worked on it with great interest and enthusiasm. *Moscow, Cheryomushki* is my first, but, I am sure, not my last experience with this attractive musical form."

Musical comedy is popular in the Soviet Union. Previous to 1917 there were few operetta theaters and those produced the French and Viennese musicals exclusively. Now there are musical comedy theaters in almost every large city.

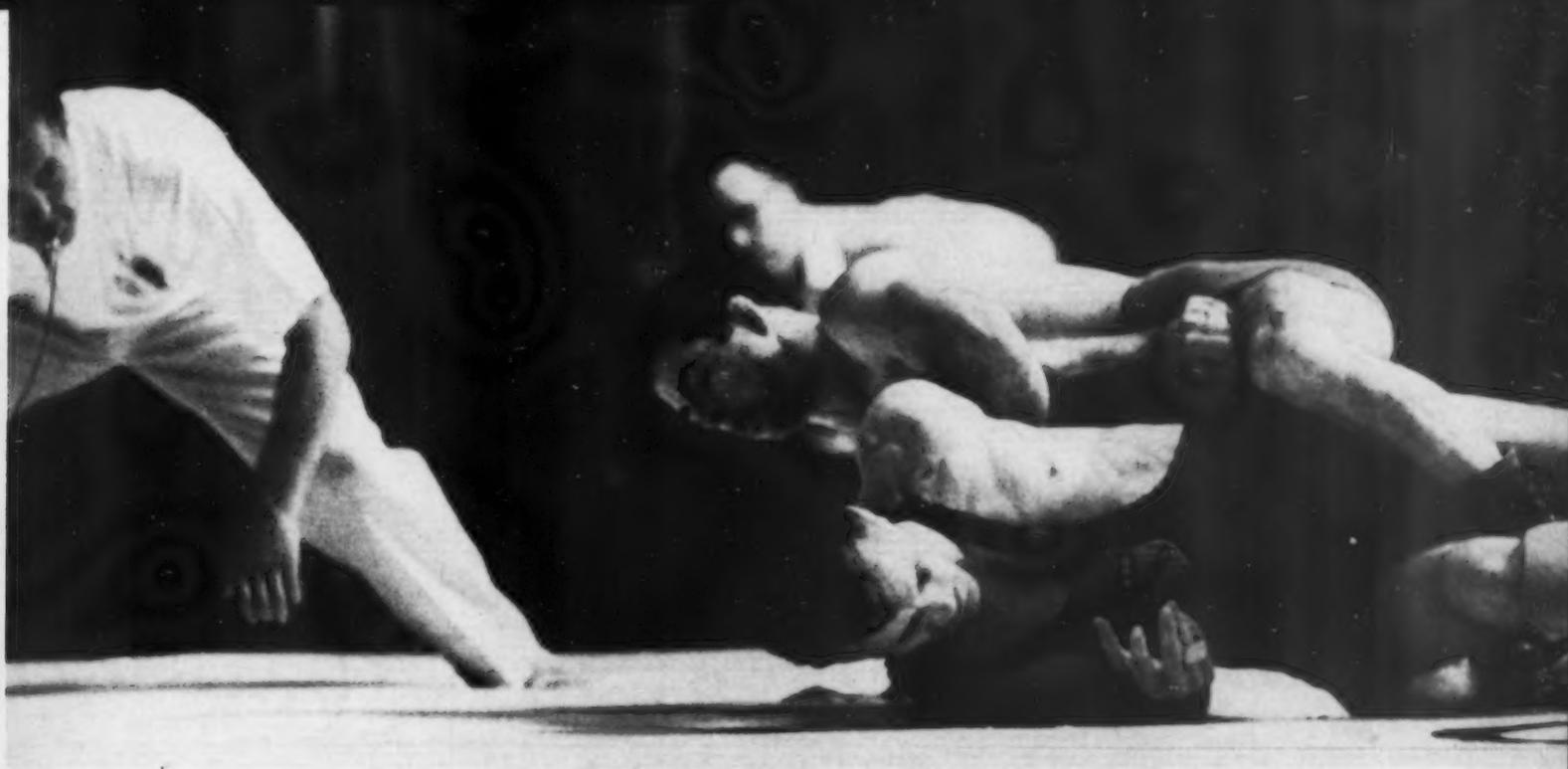
Composers in the Ukraine, Azerbaijan, Armenia, Moldavia and others of the Soviet republics have written interesting and original national operettas. The musicals written by men like Isaac Dunayevsky, Boris Alexandrov, Yuri Milyutin, Vasili Solovyov-Sedoy, Shalva Azmaiparashvili and Fikret Amirov have been staged by both Soviet and foreign theaters.

They are fresh and melodic but they all follow the pattern of the classical operetta.

The Shostakovich musical is quite new in form, both as regards libretto and music, and will be presenting unfamiliar problems to the many Soviet theaters that will soon be staging this latest—and most unusual—work of this most versatile of composers.

SERAFIM ANIKEYEV PLAYS THE HOUSE MANAGER.





FRIENDLY REUNION

By Victor Kuprianov



American wrestlers got in some sight-seeing in the Soviet Union in spite of a heavy schedule.

Terry McCann, USA, scored the first point for his team. His opponent here is Yuri Zamyatin.



WHEN the plane landed in Moscow with the American wrestling team on board the pilot told reporters: "This is the biggest load of muscle I ever carried."

Last year ushered in the beginning of a series in free style wrestling as part of the general sports exchange between the United States and the Soviet Union. The wrestling program got under way with the Soviet team visiting the US and on their return our boys said they had made lots of friends. It's amusing when you think that two wrestlers push and pull, then yank and wrench and bid fair to dislocate limbs and heads, and when it is all over separate the best of friends. Of course, this is not the only way to make friends.

The US team came to Moscow to start a four-match tour of the Soviet Union. It was a heavy schedule. First the USSR national team on Saturday, then the Russian Federation team in Leningrad on Monday, followed by the Ukrainian team in Kiev on Wednesday and the Georgian team in Tbilisi on Saturday. This was virtually a wrestling marathon. Wrestling was combined with sight-seeing, but there is so much to see in those four cities that it's hard to figure out when the American boys found time to train.

The American team (in the order of weight: Richard Wilson, Terry McCann, Jerry Hoke, Newt Copple, Fritz Fivian, James Fergusson, Frank Rosenmayr and Bob Marella—unlimited; Henry Wittenberg, coach; Clay Roberts, manager; and Cyril Mitchell, trainer) was an all-star squad that represented America's choice for the world championships. The Soviet tour was a warm-up, together with subsequent tours of Iran and Turkey. No one

expected them to win and Terry McCann said the moment he left the plane: "We have come here to learn." We hope they did. And Terry managed to teach Soviet wrestlers a thing or two. Our boys couldn't beat him.

Wrestling is a big sport in the Soviet Union. But the rules vary from district to district. In some places you hold your man by a sash, in others by a vest, and in still others wrestling comes combined with music and poetry. International rules have sheared wrestling of most of its poetry and turned it from a match of strength into a match of skill. The Americans came here with packs of muscles. Nowadays it's not quite enough.

Wrestling as a national pastime is a participating rather than a spectator sport here. A few thousand was the most the national championships ever drew. Maybe that's because Muscovites find wrestling too slow. But when the American team made its appearance, there were at least 10,000 in Moscow's Sports Palace.

When the match was over Coach Henry Wittenberg said he was glad his team had gotten its first taste of international competition. He felt that his boys had stood up very well and that the Soviet team was smart, strong and well up on international techniques.

The general consensus of opinion was that the American team had made a good showing. Although the final score shows a leaning in the USSR's favor, the American team is going to make a major bid for top honors at the world championship. The boys have muscle. More training in international techniques (which their 1959 tour should give them) will make the US team a formidable adversary.

Andante tranquillo

Music by V. Solovyov-Sedoy
Words by M. Matusovsky

Canto *p*

1. Not a rus.tling leaf, not a bird in
flight in the sleep.y grove un.til dawn. How I love these nights,
Mos. cow sub.urb nights, the ca. ress of the wak. ing sun.
How I love these nights, Mos. cow sub.urb nights, the ca. ress of the
wak. ing sun. true.

Piano *p*

dim.

p 1, 2, 3 *p* 4

Fine

Not a rus-tling leaf, not a bird in flight
In the sleep-y grove un-til dawn.
How I love these nights, Mos-cow sub-urb nights,
The ca-ress of the wak-ing sun.

The calm rill-ing stream seems to ebb and flow
Like a sil-ver web of moon-light,
In my heart I hear sing-ing come and go
On this won-der-ful sum-mer night.

Why this down-cast look? Does the ris-ing day
Bring us near the hour when we part?
It's as hard to keep as to give a-way
All that press-es up-on my heart.

Dawn is nigh, and pale grow the am-ber lights.
Let me hope, my dear, that you too
Will re-mem-ber these Mos-cow sub-urb nights
And our love that has been so true.





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