USSR

COMMUNIST PARTY CONGRESS LAUNCHES SEVEN-YEAR PLAN

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1959

THE SUCCESSFUL LAUNCHING OF A COSMIC ROCKET OPENS A NEW ERA IN MAN'S EXPLORATION OF SPACE.

See story on page 14.

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The Soviet Union

enters a new

historical stage

in its progress

toward communism

Nikita Khrushchev presenting the target figures for the country's development in 1959-1965 to the Communist Party Congress.

TWENTY-FIRST CONGRESS *ADOPTS SEVEN-YEAR PLAN*

MARKING a new important stage in the nation's swift progress, the Twenty-First Congress of the Communist Party of the Soviet Union met in Moscow from January 27 through February 5 to chart the country's course for the next seven years.

Assembled in the great vaulted hall of the Kremlin were 1,375 delegates from every part of the country and numerous guests from abroad.

The major report, given by Nikita S. Khrushchev, First Secretary of the Party's Central Committee and chairman of the USSR Council of Ministers, presented the new economic plan for 1959-1965, a development program without precedent in history for sweep and magnitude.

To the applause of the delegates, N. S. Khrushchev indicated that in the three years since the Twentieth Party Congress the Soviet Union had continued its steady progress toward communism at home and had enhanced its international prestige abroad by its advocacy of peace and friendship among all nations. The socialist world now is exerting a decisive influence on the entire course of world development. On behalf of the Soviet people and the party the First Secretary greeted the delegations from seventy Communist and Workers' Parties who were guests of the Congress.

N. S. Khrushchev stressed the guiding role in the country's progress of the Communist Party and of its Central Committee, led for many years by Joseph V. Stalin. From an economically backward country, the Soviet Union has grown into a great industrial and agricultural socialist power that leads Europe, and is second only to the top industrial producer in the world.

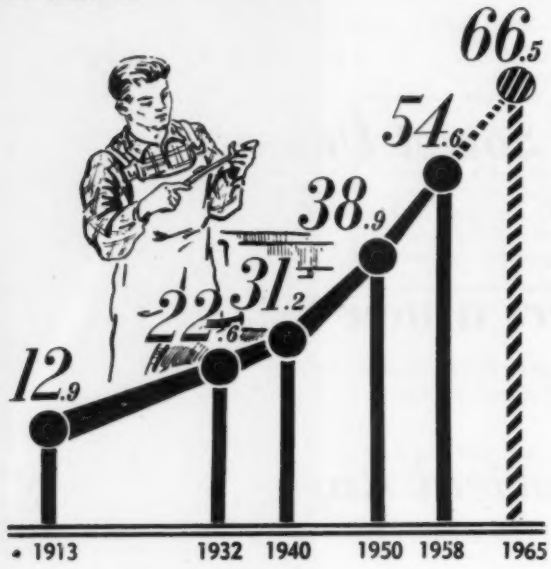
Foreign economists and political figures predicted that the Soviet Union would be compelled to slow down its rate of progress drastically after having rehabilitated the enormous damage to the economy caused by the Second World War. These predictions were erroneous, N. S. Khrushchev noted, the rapid rate of economic advance continues without interruption.

A major factor in accelerating the development of the Soviet economy was the step taken to reorganize industrial management. New form of industrial control through regional economic councils has proved itself in greater efficiency, more effective use of natural resources and industrial potential, increased initiative on the part of workers and engineers

STATE CAPITAL INVESTMENTS IN NATIONAL ECONOMY
in billion rubles

*3000 billion—including construction financed by non-centralized funds and by collective farms and housing construction by individual citizens.

NUMBER OF INDUSTRIAL AND OFFICE WORKERS
in millions



Twenty-First Congress *adopts seven-year plan*

and larger output of goods. An outstanding success was achieved in building up agricultural production during the past five years.

Economic and Cultural Achievements

With the general upsurge of the country's economy and increased productivity in factory and farm the welfare of the Soviet people has been advanced uninterruptedly. In 1958 the real wages of factory and office workers were almost double the 1940 figure while the farmers' income increased more than one hundred per cent.

At work now are nearly 7.5 million specialists with secondary technical or college training, 39 times as many as in 1913. The Soviet college enrollment is nearly four times greater than that of Britain, France, West Germany and Italy combined. Technical schools graduate three times as many engineers as do American schools.

N. S. Khrushchev made special mention in his report of the brilliant work of the country's scientists, designers, engineers, and technicians in launching the world's first artificial satellites and the first cosmic rocket now orbitting the sun. By reaching out into the cosmos the Soviet Union has opened a new era in the progress of all mankind, thus demonstrating to the whole world the unlimited creative forces of the socialist system.

Once backward national republics of the Soviet Union now possess well-developed, modern industries and up-to-date agriculture. Their own scientific institutions and extensive systems of education have trained numerous specialists experienced in all fields of economy, science and culture.

With each passing year, the voluntary union of socialist nations forming the USSR has grown stronger. Recently, to mark further democratic progress, the rights of the Union Republics were enlarged to permit each of them to develop its economy and culture at a still faster pace.

In outlining the major goals of the seven-year plan, N. S. Khrushchev pointed out that with these far-reaching changes in all areas of economic, cultural, and political life the Soviet Union is now entering a new period in its development, the period of extensive building of communism.

Nationwide Discussion of Plan

Before presenting the figures for the new economic plan for 1959-1965, N. S. Khrushchev cited the numbers of people who had taken part in the nationwide discussions that preceded the Congress. Seventy million people participated in the discussion of the draft plan, more than 4½ million persons offered suggestions, criticisms and additions. There were 650,000 letters sent to newspapers, magazines, radio and TV stations. Many of the suggestions, some of which he detailed in the report presented to the Congress, will be carried out.

The seven-year plan envisages a faster rate of development and a large increase in all spheres of economic effort, particularly in heavy industry. The plan requires an 80 per cent greater industrial output for 1965 over 1958 figures. In Group A (output of the means of production) there is to be an increase of 85-88 per cent, and in Group B (output of consumer goods) 62-65 per cent. The growth of industrial output in the next seven years will equal the total increase of the past twenty years.

Major Increase in Industrial Output

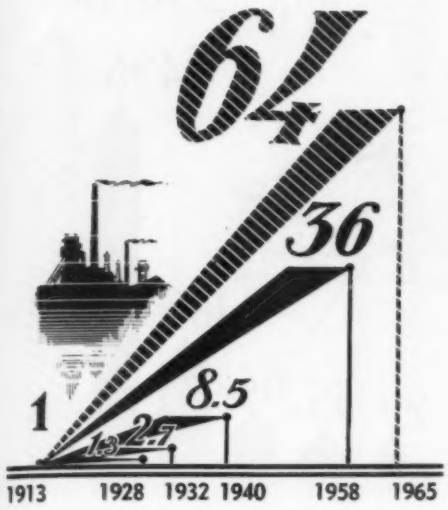
The 1965 target figures call for 65-70 million tons** of pig iron, 86-91 millions tons of steel and 65-70 million tons of rolled stock. The output of nonferrous and rare metals is to rise several times over. A larger sum of money than was spent in the past thirty years has been earmarked for the construction and rebuilding of ferrous and nonferrous metals enterprises. No less than 67 per cent of the capital investments in the ferrous metals industry and about 60 per cent of the appropriations for the nonferrous metals industry will be used to expand or rebuild existing enterprises which are to produce more than three-fourths of the planned increase in the output of pig iron, steel and rolled stock.

Contemplated is a particularly rapid development of the chemical industry, an increase of almost threefold in the seven years, with a considerable share going to consumer goods production. The output of mineral fertilizer is to rise to 35 million tons in 1965 as against 12 million tons in 1958. This increase is required to boost crop yields to the new levels planned.

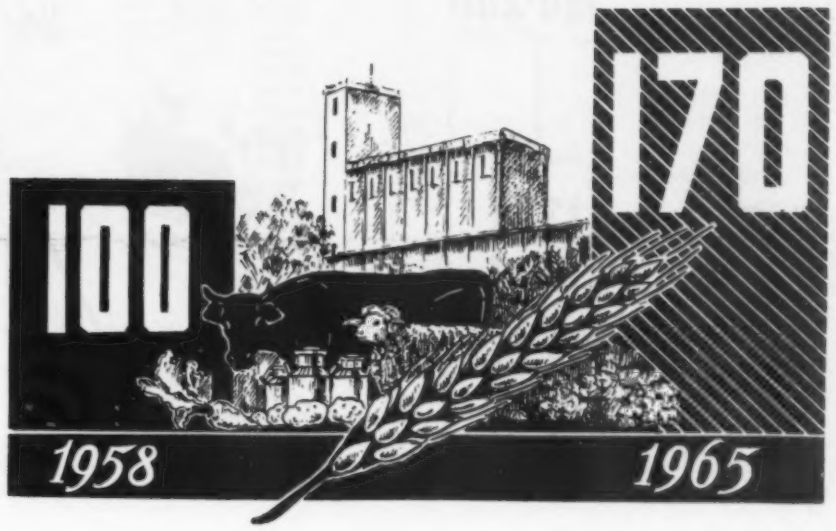
In the fuel industry priority is given to oil and gas extraction and refining. By 1965 the production of oil is to rise to 230-240 million tons, or more than twofold, and the output of gas is to increase by approximately five times, to an annual 150 billion cubic meters. The share of oil and gas in the total fuel output of the country will grow from 31 to 51 per cent, while that of coal will shrink correspondingly from 60 to 43 per cent. This approach in the fuel industry will provide a better economic balance.

**Metric ton (2,204 pounds) used throughout this issue.

TOTAL INDUSTRIAL PRODUCTION
1913 = 1



GROWTH OF AGRICULTURAL PRODUCTION
in per cent



Electric Power Capacities to Double

Toward the close of the seven-year period, electric power output is to rise to 500-520 billion kilowatt-hours a year, while the rated capacity of power stations will be more than doubled. To save time and to use capital investments most effectively, the seven-year plan calls for priority construction of thermal power stations operating on natural gas, fuel oil and cheap coal. Parallel with the building of thermal power stations, huge hydropower stations will be built in Bratsk, Stalingrad, Krasnoyarsk, Kremenchug, Bukhtarma, Votkinsk and elsewhere. Several atomic power stations with different kinds of reactors will also be put into operation.

All branches of the engineering industry, primarily heavy machine building, instrument making and the production of automatic and electronic devices, will grow at an accelerated pace. The emphasis is on designing and producing the most up to date machines utilizing the latest achievements of science and engineering, particularly in radio-electronics, semiconductors, ultrasound and radioactive isotopes.

The seven-year plan calls for the elimination of arduous manual labor by completing mechanization of production processes in industry, agriculture, construction, transport, loading and unloading work, and in public utilities.

Greater Automation to Be Introduced

Thoroughgoing mechanization will be accompanied by greater automation to facilitate physical labor, improve working conditions and to raise productivity. In a socialist society with no unemployment, automation not only has economic value but social value as well, and it changes the character of labor profoundly. It demands a higher level of education and more technical knowledge from the worker and, by virtue of this, provides the basis for breaking down the barriers between physical and mental labor.

Railway freightage in 1965 will be some 40 per cent heavier than in 1958. There will be a fundamental reconstruction of the basic modes of transport, particularly railways, with steam engines replaced by economical electric and diesel locomotives. Toward the end of the seven-year period main trunk lines, totaling 60,000 miles in length, will be converted to electric and diesel traction.

The high production level to be reached by heavy industry and agriculture will make possible a substantial increase in the output of foodstuffs and consumer goods. During the next seven years gross output of light industry will increase by approximately 50 per cent and of the food industry by 70 per cent.

70% Boost in Agricultural Production

The prime target in agriculture, Khrushchev noted, was to reach a level of production that would satisfy the food requirements of the population and the raw material requirements of industry. Between 1959 and 1965 the gross output of agriculture will rise by 70 per cent, with the average annual increase in output amounting to 8 per cent.

For the next few years the major direction of crop farming will continue to be expansion of grain growing as the basic crop. By 1965 grain production will reach 164-180 million tons. Production of other crops will also be increased—cotton to 5.7-6.1 million tons, sugar beet to 76-84 million tons, potatoes to 147 million tons. One of the most important tasks proposed for agriculture is a rise in labor productivity and a decrease in production costs. To achieve this Soviet farmers are to be supplied with more than a million tractors, about 400,000 harvester combines and other equipment in the next seven years.

In animal husbandry the aim is to increase output of meat, milk, eggs and wool. The production of meat will be no less than 16 million tons, milk—100-105 million tons, eggs—37 billion, wool—548,000 tons.

The Soviet Union has moved to first place in the world in total output of milk and butter. Within the next few years it will not only overtake but will surpass the United States in the per capita output of these products.

Three Trillion for Capital Construction

Turning to questions of capital construction, Khrushchev stated that in the next seven years state capital investments would approximate two trillion rubles. Add to this the construction financed by non-centralized funds, the capital investments of the collective farms and housing construction by individual citizens, and the total capital investments will reach three trillion rubles. This means, Khrushchev emphasized, that in seven years as much money will be invested as in the preceding four decades, that is, since the beginning of the Soviet state.

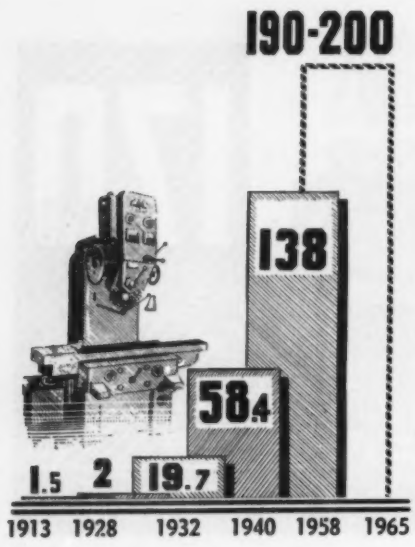
Capital investments in industry will be almost one hundred per cent greater than in the previous seven years, and investments in agriculture will be nearly five hundred billion rubles, that is, double the investments of the preceding seven years.

From 375 to 380 billion rubles of state funds alone will be invested in housing and public buildings as against 214 billion rubles for the preceding seven years, 80 billion rubles to be spent for construction of schools, hospitals and other public and medical institutions.

Development of East Emphasized

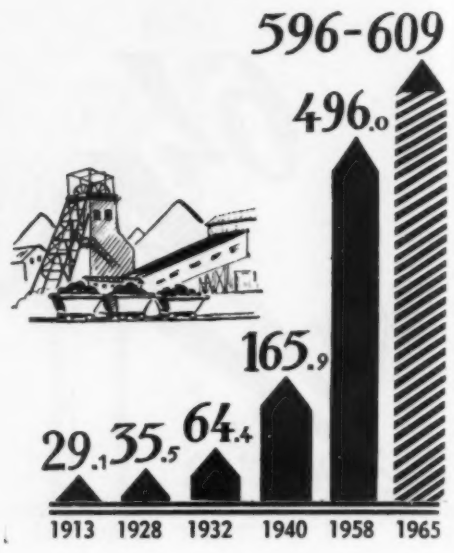
Speaking of the distribution of the country's productive forces, N. S. Khruschev said that

MACHINE TOOLS
in thousands



STEEL PRODUCTION
in million metric tons

COAL PRODUCTION
in million metric tons



Twenty-First Congress *adopts seven-year plan*

more than 40 per cent of capital investments are to be used to develop the natural resources of the eastern regions. By 1965 the East's contribution to the national output of coal will have risen to 50 per cent, steel to 48 per cent, refined copper to 88 per cent, aluminum to 71 per cent, cement to 42 per cent and electric power to 46 per cent.

The creation of a new grain-growing area in the East has made it possible to start a radical reconstruction of agriculture in a number of republics and regions, and to use more rationally the rich natural and economic resources for expanding output of field crops and livestock products. Regions of the country like the northwest part of the Russian Federation, the Baltic Republics and parts of Byelorussia and the Ukraine will now stress production of milk, bacon and industrial crops which they are more suited to grow.

Considerable Growth in National Income

The plan forecasts a marked growth in national income and a corresponding growth in real wages; a shorter working day and work week; consumer goods produced in much larger quantities and of better quality; large-scale housing construction; and a considerable improvement and expansion of public services.

The number of workers employed in the national economy will increase by another 12 million to a national total of 66.5 million.

The national income will rise by 62-65 per cent as compared with 1958 and will be sixfold that of 1940. Real incomes of industrial and office workers will rise by 40 per cent through both increase in wages and benefits and reduction of consumer prices. Real incomes of collective farmers will be up by not less than 40 per cent.

The present low individual taxes which account for only 7.8 per cent of the national budget's revenue will, within the next few years, be discontinued entirely.

Marked Rise in Living Standards

More than 215 billion rubles were spent by the government in 1958 for social insurance benefits, allowances, pensions, stipends to students, free education, medical services, vacation payments, maintenance of boarding schools, kindergartens, nurseries, sanatoria, vacation resorts, homes for the aged and other payments and benefits. The seven-year plan stipulates that expenses under this head are to grow to 360 billion rubles.

Thus these expenditures financed by the national budget will mean 3,800 rubles a year of services provided annually for every working person. Additional government expenditures for housing and for building schools, hospitals, etc., will come to more than 800 rubles a year per worker.

Only a socialist state, N. S. Khrushchev noted, can allocate such funds for social services to promote the welfare of its citizens.

Fifteen million new apartments are scheduled for construction in urban areas, more than all the housing built since the 1917 Socialist Revolution.

The Communist Party has always had as one of its major objectives the reduction in the workday. Under the seven-year plan the workday will be reduced to 6-7 hours for a five-day week.

Less Working Hours and More Pay

The shift to a shorter workday and work week will be accompanied not by a reduction in wages but rather by a substantial increase in income. People in the Soviet Union will have the shortest workday and work week in the world with a simultaneous rise in living standards.

The First Secretary of the Central Committee of the CPSU said that what is needed for the transition to communism is not only a developed material and technical base but also a highly conscious attitude on the part of all members of society.

The ethical principles of socialism, said N. S. Khrushchev, are characterized by a concern for the common good of all people, by mutual assistance and friendship, by cooperation and collective effort. They make for the rounded development of the individual personality within the framework of a collective in which antagonism between men is eliminated and the brotherhood of man is created.

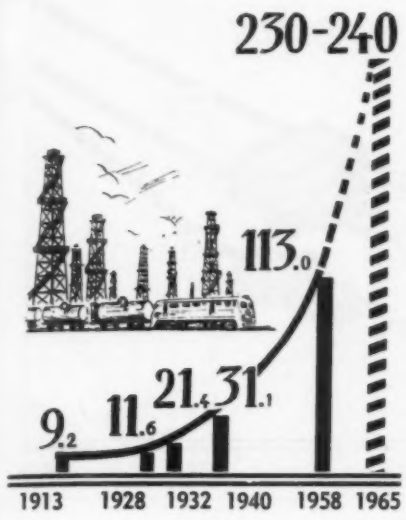
A Common Goal

In a socialist society each individual feels that the whole of society, the state, is concerned with his welfare. The Soviet man reciprocates by concern for the society of which he is a part. To contribute to that society, to create new wealth for the benefit of all its members, becomes his ultimate goal.

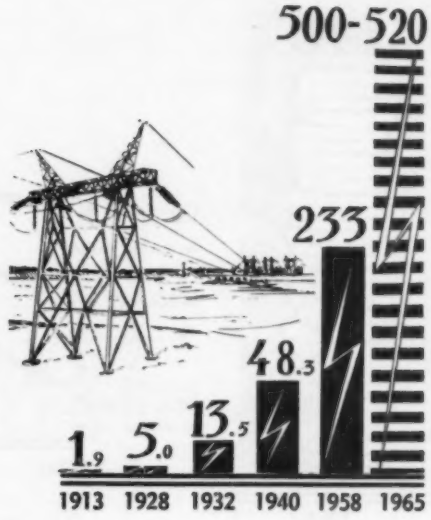
When Soviet people leave their homes to work in distant parts of the country, it is not to enrich themselves personally, but to build new factories, to plow new acres, to create new cities for their children, for all of society. They build for the future, for communism.

Turning to education, Nikita Khrushchev spoke of the importance the Communist Party attaches to the training of the generation that will be the administrators of tomorrow. The

OIL PRODUCTION
in million metric tons



ELECTRIC POWER
in billion kilowatt-hours



Soviet school system, he indicated, is being reorganized not because we are short of labor but because we want to improve our education, to bring our school closer to life. Proposed by the plan is a large program of school construction to accommodate an increasing number of students on all levels, from the nursery through the university. The number of children to be accommodated in kindergartens will be growing from 2.28 million to 4.2 million in the next seven years. Boarding schools will be required for no fewer than 2.5 million pupils. Institutes and colleges will be graduating 2.3 million specialists as compared with the 1.7 million for the previous seven-year period. By 1965 the total number of specialists with a higher education will exceed 4.5 million, an increase of 50 per cent over 1958.

Mapping Scientific Progress

In his report to the Congress N. S. Khrushchev outlined goals for Soviet science for the next seven years. Scientists will be working on controlled thermonuclear reactions to obtain a practically unlimited source of energy; on the extensive application of nuclear energy for power and transportation; on synthetics; on nuclear fission products and radioisotopes; on over-all automation using the latest achievements in the field of physics, radioelectronics and computer techniques.

The building of communism presupposes not only an unprecedented development of the economy, science and culture; it offers unusual scope for the fullest development of all the creative potentials and talents of man. Writers, theater people, composers, sculptors and painters must raise the content and artistic level of their works still higher.

The seven-year plan envisages still more favorable conditions for ideological work—the press, radio and television, motion picture and cultural and educational media are to be greatly expanded. The circulation of newspapers and magazines and the printing of books will be increased substantially.

Peaceful Competition with USA

With the seven-year plan completed the decisive step will have been made toward overtaking and surpassing the most advanced capitalist countries in per capita output. The present volume of Soviet industrial output is about half that of the United States; farm output is about 20 to 25 per cent less. American industrial output per capita is more than double that of the Soviet Union and farm output about 40 per cent higher. The plan forecasts an average annual growth of Soviet industrial output of 8.6 per cent as compared with a probable 2 per cent for the United States for the next few years.

In the past eight years the USSR's absolute volume of growth for a number of key industries has exceeded America's. Thus, the Soviet Union leads both in annual rates and in annual absolute growth of production. Soviet and U.S. rates of industrial growth being what they are, the Soviet Union will, after fulfilling the plan, surpass the United States in bulk output in some key industries and approach America's present level of output in others. By 1965 the output of major agricultural products in the Soviet Union, both absolute and per capita, will exceed the present U.S. level. It will probably take another five years after the seven-year plan to meet and then surpass the United States in per capita industrial output. At that time, or perhaps sooner, the Soviet Union will advance to first place in the world both in the absolute volume of industrial output and in per capita production. This will mark the history-making victory of socialism in peaceful competition with capitalism in the world arena.

Economists estimate that with the present high rates of economic growth of the People's Democracies the socialist system will account for more than half the world's industrial output after the Soviet Union fulfills and overfulfills the seven-year plan.

A Peace Plan

In the West, Khrushchev declared, they say that we have made our "challenge." But it is a challenge to compete in the peaceful development of our economies and in raising the people's living standards. We want to compete in the production of industrial goods, meat, butter, milk, clothing, footwear and other consumer goods rather than in the arms race and in the production of A- and H-bombs and rockets. Khrushchev stressed that the seven-year plan is added evidence of the Leninist peaceful policy of the Soviet Union. It will play a large part in solving the major problem of our time—the preservation of world peace.

The importance of the plan lies in its being imbued wtih the spirit of peace. A state which undertakes a giant program of building new factories, plants, power stations, mines and other enterprises, which allocates nearly four hundred billion rubles for housing and public building, and sets the task of substantially raising the living standards of its people—that state seeks peace, not war.

In its foreign policy, the Soviet Union adheres to the principle that relations between countries with different social systems must be based on peaceful coexistence. We, said Khrushchev, and the ruling circles of the capitalist countries differ in our views and our ideology. We shall never give up our views, and we do not think that our opponents will change their ideology, but this does not mean that we need go to war because of those differences in views. The people of each country determine their own destiny and choose their own road of development. The Soviet Union does not wish to impose upon others the road it has chosen for itself.

Would it not be better, Khrushchev asked, if the leaders of countries with different social systems agree to live in peace on our planet? We must learn how to solve questions that are in dispute by peaceful negotiations.

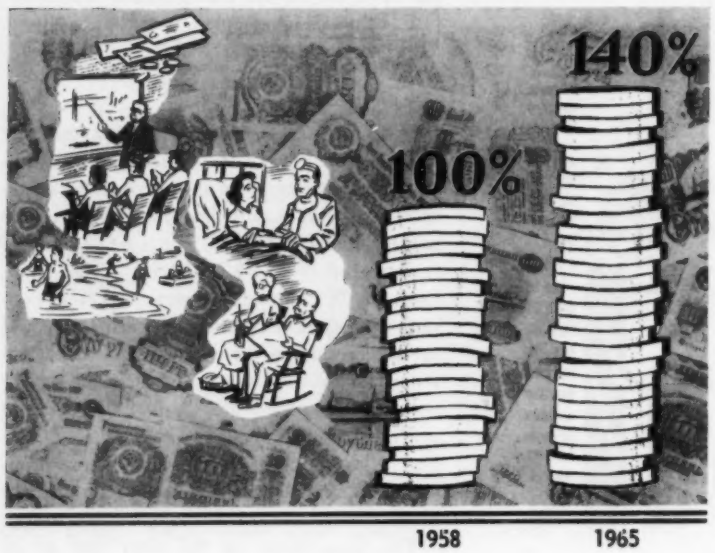
Better Soviet-American Relations

Khrushchev spoke of the Soviet Union's sincere desire to normalize its relations with the United States and noted the great sympathy of the Soviet people for the American people, whose industrial genius and efficiency are known to the whole world. Anastas Mikoyan's visit to the United States, he noted, demonstrated the friendly feelings of the American people for the people of the Soviet Union.

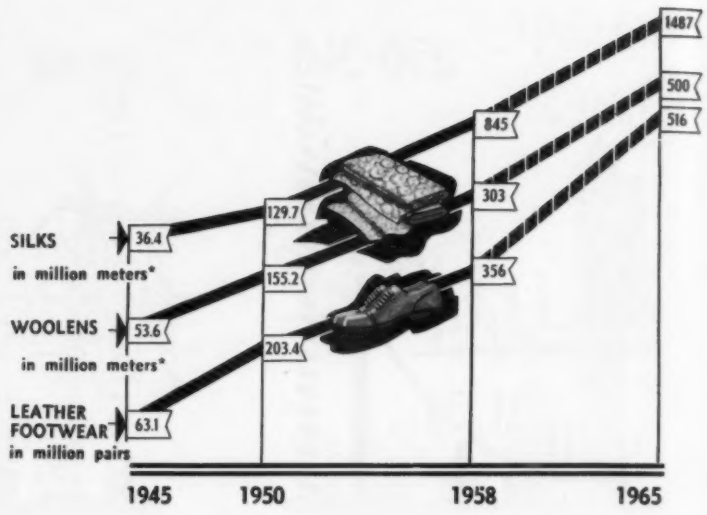
We welcome, said Khrushchev, the efforts of all Americans who strive to end the "cold war," who work for peaceful coexistence and cooperation between all countries.

Stressing the development of world trade as one important means for lessening international tensions and strengthening mutual trust, Khrushchev said the seven-year program of peaceful construction holds great possibilities

REAL INCOME OF THE POPULATION



PRODUCTION OF CONSUMER GOODS



*One meter = 1.09 yards

Twenty-First Congress *adopts seven-year plan*

for foreign trade. The present volume of Soviet foreign trade can at least be doubled during the course of the seven-year period.

We offer the capitalist countries, Khrushchev pointed out, peaceful competition, and our offer goes beyond the time of the seven-year plan. We are drawing up a long-term development plan for the next 15 years. This plan, too, is built upon the principle of peaceful development and peaceful economic competition. Our plans are plans of peaceful construction.

Building Foundation for Communism

The country's fundamental task today, Khrushchev said, is to build up the material and technical base of communist society, secure a further powerful expansion of the socialist productive forces.

The present level of socialist production does not as yet enable us to create the abundance of material and cultural values necessary for the growing requirements of the people. Without this communism is impossible.

It would be an oversimplification, Khrushchev said, to believe that when we overtake the world top producer in the economic sphere, it will signify the completion of communist construction. When we win this economic competition, we shall have completed only the initial stage of the construction of communism. The economic level reached in this phase will not be the end of our road but merely a midway station from which we will continue to move forward.

Khrushchev spoke about the growth of the Communist Party of the Soviet Union and the consolidation of its ranks. The Party has 8,239,000 members and candidate members, or 1,023,000 more than at the time of the Twentieth Congress.

The implementation of the party's general line was fought by the anti-Party group of Malenkov, Kaganovich, Molotov, Bulganin and Shepilov who resorted to factional struggle and splitting tactics in an attempt to undermine unity, disrupt fulfillment of the decisions of the Twentieth Congress and divert the Party and the country from the Leninist path. They opposed the very measures which have made possible the country's great advances in developing industry and agriculture and in raising the living standards of the people and tried to obstruct our foreign policy directed at lessening international tension and strengthening peace. Now everyone can see how right the Party and its Central Committee were in resolutely condemning and administering a stern rebuff to this group of factionalists.

Khrushchev declared that the time was ripe for introducing certain amendments and addenda to the Constitution of the USSR. All the sweeping changes in the life of the country and in the international situation should be incorporated into the Constitution.

New Era in Country's History

In building socialism the Soviet people have displayed miracles of labor heroism. And there can be no doubt whatever that the seven-year plan will engender a new wave of labor enthusiasm and will give rise to new forms in the socialist competition movement for preschedule fulfillment of the great program of communist construction.

The seven-year period we have now entered, Khrushchev concluded, is a new and important—it might even be called a decisive—height on our path in history. The Communist Party and all our people are fully confident that this height will be scaled.

"Long live world peace!" With these words the First Secretary of the Central Committee ended his report.

Delegates Discuss Plan

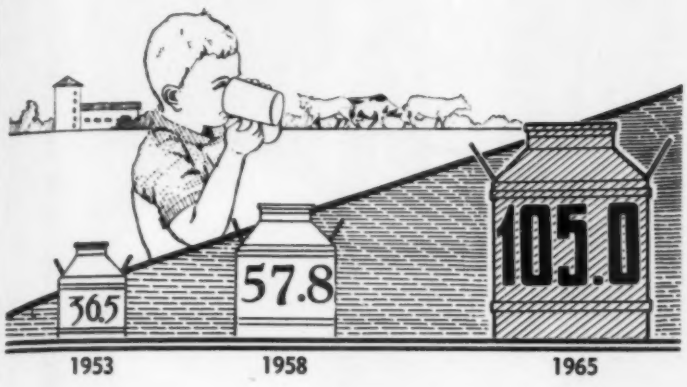
Following N. S. Khrushchev's report the delegates—men and women invested with the confidence of eight million members of the Communist Party of the Soviet Union and representing the wishes and desires of the whole population—spoke in discussion. From the rostrum delegates from all over the country dealt with the plan as a whole and the specific tasks it outlined. Some speakers submitted new proposals, others outlined additional resources that could be tapped or cited local experience that could be used productively elsewhere.

Altogether 86 delegates took the floor to convey the sentiments of the population of their respective regions and to put before the Congress the views and suggestions voiced at the numerous conferences and meetings which preceded the Congress.

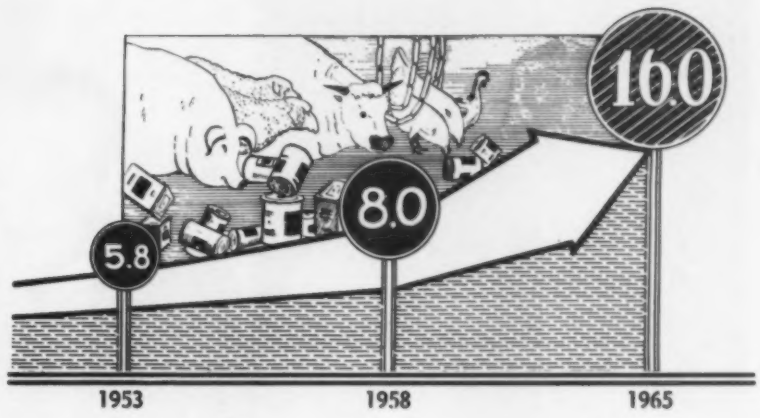
Seven-Year Plan Approved

On February 5 the Twenty-First Congress ended its work by passing a resolution unanimously approving the target figures for the economic development of the Soviet Union for 1959-1965 presented in N. S. Khrushchev's report. The Congress stressed the great importance of the wishes and suggestions expressed during the nationwide discussion of the draft of the report as well as in the speeches at the Congress itself. These will be

PRODUCTION OF MILK
in million metric tons



PRODUCTION OF MEAT
in million metric tons



referred to the proper government bodies for incorporation in the seven-year program.

The Congress wholly approved the activities of the Central Committee of the party and the important measures carried out after the Twentieth Congress both in domestic affairs and foreign policy. In its resolution the Congress emphasized that in the Soviet Union, which blazed mankind's trail to socialism, a level of productive forces and cultural advance has now been attained which makes it possible to launch in the coming seven years an all-out program for building a communist society.

The resolution approved the great program outlined in N. S. Khrushchev's report and set the concrete tasks to be carried out in industry and agriculture, in further raising the population's living standards and in the development of education and science.

The Congress emphasized that at this point in the development of socialist society in the Soviet Union material values will continue to be distributed in keeping with the principle: From each according to his ability, to each according to his work. The transition to the communist principle of distribution based on individual requirements will be effected gradually as the productive forces develop, when an abundance of prime necessities is achieved and when all people will work to the best of their ability, conscious that this contributes to the common good.

In Soviet socialist society a considerable and ever-growing part of material and cultural values is already being distributed free, in the form of services and benefits, according to need. This share of the national wealth, forming the social fund of consumption, will steadily increase, which is an important prerequisite for the gradual transition to the communist principle of distribution.

The delegates stressed in their resolution that the principal trend in the development of socialist government is the utmost extension of democracy, the drawing of all citizens into the management of the country's economic and cultural affairs and the administration of public affairs.

The Congress pointed out in its resolution that many functions now exercised by government agencies must gradually be taken over by public organizations.

Touching upon the problem of peaceful competition with the United States, the Congress set the goal of overtaking and surpassing the United States both in total and per capita production.

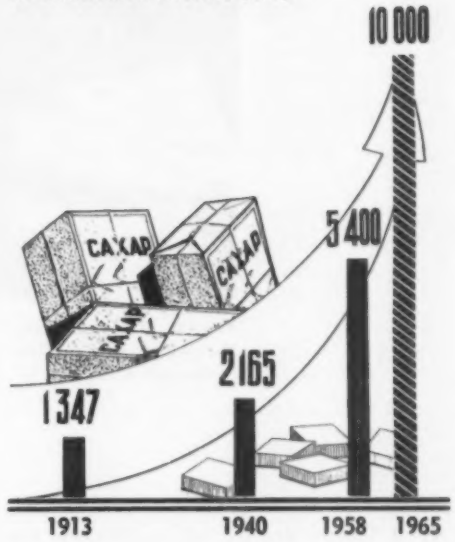
Building for Peace and Plenty

The Congress expressed the indomitable will of the Soviet people for peace and instructed the Central Committee of the Communist Party and the Soviet Government to carry on their persistent struggle for world peace and international security. Guided by the principle of peaceful coexistence put forward by the founder of the Soviet state, Vladimir Lenin, the Soviet Union will continue to strive for cooperation in every area with all countries in the world.

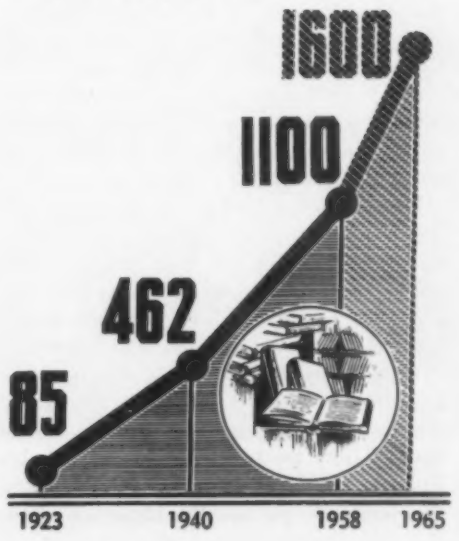
The seven-year plan adopted by the Twenty-First Congress is hailed by the country generally as a great and historic landmark in the progress of the Soviet people. There is every reason to call this Congress the Congress of the Builders of Communism, marking, as it does, the beginning of the period of extensive building of a communist society in the Soviet Union.

Amid nationwide enthusiasm expressed in the press, over the radio and on TV, the Soviet people have set out to fulfill the challenging tasks of the seven-year program the success of which will bring each family greater prosperity, cultural progress and a life of peace.

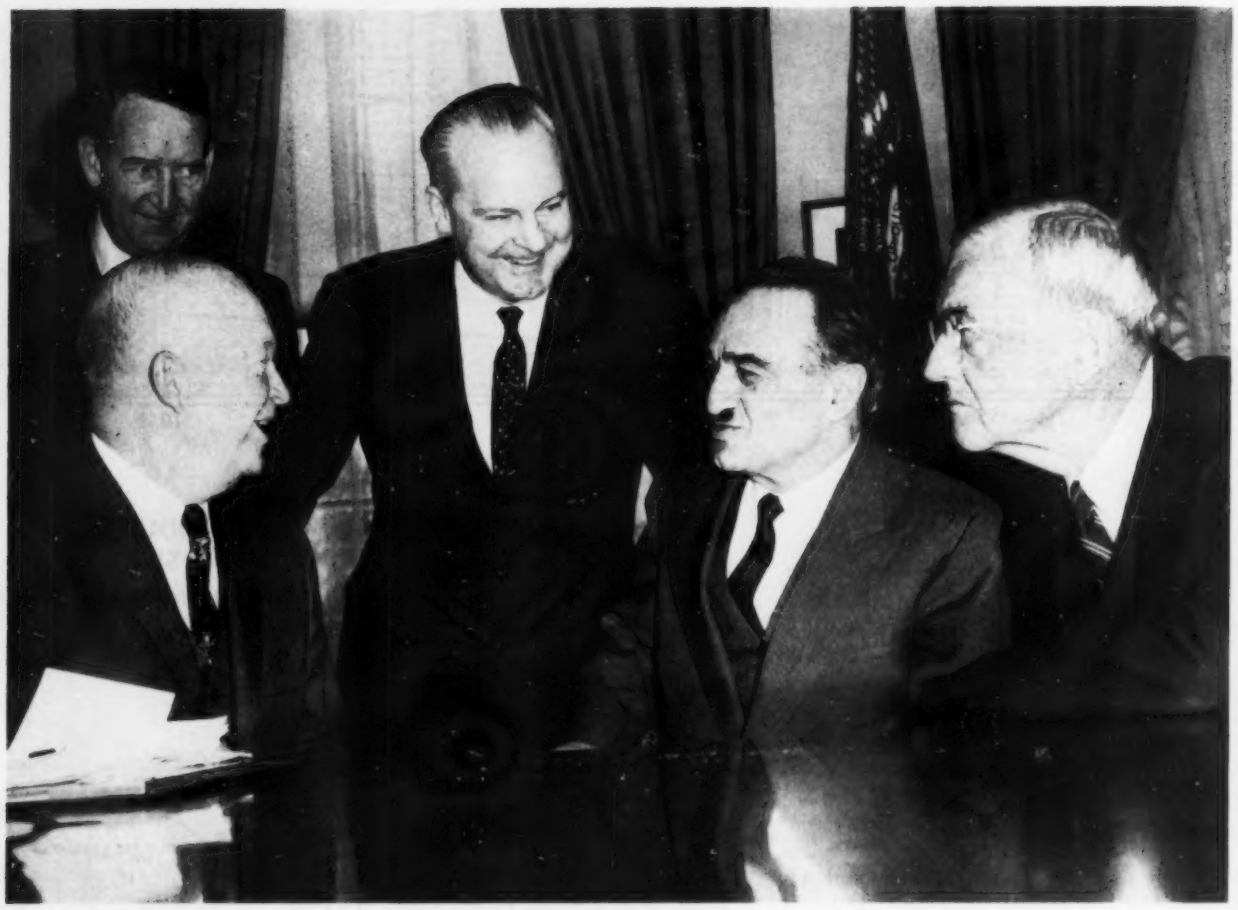
PRODUCTION OF SUGAR
in thousand metric tons



BOOK PUBLICATION
in million copies



ANASTAS MIKOYAN visits t



Anastas Mikoyan talks with President Eisenhower and Secretary Dulles at the White House. Also present were Mikhail Menshikov (center), Soviet Ambassador, and US Ambassador to the USSR, Llewellyn Thompson.

LET'S move step by step to eliminate mistrust in our relations. Let's compete in peaceful production for the benefit of our peoples. Let's work together to preserve and strengthen peace. These words by Anastas I. Mikoyan, First Vice Chairman of the USSR Council of Ministers, are a concise summation of his message to American audiences during his two-week tour of the United States.

Anastas Mikoyan arrived at Idlewild International Airport on January 4 as the guest of Soviet Ambassador Mikhail Menshikov to spend a portion of his vacation here.

Mikoyan's first words on American soil were his wish for the happiness of the American people in the New Year and for world peace. He also conveyed personally Nikita S. Khrushchev's message to the American people wishing them health, happiness and peace.

In explaining his reasons for coming, Anastas Mikoyan stressed his desire to see the changes that have occurred in the United States during the twenty-two years since his first trip here. At that time he traveled about the country for two months, obtaining a first-hand impression of American life, economic activity and trade, and meeting business and political figures as well as the man on the street.

Mikoyan said he would be happy to renew old acquaintances and to establish new contacts. And from the first hour of his arrival he demonstrated he was bent on fulfilling his desire to get fully acquainted with the present situation in the United States and meet representatives of broad sections of the population.

Soon after leaving the airport by car for Washington, Mikoyan and his party stopped at a Howard Johnson restaurant in Yardley on the New Jersey Turnpike to have breakfast. While there he carefully inspected the kitchen and its equipment, asked many questions about the restaurant's operations and displayed interest in the vending machines.

The party stopped a second time to permit the Soviet visitor to inspect the Oakcrest Motel at Perrysville, owned by Sharpe D. Karper, who showed him around.

This intense interest in minute details of American life, ranging from popcorn vending machines to the complex operation of automatic production lines in giant industrial establishments, was repeated wherever Mikoyan appeared. He was eager to listen to people—whether they were salesmen or bankers, workers or famous industrialists.

Anastas Mikoyan spent January 4 through 6 in Washington and had conversations there with Vice President Richard Nixon and Secretary of State John Foster Dulles, exchanging views and opinions on international questions, some touching on Soviet-American relations. He also met with numerous representatives of official and business circles in the capital, including many members of Congress and State Department officials.

A formal dinner in his honor was given by Eric Johnston, president of the Motion Picture Association of America, Inc.

Another highlight of his Washington stay was a luncheon given by American trade union leaders at the headquarters of the International Union of Electrical Workers, with its president, James B. Carey, as host. Mr. Carey, who is also a vice president of the AFL-CIO,

...the United States

Finds American people as eager for peace as the Soviet people

In Chicago, where Mikoyan addressed a private club's dinner meeting, he engaged Adlai Stevenson in an animated conversation. Stevenson toured the Soviet Union last year.

On his coast-to-coast trip Mikoyan met many American workers as well as industrialists and political figures. While touring the Lincoln Electric Co. plant in Cleveland, he talked to factory worker Glen Hershaw. Mikoyan showed an interest in the plant's machinery.

Welcome to Cleveland. The Soviet Deputy Premier shakes hands with Mrs. Cyrus Eaton, wife of the Ohio industrialist, at the airport as her husband looks on with smiling approval. Ambassador Menshikov stands at the rear right.

Reporters crowd about Anastas Mikoyan after his two-hour meeting with Secretary of State Dulles. Mikoyan said they had exchanged views on questions of mutual interest to their two countries.

Anastas Mikoyan is received by Vice President Richard Nixon in his office on Capitol Hill. The Soviet visitor also met a number of Congressmen.

ANASTAS MIKOYAN visits the United States

During a chilly weather stroll in Washington, Mikoyan picked up a following of children. One lad, Johnny Drury, had his cold nose tweaked.

Stopping off to learn how a supermarket operates, Mikoyan toured the new Giant store at White Oaks, Md., and bought a load of groceries.

had invited a number of his fellow officers, including President Walter Reuther of the United Automobile Workers and Joseph A. Beirne, President of the Communication Workers of America. The luncheon meeting included a frank exchange of opinions.

Between his many appointments and official meetings, Mikoyan found time to see points of historical interest in and around Washington as well as to visit some art galleries. He made a point of not missing such characteristic features of American city life as the great supermarkets, stopping off to go through one in the Washington suburb of White Oaks, Maryland. He examined the prepackaged goods, vegetable displays, fresh meat counters and shopping carts. The people in the store interested him, and he spent a few moments chatting with a young father shopping for groceries with his son.

On the morning of January 7, Mikoyan started his westward trip, making his first stop at Cleveland where he was met at the airport by Cyrus Eaton, chairman of the board of the Chesapeake & Ohio Railroad, and Mrs. Eaton. In his welcoming speech, Eaton told Mikoyan that his arrival was an opportunity to show him Ohio's hospitality and friendliness. The industrialist recalled that on his recent trip to the Soviet Union he had been impressed by the feeling of friendship manifested by everyone, from school children to government leaders. Eaton closed with a call for mutually advantageous trade between the two countries in the interest of friendship.

Replying, Anastas Mikoyan said that Eaton's visit to the Soviet Union had helped bring about a better understanding between the USA and the USSR. Mikoyan added that Eaton's remarks were added proof that people repre-

senting different social systems can have good-neighborly relations and be good friends under conditions of peaceful coexistence. "Although your ideology differs from ours, we are united in our common desire to live in peace," Mikoyan said.

At a reception and luncheon given in Mikoyan's honor at Cleveland's Union Club, many leading figures of Ohio's business world were in attendance, including heads of the largest trade and transportation corporations, newspaper publishers, professional men and important public figures.

All of the speakers, including Cyrus Eaton, Board Chairman James Lincoln of the Lincoln Electric Co., Grand Chief Engineer Guy Brown of the Brotherhood of Locomotive Engineers and Dr. Charles Higgins, chairman of the board of governors of the American Board of Surgeons, stressed the importance of contacts and exchanges in all fields, at all levels, for the advancement of mutual understanding and friendship between nations.

In his response, Anastas Mikoyan declared that no idea is more sublime morally than that of friendship between peoples and that peace is especially important in our day.

Mikoyan told his audience of the great peaceful construction going on in the Soviet Union, with the rapid development of industry and agriculture proceeding to raise the living standards of the people. "Our objective," he said, "is to catch up with and overtake America in per capita production."

International trade, Mikoyan said, can be of great significance in bringing about a peaceful atmosphere and strengthening peace. The Soviet Union wants to trade on a mutually advantageous, commercial basis; we want to trade in earnest, he said.

While in Cleveland the Soviet visitor inspected the Lincoln Electric Company plant and not only studied its equipment and products but manifested great interest in working conditions and the life of its employees. He invited several Lincoln workers to come to the Soviet Union and see for themselves how Soviet workers live.

Anastas Mikoyan asked Richard Folette, a worker of East Lakewood, Ohio, his attitude toward Soviet workers. Folette replied: "I am a working man and I am for the working man everywhere." Mikoyan then asked Folette's opinion on peace and the reply was: "All working men are against war because we are the ones who would have to fight."

At Mr. Eaton's farm outside Cleveland, Mr. Mikoyan formally presented the industrialist with a Russian troika—a carriage and team of three white horses—as a gift from the Soviet Government.

The following day, January 8, saw the Soviet statesman en route to Detroit, where he told his welcomers that the Soviet people are well acquainted with the Motor City as one of America's largest industrial centers, as a stronghold of organized labor and as a city of efficient business leaders.

At a dinner in the Detroit Club given by leading citizens of the community, as well as at a luncheon given by Henry Ford II and other auto industry leaders, Mikoyan reiterated his call for a reduction of tensions between the Soviet Union and the United States. He also continued his policy of frank answers to all questions, whether appearing before a formal audience or strolling through the Ford plant at River Rouge and chatting with workers. All the workers he talked to spoke for peace and understanding.

Anastas Mikoyan said he found many impressive changes in Detroit since his visit of twenty years ago, but that the friendly and hospitable receptions were unchanged. He recalled that in the early days of the Soviet automobile industry, the Detroit car manufacturers were especially helpful and cooperative.

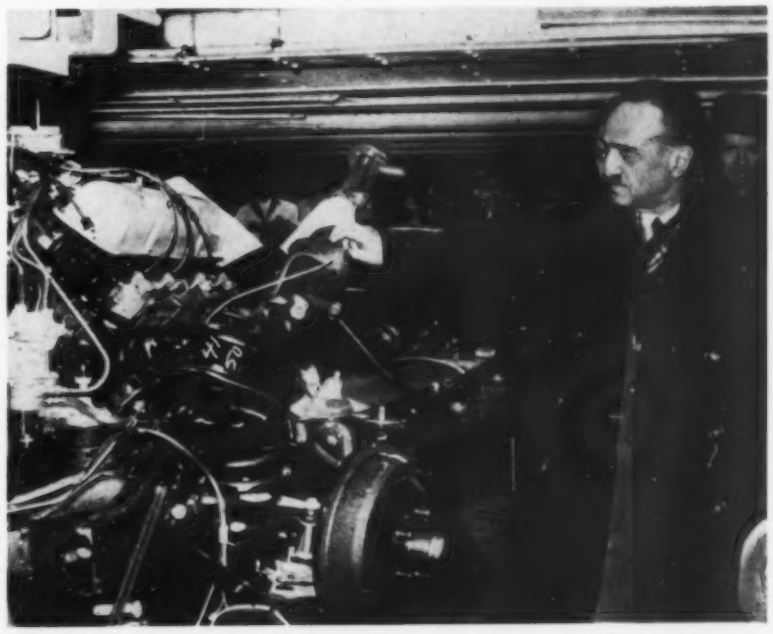
While Mikoyan was speaking with Detroit industrialists, he mentioned that although the Ford Motor Company and General Motors compete intensely and spoil each other's blood, they do not spill it. "The same sort of competition should exist between the Soviet Union and the United States," he said. "We can spoil each other's blood but we should by all means avoid spilling it."

Stopping next at Chicago, Mikoyan told members of the city's club that the business community could play an important role in a *rapprochement* between the Soviet Union and the United States. He reminded his listeners that long prior to the establishment of diplomatic relations, American business firms had developed an intensive trade with the Soviet Union, exporting tractors, industrial equipment and manufactured goods.

During his stay in the Windy City, Mikoyan accepted the invitation of Joseph Po-

For his tour of the great River Rouge auto plant, Mikoyan was met by Henry Ford II. The Soviet visitor recalled his trip of 22 years ago when Henry Ford, Sr. showed him around.

Viewing an automobile assembly line at River Rouge, Mikoyan examines a partially assembled Ford during a stop on his tour. The Soviet guest also visited other Detroit factories.



"Our Russian bear looks more friendly," Anastas Mikoyan told Gov. Edmund G. Brown of California as he examined the state flag. Afterward Mikoyan dropped in on Hollywood movie sets, saw films made and talked to the stars.

ANASTAS MIKOYAN visits the United States

lowsky, a Chicago bus driver, to visit his home and to hobnob with a typical American family. A World War II veteran, Polowsky was with the U.S. troops that met Soviet forces at the German river Elbe. At the Polowsky apartment, Mikoyan played with the couple's children. I hope, he said, that your children and my grandchildren will live in peace.

January 10 found the Soviet visitor on the Pacific coast. His first stop was San Francisco, where he was a guest of the Press Club and met with correspondents. Answering questions there, he stressed the importance of the cultural exchange agreement signed a year ago and said he found it marked a heartening stage in Soviet-American relations.

Asked what problem should be solved first to improve relations, Mikoyan responded that peace was the vital issue and we should end the cold war, avoid tensions and treat one another as equals without any effort to impose the will of one upon the other. Then, he continued, we can easily find a common language which will help us reach a peaceful solution of all disputed problems.

During his stay beside the Golden Gate, Anastas Mikoyan won an ovation from the World Trade Association when he told his listeners of the need to make the two countries trade together for their mutual benefit. Mikoyan said the volume of Soviet exports has reached about 4.5 billion dollars and about 1.5 billion of this covers goods the U. S. has to import. He stressed that the seven-year plan for developing Soviet economy calls for an 80 per cent boost in industrial output and holds great

Ford worker Ashot Kazarian (left), an Armenian-American, got an autograph from Anastas Mikoyan after addressing the Soviet guest in his native tongue during the River Rouge tour.

Mikoyan holds Irene, baby daughter of Joe Polowsky, American veteran of the Elbe river link-up with Soviet troops, at his Chicago apartment.

possibilities for Soviet-American trade.

The visitor said the Soviet Union had reached a high level of industrial development and not only could purchase American goods, but could also sell the United States the most modern machinery. "The artificial earth satellites we call sputniks and our cosmic rocket are not just isolated achievements or accidents, but rather evidence of the generally high scientific and technological development of my country," Mikoyan said.

Before leaving San Francisco, Mikoyan was received by Governor Edmund G. Brown and they enjoyed a cordial conversation in which the California Governor suggested that the next Soviet-American conference be held under the state's "great and ageless redwoods."

The next stop was Los Angeles, where Mikoyan conferred with business leaders of Southern California and representatives of a cross section of the sprawling city's population. He reiterated his feeling that the Soviet Union and the United States must stop distrusting and misunderstanding each other.

Anastas Mikoyan was honor guest at a dinner attended by a large number of the leading representatives of the film industry.

In Hollywood, Mikoyan toured the movie capital's studios, met with producers, famous stars and technicians. Before bringing his West Coast visit to a close the visitor stopped over at the University of California in Los Angeles and met in a very warm and friendly atmosphere with the students and faculty. He told them he could feel the real interest of American intellectuals in the Soviet Union and felt this was natural because of the vast changes that had occurred there since 1917.

Turning back east, Mikoyan reached New York City where he spent a busy time. First he went through Macy's department store on Herald Square where he was met by store executives. Starting in the bargain basement, they went through the ten floors, examining consumer goods and merchandise of all types. Mikoyan frequently stopped to handle goods that particularly interested him. He next lunched with a group of Wall Street financiers in a private dining room of the First National City Bank of New York, met a cross section of men prominent in the economy and public life of the country at the home of former New York Governor Averell Harriman, and concluded his day with an appearance as guest of honor at a huge banquet sponsored by the Economic Club of New York.

Some 1,100 American business leaders heard Anastas Mikoyan call for an end to *nyet, nyet, nyet* (no, no, no) in Soviet-American relations, and the substitution of *da, da, da* (yes, yes, yes). Applause greeted the speaker as he called for more support for peace, for consultation and negotiation, for peaceful competition and coexistence.

"We have less than you have now," Mikoyan went on. "Does it represent a threat to you if the Soviet Union eats as much as you do? Or drinks as much milk? Or if our people have as much consumer goods as the Americans? Would that constitute a danger to you?"

Afterward Mikoyan returned to Washington, where he had an appointment with President Eisenhower and Secretary Dulles.

Anastas Mikoyan paid a visit to U.S. Secretary of Commerce Lewis Strauss in Washington. In his speeches Mikoyan stressed the Soviet Union's desire to develop mutually advantageous trade with the United States.

On January 19 a luncheon in honor of Mikoyan was given at the National Press Club attended by some 500 newspapermen and observers.

On January 20 Anastas Mikoyan left the United States after making a statement in Washington thanking the American people for their hospitality and expressing his wish for them to live in peace and friendship with the Soviet Union.

Soon after Mikoyan arrived home he held a press conference in the Kremlin. He told the foreign and Soviet journalists gathered there that the Soviet Government considered his visit a contribution to the improvement of Soviet-American relations and felt that it would help to lessen international tension.

Mikoyan said that the representatives of business circles he had met in New York and other American cities had stated outright that they thought relations between the two countries should be normalized and that if the Soviet Union and the United States would draw closer to each other, it would help to strengthen world peace. These businessmen, Mikoyan said, want to develop business relations and trading contacts with the Soviet Union on the basis of respect for mutual interests.

Mikoyan expressed his sincere appreciation to President Eisenhower, Vice President Nixon, Secretary of State Dulles and to all the organizations and individuals in the United States that had received him so hospitably.

He was truly grateful, he said, for the warm sentiments the American people had evinced toward the Soviet people. Mikoyan conveyed greetings from the workers of the Ford, Chrysler, General Motors and Lincoln plants and the students of the University of California in Los Angeles. He said that these people and many others he had met had asked him to carry back the message that the American people want to live in peace and friendship with the Soviet people. This in itself is proof that the joint efforts of the Soviet Union and the United States along with other countries could create the conditions for a peaceful and tranquil life for all people.

Speaking before the Twenty-First Congress of the Communist Party in January, Anastas Mikoyan said that the average Americans and the industrialists with whom he had talked had met him as an envoy from the Soviet Union, although his visit had been an unofficial one. They gave me a very friendly welcome, Mikoyan pointed out, and I could see they were most anxious to find out what the Soviet people want and what we are trying to accomplish. Some of the questions I was asked showed that there are wrong conceptions of our country and of our policy. The explanations we gave them were thoroughly grasped and one could feel that the Americans really wanted to understand us. They also did their best to let me see their point of view.

I listened attentively to the questions they put to me and, without any evasions, I answered them to the best of my ability. I also paid careful attention to what they said. One could feel, concluded Mikoyan, that the American people and most of the businessmen are hungering for peace, want a genuine peace for the world, and stable and peaceful relations between the USSR and the United States.

THE FIRST ROCKET IN THE COSMOS

ON JANUARY 2, 1959, a cosmic rocket was launched in the direction of the moon—with this matter of fact statement Soviet science and technology announced that interplanetary flight was on the order of the day. The Soviet Union had built and shot into space man's first artificial planet, a rocket whose last stage had exceeded a speed of seven miles a second—what scientists term second cosmic velocity—enough to escape the gravitational pull of the earth and to place the rocket into a great orbit around the sun.

The last stage was a controlled rocket. Control was effected through an automatic system which stabilized the position of the rocket along the preset trajectory and ensured the precalculated velocity after the engine was switched off.

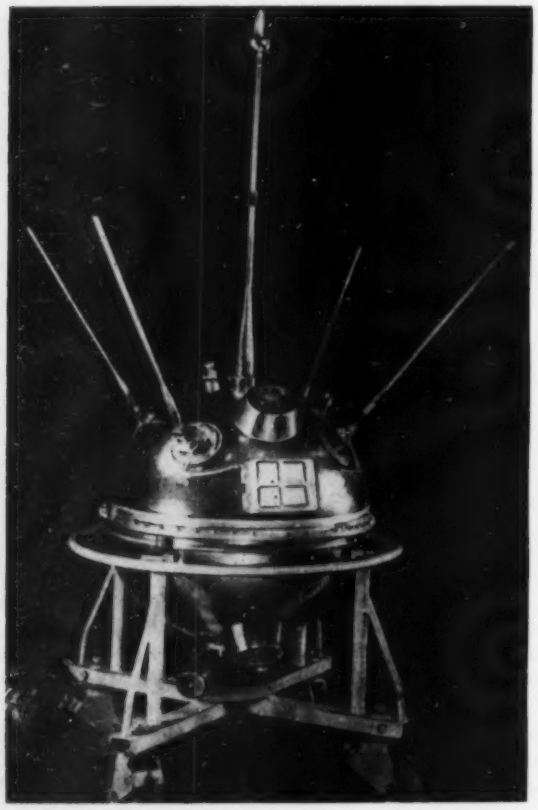
The last stage of the rocket after its stock of fuel had been consumed weighed 3,244 pounds. Besides the devices which assured normal flight, it carried a 796-pound separable container with scientific and radio equipment, as well as a cosmic ray counter, two transmitters to relay research data, a radio system to determine the rocket's trajectory and forecast its further movement, and equipment for creating an artificial sodium comet.

Second Cosmic Speed

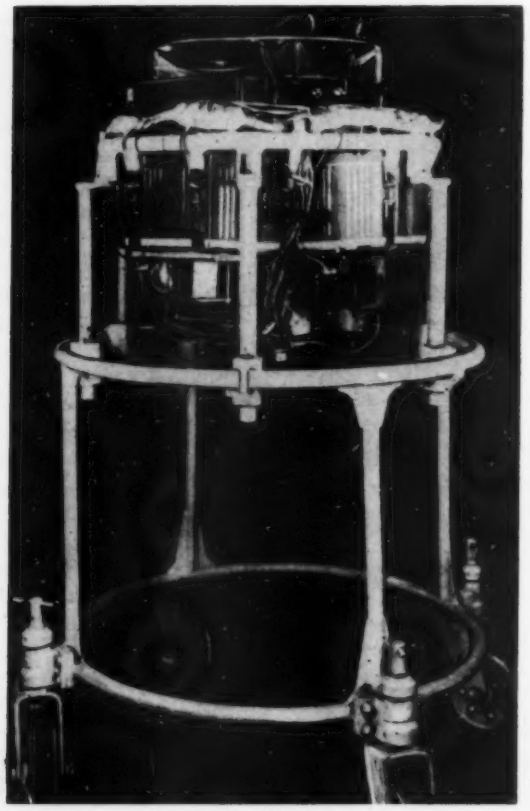
The rocket took off from the ground vertically. Then its trajectory was gradually veered away from the vertical by an automatic control system. When the rocket's last stage exceeded the second cosmic velocity, the control system switched off the engine and detached the container with a load of scientific instruments. Both the container and the last stage raced on in the cosmos along the prescribed trajectory separately, quite near each other.

After the engine of the last stage was switched off, the motion of the rocket, until it approached the moon, was influenced mainly by the

The rocket's separable container with scientific and measuring equipment shown on an assembly carriage.



The instrument frame of the container with its equipment and power sources shown on an assembly carriage.



earth's gravitational pull. Consistent with the laws of celestial mechanics, the trajectory of the rocket approximated a hyperbola. It was most askew near the earth. But the farther the rocket moved, the weaker was the earth's attraction, and at a great distance the trajectory became almost a straight line.

The speed of the rocket, very significant in the beginning of its hyperbolic trajectory, then slowed down because of the earth's attraction. Thus, at an altitude of 1,000 miles the rocket's speed in relation to the earth was a bit more than six miles a second. At an altitude of 60,000 miles it was only two miles a second.

The time of flight to the moon's orbit depends on the increment by which a rocket's initial speed exceeds the second cosmic speed. The larger the increment, the shorter the time of flight.

In the case of the Soviet rocket a choice of the magnitude of this increment was made so that the passage near the moon could be observed by radio in the Soviet Union and elsewhere in Europe, Africa and the larger part of Asia.

It took the rocket 34 hours to reach the point in its flight closest to the moon. At this point they were only 3,100-3,700 miles apart—approximately one and a half diameters of the lunar body. The rocket moved in the celestial sphere approximately five times more slowly than the moon.

When the rocket approached to within several tens of thousands of miles from the moon, the lunar force of gravity began to exert a noticeable influence. The moon was below the rocket and the direction of the rocket's flight declined downward. The moon's attraction also made for a localized increase in speed which reached its maximum when the moon and the rocket were nearest each other.

Orbit Around the Sun

After passing near the moon, the rocket's speed in relation to the earth diminished to approximately 1.2 miles a second. At a distance of one million miles and more away from the earth, the effect of the earth's gravitational pull was so weak that the rocket could be practically considered to be moving only under the influence of the sun's attraction.

Ensigns carried inside the rocket's container—a sphere symbolizing the artificial planet, and a thin metal ribbon with the inscription "Union of Soviet Socialist Republics" on one side and "January—1959—January" between two Soviet state emblems, on the other side. Engraved on the sphere's pentagonal elements of rustless steel are the words "USSR—January—1959" and the Soviet state emblem with the inscription "USSR."

Around January 7 or 8, the rocket entered an orbit of its own around the sun. It thus became the sun's satellite, the first man-made planet in the solar system.

During this period, the velocity of the rocket in relation to the earth was headed roughly in the same direction as the velocity of the earth in its revolution around the sun. Since the earth moves with a speed of 18.6 miles per second and the speed of the rocket in relation to the earth was 1.2 miles per second, the speed of the rocket's motion as a planet around the sun was roughly 20 miles a second.

New Advance in Space Exploration

Utmost Accuracy Essential for the Rocket's Launching

By V. Ivanchenko
Doctor of Science (Tech.)

IN THIS AGE of cosmic travel, we must know a great deal more about the properties of space than the information supplied by the earth's artificial satellites. In much the same way as reliable charts are needed for the navigation of the seas or airways, more detailed cosmic exploration is necessary to chart safe routes for future manned flights to the other planets of our solar system.

The list of instruments aboard the Soviet cosmic rocket shows that its purpose was to make an extensive study of regions of the universe far beyond the earth. The rocket's trajectory was chosen so that it could pass close to the moon to obtain what might be termed a "bonus" of additional information.

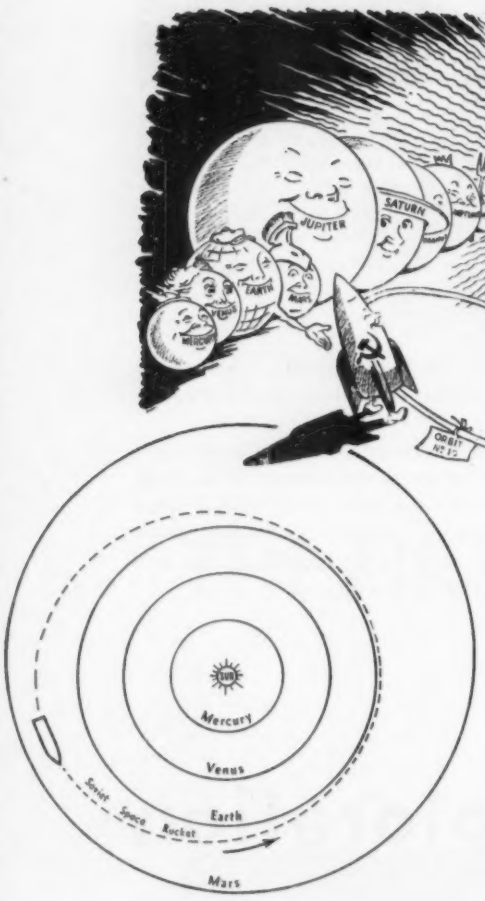
Scientists and engineers working out the trajectory had a tremendously difficult task. First of all, equipment had to be designed that would allow for the gradual built-up of speed in one stage of the rocket after the other. The rocket's last stage had to achieve a definite precalculated speed. Had this velocity been either too little or even slightly excessive, the rocket would have veered sharply away from the neighborhood of the moon and taken quite a different path.

Another feature demanding the utmost accuracy was the angle of ascent in the rocket's last stage. Here again, even the slightest deviation from the precalculated angle would have made the rocket miss the moon which—we should remember—was also traveling very fast.

When the rocket blasted off from the earth, the moon was far from the point where it was to have its rendezvous with the rocket. Therefore it was not only necessary to direct the rocket exactly to this point, but to get it off the earth at the exactly correct moment. The slightest hitch in the count-down would have caused the rocket to miss the moon by far, even if its automatic pilot followed the preplotted course exactly.

The extreme precision with which the rocket followed its prescribed trajectory is one of the most amazing features of this feat of science and technological collaboration.

The First Rocket in the Cosmos



On January 7 or 8 the rocket entered an orbit around the sun and thus became the tenth planet in the solar system.

By applying the laws of celestial mechanics, we can predict the movement of the rocket as a new planet of the solar system. The inclination of its orbit to the earth's orbital plane is about one degree. The closest the new planet will get to the sun will be about 90 million miles. This is slightly less than the distance between the earth and the sun, which averages 93 million miles. The farthest the new planet will get away from the sun will be about 122 million miles. At this point in its orbit it will be about 29 million miles farther away from the sun than the earth.

The new planet's period of revolution around the sun will be about 450 days, or some 15 months. It is longer than the earth's year because the radius of the rocket's orbit, and consequently the length of its path around the sun, is greater. The rocket first reached the point closest to the sun in the middle of last January, and will reach the point farthest away early in September of this year.

As the rocket and the earth move around the sun the distance between them will alter—grow larger, then smaller. The greatest distance may reach something like 185 to 215 million miles; the shortest may be in the neighborhood of 620,000 miles.

Container with Scientific Equipment

The spherical container with scientific equipment was housed in the upper part of the rocket's last stage. For protection from heating during passage through the dense layers of the atmosphere the container was shielded by a cone which later was discarded. The container housed the following instruments:

1. Radio equipment to verify the trajectory of the rocket's movement—a transmitter operating at a frequency of 183.6 megacycles and a block of receivers;
2. A telemetric block for radio transmission of scientific measurements as well as temperature and pressure measurements inside the container;
3. A radio transmitter with a frequency of 19.993 megacycles to relay instrument readings;
4. Instruments for the study of the gas components of interplanetary matter and the corpuscular radiation of the sun;
5. Instruments for measuring the magnetic field of the earth and detecting the magnetic field of the moon;
6. Instruments for the study of meteor particles;
7. Instruments to record the heavy nuclei in primary cosmic radiation;
8. Instruments to record intensity of cosmic rays and to record photons in cosmic radiation;
9. Silver-zinc and oxidized-mercury batteries to power the radio instruments and scientific equipment.

Fastened to the outer shell of the container were the four antennae of the 183.6 megacycles frequency transmitter. The rods were placed

Manned Space Rockets Within the Life Span of Our Generation

By A. Dorodnitsin
Member,
USSR Academy of Sciences

THE creation of man's first artificial planet demonstrates that Soviet rocket engineering is well on the way to conquering the cosmos. And this was made possible by a high level of metallurgy, machine building, radio engineering, instrument making and automation. It is these branches of technology that to a great extent determine the country's economic potential.

A high level of Soviet rocket engineering is also a result of scientific achievements. The space rocket could not have been created without highly advanced aerodynamics, thermodynamics, mathematics, physics, chemistry, electronics and computing techniques.

From the time of the first sputnik Soviet specialists have devoted much attention to increasing the weight of research rockets. This is not only because heavier payload is essential to obtain a maximum of scientific data from flying space laboratories. The larger size of rockets is also necessary for future manned flights in space.

Of course, there is still a lot of difficult work ahead before this task is completed. But we can say that the work has already passed from the realm of quests of untrodden paths into the stage of technical design. There is no doubt that within the life span of our generation man will set foot on the planets of our solar system and, first of all, on the moon, of course.

Mankind is on the threshold of great discoveries. There is a possibility, for example, of utilizing various rare elements which may be found in greater quantities on other planets. Their delivery to the earth may prove to be quite profitable.

At this time we don't even dare to predict what new discoveries are ahead in our exploration of the planets. But we can be quite sure that whatever the discoveries, they will be used for the benefit of man.

symmetrically around a hollow aluminum pin with a magnetometer at the end. The antennae were folded and fastened onto the pin until the protective cone was discarded, and then they opened up. Also on the shell were two proton traps for detecting the gas components of interplanetary matter and two piezo-electric gauges for the study of meteor particles.

The container was hermetically sealed and filled with gas at a pressure of 1.3 atmospheres. Circulated by a ventilator, the gas drew off the heat from the instruments and passed it on to the container's shell, which served as a kind of radiator. The temperature of the gas was maintained within the preset limits—about 20 degrees centigrade (68 degrees Fahrenheit).

To maintain the required temperature regime inside the container, it was detached from the rocket after the engine of the last stage finished working. Special treatment of the container's outer shell ensured the necessary balance between the heat radiated from the inside and the heat received by the shell from the sun.

Separating off the container also ensured the normal regime of work for the antennae and the magnetometer fastened to the outer shell. Whatever undesirable magnetic influences might be exerted by the metal structure of the rocket on the readings of the magnetometer were thus eliminated.

Two Ensigns

To mark the launching of the first cosmic rocket which became the first artificial planet of the solar system, the container carries two ensigns with the state emblem of the Soviet Union.

One ensign is a thin metal ribbon which has the inscription "Union of Soviet Socialist Republics" on one side, and the inscription "January—1959—January" between two Soviet state emblems on the other side. Both the inscriptions and emblems are fixed for permanence by a special photochemical process.

The second ensign is a sphere to symbolize the artificial planet. Its surface is covered with pentagonal elements which are made of special rustless steel. Engraved on one side of each element is "USSR—January—1959," and on the other side the state emblem of the Soviet Union and "USSR."

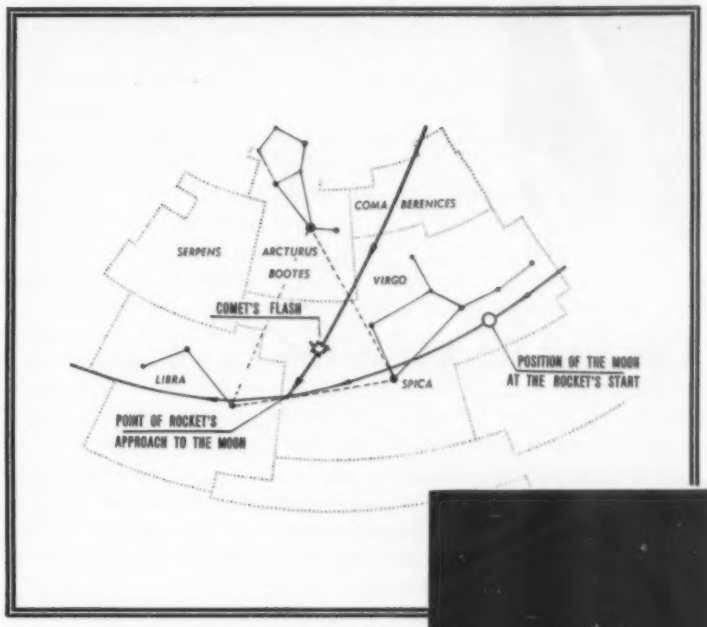
Cosmic Ray Study

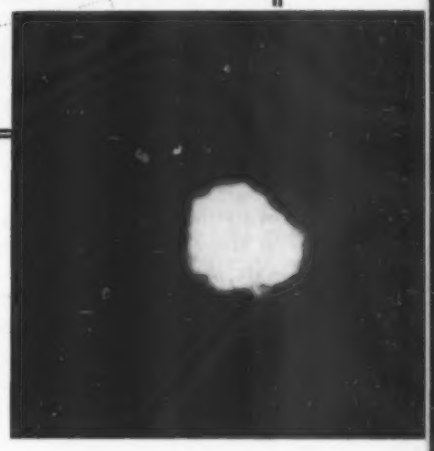
One of the principal research objectives of the Soviet space rocket is the study of cosmic rays.

Until now data on cosmic rays was obtained by measuring them near the earth. The composition and properties of cosmic radiation near the earth, however, differ markedly in character from virginal cosmic ray particles that come to us from outer space.

When high-altitude rockets and especially artificial satellites are used for the study, the amount of matter interfering between the virginal cosmic rays and the measuring instrument is no longer significant. However, the earth is "enveloped" by a magnetic field which partially reflects back the cosmic rays. On the other hand, the same magnetic field acts as a sort of trap for the cosmic rays. Once a cosmic ray particle is caught in this trap, it will wander about there for quite a long time.

As a result, vast amounts of cosmic ray particles accumulate near the earth. We know that at altitudes of 600 miles only a negligible num-





Constellation map shows the rocket's path toward the moon. At the right is an actual photograph of the flash of the artificial comet formed by the rocket on January 3 at the distance of 70,000 miles from the earth.

Next Step—Flight Beyond the Solar System

By A. Ilyushin

Corresponding Member
USSR Academy of Sciences

SPUTNIKS travel with the first cosmic velocity of five miles per second, and they are unable to completely free themselves from the earth's gravitational pull. The Soviet rocket exceeded the second cosmic velocity of seven miles per second, and it thus escaped this attraction forever.

The magnitude of these speeds, which are respectively 27 and 38 times greater than the speed of sound, testifies to the complexity of the problem solved by Soviet rocketry specialists. Combine the velocity of the space rocket with its enormous weight, and you can conclude that a new advance has been scored in the creation of cosmic vehicles.

The successful launching of Sputnik III, weighing in excess of 2,900 pounds, foretold the coming of the cosmic rocket which is still heavier. But its creators had to solve such complex problems as building an engine with more thrust and power. They had to work out the system of the multistage vehicle, to find a high calorific fuel and to produce an effective launching device. They also had to develop strong but light alloys for the rocket and heat-resistant alloys for its engines. On top of all this, the success of the flight of the cosmic rocket hinged on the precision of its guidance and control system.

The attainment of success by the rocket, whose 3,244-pound last stage is now in orbit around the sun, prove that Soviet science and technology have the necessary prerequisites for the next step ahead. Even at the present stage of development lighter rockets can be sent beyond the sphere of the sun's attraction.

Once having crossed the so-called third cosmic barrier, they will be traveling in interstellar space. These flights are no longer a fiction writer's fancy but can be regarded as the assignment of the day for science and technology.

The First Rocket in the Cosmos

ber of these particles—about 0.1 per cent—come directly from outer space. The remaining 99.9 per cent apparently come from the disintegration of the neutrons emitted by the earth—or rather by the top layers of its atmosphere. These neutrons in turn are produced by the cosmic rays bombarding the earth.

Only when we place the instrument measuring cosmic radiation outside the earth's atmosphere as well as out of reach of the earth's magnetic field, as the Soviet space rocket is able to do, can we properly study the nature and origin of cosmic rays.

The rocket carries various instruments to record data on cosmic rays in interplanetary space. Cosmic radiation intensity is registered by two counters of charged particles. They give impulses to so-called recounting circuits that send a radio signal to earth when a definite number of particles are counted off.

The composition of cosmic radiation is investigated by means of two photomultipliers joined to crystals. They record the flashes of light produced in the crystals when cosmic ray particles pass through them. The value of the impulse at the output end of the photomultiplier is, within certain limits, directly proportionate to the amount of light radiated inside the crystal when the cosmic ray particle passes through. This last value, in turn, is directly proportionate to the energy spent by a cosmic ray particle on ionization in the crystal.

By detecting the impulses whose value is greater than one or another level we can study the composition of cosmic radiation. The counting of the number of impulses in the rocket's gauge is done by means of recounting circuits similar to those used to count the number of charged particles.

Apart from measurement of the number of impulses, the total ionization produced in the crystal by all categories of radiations is determined by means of a circuit consisting of a neon bulb, a condenser and resistors. This circuit makes it possible, by counting the number of times the neon bulb flashes, to measure the total current flowing through the photomultiplier and thereby to gauge the total ionization produced in the crystal.

Interplanetary Gas and Corpuscular Radiation

Until recently it was supposed that the concentration of gas in interplanetary space is fairly low and contains only a few particles per cubic centimeter. But some astrophysical observations within recent years have tended to alter this viewpoint. These observations together with certain assumptions favor the existence of interplanetary gas with densities in a range of one thousand particles per cubic centimeter. Nevertheless the inferences concerning the existence of such a dense gaseous medium in interplanetary space are not conclusive.

At the present state of astrophysical research, the concentration of interplanetary gas cannot be verified by observations made from the surface of the earth. This problem—greatly important for elucidating the processes of gas exchange between the interplanetary medium and the upper layers of the earth's atmosphere and for studying the conditions of distribution of the sun's corpuscular radiation—can be solved by instruments which are installed in rockets moving in outer space proper.

The Soviet space rocket is supposed to carry on the first stage of such investigations. Its instruments were designed for direct detection in interplanetary space between the earth and the moon of stationary gas and corpuscular streams—if they both exist there jointly—and for rough appraisal of the concentration of charged particles in this area. The research was done by means of four proton traps. The proton current, created in the traps by stationary ionized gas and/or corpuscular streams, was amplified and then registered through a radiotelemetric system.

Meteor Particles

Apart from the planets and their satellites, asteroids and comets, the solar system has a large number of small solid particles. They move, in relation to the earth, at speeds ranging between 7 and 45 miles a second. Taken together, these particles are called the meteor substance.

Analysis of the meteor substance is of great scientific value for geophysics and astronomy, and for the study of the origin and evolution of planetary systems. In our age of space travel the study of the meteor substance has assumed very practical importance.

Meteors striking a space rocket may destroy it altogether or puncture the shell so that the cabin is no longer airtight. Micrometeor particles striking the rocket over a long period may cause undesirable changes in its surface. Optical devices may lose their original transparency and become opaque.

We know that the likelihood of a collision between a space rocket and meteor particles that could damage it is slight. But the possibility does exit and to insure safety of future flights it is important that the danger be properly evaluated.

So far most of the knowledge we have of the meteor substance plunging into the earth's atmosphere from interplanetary space has been obtained through astronomical observation and through radar. But a single micrometeor particle can be studied only by means of instruments carried by artificial earth satellites or high-altitude and space rockets.

To study the meteor substance in interplanetary space, the Soviet cosmic rocket has two ballistic piezo-electric gauges of ammonium phosphate that convert the mechanical energy of striking particles into electric energy. The value of this electric energy depends on the mass and velocity of each meteor particle, and the number of impulses is equal to the number of particles that strike the gauge's exposed surface.

The electric impulses—brief fading oscillations—are fed to the input end of an amplifying transformer, which classes them in three ranges, according to their amplitude, and counts the number of impulses in each amplitude range.

Magnetic Measurements

An analysis of many observations conducted in the past years to detect the magnetic fields of the planets and the moon by their possible effect on the configuration of corpuscular currents ejected by the sun has yielded no definite conclusions. An attempt to establish a general connection between the mechanical moments of cosmic bodies, known for most planets of the solar system, and their possible magnetic moments could not be proven experimentally although a number of ground investigations were carried through on the basis of this hypothesis.

The assumption that the regular currents flowing in the liquid conductive core of the earth are responsible for creating its basic magnetic field is used most frequently now in various hypotheses. The revolution of the earth around its axis is drawn upon to account for peculiarities of the field.

We know very little about the physical state of the moon's inner layers. Until recently it was assumed that even if the lunar mountains and craters were of volcanic origin, the moon's volcanic activity had long ceased and it is unlikely that the moon has a liquid core. From this point of view it ought to be assumed that the moon has no magnetic field if the hypothesis of the origin of the earth's magnetic field is correct. If the volcanic activity continues, however, there is a possibility of the moon's heterogeneous magnetism and even general uniform magnetism.

Cosmic rockets make it possible to measure magnetic fields of planets directly or to detect them through their possible influence on the intensity of cosmic radiation in the space surrounding the planets. The flight of the Soviet cosmic rocket is the first such experiment. Its magnetometer was designed to measure the earth's magnetic field and the possible fields of current systems in the space within the orbit of the moon, and to detect the magnetic field on the moon.

Artificial Comet

The artificial comet formed by the Soviet space rocket was a cloud of sodium vapor in an elemental state. The atoms of sodium dispersed sunlight in a narrow range of frequencies, within the yellow band of the solar spectrum. Since the light dispersed by the sodium cloud was monochromatic, it was possible, during observation of the comet, to considerably tone down the interfering background of the sky with the use of special light filters.

The principal unit of the rocket's installation to form the comet was a sodium evaporator. It was designed to evaporate 2.2 pounds of sodium within five to seven seconds and to discharge the sodium cloud under conditions of weightlessness and the vacuum of outer space. The signal that switched the evaporator on exactly at the preset moment was given by a small electronic device whose main unit was a quartz clock.

Calculations show that the brilliancy of a cloud containing 2.2 pounds of sodium discharged 70,000 miles away from the earth should be approximately equal to the sixth stellar magnitude. This is on the borderline of unaided vision. For the sake of comparison, it can be noted that the brilliancy of the Soviet space rocket itself at this distance was equal to the fourth stellar magnitude.

The purpose of forming the artificial comet was to provide optical confirmation of the fact that the rocket was passing through a given section of its trajectory. The time and the place in the sky for the comet's flash was predesigned so that it could be seen by the largest possible number of observation stations in the Soviet Union. With all this in view the sodium comet was formed at 3:57 A.M., Moscow time, on January 3, at a distance of 70,000 miles from the earth.

Tracking from the Earth

The artificial comet could be observed for several minutes from Central Asia, the Caucasus, the Middle East, Africa and India. The flash was photographed by specially designed optical apparatus at the southern astronomic observatories of the Soviet Union. In addition to the light filters that were used to strengthen tone contrasts in the photographs, a number of installations were equipped with electronic optical transformers to increase the sensitivity of photographic equipment.

To observe the rocket's flight and to record its instrument readings, a widely-branched network of tracking stations throughout the entire territory of the Soviet Union was used. It comprised:

Automated radar installations for accurate determination of the elements of the initial section of the orbit;

Radio telemetric stations to register scientific information relayed from aboard the rocket;

A radio system to measure the elements of the rocket's trajectory at great distances from the earth;

Radio stations to receive the rocket's signals at frequencies of 19.997, 19.995 and 19.993 megacycles;

Optical installations for observing and photographing the artificial comet which was created by the rocket.

Coordination of all tracking installations and collation of the measurements with astronomical time was accomplished with uniform time apparatus and a radio system. An analysis of the trajectory measurements received from the local stations, a determination of the elements of the orbit and the issuing of the "orders" to the tracking installations was carried through by a coordination center using electronic computers.

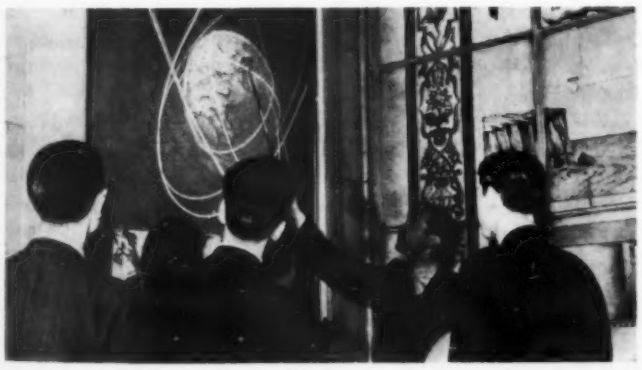
The telemetric ground stations registered the scientific information from the rocket on film and magnetic tape. Data on cosmic rays were relayed at frequencies of 19.997 and 19.995 megacycles by changing the type of performance. Basic scientific information was relayed by the transmitter operating at a frequency of 19.993 megacycles by changing the interval between telegraph messages.

The verification of the rocket's orbit at distances up to 300,000 miles and measurements of the elements of its trajectory were carried through with a special radio system operating at a frequency of 183.6 megacycles. The use of powerful ground transmitters and ultrasensitive receivers ensured reliable measurement of the trajectory and prediction of the rocket's movement in space.

Information transmitted by the first Soviet space rocket shows that its scientific equipment functioned normally. The instrument readings radioed from aboard the rocket are now being analyzed by scientists working in various fields. Even preliminary analysis shows that the results of this research are of great scientific importance.

The voluminous data gathered on the trajectory measurements and the experience acquired in automated processing of these measurements with electronic computers will be invaluable for launching future space rockets.

It is a safe prediction that the day is not far off when cosmic ships will fly to the farthest points of the solar system along routes pioneered by the first space rocket.



Lectures on astronomy and space flights attract ever growing audiences.

After the launching of the cosmic rocket many new members joined the science clubs in schools and colleges.

March 8th Observed a

MARCH 8 every year is observed in most countries as International Women's Day. It was first celebrated almost fifty years ago, in 1910, when the Second Conference of Socialist Women, meeting in Copenhagen, resolved to establish a day to commemorate the struggle of women for equal rights.

In prerevolutionary Russia, Women's Day was first observed on the eve of the First World War, in 1913. Its guiding slogan called on women to support the people's fight for freedom. Only four years later the Socialist Revolution of 1917 won complete equality—social, political and economic—for Russia's women. The young Soviet Republic urged the women to take an active part in building the country.

In the four decades since, Soviet women have indeed taken a most inspiring part in creating the new pattern of life. They have worked and fought shoulder to shoulder with brothers, fathers, husbands and sons. During the Second World War they reinforced the valiant defense of the country. To the arduous labors of peacetime reconstruction, they brought their tireless energy and abundant talents. The fruits of women's emancipation are evident in every sphere of Soviet life—in industry, science, education, art, public administration. This is the socialist solution to the age-old problem of women's rights.

The Woman in Soviet Life

By Maria Ovsyannikova
Editor-in-Chief, Magazine *Soviet Woman*,
Member of Presidium, Committee of Soviet Women

THERE is no area of national effort to which Soviet women have not made their contribution. Some months ago we were host to Mrs. Eaton, wife of the Cleveland industrialist. Mrs. Eaton told us she had been deeply impressed with the large and creative role that Soviet women play in all spheres of the country's life. "I grew fond of many of them," she said, "and I am going to tell the women at home about them."

Maria Ovsyannikova (right) is shown here with Mrs. Cyrus Eaton, wife of the Cleveland industrialist who visited the Soviet Union last year.

Women's role in Soviet life is really many-faceted. We can find women holding down almost every kind of job, even those which were once considered man's special domain. However, our labor laws are very rigid and no management is allowed to employ women on jobs which might endanger their health. As for all other types of work, women have the same opportunity as men and they get equal pay for equal work. At the same time labor legislation gives them certain privileges safeguarding their specific interests.

She Built a Piece of the Country

A good example of a woman who has made her way in a man's field is Marfa Shubina. She heads a team of plasterers on the construction site of the Lenin Hydroelectric Station on the Volga River. The kind of worker she is can be judged from her gold medal of Hero of Socialist Labor which she recently received along with other workers on this project. Besides being an expert at her trade, she also happens to be the mother of four fine children.

Both she and her husband, driller Yegor Shubin, are very proud to have helped build the biggest power station in the world. When they first came to the construction site, there was nothing but wasteland. Now the plant is generating power and around it has grown the new town of Komsomolsk with its avenues of new apartment houses, schools, nurseries, libraries and stores. There is a piece of her work in all of that, says Marfa Shubina proudly, a piece of the country she has helped build.

Another woman who has been building her particular "piece of the country," although in a different sphere, is Yevgenia Andreyeva, chairman of a collective farm in Tambov Region. It was Yevgenia who in 1956 pledged that her farm would raise its meat and milk yield high enough to overtake American standards. She was one of the first in the movement, now spread all over the country, to challenge the world leadership of the United States in per capita farm production.

Last December Yevgenia Andreyeva was invited to speak at a plenary session of the Central Committee of the Communist Party. She reported that in 1958 her collective farm had produced 12 tons of meat for each 250 acres of farmland. And only a few years ago it was considered an achievement when an average collective farm produced somewhere between two and three tons. Yevgenia said at the session she had no doubt that by 1960 the target of 17 tons would be reached.

Yevgenia was elected chairman of her collective farm in 1953. Before that she had worked as an agronomist at one of the machine and tractor stations. At both of the USSR Agricultural Exhibitions in which her collective farm participated, she was awarded gold medals for outstanding achievement.

Housework vs. Career

There are innumerable Soviet women like Yevgenia Andreyeva and Marfa Shubina who are helping to build their particular "piece of the country" and who find the work they are doing personally and socially rewarding.

One of the questions our foreign visitors frequently ask is why the majority of Soviet women work. Do they have to?

Maria Materikova, a worker in a spinning and weaving mill in Leningrad, answered the question this way: "What's so unusual about the fact that so many of us prefer to work?

edas Women's Day

Traditionally, on March 8, the Central Committee of the Communist Party publishes an address to Soviet women, lauding their contributions and accomplishments. Numerous meetings are held throughout the country, and parties, concerts and special theater performances are arranged to honor women.

But even more than a national holiday, March 8 is a family holiday. On the eve of the eighth, the shops are full of men buying last-minute gifts. Concentration points are the perfume and jewelry counters in department stores, and the florist's and confectioner's shops. Besides the shopping jam, there is usually a last-minute rush with telegrams and greeting cards. And at home, children work madly to put the finishing touches on homemade gifts for mother and grandma.

March 8 is get-together day in millions of Soviet homes around dinners of special holiday proportions. The first toast is to the guests of honor—wives, mothers, sisters and daughters.

And this year it will be a day of unusual significance because this is the first year of the seven-year plan. It will be a period of new advances in all spheres of the country's life, and women—whether they are scientists or physicians, engineers or teachers, farmers or artists—will make their contributions to the accomplishments of the entire nation.

I'd be miserably bored and unhappy without this feeling I have that I'm useful, that I'm part of a big group of people working together, that my work is contributing something to building the country and to raising living standards for everybody. I can't imagine myself without social work, even for a short time."

Many Soviet women do not find housework and a family enough of a career by itself. In answer to the question of a French visitor who wanted to know whether she would leave her job when her second child was born—she was on maternity leave then—Engineer Anna Kovalenko, assistant superintendent of the heat-treating shop in the Kharkov Tractor Plant, answered: "There is a creative satisfaction I get from my job. As much as I like raising a family I find it hard to think of it as a full time job that would take all my interest and attention. I think that a job, far from interfering with family duties and responsibilities, makes for a happier and fuller family relationship. A woman then is not only a wife but also her husband's comrade."

A great deal is being done in our country to free women from household chores and simplify the problem of caring for children. The number of nurseries and kindergartens have steadily increased, and more boarding schools are being opened all the time. The numbers of public catering, laundering and other such work-reducing enterprises are rapidly growing to give women not only the right but the real possibility of a career outside the home.

In Every Field of Endeavor

A woman in our country can find employment in any field for which she has the training and inclination. We have women tool-makers and milling machine operators, women technologists, engineers and designers. There is no end to the trades and professions at which women are working.

There are about 700,000 women engineers and technicians now employed. More than 40 per cent of farm specialists with advanced secondary or college training are women. Women are especially numerous in such fields as education and medicine. Seventy-six per cent of our doctors are women.

This, by the way, is an interesting fact. Of the estimated 1,236,000 doctors in the world, more than a quarter practice in our country which has only a thirteenth of the world's population.

Soviet women are prominent in the sciences. Our 100,000 women researchers work in all the science fields. They were active in the international geophysical congresses and contributed to building and launching the space satellites.

In literature and the arts Soviet women also stand well up in the front rank. Ballerina Galina Ulanova is acclaimed in the many countries where she has danced as a ballet star of the first magnitude. The talented women dancers of Igor Moiseyev's group and the Beryozka dancers led by Nadezhda Nadezhdina won the applause of both critics and public when they performed in various parts of the world, including the United States.

As for the housewives—and there are many women whose major interest is home and family—they too manage to make time for study and for participation in the country's life.

In recent years women's councils have grown up in many places. They include as members both housewives and women retired from jobs and on pension. The wives and daughters of steelworkers in the Ural town of Alapayevsk formed such a council. One of their aims was to transform the town into a garden spot, and they have already planted some tens of thousands of trees and flowering shrubs. Their functions are now quite varied. They hold forums on current events and on scientific and literary topics, help teachers in nurseries and kindergartens, and organize all kinds of activities for the children of working mothers.

Women's Rights

Women's rights have long been part and parcel of Soviet living. Legislation granting women full equality with men and protecting the interests of mother and child were adopted as far back as 1917. But needless to say, equality was not achieved merely by passing a law.

From old Russia we inherited a dark background of discrimination and injustice. Our mothers and grandmothers well remember the hopeless position of most women in those days. More than half the working women in czarist Russia were servants, another quarter toiled for the landowners and rich farmers, 13 per cent worked in industry, mostly in textile mills and clothing factories. Women were, of course, paid much lower wages than men for the same work.

All this is now so much ancient history. Except for those jobs which require considerable physical strength, women find their places alongside men in all vocations and are paid the same wages.

The rights of Soviet workers, whether men or women, are protected by the trade unions, many of them headed by women. Of the 51 million trade union members in our country, half are women. The trade union sees to it that proper work and safety conditions are adhered to and that women are not taxed with work beyond their strength. It defends the rights of the working woman when there is a dispute with the management.

The trade unions in our country administer the national fund of social security, and out of this fund they pay the working woman maternity benefits and see that she is provided for in the event of illness or temporary disability. The working woman comes to her trade union for a nursery or kindergarten for her child, for vacation accommodations at a holiday or health resort.

The trade union helps the working woman to improve her skills. It is the rare woman in our country these days who is not taking one or another of the refresher courses given by

The Woman in Soviet Life

practically all factories and larger offices.

On the collective farms, where women do much the same work as men, both their rights and the men's are defined by the rules of the farm cooperative. Enjoying equal rights, women at the same time are granted certain privileges as, for example, paid maternity leave.

Women in Public Affairs

The Soviet woman is active in public affairs. More than half a million women presently hold public office as deputies to local Soviets—the village, town, city and regional councils; and 348 are deputies to the national legislature—the USSR Supreme Soviet.

Among the most important of the national women's magazines are *Rabotnitsa* (Working Woman) and *Krestyanka* (Farm Woman). They are published in millions of copies and give a many-sided picture of women's activities. Every republic also has its own magazine directed to women and published in the national language.

Our magazine *Soviet Woman* is published in Russian, Chinese, English, German, Spanish, Japanese, Korean, Hindi and Urdu and has a large circulation not only in the Soviet Union but also in many foreign countries, including the United States. Then there is the magazine *The Woman of Our Day* published in French.

Both magazines are issued jointly by the USSR Council of Trade Unions and the Committee of Soviet Women. In addition to material by Soviet writers, these magazines carry many articles by journalists and public figures of other countries.

Committee of Soviet Women

The Committee of Soviet Women, a national organization, works to establish friendly relations with the women of other countries. Its large membership includes such women as Marfa Shubina and Yevgenia Andreyeva of whom we spoke; the members of the woman's council of Alapayevsk; all the women deputies to the Supreme Soviet; our women

Statue to a Woman Farmer

By Andrei Levko

IN the Ukrainian village of Losyatin you can find a statue erected in a public square with a legend engraved in the pedestal: "To Stepanida Vishtak, Hero of Socialist Labor, for Raising Bumper Crops of Grain and Sugar Beet."

The Soviet people thus honor not only their eminent statesmen, scientists and artists, but their distinguished workers and farmers. And not only their dead heroes, but their living ones as well.

Stepanida Vishtak is a collective farm woman, born and raised in Losyatin. During the war, in 1943, just after she had graduated from school, she was shipped to Leipzig by the fascist invaders to do slave labor together with thousands of other Soviet men and women. For two long years she was forced to work for the enemy. After the war, a disabled consumptive, she returned to her native Losyatin.

The bracing air of her native Ukraine, medical care and the solicitude of people around soon put her back on her feet. She worked with other collective farmers to rebuild the houses and the school burnt by the fascists. Then she studied agrotechnics and in 1947 organized a group of the collective farm girls around a project to raise bumper crops of sugar beet and corn.

With the experience of the best of the country's collective farms as guide and Stepanida's enthusiasm as spur, the group very quickly began to get extraordinary crop results. They were the first farmers in the Ukraine to sow highly effective single-shoot sugar beet seeds and, with less work, to get heavier beets with greater sugar content.

Last year an average 20,000 pounds of sugar beet was raised on each acre in the Ukraine. Stepanida Vishtak had begun to get more than twice that yield as far back as 1948. At that time she was awarded for her work with the gold medal of Hero of Socialist Labor. Since 1948, she has been getting successively larger yields.

Last year, after she got a yield of 65,000 pounds of sugar beet and almost 10,000 pounds of corn per acre, she was honored for the second time with the title of the Hero of Socialist Labor and was awarded the second gold medal. Her sculptured portrait in bronze was mounted on a marble pedestal in the village square.

At the unveiling the village played host to five thousand guests. Besides immediate neighbors there were farmers from all over the Ukraine, scientists and writers from Kiev and delegations from Moscow, Latvia and far-off Khirghizia.

Stepanida is consulted by beet growers from distant parts of the country. Soviet newspapers and farm periodicals follow the progress of her work closely and agronomists study the growing methods she uses. The farm has its own school now for training farm specialists. Locally, they call it "Stepanida Vishtak Academy."

Before the war, there was only one person in the village with a degree from an agricultural college; now there are some 70 college graduates working on the Losyatin collective farm. And Stepanida's group of girls, who began working with her twelve years ago, are now leading groups of young beet growers themselves. It may be that some of them will sooner or later have their statues standing alongside Stepanida's in the village square.

Stepanida Vishtak's statue in her native village of Losyatin in the Ukraine. She is pictured below with Nikita Khrushchev at a recent conference in Moscow.

Ministers; Yekaterina Furtseva, the woman member of the Presidium of the Central Committee of the Communist Party; women farmers and industrial workers and housewives.

The Committee has its headquarters at 23 Pushkin Street in Moscow and is headed by Nina Popova. It was founded during the war, in 1941, and was then called the Soviet Women's Anti-Fascist Committee. Although its name was later changed, its principal function remains unaltered—to work with women throughout the world for peace.

The Committee, which cooperates with all women's organization of whatever persuasion so long as they work for peace and international friendship, is affiliated with the Women's International Democratic Federation.

The Committee conducts a voluminous correspondence with its many thousands of friends abroad. Its members in every Soviet city act as hosts to visiting women tourists. In 1958, at the invitation of the Committee, women's delegations from 35 countries visited the Soviet Union.

The Committee was host to an American delegation of women doctors and to a group of American women who were members of the League for Peace and Freedom. We hope this year to be able to greet many more of our American women friends.

Thoughts of a Woman

I have at home a reproduction of a drawing *Humming Bird and Hawk*. The artist, Vasili Basov, picked up the idea for it from a letter which came from Mrs. Vivian Hallinan of Marin County, California. She is the mother of six children, and the artist sent his drawing as a gift to her family.

I think Mrs. Hallinan wouldn't mind my quoting from her letter, since it shows that the thoughts of women the world over are pretty much the same. She wrote:

"Outside our porch a pair of humming birds had built their home. We knew when the fledglings had hatched by the activity of their parents.

"One day I saw an amazing sight near the nest. A great hawk was turning and twisting in the air, striking and clawing at some invisible enemy. Then I saw it—the tiny, iridescent body of the mother humming bird—suspended above the bird of prey, darting in and striking at its head with her rapier bill. Presently the hawk turned and flew off, pursued by its tiny foe. Finally it disappeared over the trees and the little heroine returned to her brood.

"For a long time I stood thinking about what I had just seen. Then I went back into the house and rolled up my sleeves and prepared to do what I could to drive the warhawk from my nest . . ."

A Woman of the New Tajikistan

By Akram Yakubov

FOR Sarajan Yusupova, Women's Day is a very memorable holiday. She is an eminent geologist, member of the Tajik Academy of Sciences, professor at the Tajik State University and the first Tajik woman to win the degree of Doctor of Science.

Sarajan Yusupova is one of the Soviet Union's 100,000 women who are doing research in various sciences. Her studies in geology have won her national renown.

Tajikistan is a small Soviet Republic in Central Asia with a population of two million. There was a time when this mountain region was a miserably backward leftover of feudalism, its women denied the most elementary human rights. Although the equality of women was declared the law of the land after the Socialist Revolution in 1917, it was a long time before it could be translated into fact. Armed feudal bands fought bitterly against any move of the people toward social progress.

Dr. Yusupova, who will be 49 in May, is one of the new generation of Tajik women. Her father was a migrant worker who processed the raw silk of the silkworm cocoon for rural weavers. Sarajan, as a child, wandered with him from one mountain village to another in search of work. She was only eleven when he was killed by bandits.

After graduating from secondary school, Sarajan was accepted at Moscow University. The gifted girl studied under two of the noted Russian geologists of the period, Academicians Alexander Fersman and Dmitri Belyankin. It was her dream, as her Tajik folk tales put it, "to search out what was hidden in the hills."

She took her degree in chemistry and then did graduate work in geology and mineralogy at the USSR Academy of Sciences. Her dissertation on the colloidal properties of Central Asian clays was highly praised by authorities in the field.

In 1948 she was awarded her doctorate in science for a research study on roentgenometric analysis of Ferghana clays. The Soviet press reported the event with articles hailing "The First Tajik Woman Doctor of Science."

By this time education was no longer a rarity for Tajik women. The law passed in Soviet Central Asia in 1926 protecting the rights of women had long since broken down the traditional barriers. Girls, as a matter of course, were studying side by side with boys. When Sarajan began her studies, there were only 110 girls in all the Tajik secondary schools. At present nearly 10,000 Tajik women are working as schoolteachers, doctors, engineers and architects. Over sixty Tajik women hold degrees in science. There are 4,000 Tajik women who hold public office.

From her home in Stalinabad Sarajan returns to her native mountains periodically with geological expeditions to prospect for gold, copper, tin, molybdenum, iron ore, tin and other minerals. She has written some fifty monographs in her field. This is not her sole creative work. She is a folklorist of note with several books of folk tales much beloved by Tajik children to her credit.

LETTER TO UNKNOWN AMERICAN FRIENDS

from Valentina Degilevich

"Let's exchange letters, visits and friendship"

—suggests Moscow housewife

DEAR FRIENDS:

I am writing this letter to you, women of the United States. I am a Russian woman, a mother and wife. I have wanted to write to you for a long time, and I thought this would be a fitting occasion since the eighth of March is celebrated in our country as Women's Day. I spoke to my friends about it and then asked *USSR* magazine if they would publish this open letter to you, my unknown friends overseas.

I am a Muscovite. Being born eight years after the Soviet state was formed I have lived all my life in a Soviet country. My father was a mechanic and my mother a factory worker.

When the Nazis attacked our country I was sixteen and I was going to school. I left school to work in a munitions plant. It is no pleasure to recall those hard years. Both my father and my brother fought at the front. My father was reported missing in action and my brother was wounded several times and was left an invalid for life.

After the war I worked as a secretary and typist and met my husband Pyotr. He drives an ambulance. We have two children —Galya is seven and Alyosha four. My husband is on call for a 24-hour stretch and then he has two days off. He spends a lot of time with the children, he likes making toys for them. He's a good father and a good husband. He's an active man and doesn't like to sit around. In his spare time he grows flowers—he's very fond of gardening—does amateur photography, studies German, and goes hunting every once in a while.

As for me, the children take up most of my time. I stopped

Profile of a You

MARCH 8 is Women's Day for everybody in the Soviet Union, but for Galina Kudryavtseva, a young schoolteacher from Moscow, it's also the day three years ago she taught her first class.

Women's Day is traditionally observed with meetings and rallies to honor the contributions made by women in all spheres of activity. There are appropriate greetings and articles in magazines and newspapers, special

Galina Kudryavtseva is a teacher of history in a Moscow school. Women comprise 67 per cent of all personnel in educational system.

working after my first baby was born and now I'm glad to have all my time to devote to my family and to bringing up the children. I don't mind housework and the daily chores, cooking, cleaning and sewing, and I like playing with the children and helping Galya with her first lessons.

Ours is a close-knit family, not too much different from millions of other families in the country. I'm happy with my family and often I ask myself what makes up this happiness. It's true that we live comfortably. We have a pleasant apartment in the southwest district of Moscow and a summer cottage in the suburbs, about fifteen miles out. My husband makes a good livin, and we have no trouble getting along.

But it's more than that. Happiness, it seems to me, is not just comfort and security today, it's also a good future for my children. I suppose every mother feels the same way I do about those near and dear to her.

I want to make sure my children will be happy. I don't want them to have to go through the horrors of a war. I want my Galya not to have to leave school the way I did to make munitions. I want her to learn to play the piano—she has just begun, and Alyosha to have the chance to be like his father when he grows up—he says he wants to be a driver, perhaps not of an ambulance but of a space vehicle.

What I want most of all is a peaceful future for my children and for your children and for the children of mothers everywhere.

My husband was in the army during the war and saw no end of suffering and bloodshed. "I try not to forget those inhuman horrors of war," he often says. "I want the children to know about them, too, when they are older so they'll know enough to make sure that it's not going to happen again."

Why am I telling you all this? And what made me write this letter to you? Because I feel that you and I and all of us have to make sure that war doesn't happen again. I cannot help feeling terribly worried when I hear of H-bomb tests and long-range missiles, as if it were all beginning again. And then I read about exchanges between your country and mine of students, dancers, teachers, scientists and tourists and I listen to your pianist Van Cliburn on a TV broadcast and I feel better. I feel that we are beginning to be friends.

We are people who live in different countries and we have different ideas but, if for nothing more than our children's sake, we must understand each other. An old Russian proverb of ours says, "Good will and fair deal are worth more than wealth and weal." And so I often think: how can we get rid of all this mistrust and suspicion?

We must get to know each other better. We Soviet and American women can do that by writing each other and by visiting with each other. I like having guests and it would be a great pleasure for me to welcome an American woman to my home, to sit down and get to know her and to become friends. This is not only my feeling, I am sure, but that of all Soviet women. Let's exchange letters, visits and friendship.

With kindest regards,

Valentina Degilevich

Apartment 350
14 Lomonosov Prospect
Moscow, V-269, USSR

One more picture for the family album — Valentina Degilevich with her husband Pyotr and children, Galya and Alyosha.

# of a Young Schoolteacher

By Boris Dmitriev

radio and television broadcasts to honor distinguished women.

Galina's class has its own particular tradition. Every March 8 they present their teacher with a gift—last year it was a box of candy—"on behalf of the pupils of the fifth grade." And Galina gets a little misty-eyed, as she did last March 8, when she thanks the children and tries to say how fond she is of them all.

Galina was born in the southern town of Yeisk on the shore of the Azov Sea. Her father fell in the Second World War and her mother still lives in Yeisk. Galina graduated from the town's ten-year school and then moved to Moscow, where some relatives lived, to study at a teacher's training college.

She specialized in history, a field she liked and had always made high grades in. Her teacher's degree entitled her to teach the subject in any school in the country. She had a number of teaching offers when she graduated and chose School 209 in Moscow.

Like every beginning teacher, Galina had the usual problems of translating pedagogical theory into actual classroom performance. Her practice-teaching as a student was, of course, very helpful, but it was very much different from being on your own. But she likes children and she likes teaching.

With the help of older and more experienced colleagues and the school administration she very quickly gained confidence. Now, after three years of teaching, she feels like an old hand and is often called on to advise new teachers. Not long ago she was awarded an honorary citation and bonus for the fine progress her classes make.

In great part, her excellent teaching derives from the relationship she establishes with the children. She works hard to understand them and to bring their abilities and talents to light. She takes the time to make friends with her students, very frequently goes with them to school sport matches or to the children's theater or to see a new film. On her own initiative she takes them on trips to museums to relate the history she teaches to the painting and sculpture of particular periods in the development of art.

All in all, what with parents' meetings, home visits and extra-class coaching, her day is crammed chockful. She manages a busy personal life.

Galina is something of a gymnast and won a sports rating while she was still at school. She tries to put in a couple of hours a week at the gym. Then she's a music lover and with her husband—she married while she was still at college—rarely misses a major concert. He is a lathe operator at one of the Moscow machine-building plants.

Many evenings Galina spends studying at home or at the library. She is working on her thesis on the French Revolution for a master's degree. This kind of research has been an old dream dating back to her college years.

PLANNING THE WORLD'S HIGHEST LIVING STANDARDS

By Iona Andronov

EVERY figure and detail in the new seven-year plan for the Soviet economy, whether it pertains to production of steel or of household appliances, aims at a single objective, a higher living standard for the Soviet population.

Each of the previous economic plans improved living conditions for Soviet workers and farmers by a marked degree. With public ownership of land and factories, every step in the process of developing the country's industry and mechanizing its agriculture has meant increased family purchasing power.

In spite of large-scale automation there is no unemployment in the Soviet Union, nor has there been since the thirties. Jobs are to be had for the asking, there are more open today than men to fill them. The number of factory and office workers—at present there are 54.6 million—will increase by almost 12 million between 1959 and 1965. A liberal pension system has ended the threat of insecurity in old age. Wages have gone up with each step forward in the country's economic growth.

These wage rises have been real. They were not accompanied by higher prices which offset any gains and often even depress purchasing power. Prices in the Soviet Union are fixed by the government and do not fluctuate with market conditions. They are determined, as a rule, by the cost of production.

Taxes To Be Eliminated

Systematic tax cuts have also increased purchasing power. Only a small part of government revenue, less than 8 per cent, comes from taxes from the population; the much greater part is derived from industry and state farms. Many millions of Soviet citizens are tax exempt, while others have had their taxes lowered in the past two years by legislative action. The prospect within the next few years is to discontinue individual taxes altogether.

There is still another important factor that has served to increase purchasing power—augmented social insurance and welfare services. Last year the government spent 215 billion rubles to pay social insurance, old age and disability pensions, grants-in-aid to mothers, stipends to students, and for educational and medical facilities. By 1965 the figure will rise to 360 billion rubles.

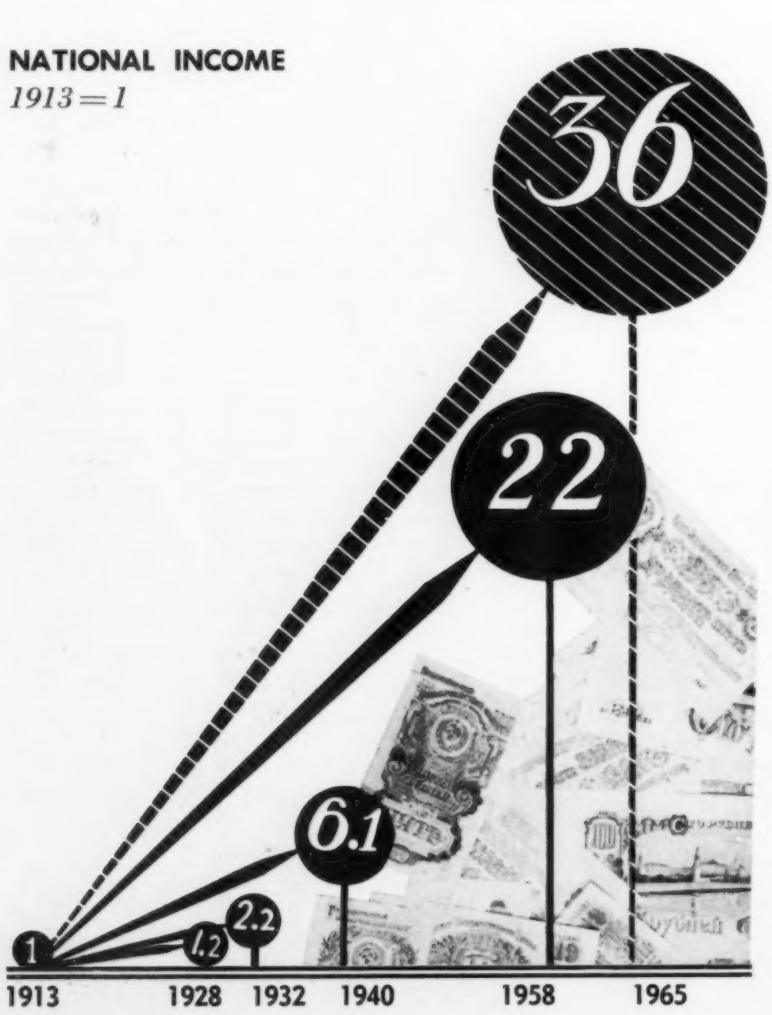
Retail Trade Turnover Goes Up

The increased purchasing power of the Soviet consumer can be measured by the steadily rising retail trade turnover; by increased consumption of meat, dairy products, fruit and sugar; and by individual banked savings, which rose from 7.3 billion rubles in 1941 to 87 billion in 1958.

Evidence of a higher living standard is the enormous volume of housing constructed within recent years—a million apartments in 1956, a million and a half apartments and 700,000 individual homes in farm regions in 1958.

The most undeniable proof of a rising living standard, however, is shown by medical statistics. The Soviet Union now has the lowest mortality rate in the world and its birth rate is higher than that of most countries. The average longevity now is a high 67 years, more than double the prerevolutionary span of life and one and a half times that for 30 years ago.

In a socialist economy, more national wealth is another way of saying higher standard of living since the national revenue is distributed equitably either in wages or in social services to those who produce it.



National Wealth Equally Distributed

In pre-Soviet Russia the workers and peasants who made up 84 per cent of the population received only 25 per cent of the national revenue, all of which they and they alone produced. The owners of large landed estates and factories, who made up 16 per cent of the population, appropriated 75 per cent of the national income.

In the Soviet Union today all of the national income is used to raise the living standards of the people and to expand production for the benefit of all.

The very large part of this national wealth, as much as 75 per cent, goes back to the people in the form of wages for work done and in expenditures for public education, health, social insurance, etc. The new seven-year plan calls for an increase of 60 to 63 per cent between the years 1959 and 1965 in the portion of the national income which is consumed directly by the people.

The remaining 25 per cent of the national revenue, which also belongs to the working people, is used to expand production in industry and agriculture. Thus the total national income is spent on behalf of the whole of the population. In Soviet times national income per capita has increased fifteen-fold.

By 1958 real wages of workers and office employees nearly doubled compared with 1940 and the real income of farmers more than doubled.

Forty Per Cent Rise in Real Wages

By 1965, Nikita Khrushchev reported at the Twenty-First Congress of the CPSU in Moscow last January, the national income will have risen by 62 to 65 per cent over today's figure. What will this growth of the nation's wealth mean to the individual citizen and the average family budget? How will it affect employment, wages and hours, prices and social services?

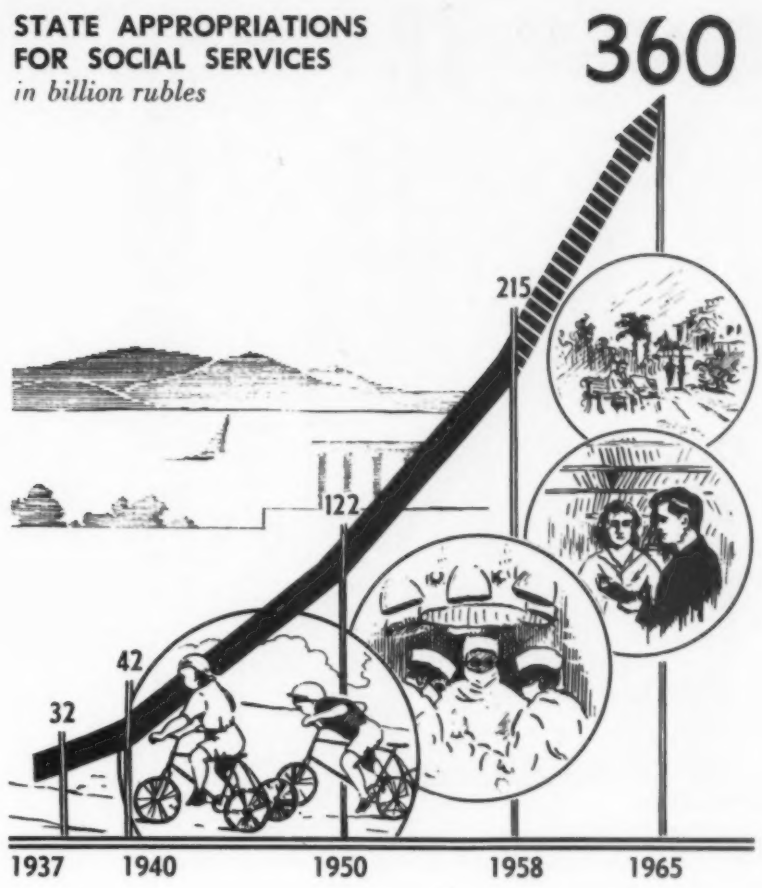
The real income of the industrial and office worker and of the collective farmer is expected to rise by 40 per cent during the next seven years. For workers, the boost will come from higher wages, lower prices and larger pension benefits. For the collective farmer it will come from greater earnings from bigger and better crop and stock yields.

Wages, on the average, will rise by 26 per cent between 1959 and 1965, with much larger increases for those at the lower end of the wage scale. These lower paid workers received a wage increase in January 1957. Other increases scheduled between 1959 and 1965 will boost their wages by as much as 85 per cent. The wages of workers in the middle brackets will also be raised to bring them more closely in line with the more highly paid groups.

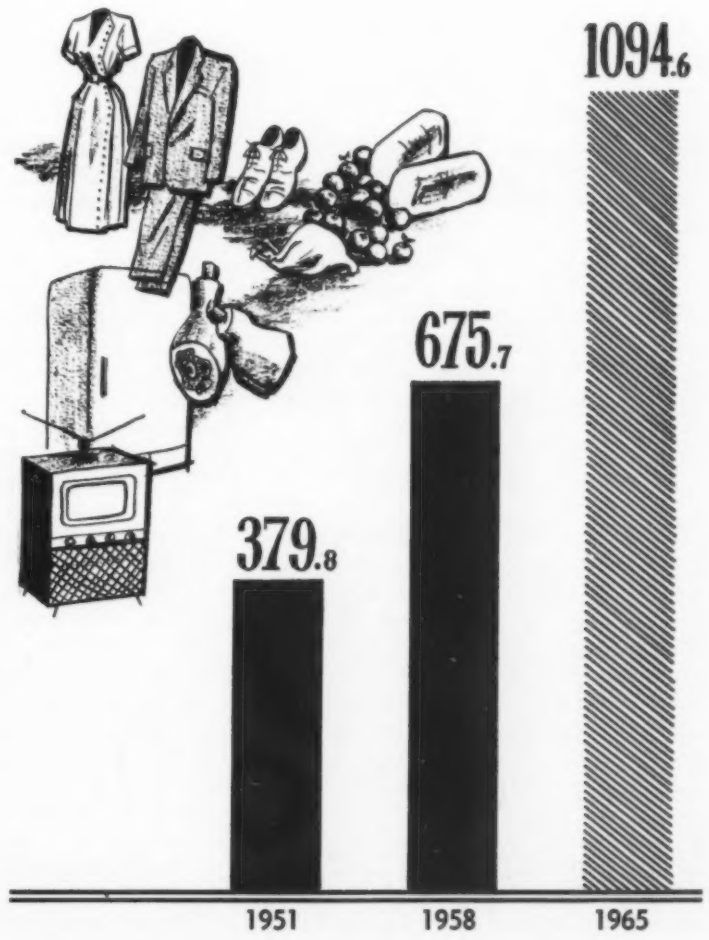
Price of Meals Reduced

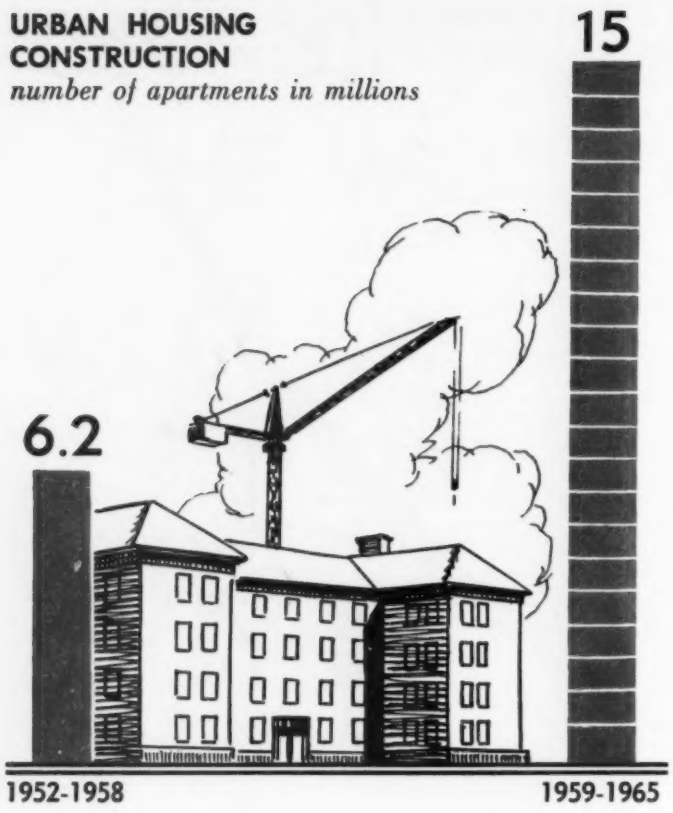
As to living costs, many of the items which elsewhere take a large chunk of the worker's pay envelope are either supplied free or are very modestly priced. Rent, for example, is an average four or five per cent of family income, far below the maintenance cost. Util-

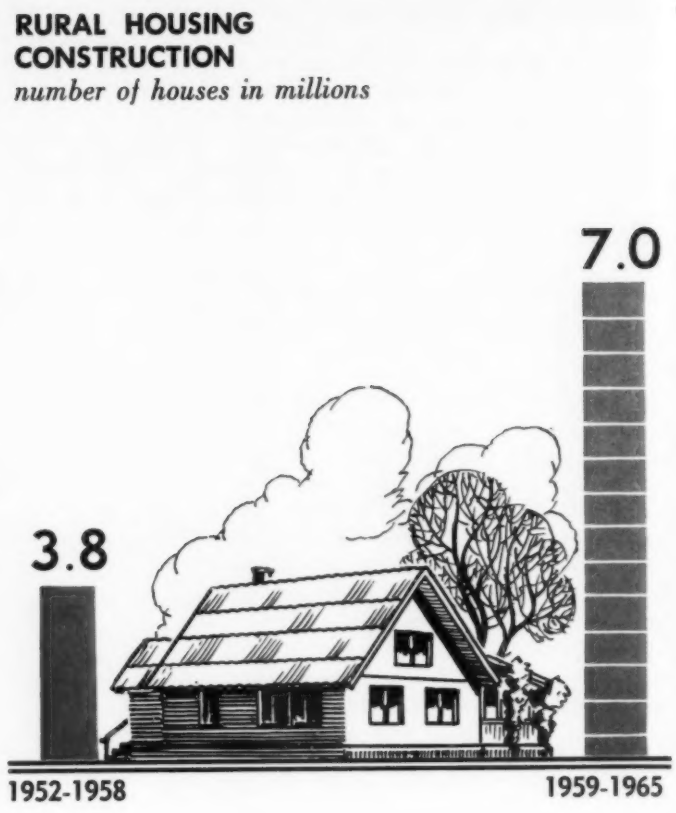
STATE APPROPRIATIONS FOR SOCIAL SERVICES
in billion rubles



RETAIL TRADE IN STATE AND COOPERATIVE STORES
in billion rubles







PLANNING THE WORLD'S HIGHEST LIVING STANDARDS

ities are cheap. Basic foods are low priced and so are children's goods. All these major necessities are well within the income of every worker.

Scheduled very shortly is a reduction in the price of meals served in restaurants and cafeterias. During the next seven years the output of these public catering establishments is to double to make further savings possible for the many millions who have lunches and dinners out.

Services for Every Citizen

There are many free social services and benefits which every Soviet citizen receives as a matter of course. Free medical service, sick leave with pay, old-age pensions, allowances for families with many children, free education from elementary school through college and stipends for students—these and other social services are guaranteed him by Soviet law, regardless of the work he does or the wages he earns. The facilities to provide these services are being constantly expanded and the share of national income which pays for them is greater each year.

This tendency toward an ever-increasing amount of benefits and free services on the basis of need is characteristic of a society moving toward communism. The eventual goal is an abundance of goods and services sufficient to satisfy everyone's needs.

The seven-year plan projects a greatly augmented medical program. Capital investments to build new hospitals and related facilities between 1959 and 1965 will total 25.4 billion rubles, an 80 per cent increase over the preceding seven years. By 1965 the country will have half a million practicing physicians.

Twenty Million Pensioners

There are 20 million pensioners in the Soviet Union, almost 25 per cent of the total working population, men who have reached the age of 60 and women who have reached the age of 55. In a number of trades the retirement age is still lower: 50 for women and 55 for men. The entire pension system was overhauled a few years back and most pension payments were raised, particularly for those in the lower brackets. These minimum pensions are to be increased again within the next seven years by some 60 per cent.

As for younger people, those born since the 1917 Socialist Revolution, whatever their trade or profession, they have been educated at government expense. If they studied at technical high schools, colleges and professional schools, they received monthly stipends for maintenance in addition to free tuition and an annual vacation paid for by the government.

If these items had to be paid for out of family income they would come to a very considerable sum. Soviet economists estimate that they now constitute about 33 per cent of the average family budget. By 1965 the amount of government allocations for these free services will have been augmented by more than 60 per cent.

More Housing, More Consumer Goods

The systematic growth in individual income and purchasing power has made for better housing, better food, better dress. With a 40 per cent increase in real income forecast during the next seven years, retail trade turnover is expected to grow by 62 per cent. Ninety thousand new stores will be opened by 1965. The increased consumer demand will be met by larger production of foodstuffs and manufactured goods.

Thus, while total output of foodstuffs between 1959 and 1965 will show a 70 per cent gain, production of meat and milk products will be doubled and production of sugar will be raised by 76-90 per cent. In per capita production of the basic foodstuffs Soviet farmers will lead the world.

Light industry is expected by 1965 to meet the full consumer demand for textiles, clothing and footwear of better quality. The rate of production increase planned will bring the

Soviet Union very close to United States per capita production figures for these and other goods. The manufacture of household refrigerators, washing machines and television sets is to be stepped up. Furniture production by 1965 will be 2.4 times that for 1958. In line with this the seven-year plan provides for the construction of more than 1,600 new consumer goods factories.

About 15 million apartments will go up in urban areas between now and 1965, 2.5 times the housing built in the previous seven years. Seven million houses will be built in the rural areas.

There will also be seven times as many prefabricated houses built by the government for sale to citizens at low prices. State capital investment in housing and public utilities during 1959-1965 will total about 380 billion rubles as compared with 214 billion for the preceding seven-year period.

A Shorter Workday with Higher Pay

One of the very fundamental achievements of the growing Soviet economy has been the reduction of the workday without cuts in wages. As a matter of fact, it has been accompanied by an increase in real wages and purchasing power. Introduced in February 1956 after the Twentieth Communist Party Congress, the shorter workday has been put into effect in one industry after another. By 1960 the change-over to a 40-hour week will be complete and every worker in the country will be on a seven-hour working day, with certain groups like miners working a six-hour day.

Other working time changes that have been made in the past few years in the Soviet Union include a two-hour cut on Saturdays and the eve of holidays, a reduced workday in a number of the heavier industries, and a reduction in the workday of juveniles to six or four hours. All of this too was done with an increase in wages.

A further reduction in the work week is planned for 1964—from 40 to 35-30 hours. Workers employed underground or in hazardous occupations will work a 30-hour week others will have a 35-hour week. It will probably be carried through by a gradual introduction of the five-day week.

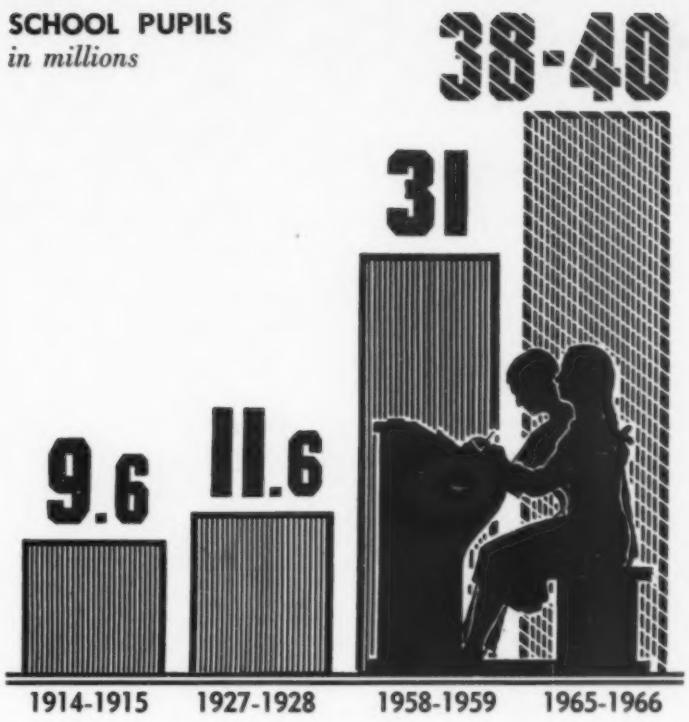
When the change-over is completed the Soviet Union will have the shortest workday and work week in the world with a simultaneous rise in the people's living standards. Thus, new and unlimited possibilities will be created for recreation and study.

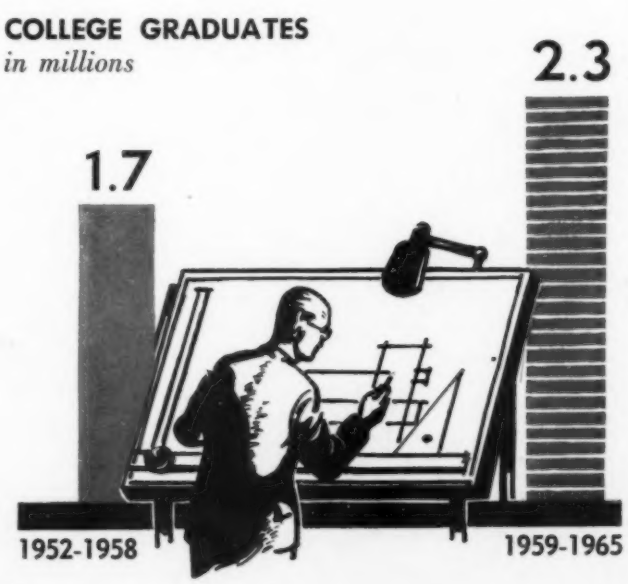
A Better Educated Citizenry

To provide the Soviet citizen, both present and future, with a larger background of skills and culture so that he may use both his work and leisure hours more profitably, public education is to be expanded within the coming seven years. At present there are 31 million children enrolled in the Soviet schools; by 1965 there will be 38 to 40 million. From 1952 through 1958 the colleges and universities graduated 1.7 million students; the number of graduates between 1959 and 1965 will rise to 2.3 million. An annual one billion books are printed in the Soviet Union now; by 1965 600 million more will be published each year.

To provide more comprehensive elementary schooling, the present seven years of compulsory schooling will be extended to eight. New types of secondary schools are being set up to combine with work in factories or special shops. These new schools will give a complete high school and polytechnical education as well as vocational training.

College study is also being re-examined to bring it closer to production. A prerequisite for admission to schools of higher education will be some years of actual work at a job. Larger numbers of evening and correspondence schools are to be opened for the increasing numbers of adult workers who wish to do advanced study.





Guarantee of the Nation's Prosperity

This gigantic program for the development of the country's economy will have far-reaching effects on the life of every citizen and will be felt in the material and cultural benefits that will accrue to each family.

The country has set itself the task of achieving the highest living standard in the world. The seven-year plan adopted by the Twenty-First Party Congress with the approval of the entire nation is the guarantee that this task will be accomplished successfully, giving the Soviet citizen prosperity unequaled anywhere in the world.

Theatrical Art of

Kazakhstan

KAZAKHSTAN, one of the fifteen republics which make up the Soviet Union, is located in the southwestern part of the country's Central Asian region and extends from the lower Volga to the Chinese frontier. This big republic plays an important part in the country's economic life, with its huge tracts of virgin land being brought under cultivation and its busy factories turning out goods needed by the entire nation.

But all of this is new. It would have been hard to visualize it as recently as forty years ago, when this was a country of illiterate nomads.

While the economic development of Kazakhstan since the Socialist Revolution has been tremendous, its cultural progress has been equally great. Like so many of the downtrodden peoples under the czar, the Kazakhs had a rich folk heritage but no written language by which to preserve it. Handed down from father to son through the ages by word of mouth, it has now been incorporated into the national art. The Kazakh theater—drama, opera and ballet—while relatively young, has already won nationwide acclaim. Kazakh composers are writing operas, ballets, symphonies, chamber music and songs, inspired by the songs and ballads for which their peo-

KAZAKH SONG AND DANCE ENSEMBLE PRESENTS A COLORFUL FOLK DANCE FOR A MOSCOW AUDIENCE.

THE STORY OF ABAI, GREAT CLASSICAL KAZAKH POET AND LITERARY FIGURE, IS TOLD IN ONE OF THE FIRST OPERAS TO BE WRITTEN, PRODUCED AND SUNG BY NATIVE TALENT.

A SYMBOLIC DANCE SUITE BY A KAZAKH ENSEMBLE DEPICTS THE BUMPER HARVEST FESTIVAL ON NEW VIRGIN LANDS.

Art of Kazakhstan

ple have long been famous and which only recently have been transcribed into written form.

Whereas in the old nomad days the presentation of historical ballads and folk songs was largely an individual performance by singers accompanying themselves on native instruments such as the dombra, the republic now has its own full symphony orchestras, ensembles and choral groups. The content of the music has also changed. Instead of relating local events or expressing the dreams and hopes of a people isolated from the world, it has broadened to combine a florescent native art with the best of Soviet and world art.

Some twenty-two years have passed since the first festival of Kazakh art and literature was held in Moscow. Last December the second such festival was brought to the Soviet capital, affording Muscovites and the whole country an opportunity to witness the achievements of the theatrical, musical and fine arts of the republic.

"A national theater, like academies, universities and museums, is a sign of a nation's well-being," said Alexander Ostrovsky, a great Russian playwright. Kazakhstan, which formerly had no professional art and not a single theater of its own, now has twenty-three theaters with permanent companies and orchestra. The leading one is the State Opera and Ballet Theater. Originally it was merely a musical drama company which presented operas in the form of arias intermingled with recitations. Today, when dusk falls on Alma-Ata, the republic's capital, bright floodlights illuminate the beautifully designed opera house where audiences enjoy Kazakh or classical opera and ballet every evening.

The collaboration of Russian and Kazakh artists was a valuable contribution to the rapid development of the republic's culture, helping to bridge the gap between backwardness and progress. It was with the aid of Russian artists that the centuries-old oral songs were transcribed into modern "written" music. The most gifted music students of Kazakhstan were sent to Moscow for their training in the early days and soon Kazakh companies were offering their own productions.

One of the first was a musical comedy, *Alman Sholpan*, based on Kazakh folk melodies. An exciting event was the production of

KAZAKH OPERA SINGER ERMEK SERKEMBAYEV WAS ACCLAIMED FOR HIS FIGARO IN ROSSINI'S *BARBER OF SEVILLE*.

THE FOUNTAIN OF BAKHCHISARAI IS ONE OF THE CLASSICAL BALLETS WHICH ALONG WITH NATIONAL DANCES FORM THE REPERTOIRE OF KAZAKH GROUPS.

the opera *Abai*, woven around the life of the famous Kazakh poet who played a major role in the nation's literature. The music, libretto and production were all created by Kazakhs. Another great success for Kazakh opera was the production of *Birzhan and Sara*, which tells the story of the struggle waged by the poet Birzhan for his people's freedom. It is singularly popular with Kazakh audiences, who never tire of its thrilling theme.

The musicians of Kazakhstan have become expert not only in performing their own national compositions but in interpreting the world's greatest composers. Kazakhs regularly sing the title roles of *Aida*, *Rigoletto* and *Prince Igor*, and render with deep understanding and feeling the most difficult arias of operas by Tchaikovsky, Glinka and Rossini.

The Kazakh ballet is creating its own national dances and mastering the classical forms. Its varied repertoire includes the ballets *Friendship Road* by Tlendeyev and Nanayev, Tchaikovsky's *Swan Lake*, Glazunov's *Raymonda* and Asafyev's *The Fountain of Bakhchisarai*. The dancers are graduates of the republic's ballet schools.

Fairs were always immensely popular in Kazakhstan for their folk improvisors, singers and dancers. In the twenties the outstanding performers joined to form the first drama theater. During the festival of art and literature last year this young theater presented three Kazakh plays plus Shakespeare's *The Taming of the Shrew*.

Artists of the Kazakh State Philharmonic Society are frequently on the road, performing for the livestock breeders of the Caspian steppes, the farmers of the newly cultivated virgin lands of Central Kazakhstan, and the miners of the Altai region. The Society includes a number of ensembles, choirs and orchestras. Its folk instrument orchestra, which won a prize at the Fourth World Youth Festival, is as popular with sophisticated city-dwellers as it is with the people who live in the most remote regions of the country. An *a cappella* choir was recently formed whose singing is an entirely new form of art in Kazakhstan. The song and dance group is also only a few years old.

The infant in Kazakhstan's growing family

Art of Kazakhstan

of art is its film industry. The members of the film studios of Moscow and Leningrad who worked in Kazakhstan during the years of the Second World War were a major factor in its rapid development. The feature and documentary films released by the Alma-Ata studios in recent years include a number of outstanding productions demonstrating that Kazakhstan's film industry has come of age.

Modern Kazakh literature is the natural continuation of the well-developed oral folklore of prerevolutionary days. It follows the traditions of the classical poet Abai Kunanbayev, the brilliant publicist Chokan Valikhanov, and the writer and philosopher Ibrai Altynsarin, all of whom brought progressive ideas to the people. It is represented by the epic *Abai* by Mukhtar Auezov, the novels of Sabit Mukanov and of Gabit Musrepov, and the prose and poetry of a whole generation of younger writers who have leaped into prominence within the past ten or fifteen years.

Whereas some twenty years ago the native literature consisted of poetry alone, it now includes historical and biographical works, novels about workers, students and scientists, and books on the events of the Second World War and the Socialist Revolution. In the past two years more than three hundred Kazakh books have been published. Many of them have been translated into other languages and are read throughout the country.

Twenty years ago the Kazakh people had never had an art exhibition of their own. Now the works of 100 painters, sculptors and graphic artists tell the story of the development of the graphic arts in the republic. The exhibit at the festival in Moscow included the canvases of twelve young artists recently graduated from the art academies of Moscow and Leningrad, in addition to the works of older artists. Also on display were carpets, embroidered objects and pottery, for all of which the Kazakhs have long been famous.

Not too many years ago the famous Russian writer Maxim Gorky, speaking of the illiterate and oppressed peoples of czarist Russia, the Kazakhs included, wrote that their songs "are most original and splendid material for the Mozarts, Beethovens, Chopins, Moussorgskys and Griegs of the future. From all these people—the Zyrans, Buryats, Chuvashes and Maris—melodies of wondrous beauty pour out for the gifted musicians of the future. And when you hear the songs, you think not only of the music of the future but of the world of the future, where all the working people will have learned to respect one another and where the beauty amassed by them through the ages will have its fullest expression. It must and shall be done."

That Gorky's prophecy has become a reality is quite evident to everyone who visits Kazakhstan's theaters, sees its art exhibitions or reads the books written by Kazakh authors. The national art of Kazakhstan today is the embodiment of the best traditions of the past, sparked with the vitality, gaiety and color of a people creating their own new life.

ADAGIO FROM *FRIENDSHIP ROAD*, A NEW KAZAKH BALLET WHICH SKILLFULLY BLENDS CLASSICAL DANCE TRADITIONS WITH NATIVE COSTUMING.

ROZA BAGLANOVA'S VOICE IS RENOWN FAR BEYOND KAZAKHSTAN.

POPULAR BALLET ARTIST ZAURBEK RAIBAEV PERFORMS THE EXOTIC EAGLE DANCE OF INDIA.

GRANARY of the EAST

Konstantin Shiyapov is hewing [illegible] log cratsmen.

IT TOOK 30.7 BILLION RUBLES AND 200,000 TRACTORS TO TURN THE VIRGIN SOIL IN THE EASTERN REGIONS INTO FARMS THAT NOW SHOW HANDSOME PROFITS.

DEEP in the heart of the rolling steppe of Northern Kazakhstan lies the small community of Atbasar. Up to 1954 it had played such a minor part in the economy of the Kazakh Republic that its name was seldom found on general maps of the republic. Today this once inconspicuous town has become known throughout the republic as the "capital of the virgin lands."

Cultivation of the tremendous tracts of heretofore unplowed acreages surrounding Atbasar has transformed the district into one of the Soviet Union's major grain-producing areas within a period of five years. It now harvests an annual crop of up to half a million tons of marketable grain, and the yield continues to increase.

The rapid mushrooming of well-planned, large state farms across the face of the rich, dark-earth steppe has brought about a considerable increase in the population of this once obscure district.

By automobile, it is a little more than a 60-minute ride from Atbasar to the Samarsky State Farm, one of the 425 that have sprung up on the virgin lands since 1954. Our road took us through seemingly endless fields of ripening grain that rippled across the landscape as we drove.

Ivan Likhobaba, director of the Samarsky farm, who rode with us, pointed out the fields on both sides of our car and said: "I don't know about you writers, but as a farmer I just can't enjoy the sight of unreaped wheat. I'd rather look at it when it's piled safely into the grain elevators."

I had visited Samarsky a year earlier and, quite naturally, was eager to see the changes there. I have learned that in rapidly-growing places like Samarsky, a lot can happen in a year.

An extensive park had been laid out in the center of the state farm back in 1954 and judging from the dense foliage I noted as we neared, the trees had thrived quite well on the steppe. I also saw the familiar school, community center, restaurant, grocery store and tailor shop. But there were some buildings I hadn't seen before. The farm hospital was new and so were several machine shops and a large grain elevator.

Tanya Shoshava came to write a book on farm life.

Pyotr Alifirenko found his masonry in demand on the farm and he taught his trade to many youths.

Ida Gaiveronskaya, budding engineer, built a dining hall as her first project.

Aslyan Akhmetzyanov is a combine operator.

89 million acres of formerly unused land are swelling the country's grain output.

"What's new on Moskovskaya Street?" I inquired.

The settlers of Samarsky had given this name to an avenue on which some 50 houses had been built by the virgin-soil farmers with the aid of state loans. I was informed that another street of one family houses had gone up since I had been here last, and that the two were now known as the First and Second Moskovskaya streets.

89 Million Acres of New Land

Huge expanses of black loam and rich, chestnut soil lay in the eastern parts of the country: in Siberia, North Kazakhstan, and the Urals. During the first few decades of its

Youth and sports are synonymous and virgin land folks are young.

Tanya Belyakova, a true native, attends the state farm's kindergarten.

Nikolai Prikodin is an auto mechanic and keeps farm motors in good shape.

Sasha Rudenko's family came from the Ukraine.

Granary of the East

existence, the Soviet state did not attempt to develop these lands because their cultivation necessitated a large expenditure of labor and material resources.

But the time came when the country had the equipment, men and funds to force the former idle land to yield bumper crops, to establish hundreds of real "grain factories"—our large-scale, grain-growing state farms. Eighty-nine million acres is double the area sown to grain crops in Britain, Italy and France combined. This former virgin land is now being cultivated by the most advanced methods of scientific agriculture. And the Soviet people are reaping rich rewards from the former wastelands of the east.

There were some people who doubted that it would be worthwhile to invest so much money and effort in this undertaking. More than 200,000 tractors have been shipped east. And over a five-year period the country has invested 30.7 billion rubles in its cultivation.

The facts of reality soon dispelled the fears and doubts of the pessimists.

Let us consider one of the new farms in the same Atbasar District—the Dniepropetrovsky State Farm. It was established five years ago when its workers plowed up better than 96,000 acres of virgin soil. Today they have 2,000 head of cattle, 5,600 sheep, more than 1,200 hogs—what one would consider to be a pretty fair start for the livestock breeding section of a state farm.

As in the case of Samarsky, the central portion of Dniepropetrovsky is a real steppe town, with well appointed houses and all the conveniences of modern rural living.

During the five years of its existence, Dniepropetrovsky has delivered about 120 thousand tons of grain and its income comes to a total of 100 million rubles. Since the outlay in setting up the state farm and placing it in operation came to 28.4 million rubles, it is clear that its profit to date is a quite satisfactory figure of 74 million.

The figures for the entire virgin soil area are still more impressive. This area has brought the country's budget an additional 48.9 billion rubles of revenue from its produce, revenue from land that was idle and unproductive only five short years ago. And in that five-year period the Soviet Union has not only completely recovered its investment in the lands opened to the plow in Siberia, Kazakhstan and other areas, but has cleared in excess of 18 billion rubles above that figure.

Grain crops have proved to be exceptionally profitable on the virgin territories, and the profits will continue to mount since the entire area was not sown to crops immediately.

Cultivation of the new acreages has enabled Kazakhstan to increase its grain production 6.5 times, outstrip such large grain producing veterans as the Ukraine, and move into second place as a grain producing area in the Soviet Union. The Russian Federation's output is greater, and it includes some production from the virgin territories since approximately 37 million acres were put under cultivation there within the past few years. As a result the republic provided almost 33 million tons of grain in 1958, or about twice the figure for 1953.

Still Higher Yields

While I was visiting the Samarsky State Farm, I had an interesting conversation with its chief agronomist, Yakov Zdorovtsev, a top-notch expert in his field.

"I've read in the papers," he said, "that some agricultural forecasters abroad believe that within a few years' time the virgin lands will cause us difficulties. They say that we've removed the top soil that accumulated through the centuries and that the steppe winds will blow away this fertile layer; that the hot sun will dry up the precious water and that within five or ten years' time we'll have nothing but a huge dust bowl. In other words, they're trying to show that the natural richness of our soil will be spent, its fertility will disappear, and the people will have to move out of this new territory."

"Well," I interposed, "the first five years of that time has passed and these gloomy predictions don't seem justified in any way."

Zdorovtsev answered: "The virgin lands have paid off completely and we don't have to worry about the future. The only thing to do is to follow the rules of science that call for the accumulation of more water in the soil, practice proper crop rotation, and combine all this with afforestation and the planting of gardens. Since we're doing this on a wide scale, we're sure that our land will become more fertile, certainly not less."

This confidence is shared by all the people engaged in cultivating the expanses of the virgin lands to the extent that the seven-year plan calls for still higher yields. By 1965 the country will be producing from 164 to 180 million tons of grain, or twice the amount obtained in 1953, prior to the cultivation of the virgin lands.

The Soviet Union is already nearing that target figure. In 1958 the gross grain harvest equaled 140 million tons and the state and collective farms intend to reap even larger harvests by working for increased yields on every acre.

When I returned from Kazakhstan, there was a letter waiting for me from Grigori Gladchenko, chief engineer of the Samarsky State Farm. "We're receiving more of the latest type of farm equipment," he wrote. "That means we'll plant and harvest our grain crops faster in 1959. We'll sow only selected seed. We have a wonderful local variety called *Akmolinka*, upon which we pin fond hopes. In general, we figure on getting between 10 and 12 thousand—maybe even 16 thousand tons more grain than we did in 1958."

Program for the Future

This new equipment is streaming to every state and collective farm in the country. Selected seed is being prepared everywhere for the coming season. But the principal thing is that Soviet farmers know their jobs. They know what the goal is and they're sure they can achieve the targets set by the Communist Party and the people. This is the best indication that the country will carry out the grain harvest program proposed in the seven-year plan, and that it will reap 180 million tons of grain in 1965, with the virgin lands playing a real part in this accomplishment.

Every family has its own kitchen garden and flower beds.

Experienced tractor drivers teach groups of trainees how to run the machines and special course in mechanics is given in the schools.

A VIEW OF THE CENTRAL SECTION OF SVOBODNY STATE FARM VILLAGE, ONE OF 425 THAT HAVE SPRUNG UP ON THE NEW LANDS IN FIVE YEARS.

The moon is not dead. Nikolai Kozyrev, Doctor of Physical-Mathematical Sciences and a staff member of the Pulkovo Observatory near Leningrad, came to this conclusion as a result of his observation carried on late last year at the Crimean Astrophysical Observatory. For his work he used a 50-inch reflector telescope, the largest in the Soviet Union.

In this article Dr. Kozyrev describes his observations, and two scientists comment on the importance of his research.

AN ACTIVE VOLCANO DISCOVERED

By Nikolai Kozyrev

Doctor of Physical-Mathematical Sciences

UNTIL recently is was thought that the moon is a dead celestial body on which no volcanic or other internal action occurs. In 1957, however, photographs of the surface of the moon taken by the American astronomer Alter at the Mount Wilson Observatory pointed to the possibility that gases were being evolved which veiled the details of the interior of the Alphonsus crater. This led me to examine this crater by the spectral method.

The Crimean Astrophysical Observatory offers the most favorable conditions for this type of work and there, over a three-week period, I took some twenty photographs of the Alphonsus crater. One was an unusual view of the central peak of the crater which appeared with a reddish hue, greatly dimmed in the violet rays. Then, during the next thirty minutes, the brilliance of the peak almost doubled its intensity. Simultaneously, bright lines of carbon and its compounds appeared in the spectrum. Subsequent photographs showed the crater in its usual state.

I made a detailed spectrophotometric analysis of the photographs. The measurements completely confirmed my belief that gases had been evolved from the central peak of the Alphonsus crater. That meant there had been a volcanic eruption. The complex heavy molecules emitted during the eruption break up into simpler ones under the influence of the solar radiation. It was their luminescence I had detected while examining the Alphonsus crater.

This phenomena had never previously been observed on the moon.

NEW LUNAR GEOLOGY

By Alexander Khabakov

Master of Science (Geology and Mineralogy)

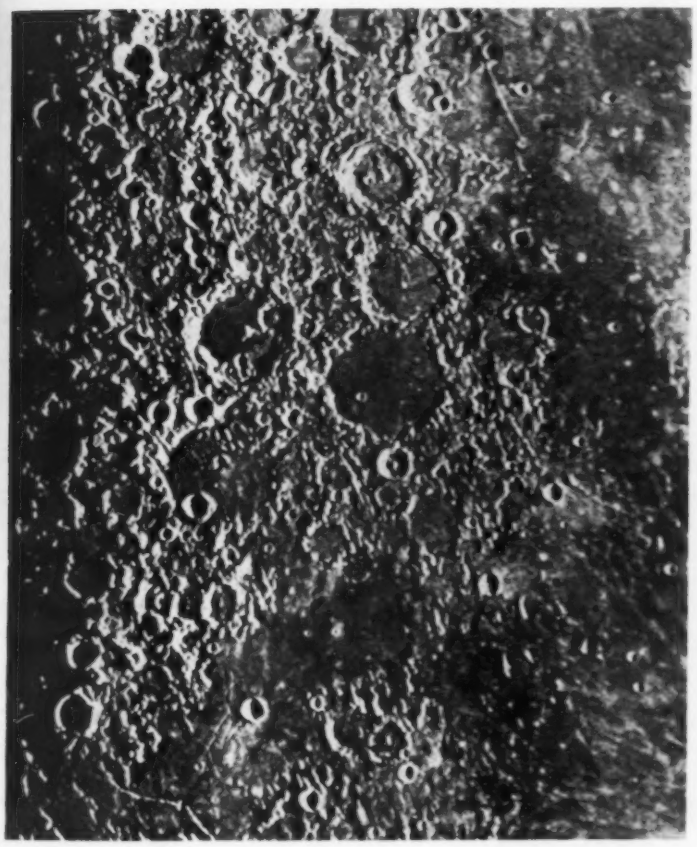
THE latest observations on lunar geology lead the way to an entirely fresh approach to this subject. They begin to form an answer to the question cosmic geologists have been asking themselves for a long time: Were all the twenty to thirty thousand craters visible on the side of the moon facing the earth really formed by the impact of meteors with the lunar surface?

In search of the answer, I began an analysis of the geological structure of the earth's satellite some years ago. From the seemingly chaotic accumulation of craters, it was possible to select out those which were unquestionably created by meteoric impact. These, however, proved to be very few in number. They were not big and it was evident from their heterogeneity and their contrast with the surrounding relief that they were formed accidentally.

The majority of the lunar rings have been accounted for as volcanic craters. Regardless of whether or not they are extinct, their origin is related to the geological history of the surrounding area, the history of the fractures and defects and the rise and fall of the lunar crust.

The first confirmation of this conclusion that the greater part of the moon's surface consisted of matter of volcanic origin came from optical analysis of moonlight.

It is quite evident that the discovery of Nikolai Kozyrev opens broad vistas for the development of a new lunar geology.



ONE OF THE 20 PHOTOGRAPHS OF THE ALPHONSUS CRATER TAKEN BY KOZYREV.

NIKOLAI KOZYREV TELLS HIS COLLEAGUES ABOUT HIS LUNAR OBSERVATIONS.

OLD CONCEPTS UPSET

By Alexander Mikhailov

Chairman, Astronomical Council, USSR Academy of Sciences

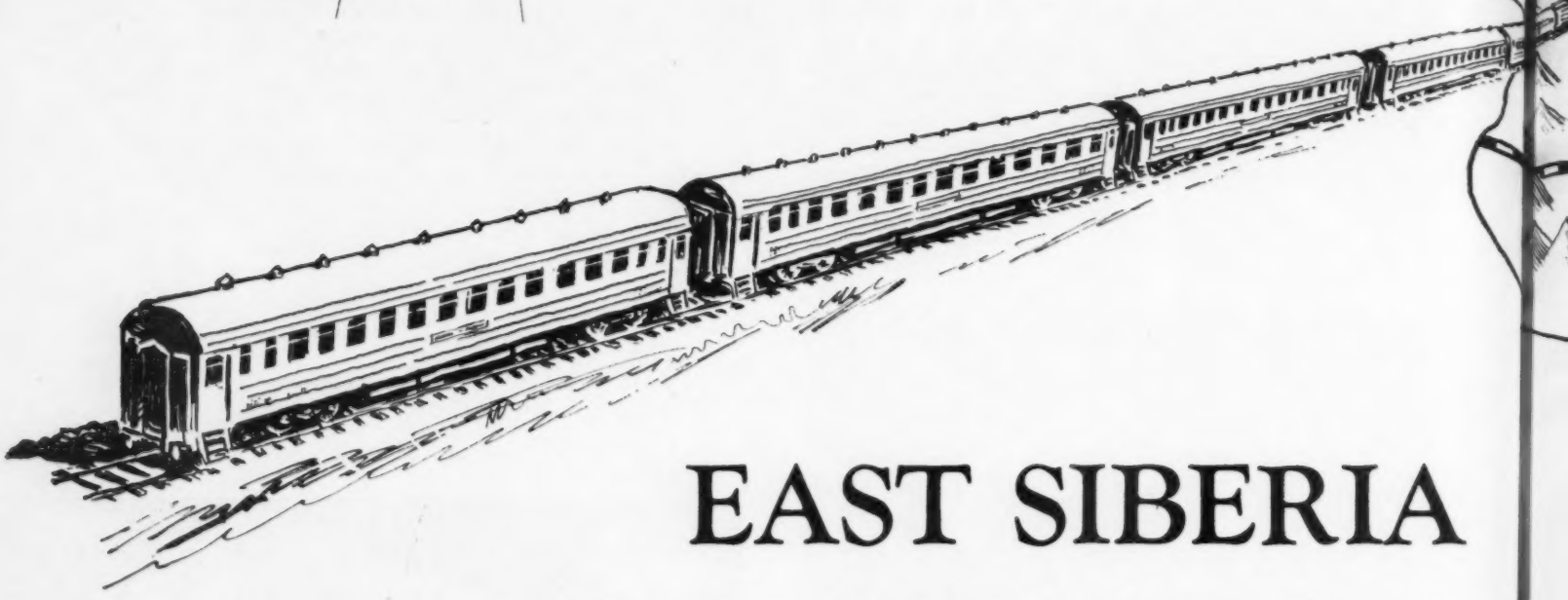
NIKOLAI KOZYREV's discovery of lunar volcanic action completely upsets our age-old concept of the moon as a lifeless body. The evidence of volcanic eruptions shows that the moon, like the earth, is subject to orogenic processes which create its relief.

We now have every reason to believe as unfounded the idea that the chief features of lunar relief—circular mountains and volcanoes—are caused by the impact of meteorites.

The moon is a living cosmic body, not an absolutely congealed mass of stone on which volcanic processes cannot occur. It is true that these processes appear very rarely on the moon's surface because it has a much thicker crust than the earth, but Nikolai Kozyrev's very significant observation is indisputable evidence that they do occur.

A study of these processes is of great interest to science for determining the physical processes of the moon and the origin and development of celestial bodies. The findings will also have practical value for interplanetary travel in the rapidly nearing future.

The heart of East Siberia's industrial region. Its tremendous economic potential will develop swiftly under the country's new seven-year plan.



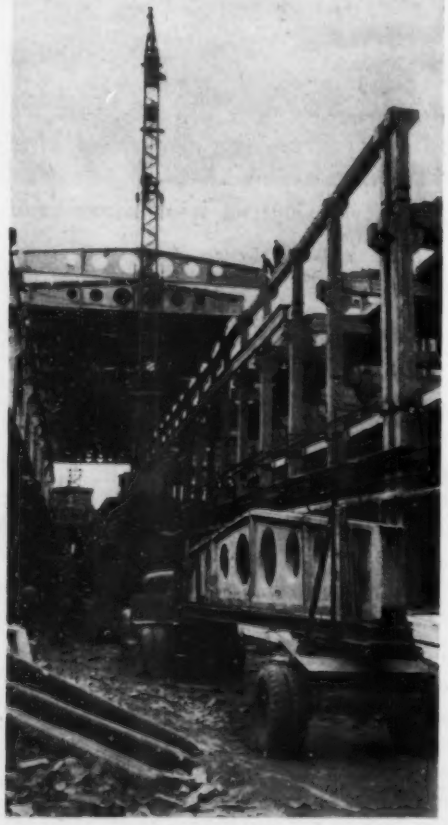
EAST SIBERIA

Industrial Giant of the Future

SOVIET science, industry and agriculture have been moving eastward. Under the new seven-year plan for 1959-1965 Siberia is the new concentration point for economic development, its great territory hums with activity. Everywhere one travels in Siberia there is the feel of growth and change. Workers and technicians in large numbers have moved to the booming towns and cities, and collective farm families have settled in the new villages. Siberia has been attracting eminent scientists and the best of the graduates of universities, institutes and research centers of the Soviet Union.

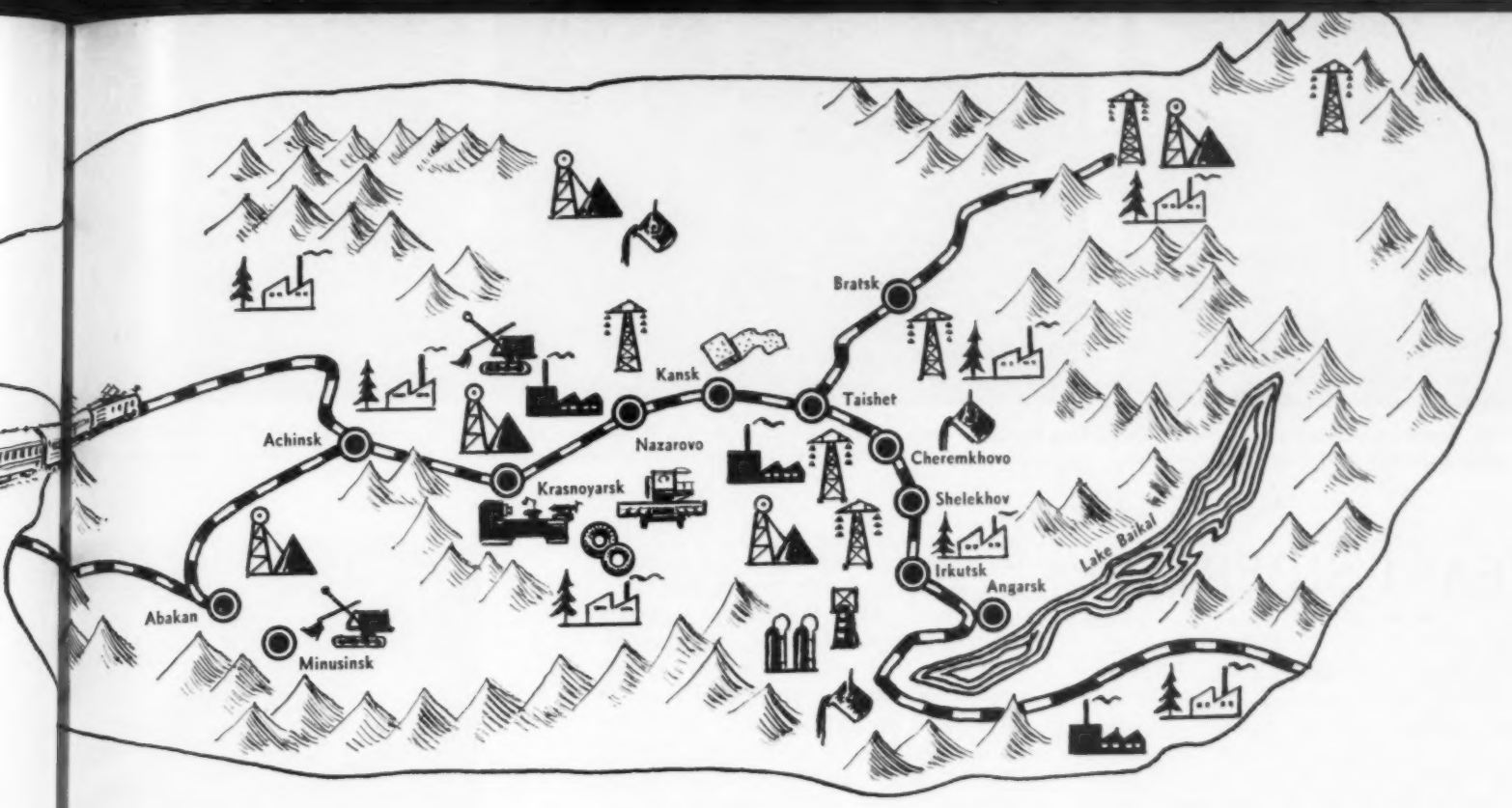
East Siberia is the great stretch of country surrounding Lake Baikal. It includes Krasnoyarsk Territory which stretches north from Central Asia; Irkutsk Region which borders Lake Baikal on the west; and Yakutia, Buryatia and Tuva which lie to the east and south of the lake.

Extending 1,860 miles from west to east and 1,550 miles from north to south, East Siberia covers more land area than all the West European countries lumped together. Here is a region of unlimited opportunity for workers and farmers, for engineers and scientists. Here are boundless forests, mighty rivers with



A TIRE FACTORY IS GOING UP IN KRASNOYARSK.

THE CHEMICAL INDUSTRY IS DEVELOPING RAPIDLY. THIS IS A SHOP OF THE HYDROLYSIS PLANT IN KANSK.



By VASILI NEMCHINOV

Chairman, Council for the study of Productive Forces, USSR Academy of Sciences

colossal potential for power, towering mountains with incalculable mineral wealth, rich pastures for millions of head of livestock.

The climate is rigorous but its severity is allayed, more than in most other parts of the Soviet Union, by an abundance of cloudless days. East Siberia gets more sun than the southern regions of the Caucasus.

Siberians, Old and New

Siberians, oldtimers and new settlers alike, are unusually hardy. They exude health and energy and have won an almost legendary reputation for overcoming difficulties that would discourage less courageous and determined people. One meets them in the older established cities like Irkutsk and Krasnoyarsk and newborn towns like Angarsk, Divnogorsk, Goryachegorsk and Zheleznogorsk.

These people are changing the Siberian landscape. They are building towns of sunny residential districts with schools, clinics and theaters. On the outskirts of these well-conceived towns tourist, sport and holiday resorts are mushrooming.

Siberians are very proud of Irkutsk. The city has spread to both banks of the Angara River and has become the center of a highly developed machine-building industry. It has its own university, 30 colleges and technical secondary schools and a branch of the USSR Academy of Sciences.

Around the city other industrial centers are springing up. The Irkutsk electric station on

VASILI KALACHALOV IS ONE OF MANY CONSTRUCTION WORKERS HELPING TO BUILD UP EAST SIBERIA.

The fast-flowing Siberian rivers are becoming important arteries of transportation.

Ivan Bardin (right), Vice President of the USSR Academy of Sciences, after a staff conference at the Academy's Siberian branch.

The use of prefabricated reinforced concrete sections accelerate construction.

EAST SIBERIA

the upper Angara, the first big hydropower plant in East Siberia, has been supplying the region with power since 1957. A new aluminum plant is now being built north of the station.

Another hydropower station, Bratsk, scheduled to be one of the world's largest with a capacity of 3.6 million kilowatts, is now under construction in the middle reaches of the Angara.

A still larger hydropower station, with a capacity of more than 4 million kilowatts, the gigantic Krasnoyarsk project, is going up on the Yenisei River.

Hundreds of industrial plants, thermal electric stations, coal and ore mines, textile mills, shoe factories and food processing plants are being built everywhere in East Siberia.

An economically backward region before the Socialist Revolution, East Siberia is today a growing center for industry and farming. Its development even before the last war was a project of priority rating, and construction since has been substantial. By comparison with prerevolutionary times industrial production has almost quadrupled. The farm area has also been greatly expanded and rapid progress has been made in livestock breeding. The output of foodstuffs and other consumer goods has mounted with great rapidity.

It is hardly likely that there is a parallel in any country for the speed with which Siberia has developed its scientific research centers. The regional department of the USSR Academy of Sciences, founded only in May 1957, is the hub for a number of research institutes in the physical-mathematical and technical sciences. The number of staff researchers has grown from 232 to 1,780. And this is only for the one city of Novosibirsk. It does not take in the personnel of other branches of the Academy established elsewhere in Siberia.

The scientific centers have uncovered new and apparently inexhaustible supplies of raw material and electric power resources for any number of industries.

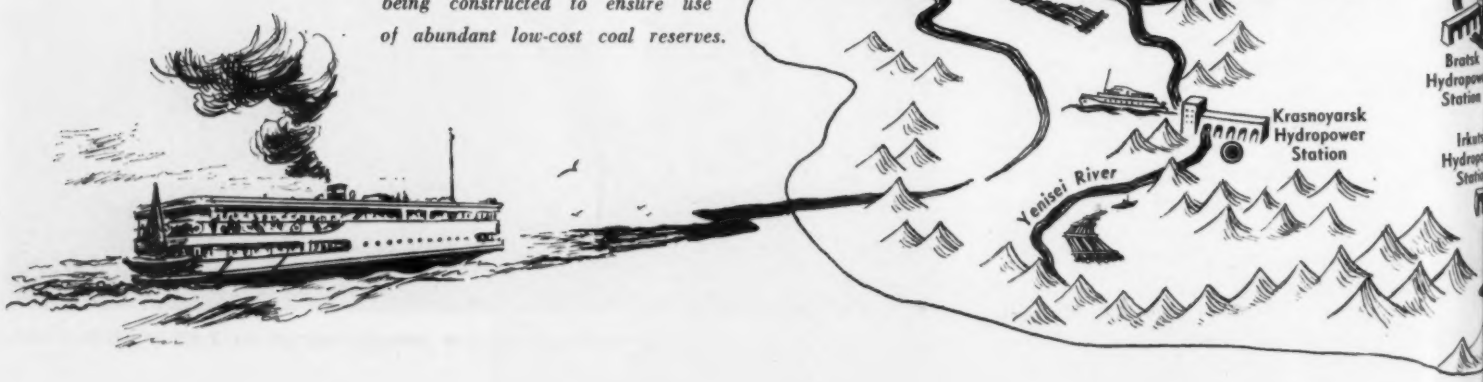
Treasury of Natural Wealth

East Siberia now tops all other regions of the Soviet Union for diversity and abundance of basic mineral reserves. Iron ore deposits already surveyed indicate that they exceed 30 per cent of the country's available resources. The rich deposits of easily mined iron ore alone total some three billion tons. Vast amounts of raw aluminum have been found, as well as large deposits of copper, lead, nickel, tin, tungsten, molybdenum, gold, mica, asbestos, graphite and rare metals.

East Siberia's hydroelectric reserves make up more than 40 per cent of the nation's reserves. The fast-flowing Siberian rivers per-

ERECTING A HIGH-VOLTAGE LINE ACROSS THE ANGA

Along with gigantic hydropower stations large-scale thermoelectric plants are being constructed to ensure use of abundant low-cost coal reserves.



Harvester combines manufactured at the Krasnoyarsk farm machinery plant will be used on the vast tracts of virgin soil which have recently been cultivated in the eastern regions.

The residents of Siberia's new towns live in well-planned communities with all modern conveniences.

A SINGLE GRID WILL LINK SIBERIA'S POWER PLANTS.

mit construction of hydroelectric stations of enormous capacities—up to six million kilowatts—producing power at very low costs. Planned with these gigantic hydropower projects are large-scale thermoelectric plants which will use local fuel resources.

The latest estimate of coal reserves in East Siberia predict an astronomical seven trillion tons, four-fifths of the total resources of the Soviet Union. Mining costs in the region—coal is extracted in East Siberia chiefly by open-cast methods—are about one-tenth the average cost of pit mining, about a third the cost of producing oil and only a little higher than natural gas production. East Siberian coal obviously makes possible extremely cheap electric power.

More than half of the Soviet Union's timber wealth is located in East Siberia. Timber resources are great enough to meet the growing requirements of the country with sufficient quantities left over for large-scale export.

The timber and mineral reserves make possible the development on a large scale of the chemical industry, of nitrate and phosphate fertilizer and sulphuric acid plants, paper and pulp mills, and a host of other industrial enterprises.

Planning Siberia's Development

In the past ten to twelve years, following on intensive surveys of the region's resources, Soviet scientists and economic planners have been discussing East Siberia's exploitation and development in relation to the national economy as a whole.

The Irkutsk conference was one such discussion. It was sponsored jointly by the USSR Academy of Sciences and the State Planning Commission of the USSR Council of Ministers. The Irkutsk meeting was preceded by regional conferences held in Krasnoyarsk, Chita, Ulan-Ude, Yakutsk and Kyzyl.

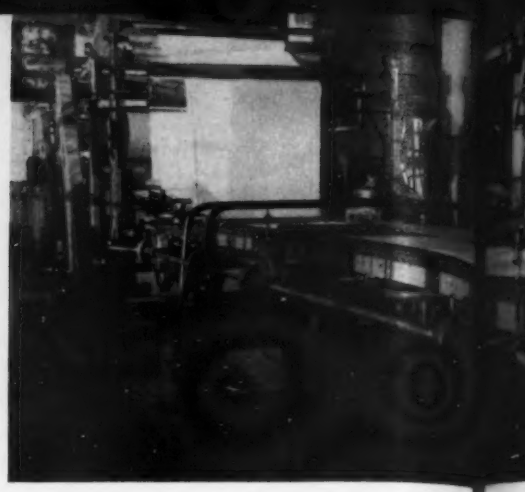
There were more than 8,000 delegates attending these conferences. The reports covered a wide range of economic and technical problems with some 1,500 researchers and representatives of industrial and economic organizations participating in discussion. Their proposals as well as those of participants at other conferences were the basis for the plan for all-round long-range development of East Siberia.

One of the development problems in process of solution is the comprehensive use of the complex-ore deposits of Krasnoyarsk Territory. These deposits contain, along with molybdenum and lead, such other valuable minerals as zinc, cobalt, sulphur and the rare metals. Krasnoyarsk Territory with its treasury of mineral wealth is growing rapidly as an industrial center.

Great iron ore and coal deposits lie so close to the surface that their cost of extraction is minimal, much lower than that of other regions. The variety of raw materials combined with low-cost electricity allow for development of industries that consume large quantities of heat and power. One of the Soviet Union's largest aluminum plants is to

LOCAL PRODUCTION OF EQUIPMENT FOR CEMENT FACTORIES IS STEPPED UP TO KEEP PACE WITH CONSTRUCTION.

Like other new towns springing up all over East Siberia, Angarsk is a beehive of activity, with its department stores, sports grounds and recreation centers, schools, nurseries and hospitals.



A textile plant recently built supplies the local garment industry with silk fabrics.

EAST SIBERIA

be built in the Krasnoyarsk Territory. Already operating are synthetic chemical plants, with many more slated for construction in the near future.

Cheap Krasnoyarsk coal, mined in the big open-cast Kansk-Achinsk basin, is being shipped to the larger thermal electric stations and to other plants in East Siberia that require large heat sources. By 1965, the end of the current seven-year plan, output of Kansk-Achinsk coal will be 23 million tons, just about triple the quantity mined in 1958. The rate of development of this coal basin will be faster than that of any other coal field in the country.

The building of large-scale hydropower and thermoelectric stations in East Siberia marks the beginning of a single power grid for the whole of Siberia to be linked subsequently to the power grids of the Urals and other regions. Cheap electric power and plentiful raw materials forecast production of aluminum, titanium and magnesium as well as numerous chemical products—plastics, synthetic rubber, artificial fiber, ferro-alloys, phosphorus and chlorine. The completion of the Trans-Siberian oil pipeline and the refining of oil on the spot will provide the chemical plants with the necessary raw hydrocarbons.

The town of Taishet, located closest to the iron ore and coal deposits, is slated to become a major iron and steel center. Its ore-dressing plants will supply the metallurgy centers of West Siberia. East Siberia will be the focus for the metal-processing and machine-building industries. Its transport connections with other parts of the country are now being extended.

The population of East Siberia is a growing consumer of food and other goods. All the industrial centers have been and are now in process of building factories for manufacture of textiles, shoes, furniture and other consumer goods. Foodstuff production is being expanded all the time.

Development Eastward

The first stage of East Siberia's industrial development are the districts lying to the west of Lake Baikal. The new industrial centers being built there are linked to the power resources of the Angara and Yenisei Rivers and the local deposits of coal, iron ore, nonferrous metals and timber. With the exploitation of these resources on the way, industry will move further eastward, deeper into Siberia.

The work to be undertaken is manifold. It includes development of the districts lying east of Lake Baikal and of Buryatia, Yakutia and the Chita regions. New towns must be built and the natural wealth of these remote and sparsely-populated districts exploited. This is today's planning for the development of the whole of East Siberia within the next two decades ahead.

East Siberia is only one of many new industrial regions in the Soviet Union. There are others in both the European and Asian areas of the country—beyond the Volga River and the Ural Mountains, in the Far East and Central Asia.

Between 1959 and 1965 more than 40 per cent of all capital investments are to be earmarked for the economic development of the eastern areas of the Soviet Union. The accelerated development of these regions is one of the major features of the seven-year economic plan. By 1965 the eastern area's share in the country's output of coal will rise to 50 per cent, steel to 48 per cent, electric power to 46 per cent, aluminum to 71 per cent, cement to 42 per cent, refined copper to 88 per cent. And East Siberia will account for much of the eastward shift of the Soviet Union's industrial potential.

The picturesque health resort near Lake Baikal is one of the area's popular vacation spots.

Siberian mills are turning out cotton materials to supply the growing market. A number of new factories are being built to increase production of consumer goods of all kinds.

SIBERIAN RAILROADS HANDLE INCREASING AMOUNTS OF FREIGHT.

GENNADI TODINOV PILOTS PLANES ON THE NEW LINES SERVING EAST SIBERIA.

AT 24, SERGEI BAYEV HAS A GOOD JOB, GOES TO SCHOOL AND FINDS TIME TO GET AROUND SOCIALLY.

Biography of a Young Man

By Adolf Antonov

MY EDITOR called me in and said: "Your assignment is to interview a typical young worker in an industrial enterprise."

People are never typical, that's one of the facts of life a reporter learns early. They're all very much individuals. I made that observation to the editor.

"Well," he said, "then interview a *typical individual* young worker."

Having no answer to that one, I tried to figure out where I'd find a proper subject. I had been to Kuibyshev several times and had made quite a few friends there. It's a bustling city on the Volga, about 600 miles from Moscow. The local bearing plant employs a large number of young workers, so I decided to hop a plane and try my luck.

It was lunch time when I arrived and I made my way through the plant cafeteria to an old acquaintance of mine, Oleg Dyba, secretary of the Young Communist League, and explained my problem.

He looked around the room, shrugged his shoulders and turned to the young man he had been talking to when I came in. "Well," he said, "here's Sergei Bayev. I suppose he's as typical as anyone else here."

I asked Sergei whether I could interview him. He was agreeable and we left the office together for some place where we could talk.

Worker

I asked him, "What shop are you working in?"

"The experimental shop."

"Doing what?"

"I'm a machine setter."

"Like it?"

"Sure. If I didn't I'd be working at something else. I had a choice of jobs."

As we crossed the spacious grounds of the big plant we met groups of workers going to

TUNING AND ADJUSTING NEW MACHINE TOOLS IS HIS PROFESSION AND HE "PUTS HIS SOUL" INTO IT.

the plant cafeteria. Most of them were young people. I commented on the fact.

Sergei said, "It's true everywhere in the plant. The workers in my shop are practically all people my age or thereabouts."

How old was he, I asked.

He told me he was 24 and that he was living with his parents. His father, a carpenter by trade, is now retired on pension. His mother takes care of the house.

Sergei, after he graduated from the seven-year school, entered a specialized secondary school instead of continuing his general education at the regular high school. He wanted a technical education because he'd been interested in radio ever since his early teens. "Then, too," he added, "I wanted to get started earning money and help out at home, and I could do that soonest by learning a trade."

He graduated from the specialized school with very good marks, just short of an honor diploma, and was offered jobs in several nearby towns. Since his parents were getting on in years, he decided not to go elsewhere, although the offers were attractive, but to stay in Kuibyshev. He started work in the assembly department of a local factory as an assistant foreman and subsequently was advanced to foreman.

He was due for his army service in 1954, but under Soviet law the only son of aged parents who live on pension is exempt from military service. He transferred to his present job in the Kuibyshev Bearing Plant at about that time.

"How much do you make?" I asked him.

"An average of 850 to 900 rubles a month."

"How do you manage on that?"

"Not too badly. My father's pension is 600 a month, so we have 1,500 rubles for the three of us. We do all right on that."

Inventor

The experimental shop where Sergei works as a machine setter was at the far end of the grounds. Surrounded by tall trees, it had the feeling of a building set in a park. Sergei showed me around and meanwhile told me about an invention he had worked out last year. As he talked, I could see how completely he was wrapped up in the project. He even forgot that I was very much the layman and went into technical details which I must confess were over my head. But I was as much interested in his enthusiasm and excitement as in the explanation, so that I didn't interrupt.

What I gathered was that he and another young man, Lev Samokhin, an engineer in the technology department, had worked out a way of washing precision bearings by ultra-sound.

The rings have to be rolled in a special device which holds a paste composed of chromium oxide, graphite and oil. The paste has a tendency to get stuck in the microgrooves in the metal and it was a hard job getting it cleaned out with cotton and gasoline, the usual method. What made the job harder was that the rings are small and the cleaning has to be done several times.

Bayev and his friend read all the literature they could find on solvents, experimented with many of them, and then, after a lot of time and usual large number of frustrating fail-

SERGEI GETS EXTRA VACATION TIME WITH PAY TO TAKE EXAMS AT THE ENGINEERING INSTITUTE.

TELEVISION IS AN OLD HOBBY AND SERGEI IS BUILDING A SET IN HIS SPARE TIME. "IT'S MUCH MORE INTERESTING TO MAKE A SET YOURSELF THAN BUY ONE," HE SAYS.

Biography of a Young Man

CHOOSING THE TIME AND PROGRAM FOR A CONCERT.

HE GENERALLY TAKES HIS GIRL FRIEND GALYA TO THE MOVIES, BUT THEY OFTEN GO TO SEE A PLAY OR OPERA.

SERGEI AND A GROUP OF HIS FRIENDS GET TOGETHER MANY AN EVENING TO DISCUSS NEW BOOKS AND COMPARE EACH OTHER'S REACTIONS TO AN AUTHOR'S WORK.

GALYA AND SERGEI LIKE TO VISIT ART GALLERIES.

ures, hit on the idea of washing the bearings by ultra-sound. They designed a semi-automatic machine which was built right in the experimental shop and is now used on the job with excellent results and a big saving in time and energy.

The machine, Bayev told me, attracted a lot of attention, especially since other engineers had tried to work out something along the same lines and hadn't been successful. People from Moscow and elsewhere came to have a look at it and he and Samokhin were asked to make a report at the Conference for the Use of Ultra-Sound in Industry. Both scientists and representatives of plants throughout the country participated in the meeting.

Student

Bayev has been going ahead with his technical studies at the USSR Engineering Correspondence Institute. He is now in his fourth year. This is one of the very large correspondence schools with branches in all the big industrial centers. Besides home study and written assignments the course requires laboratory work, preparation of reports and examinations. Bayev gets an extra month's vacation with pay each year to prepare for and take his exams.

There are about 300 young people at the plant, he told me, who are taking the Institute course by correspondence. "So many of the young people at the plant are studying," he said, "that those who don't feel very much out of things. To tell the truth, that's why I started myself. When I got through school, I thought I'd spent enough time studying. I was anxious to get down to work. However the trouble is that in order to do good work, you've got to be on your toes. There's so much that's new in our industry cropping up all the time that you've got to study to keep up to scratch. That's why I decided to get moving toward an engineering degree."

Bayev is now studying at the engineering technology department of the Institute but he's thinking of transferring to the new department that is being organized in precision instruments and remote control engineering since that is more immediately related to the work he's doing at the plant.

Active YCL Member

Bayev told me that he was a member of the Young Communist League.

"That's a pretty full program," I said, "what with work and study. How do you ever get everything done?"

"It's a problem," he said, "no doubt about that. When you came in Oleg Dyba had just

SERGEI'S FATHER, A PENSIONED CARPENTER, DISCUSSES THE DAY'S NEWS WITH HIS SON.

Biography of a Young Man

THE YOUNG COUPLE GO OUT TWO OR THREE TIMES A WEEK. SOMETIMES THEY STROLL ON THE VOLGA EMBANKMENT.

talked me into taking an assignment to lead a discussion for the tenants of the new residential district around the plant on the coming census. How I'm going to find the time for it, I don't know, but it will get itself done. It usually does. The League is more than a social organization, it's a collective with common aims and when I joined it was because I believed in the aims and wanted to work for them. One thing I learned fast was that League members take their responsibilities seriously and they expect their leaders to do the same. I was elected to the shop committee for four years running and I know.

"League members are active in one way or another in all sorts of things. For example, we YCL'ers led the drive to economize on the use of raw materials and our plant saved the country five million rubles this year. We see to it that the people we work with know what's going on in the world, encourage them to read more. We're talent scouts, too. When we find a budding young inventor struggling with a new idea, we make sure he's given the right kind of encouragement and help.

"Our organization has a rich cultural, educational and leisure time program. It arranges camping trips in the nearby Zhiguli Hills, visits to museums, theater parties, dances and a variety of other social activities.

"Our group at the plant is at present working with the management on an apartment house project for young married couples and on a landscaping project for a residential district newly completed near the plant. Leaguers make many such contributions to the general welfare."

Many of the young men and women at the plant, Bayev explained, are members of the League. The organization strives to develop attitudes of cooperative work and ethical values and social responsibilities that will contribute to the building of a communist society.

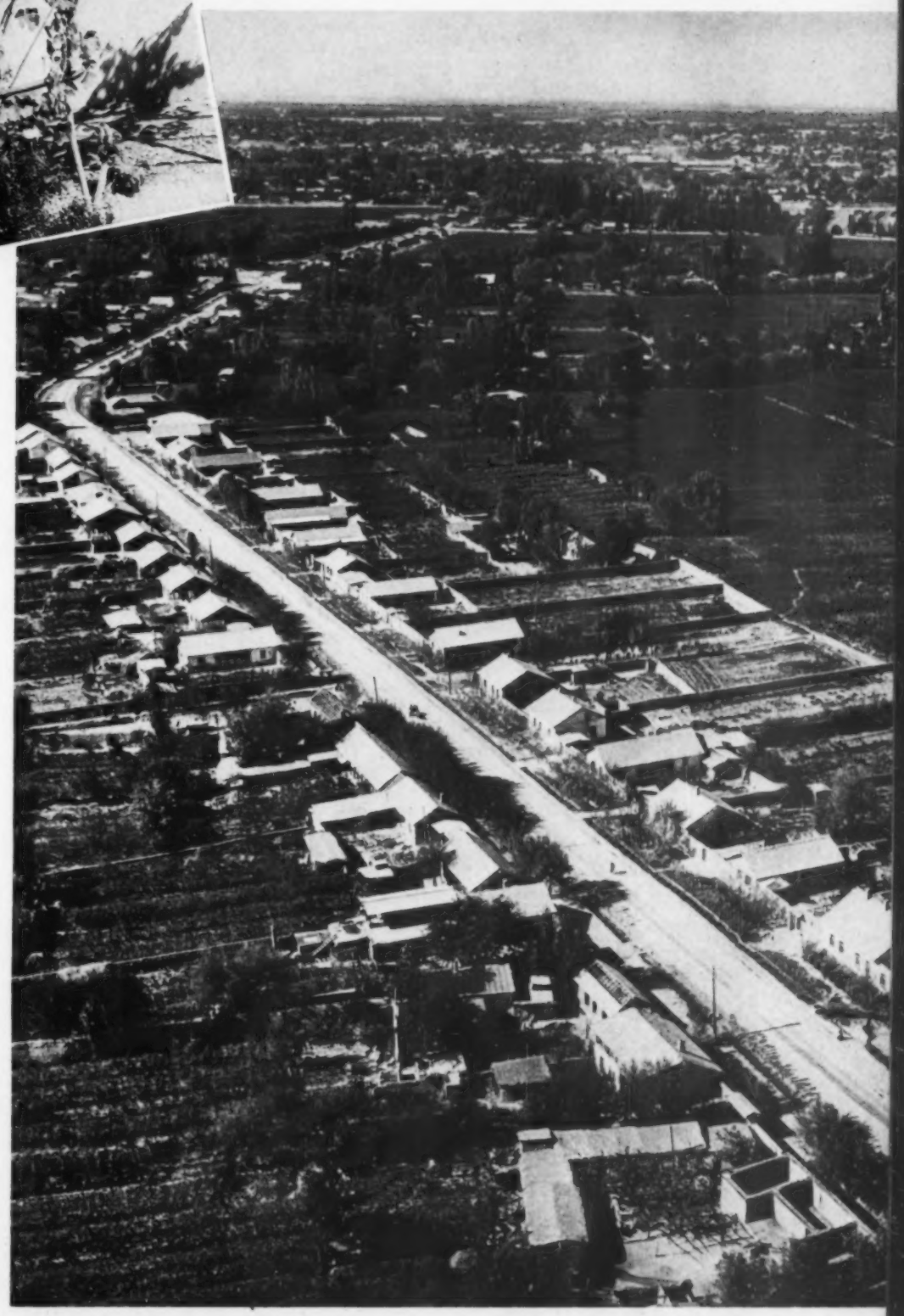
Busy Social Life

Sergei Bayev, in spite of his busy work schedule, manages to find time for what seemed to me an equally busy social schedule. There's his girl, Galya Goldobina, who occupies a fairly large slice of his free time. She's nineteen and works as a nurse in one of the Kuibyshev hospitals. He met her at a dance given by the League.

They go out together two or three times a week, to the movies or the theater or just for a walk on the promenade on the Volga shore. They think alike about a great many things. They've been reading the same books recently to compare notes and reactions. They both want to travel and hope to before they are very much older. When I asked Sergei whether he was thinking of one of the apartments in the project for newly married couples for himself and Galya, he laughed and said, "Maybe."

I spent most of the afternoon talking to Sergei Bayev. Whether he's typical or not, I don't know. In many ways, I suppose, he is very much like young people anywhere in the Soviet Union—young people interested in work, ideas, civic duties, dances, books and everything else that goes to make up a young man's life.

PEOPLE in the land of WHITE GOLD



By Yuri Grafsky

CENTRAL Asian Uzbekistan is cotton-growing country, mile on mile of greenish-brown fields alternate with great squares of white cotton spread in the sun like giant counterpanes. In Uzbekistan they call cotton white gold, it is the republic's principal crop.

All this country forty years ago was marginal, land and people both. Uzbekistan's cotton crop has increased more than five times in the Soviet period. With extensive irrigation, land reclamation and farm mechanization, the republic now grows more cotton than all the rest of the Soviet Union put together.

The cotton growers have changed too. Before the 1917 Socialist Revolution, a bare two per cent of the population was literate. There is no illiteracy now. No Uzbek village is without its school, no regional center without its college.

The best example of these changes is the Lenin Collective Farm, about 20 minutes' flight from Tashkent, the capital of the republic. The farm produces meat and wool, but its main source of revenue is cotton, about 12,500 acres of it.

Six Hundred New Houses

Niyazbash, where the Lenin Collective farmers live, reproduces on a village scale the growth of the republic as a whole. The objective is to build a modern new house for every one of the 1,500 farm families. Six hundred have been built so far. Those farm-

UZBEKISTAN'S ONCE SHABBY VILLAGES ARE FAST BEING TRANSFORMED INTO MODERN COMMUNITIES.

ers who had accumulated savings paid cash for their houses, others built them on ten-year mortgage loans borrowed from the farm fund. They pay no interest on the loans.

Eshmirza Boimurzayev is now building a new brick house. His is a somewhat larger and more expensive house, but its estimated cost in relation to his income is fairly typical.

It will cost him 55,000 rubles. This year his own cash earnings, that is to say, his personal share of the farm income, was 11,000 rubles. Altogether, the Boimurzayev family earned almost 50,000 rubles. The house then represents a little over a year's work.

The plot of land around his house, one-third of an acre, is large enough for a garden. Like most of his neighbors Boimurzayev grows his own vegetables, grapes and melons.

Seven Village Schools

Niyazbash, with 100 per cent illiteracy before the Socialist Revolution, now has seven schools for its 2,000 children—two elementary schools, four junior high schools and a secondary school built four years ago.

Many of the high school students take jobs on the farm after graduation, others go on to further study. The careers chosen by the four children in the Karamov family are representative. Fayil, just completing his high school course, wants to be a tractor driver. He became interested in machinery in one of his school courses. Fatima, his sister, is now doing pre-medical work at the Yangi-Yul Medical School. Zayid is a scientist, he holds a master's degree in the technical sciences. Faris majored in philology at the Uzbek University in Samarkand and is now teaching Uzbek literature at the collective farm high school.

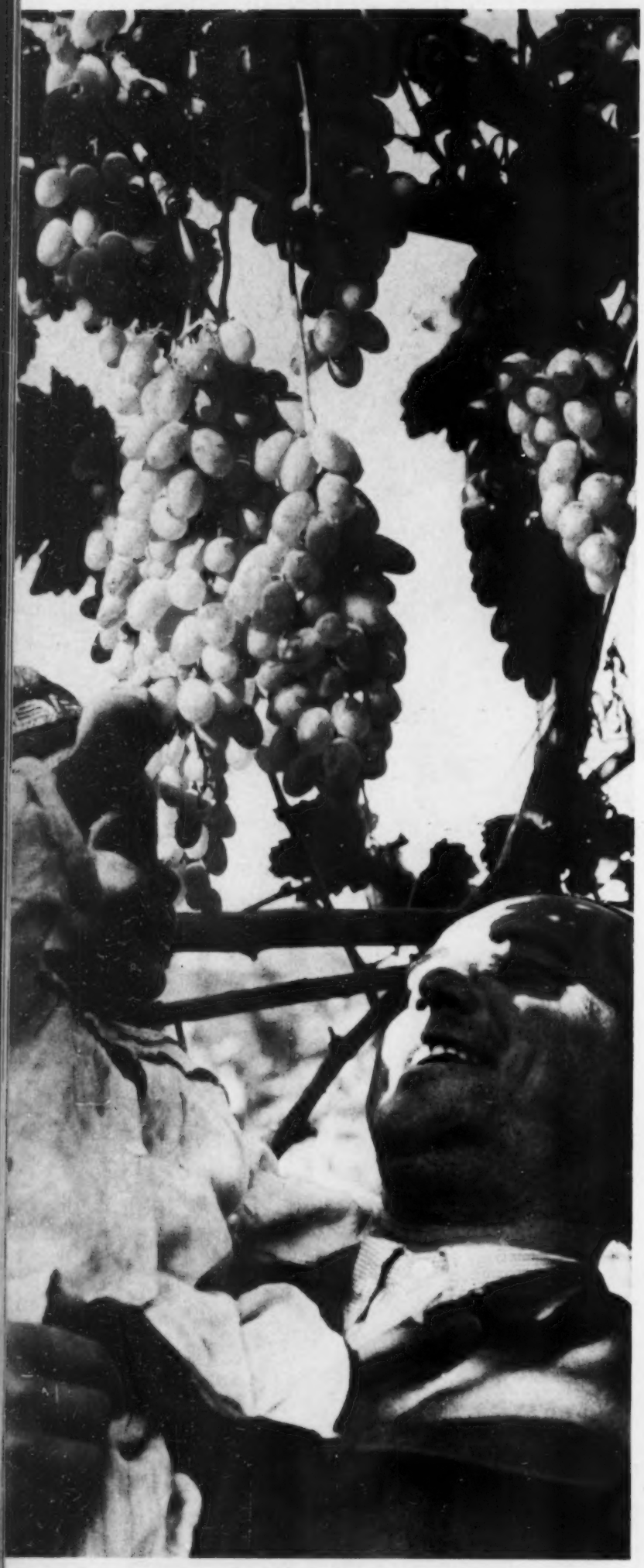
Many of the village teachers are local people who got their education at one of the country's colleges and then returned to Niyazbash.

After picking, the cotton is laid out to dry in the sunny fields before being sent to the gin.

Mobile cotton pickers move into the fields. Practically all the old arduous work has been mechanized.

Recently the collective farm bought a million rubles' worth of new machinery which is now operated by experienced drivers like Askhad Rafikov.

12,500 acres of cotton provide the main income of the Lenin Collective Farm. Last year the personal share of its members totaled 14.5 million rubles besides payment in kind.



Father and son on a tour through the vineyards. While cotton is the main crop, Uzbekistan is also one of the country's big fruit producers.

LAND OF WHITE GOLD

Village Hospital, Stores, Library

The farm's polyclinic is an all-around fully-equipped diagnostic and therapy setup. It is headed by Nafisa Mukhitdinova, a very energetic woman who returned to her native village after graduating from Tashkent Medical College. In addition to the usual medical facilities the polyclinic has a dental unit and a special mother-and-child division. Like medical care throughout the country, the polyclinic's services are free.

For preschool training the farm has two nurseries and two kindergartens and spends half a million rubles annually to run them.

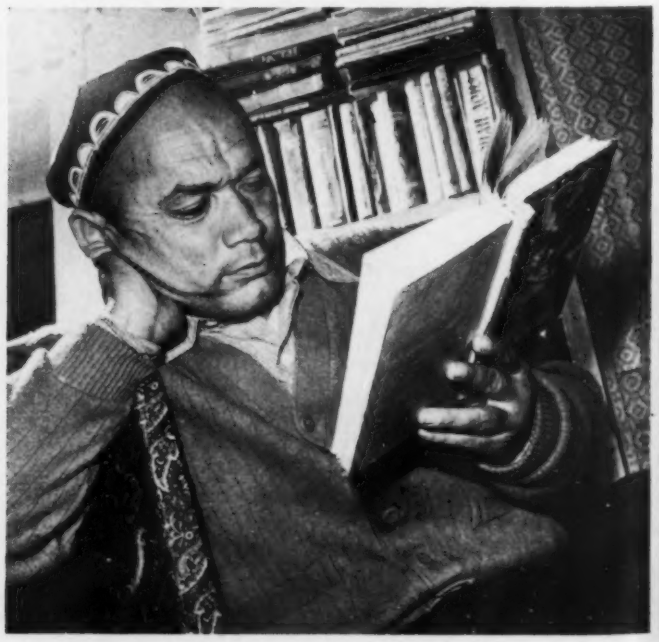
The village has seven retail stores selling a full range of consumer items, from clothing to television sets. Sales have trebled in the past year alone, with furniture, radios and cameras heading the list of items most wanted. About the only item a villager can't buy right at home is a car, and these are available in nearby Tashkent.

Books are much in demand in this once illiterate village. The collective farm library's 18,000 books are in constant circulation. They cover a wide variety of subjects ranging from cotton cultivation to science and the arts. The library arranges readers' conferences and discussions. A recent and very popular one dealt with Aibek's novel *Sacred Blood*, about the Socialist Revolution in Uzbekistan and World War I. Aibek is an Uzbek author whose books are read all over the Soviet Union. Most of the farmers have their own home libraries stocked with books in both the Uzbek and Russian languages.

Planned Prosperity

The cotton grown by Uzbek farmers is bought by government procurement agencies. Previously the collective farmers were paid a

After completing a day's work on the farm, Djamal Tuichiyev likes to spend the evening reading a novel or the latest technical journal.



bonus for every additional pound of cotton raised over and above the amount contracted for by the government. These bonus payments were discontinued in 1958 and a uniform price system was adopted for the entire output with a price scale higher than the old one.

Those cotton farms whose production was average gained by the new scale, some of them by as much as 18 per cent. The top producers—the Lenin Farm is one of them—stood to lose with the bonuses cut out.

The farm had figured an income for 1958 of 28 million rubles. That was six million more than for 1957. About 2½ million was to have come from bonuses. The farm had also made a large capital investment during the year. It had bought a million rubles' worth of farm machinery from a disbanded machine and tractor station. The question was how to make up for this total of 3½ million rubles.

The members of the collective farm met and considered the problem and a number of very practical recommendations were forthcoming. What with the suggestions put into effect, the labor saved by the additional new machinery, and better cultivation, the 1958 crop was so large and quality so high that the farm more than recouped the bonus loss. Its income for the year reached the high mark of 30 million rubles.

The income was budgeted, as it always is, at a meeting of the collective farmers. For payments to the individual members—14½ million rubles; for further expansion of the farm, new buildings, farm machinery purchase and maintenance—9 million; for housing construction—2,800,000; for a new village community center—1 million. The remainder went for the pension fund, maintenance of kindergartens and for taxes.

The average family of cotton growers at the Lenin Farm—with a standard of living that is spiraling upward—is a far cry indeed from the marginal peasant households of prerevolutionary times trying to tear a bare subsistence out of their small plots.

The farm spends half a million rubles annually running two nurseries and two kindergartens for its members' children.

Turgun Rashidov (center) was a member of his high school physics club. Now, a graduate of Central Asian University, he is in charge of the same group.

The most avid of the TV fans in the Inashamov family are 70-year-old Grandma Yadgar and her grandson Rashid.

SOVIET

SOCIAL

SECURITY

Top — Discussing a new increase in pensions. Center — Retiring worker receives a send-off gift. Bottom — Home delivery of pension money.

AMERICAN DELEGATION SEES WELFARE SYSTEM IN OPERATION

By Dmitri Petrov

TO THOSE unfamiliar with its generous provisions, the Soviet social security program presents something of a revelation and a challenge in national old age and disability systems.

An American delegation of social security experts on a recent visit, part of the exchange program, was afforded a close view of the Soviet Union's concern for its elderly citizens and those sick and disabled.

The delegation, led by Charles H. Schottland, Federal Social Security Administrator, included Victor Christgau and Arthur E. Hess, director and assistant director of the Bureau of Old-Age and Survivor's Insurance; Corinne H. Wolfe, who heads the Technical Training Division of the Bureau of Public Assistance; and Robert J. Myers, chief actuary of the Social Security Administration.

The Americans visited various social security agencies in Moscow, Kiev, Sochi, Leningrad, Tbilisi and Tashkent and interviewed agency heads, pensioners and disabled workers, from whom they received first-hand accounts of the day-to-day operation of the welfare program.

The right of the Soviet citizen to maintenance in case of illness or disability and in old age is guaranteed by the Constitution. The sum spent for social security has increased each year. In 1958 it was about 12 per cent of the total national budget—more than 88 billion rubles.

Every industrial and office worker is automatically covered by the social security program from the very first day of employment. The program is financed entirely by the enterprises, and the workers make no contribution whatsoever. The social security fund is channeled through the national budget to the trade unions and the ministries of social maintenance in each of the Soviet republics. The unions take care of people who are working, and the ministries, those who are retired. Collective farms have their own social security programs, each one for its own members financed from the common fund.

When the American guests went through a textile mill in Tashkent, capital of the Uzbek Republic, they were surprised at the large contributions management makes annually to the national social security fund. The amount paid by each enterprise varies with the size of the payroll—the larger the payroll, the larger the contribution. At the Tashkent mill the guests found out that over and above the usual payroll the management pays another 7 per cent to the social security fund. That percentage is not the highest. In some industries the rate runs as high as 9 per cent.

As to why there was no provision for unemployment insurance in the social security program—a question which the Americans asked—the answer was simple: There is no unemployment in the Soviet Union, nor has there been since the early thirties.

The guests spent much time learning about the work of the ministries of social maintenance in various republics and their local agencies. In each city and region these agencies are responsible to the city or regional Soviet. Their function is not confined to the payment of pensions and other benefits. They set up industrial training programs and find suitable jobs for the disabled, maintain homes for the aged and those incapacitated, provide accommodations at health and vacation resorts for these groups and give such other services as are necessary.

When the Americans visited the Black Sea coast, a health resort area in the southern part of the country, they talked to 70-year-old Vikenti Balonkin. He is one of 20 million Soviet citizens who receive pensions from the national fund. Balonkin worked as a carpenter and gardener

for close to 25 years. He retired 10 years ago and now lives with his wife in their own house near Sochi which has a garden and orchard. Balonkin's pension comes to 800 rubles a month. It is nontaxable income.

The law provides pensions for men who have reached the age of 60 and have worked 25 years and for women who have reached the age of 55 and worked 20 years. The amount ranges from 300 to 1,200 rubles a month. In each case the pension is figured on the basis of average earnings for five consecutive years of the applicant's last ten years of employment. Workers who have not completed the minimum 25 or 20 years the law requires are retired on somewhat lower pensions. Under the seven-year plan adopted by the Twenty-First Congress of the Communist Party all pensions in the lower categories will be increased considerably.

Certain categories of people are granted special pension privileges. Workers engaged in hazardous jobs, in hot shops and in mines fall in this group as well as mothers of large families. A woman who has reared five or more children, for example, will be pensioned at the age of 50 instead of 55.

The pension law also provides for families who have lost their breadwinner. Pensions are granted to dependents in such families who are unable to work, to children, brothers, sisters and even grandchildren who have not reached the age of 16 and to students who have not reached the age of 18. These pensions are allowed regardless of when the breadwinner died. A dependent husband or wife entitled to pension continues to receive it even upon remarriage.

The law provides pension security for all those crippled, chronically ill or otherwise incapacitated and whatever medical treatment is nec-

Nonna Muravyova, Social Maintenance Minister of Russian Federation, meets members of U.S. delegation studying Soviet care for aged citizens.

Dmitri Rezchikov, disabled war veteran now teaching school, shows the American guests how he uses various tools with his artificial hands.

Pensioners Anna and Vikenti Balonkin (left) greeted the Americans when they stopped off to see their home in the outskirts of Sochi.

Anna Zagorina (in the background) mother of six children, receives her monthly state grant at a Sochi savings bank as the American visitors watch.

The U.S. delegation's tour of inspection included the Research Institute for Mother and Child Care in Tbilisi, capital of the Georgian Republic.

An amputee demonstrates operation of his artificial limbs for the group at the Central Research Institute for Artificial Limb Design in Moscow.

The Americans met the patients at the institutions they inspected and had a chance to question them about their case histories and background.

SOVIET SOCIAL SECURITY

essary. Those capable of limited functions can retrain for new jobs.

In case of long-continuing or permament loss of working capacity, invalid pensions are paid. The sum will vary with the length of previous employment and the degree of incapacity established by medical-labor examining commissions. In case of crippling or chronic illness resulting from work, invalid pension is granted regardless of length of employment.

In one of the Black Sea sanatoria the American delegation spoke with Vladimir Djugostransky, a young man of 26 who had been a train conductor on the Odessa Railroad and had lost a foot in a railroad accident.

His medical treatment and stay at a sanatorium where he learned to use his artificial leg were, of course, all taken care of. In addition he received full compensation for all days of his sick leave and then was granted an invalid pension. The railroad administration provided retraining for a new job as bookkeeper at the same pay he had earned previously. His total income at present, including job and pension, is 1,100 rubles a month.

There are permanent invalid homes maintained for those incapacitated or chronically ill who have no close relatives. They provide complete care and medical attention for about 150,000 people at present.

Among the health and vacation resorts visited by the Americans was the Metallurg Sanatorium, located near Sochi on the Black Sea.

The Americans visited two such homes in the suburbs of Leningrad and Moscow.

The social security agencies help partly incapacitated people to find such work as the state of their health will permit. The management of any enterprise is not only required to employ the semi-incapacitated person who applies for a job, but is also required by law to make whatever special working arrangements may be necessary—a shorter working day, perhaps, or providing special equipment. The Americans saw some of these semi-incapacitated people at work in a textile mill in Tashkent.

What seemed to have impressed the visitors most in their tour of factories and social security agencies was the very wide scope of the work being done in the Soviet Union to readjust and retrain those people who by reason of illness or accident have lost their earning capacities. The social security agencies, the trade unions and the medical institutions combine their efforts in this program.

The Americans spent some time at the Central Scientific Institute on the Organization of Labor For the Incapacitated. They talked with Dmitri Rezchikov who had lost both his hands in the war. Equipped with artificial hands designed for him by the Institute's prosthetics department, he now works as a mechanic and carpenter and teaches machine engineering in a Moscow school. Besides his salary he gets an invalid pension. Specially designed artificial limbs and a variety of prosthetic appliances are returning people like Dmitri Rezchikov back to normal life.

At a conference before the American guests' departure for home, Mr. Schottland said the delegation was amazed at the high level of training and ability of social security personnel in the Soviet Union. Every worker, from the rank-and-file employee to the highest ministry official, seemed to know his job so well and was always ready to come to the aid of anyone who applied for help. He noted how well the work of all the agencies is coordinated and how sympathetically the problems of the country's aged and infirmed are handled. The program, he concluded, effectively combines the merits of a unified national system with broad local initiative.

Victor Christgau and Corinne H. Wolfe, of the U.S. social security delegation, at a toy factory which provides jobs for partly disabled workers.

The Americans are welcomed by Klavdia Zaikina at a home for the aged near Leningrad (top picture). Pictured below are Yevgenia and Nikolai Mochalov, pensioners who live in the old people's home.

Mrs. Corinne H. Wolfe (second from left) learns of the work of a district social welfare department near Tashkent in Uzbekistan.

SHOLOM ALEICHEM CENTENNIAL

By Alexander Gleichman

SHOLOM ALEICHEM was the pen name adopted by the renowned classic of Jewish literature whose birth centennial will be observed the world over this March. The name means "Peace be with you"—a traditional greeting among Jews, and it sums up the writer's attitude toward the people he lived with and toward the characters he created in his books and plays. All of Sholom Aleichem's works are permeated with a love for man and sympathy for his striving for happiness.

He was born Sholom Rabinovich, the son of an impoverished innkeeper in the little Ukrainian town of Pereyaslavl. As was customary at the time, he attended the Jewish religious school. Later he went to one of the general schools where he learned the Russian language.

The future writer read voluminously, and the humanism of the best of the Russian classics affected him profoundly. Merged with the influence of the enlightened Jewish secular literature of the period it gave Sholom Aleichem that compassionate understanding for the Jewish "little man" which was so uniquely characteristic of his writing.

It was for this commiseration for the weak and oppressed that Sholom Aleichem was persecuted in czarist Russia both as a Jew and as a writer. It is the same quality in his works that has won him so great a reading public in the Soviet Union.

There have been 489 Soviet editions of his books printed in a total of 5.5 million copies. Besides publication of a 15-volume Yiddish edition of his works, Sholom Aleichem has been translated into fifteen of the languages spoken in the Soviet Union. His plays and the dramatizations of his novels have been staged all over the country.

A Life of Struggle

Sholom Aleichem began writing in Hebrew, the language of the Jewish intellectuals of his time. His first published effort was an article for the Hebrew newspaper *Hacafire* when he was twenty. In the eighties he began to write in Yiddish, the language spoken by the people, and he continued to write in that language until he died.

His life was not an easy one. He turned to a variety of occupations for a livelihood, salesman and teacher among them. In 1905, after living through the horrors of the anti-Jewish pogroms in Kiev, he emigrated to America. But Russia remained his home, and the people of Jewish communities in Russian cities and towns were his people.

Sholom Aleichem did not stay in America long. In 1908 he returned to Russia for a tour of the regions with large Jewish populations. By this time his books were known and loved by Jews everywhere and he was greeted by hosts of admiring readers.

But his life remained a struggle for a bare livelihood, aggravated by an incipient tuberculosis which made it necessary that he live in a warm climate. At the outbreak of the First World War he was staying at a German health resort. He was sent to Berlin together with other Russian citizens, but soon escaped to neutral Denmark and after months of illness and poverty, to the United States.

Sholom Aleichem died in New York in 1916 at the age of 57. Thousands of Jews and people of other nationalities came to his funeral to pay their last tribute.

Unforgettable Characters

Sholom Aleichem's short stories, novels and plays are all touched with wistful humor, a humor which made it possible for him to reveal all the ludicrous aspects of the life he depicted. But his laughter was tinged with deep sorrow and profound sympathy for man. He showed that the people he laughed at could not help themselves for they were the victims of tragic fate.

Menachem-Mendel and Tevyeh the Milkman, the heroes of two cycles of his tragic-comic short stories, are unforgettable. These are the "little men" of tragic destiny. Sholom Aleichem first conceived them in the nineties and returned to them at frequent intervals.

Menachem-Mendel is the *luftmentsch*, the dreamer, so typical of Jewish life in old Russia. He is ever on the hunt for a living, a way out of poverty, ever busy with projects and plans to make money, each one more fantastic than the preceding. He tries his hand at everything—broker, insurance agent, dealer, businessman, writer—and fails at everything. He even takes a stab at matchmaking and finds he's been trying to arrange a marriage between two girls.

Sholom Aleichem says of these Menachem-Mendels without earth under their feet that they are "the rootless who must eventually wither and die." They are the Don Quixotes of the time with no comprehension of the great changes which were in process nor any ability to adapt themselves to new conditions.

Injustice and poverty bred men like Menachem-Mendel who spent their lives in a phantom chase after money and happiness—ludicrous but pathetic figures.

Tevyeh the Milkman is an altogether different type of man. He has worked hard all his life. His feet are planted strongly on earth but he has never lost the sure and certain sense of the possibility of a brighter, happier future. His ties are with working people everywhere, of whatever nationality or country.

Godl is one of Tevyeh's seven daughters. With her father's blessing she follows her husband, a revolutionist, into exile.

Although Tevyeh is rooted in the old ways, bound by prejudices and patriarchal traditions, without more than a dim understanding of the changes fermenting around him, he somehow accepts them instinctively. When his daughter follows her husband, a revolutionist, into exile, he takes her side. This is his way of protesting against social injustice. Tevyeh, the author is telling us, will find his way to understanding.

Stage Productions

Sholom Aleichem is widely known as a dramatist. His small one-act plays are akin to his short stories. He is also the author of several full-length plays such as *Disorder* and *The Large Stake*.

The dramatic works of Sholom Aleichem follow the finest realistic traditions of the Yiddish literary classics, and at the same time show the influence of Chekhov and Gorky, both of whom he first met in 1904. His plays are contemporary in theme and reflect the life of his time. Their heroes are as vivid as those of his short stories and novels.

Soviet theatergoers know Sholom Aleichem not only by those of his works that were written specially for the stage. The stage versions of his highly dramatic novels *Wandering Stars* and *Tevyeh the Milkman* are no less popular than his plays.

Maxim Gorky and Sholom Aleichem

Maxim Gorky was a great admirer of Sholom Aleichem's work. When *A Boy's Diary* was first translated from Yiddish into Russian in 1910, Gorky wrote him:

"Your book has been received, read, laughed and cried over—a wonderful book! It seems to me that the translation has been done skillfully and with love for the author, although in spots one feels that it was difficult to convey in the Russian the sad and warm humor of the original. I repeat—one feels this.

"The entire thing scintillates with tender, benign and wise love for the people, and this feeling is so rare in our day."

This tender love for the people is eloquently epitomized by this brief paragraph from Sholom Aleichem's will:

"No matter where I may die, I do not want to be buried among aristocrats, the nobles or wealthy, but among the common people, workmen, the people proper, so that the tombstone over my grave will beautify the simple graves around me, and the simple graves will serve as an ornament to my monument, just as the common, honest people have during my life adorned their popular writer."

Tevyeh the Milkman

Staged by
the Ukrainian Drama Theater
of Kharkov

Tevyeh cries out against injustice and poverty. Through Tevyeh, Sholom Aleichem created a poignant picture of the degrading lot of the Jew in a society which rejected him.

The beautiful Beilka, Tevyeh's youngster daughter, fulfills her mother's dream by marrying the rich Pedotsura but she soon realizes that it is not the way to true happiness.

Although it creates a deep inner conflict, Tevyeh's inability to cause pain and suffering wins out over his piety and he accepts his daughter's marriage outside the faith.

Yakov Rylsky (left), 1958 world saber champion, and Yakov Midler who took second place.

Veteran Soviet fencing champion Ivan Manayenko has taught many champions his skills.

Soviet Fencers

By Ivan Manayenko

FENCING, whose history goes back to the introduction of gunpowder, is one of the oldest of sports and is laden with tradition and science. It is deservedly popular with both men and women throughout the world.

The first Soviet fencers to enter international competition made their bow at the 1952 Olympic Games in Helsinki in team and individual events. This initial experience found only two Soviet sportsmen getting to the semi-finals, and the squad failed to win a single prize.

Since then the Soviet fencers have trained long and vigorously to polish their technique and general physical preparedness. There are fencing enthusiasts in sports clubs for teenagers, in high schools, colleges and clubs. The Dynamo, Spartak, Trud, Locomotive and Burevestnik sports societies as well as Moscow University, the Power Institute and other colleges hold their own championships and take part in major national contests.

Last August in Philadelphia the 23rd World Fencing Championship was held at the University of Pennsylvania. The clang of swords kept up for a full 20 days.

Team and individual world titles in the men's three events—foils, epée and saber—and the women's foils were at stake. Soviet sportsmen won the over-all victory in both the team and individual events.

The women's squad, consisting of Valentina Kiseleva, Alexandra Zabelina, Emma Yefimova and Galina Gorokhova, recaptured the world title they had won for the first time in London in 1956 and had lost the following year in Paris. The men's team won silver medals for second place in the foils and saber.

Soviet fencers made out well in the individual events also. Valentina Kiseleva took the women's crown. Yakov Rylsky became the world's saber champion and the first Soviet fencer to hold the title.

This victory makes me feel that our fencers will make a pretty good showing in the national and international events of 1959 and in the 1960 Olympics.

Valentina Kiseleva (above), Russian teacher, won the 1958 world title in Philadelphia.

Match between champions: Yakov Rylsky (right) and Yuri Uralov.

Group of novices in training at the Dynamo Sports Club gym.

Schoolboys start to learn the old sport at an early age to acquire agility and poise.

During the 1957 International Youth Festival in Moscow, fencing competitions were staged.

Galina Gorokhova (right) was a member of the 1958 Soviet fencing squad at Philadelphia.

Pavel Rakitiansky, shown at the right, is a member of the USSR Pentathlon team.

Alexandra Zabelina held the world title in 1957 and the Soviet title in 1957 and 1958.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