

A LOOK INTO THE FUTURE

1963



by
**OLEG
PISARZHEVSKY**



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A LOOK INTO THE FUTURE

The Soviet Union in 1980

by
OLEG PISARZHEVSKY

On the cover: *A view of Bratsk Hydro-electric Station on the River Angara at night—and one of its builders.*

Back: *A section of the acetate production department of the Engels artificial fibre factory, Saratov Region. This year has seen a threefold rise in the output of artificial silk, following the introduction of new equipment.*

Soviet Booklet

London
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*“Information for a world in need of mutual understanding” –
such is the motto of Novosti Press Agency (A.P.N.) who
have prepared the material for this booklet in order to
provide such information.*

PREFACE

THE SECOND HALF of the twentieth century is a difficult but interesting time. A vast number of problems confronts mankind, a great many important questions lie unanswered.

What future awaits each of us; what prospects does life hold; what is the fate of man to be?

People all over the world answer these questions in different ways.

In this booklet we describe for you how Soviet people are coping with their problems. We shall look into the future which they are building according to a definite plan. This is not in some remote golden age, but the immediate future of the next twenty years – the future of the present generation of Soviet citizens.

NOVOSTI PRESS AGENCY (A.P.N.)

BIOGRAPHICAL NOTE

OLEG PISARZHEVSKY, a well-known Soviet journalist, is also a physicist. He worked for a considerable time at the Institute of Physical Problems of the U.S.S.R. Academy of Sciences, and later in the department of technical literature of the "Soviet Encyclopaedia" Publishing House.

Oleg Pisarzhevsky has written a number of books about prominent Soviet scientists, as well as brochures and articles on problems of Soviet science and economics. In 1957 he was awarded a State Prize for his research on the great Russian chemist Dmitry Mendeleev.

Many of his popular science works have been translated and published abroad.

NOVOSTI PRESS AGENCY (A.P.N.)

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AT PRESENT—SOCIALISM

THE SOVIET UNION was the first country in the world in which the socialist way of life was established. All the chief means of production, the enterprises, the land and its mineral wealth, all the natural resources belong to the workers, to the whole people. That means that they cannot be used by anyone for personal enrichment or for the exploitation of others. Production proceeds according to a single plan, and this ensures steady and swift growth. The common ownership of the means of production naturally and inevitably changes the very aim of production. It is now being developed to satisfy all the requirements of man, to ensure his well-being at present, and abundance in the near future.

All citizens of the Soviet Union have the right to work and each one receives wages according to his work. Moreover, the more important for the life of society and the more difficult the work of a man is, the more he earns. Manual work is closely connected with intellectual. The thought of the scientist, embodied in new machinery, facilitates labour and helps the worker, while the experience of the latter enriches science.

Town and countryside live in a close union. All citizens, men and women alike, enjoy equal rights and the happiness of a man does not depend on the colour of his skin, the language he speaks, or the family he comes from, but on how he works, what benefit his work brings to others.

In the U.S.S.R. all are jointly building a happy life. The people themselves are the master. And man is friend to man. That is why Soviet people address each other respectfully, as "comrade".

It was difficult for the Russian workers and peasants to build their society. When the Socialist Revolution took place in 1917, the country was poor and exhausted by war. It was beset on all sides by the armies of the imperialists. But the people worked persistently, and by great efforts carried out their plans. They created an advanced industry and large-scale agricultural production. They repelled the attack of German fascism in the Second World War and are now continuing to develop and strengthen their economy.

Free, selfless work for the good of the people brings genuine joy and happiness to each one. The cherished dream of all workers—the creation of an abundance of material and cultural wealth — is approaching fulfilment.

Russia before the revolution was the third largest country in the world and the second largest in Europe but it held fifth place in the world and fourth in Europe for industrial output. The total

volume of industrial production in Russia was eight times less than in the U.S.A., and *per capita* production thirteen to fourteen times. And not only was Russia behind the U.S.A. In 1913, Germany, Britain and France were all producing more industrial goods than those countries which today constitute the U.S.S.R.

In 1961 the Soviet Union was second in the world and first in Europe for industrial production. Only the United States of America exceeded it in volume of output, and the gap between them was rapidly being narrowed: in 1962 the total volume of the industrial production of the U.S.S.R. equalled 63 per cent of that of the U.S.A. In 1961 the Soviet Union produced nearly 20 per cent of the world's industrial output. In one minute – sixty seconds – the U.S.S.R. produced 226 tons of ore, 98 tons of pig iron, 136 tons of steel, 842 pairs of footwear, 16 tons of granulated sugar and so on. Prior to the revolution Russia had no motor industry of her own. In 1961 a finished lorry or car came off the conveyor every minute. Such is the country building socialism.

But socialism is only the threshold of the life in which an abundance of all material and cultural wealth will be ensured for all people who earn their bread by their work, the life in which each one will do what he is best fitted for, what he is interested in, will produce as much as he can, and will receive from society as much as he needs. This life will come with the triumph of communism.

The ways and means which will lead to the triumph of communism have been scientifically defined by the Communist Party of the Soviet Union.

COLLECTIVE LEADERSHIP

THE VERY NAME of the Communist Party indicates the aim of its activity – to build communism. Having set itself the task of the revolutionary transformation of society, of building socialism and communism, the Party draws up programmes of practical work which help the people to progress towards this noble aim.

The Communist Party differs radically from other political parties existing in the world today. Communism is a society of universal happiness and, hence, the party which pursues the aim of creating such a society is a party which expresses the interests of the people.

The strength of the party leadership lies in its collective nature. The talents, knowledge and experience of many people here merge, as it were, in a single talent capable of great deeds, while a knowledge of the laws governing the development of society enables the party to understand thoroughly the events and facts of the present day and to look far ahead.

What does communism mean?

THE GREAT GOAL—COMMUNISM

COMMUNISM IS A classless social system with one form of public ownership of the means of production. In this society everybody will take an active part in the management of public affairs. Through the continuous progress of science and technology all the springs of co-operative wealth will flow more abundantly. Work for the common good will become the prime vital requirement. The abilities of each person will be employed to the greatest benefit. On the basis of the unity of public and personal interests, perfected and harmonious relations will be established between the individual and society. The varied demands of the people will express the sound and reasonable requirements of the fully developed man, and the distribution of all values will be carried out according to the principle “from each according to his ability, to each according to his needs”.

There is no blank wall dividing socialism from communism. They are two phases of one and the same mode of production. Under both socialism and communism the production relations of people are marked by mutual assistance and comradely co-operation. Communism is distinguished by the degree of economic development and the maturity of social relations. It develops naturally from socialism. The foundation for this is provided by the powerful growth of the productive forces.

But if communism and socialism have much in common, this does not mean that once socialism has been built the transition to communism can be effected immediately. This transition demands certain material and spiritual prerequisites. “One should not believe,” said N. S. Khrushchov, “that communism can be built as follows: you arrive at a shore, get into a boat of some kind, sail across to the other shore, and there you are already in communism. No, the crossing is not as simple as all that. In building communism you cannot jump straight from the beginning to the final stage outlined in the Programme of the Party. This is a road which has to be travelled on earth, in strenuous work and struggle.”

The Programme of the C.P.S.U. defines the chief tasks which have to be accomplished in order to build communism.

In the current decade (1961–70) the Soviet Union will surpass the richest capitalist country, the U.S.A. in *per capita* production. The people's well-being and their cultural and technical standards will improve substantially. Everyone will have a good life. All collective and state farms will become highly productive and profitable enterprises. The housing problem will be solved on the whole. Hard physical labour will disappear. The U.S.S.R. will have the shortest working day in the world.

By the end of the second decade (1971-80) the material and technical basis of communism will be built up. That means that the entire population will be ensured an abundance of material and cultural wealth. Soviet society will come close to the stage of distribution of all goods and foodstuffs according to needs. A gradual transition will be made to one form of communist ownership (at present, besides public (state) property, we have co-operative and collective farm property).

Thus, a communist society will in the main be built in the Soviet Union. Its construction will be fully completed in the subsequent period.

THE BASIS OF COMMUNISM

LET US NOW define what we mean by the material and technical basis of communism, the creation of which is the chief task confronting the Soviet people in the next twenty years.

The material and technical basis in general is the whole complex of conditions of material production in a society. It means factories and plants, power stations and mines, arable land and pastures, livestock breeding farms and railway lines, research institutes and all other resources. Finally, it means that the production workers themselves will have reached a definite high level of skill.

Communist economy does not appear out of thin air. It develops from the economy of socialist society, but at the same time differs from it by the unprecedented scale of development of science and technology. How will such a gigantic growth of all branches of industry and agriculture be achieved?

The expansion of production seems to be the simplest way. After all, if you want to have many varied products, you must build as many factories and plants and mines of all types as possible, increase the sown area, the herds, and all forms of agriculture. Yet, that is not the most reliable way. Not only because the number of enterprises cannot be increased indefinitely, or additional tens of millions of workers found for them. The chief reason is that communist economy presupposes a different type of technology, different organisation of production, other sources of energy, other qualifications for the workers and another level of labour productivity.

Hence, the road to the creation of the material and technical basis of communism is primarily the road of technical progress, of raising labour productivity which will ensure the main part of the increase in industrial production, all of which we express in one, succinct word: "abundance."

Lenin said that the decisive condition for building communism was to raise labour productivity. And the chief advantage of our

system is that it permits us to increase productivity endlessly. As a result, the total mass of the values used by the people increases on a colossal scale.

The building of the material and technical basis of communism will mean complete electrification of the country, and perfection on this basis of the techniques, technologies, and organisation of social production in all the branches of the national economy; the complex mechanisation of production operations and a growing degree of automation; widespread use of chemistry; vigorous development of new branches of production; the utilisation of new types of power and materials and immensely rich natural resources. Finally, it will mean a high cultural and technical level of the working people, and substantial superiority over the more developed capitalist countries in productivity of labour.

How is all this to be accomplished?

RAW MATERIAL RESOURCES

IN THE COURSE of two decades the mineral wealth of our country will be widely prospected and developed. At present there is no shortage of any type of raw material which might hold back industrial development in any branch of the economy. The country is able to meet its own demands from its own mineral resources.

Some of the most important discoveries made by geologists for the benefit of industry include "nature's fairy-tale in stone", as the Soviet Academician Fersman described the Khibiny apatites. This northern deposit of phosphorus ore continues to supply raw material for Soviet factories producing fertilisers. The world's richest supplies of iron ore contained in the Kursk Magnetic Anomaly, and the extremely rich oilfields between the Volga and the Urals; the combustible gas of the North Caucasus; the potassium of the Urals; the countless wealth of iron ore, lead and zinc; the manganese deposits of Gornaya Shoriya, Kuznetsk, Ala-Tau, Salair and Altai; the diamonds of East Siberia; its resources of coal and lignite, most of which are suitable for the open-cast method of development; and again iron, copper, nickel and gold—all these are the raw materials.

Among the new discoveries we must also include the deposits of high-grade ore for the manufacture of aluminium found in Krasnoyarsk Territory and adjacent areas of West Siberia. The Ukraine supplies gas for Moscow, Leningrad, Minsk, and other cities. Kazakhstan has its supplies of varied metals! Central Asia has oil and gas. All these are only a few of the lines shaded in on the immeasurably rich geological map of the U.S.S.R.

But this is not enough. The known supplies of mineral raw materials will be approximately doubled in 1980, as compared with 1960, while the resources of some types of minerals will even increase ten-fold.

“NEW COUNTRIES”

THE EXISTENCE OF these various mineral resources makes it possible to compile a new industrial geography of the country, according to a rational plan based on scientific data.

When drawing up the first five-year plans for national-economic development, scientists and planning organisations strove to ensure that each district took part in the great construction according to its own specific features. For instance, large-scale metallurgical enterprises were built in the vicinity of iron ore and fuel deposits: in the Kuzbas, the Urals, the Donbas, or in their direct proximity. The most promising branches of the chemical industry, in particular, the production of polymers, developed in areas where there was plenty of raw material and cheap fuel and hydropower resources, for instance, in the regions of the Volga, Siberia and the North Caucasus.

The creation of many large centres of heavy industry in different places, such as Sverdlovsk, Chelyabinsk, Magnitogorsk, Nizhny Tagil, Novosibirsk, Karaganda, and so on, promoted the comprehensive economic development of the country. The cultivation of the virgin and long-fallow lands of Kazakhstan, Siberia and the Urals improved the distribution of agricultural production. The former division of the country into industrial and agrarian, producing and consuming areas was done away with. All parts of the U.S.S.R. were industrially developed to some degree, while also producing agricultural products in large quantities.

In the next few years the distribution of production will be still further improved. The exchange of material and cultural values between the fraternal Union Republics will be intensified. The economic development of different areas and republics will gradually be evened out. That does not mean, of course, the mechanical distribution of different industries all over the country. In each district society will make use of the most easily exploited natural resources that provide the greatest economic benefits, while taking into account the interests of each district and republic.

Within the twenty years, six industrial countries each as strong as the U.S.S.R. is now, will actually come into being.

Particularly swift development will occur in Siberia, a true “country within a country” both in the wealth of its mineral resources and in its immeasurable spaces.

The exploitation of the natural riches of Siberia will have a radical

effect on the distribution of the productive forces. That is logical! Only 10 per cent of the total coal resources of the U.S.S.R. lie outside Siberia. The coal reserves of Siberia exceed at least four times the known and estimated reserves of coal and lignite in the U.S.A. Siberia contains more than half the forests of the U.S.S.R., many of which are still untouched by the wood-cutter's saw. The famous Siberian taiga is larger than the forests of Canada and the United States together.

Siberia is rich in water. Almost two-thirds of the water resources of the U.S.S.R. are concentrated in Siberia.

Add to this the deposits of iron ore which encircle Siberia in a wide belt from Kazakhstan to the Pacific, and the huge salt deposits stretching over a tremendous area from the Eastern Sayan to Central Yakutia. Siberia has also been known since ancient times as a gold-bearing area.

But the most valuable resources here are oil and gas. Geologists expect to discover an oil- and gas-bearing region here which will be unique. It will cover 600,000 square miles.

In the future East Siberia will become the chief power base of the Soviet Union. The cheap fuel and powerful concentrated water power of the Angara and Yenisei will make it possible to create a power grid with a capacity of hundreds of millions of kilowatts. Electric transmission lines will carry the current from the Angara and Yenisei to the Urals. In the areas east of the Urals aluminium and synthetic-material producing centres will spring up. Siberia will supply wood, cardboard and paper to the whole country. Only finished goods will be exported. Siberia will specialise in the production of new materials.

West Siberia will have large-scale iron-and-steel and engineering industries. The Kuznetsk Works will be enlarged; West-Siberian and Barnaul Iron-and-Steel Works will be built. The Siberian trademark will appear on new types of automobiles and turbines. Nitrogen fertilisers, plastics, synthetic rubber, chemical fibre and dyes will all be produced here.

Soviet people, strong in knowledge and experience, and in their unity, are remaking the face of their country. They have excellent equipment with which to carry on the struggle.

A POWERFUL ASSISTANT

LET US IMAGINE a working day in 1980. In the morning hundreds of thousands of machine-tools begin to operate. Trains rush goods and passengers to all parts of the country. Powerful excavators are moving rock. Cranes hoist whole flats to great heights. And all this is done with the help of electric energy.

Energy, harnessed by man in different ways, is sent to every region of the country over long-distance transmission lines. It participates in all work, both where crude force is needed and where the most delicate operations have to be performed.

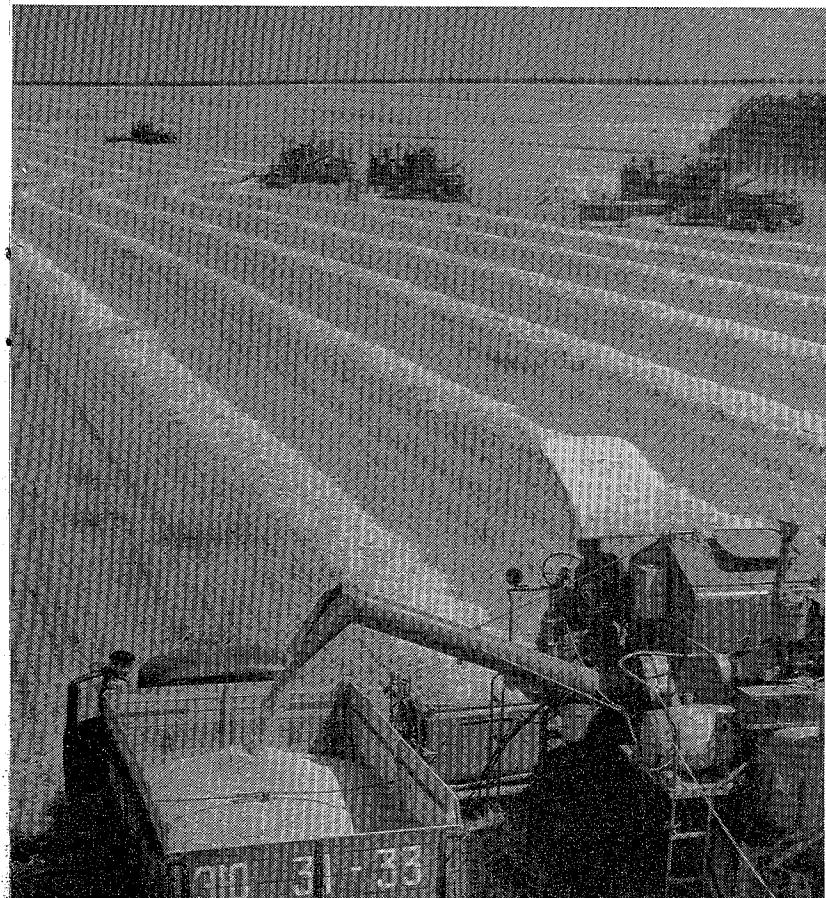
By 1980, Soviet electric power resources will reach the fantastic figure of 3 trillion kilowatt hours. In order to understand what this figure means, let us recall that one kilowatt-hour of electric energy can hoist a load of one ton to a height of 1,200 feet, roll 125 lb. of metal, pump 75 lb. of oil, weave 33 feet of cotton fabric, boil and pack 105 lb. of sugar, make two pairs of shoes, bake 215 lb. of bread, or milk 50 cows.

Electricity is an exceptionally flexible tool, permeating production in many ways. The development of new branches of the chemical industry – the smelting of light metals such as aluminium, magnesium, titanium – the production of artificial fibre and fertilisers – all these are the result of the growth of electric power.

In order to increase the power consumption per industrial worker we must carry out a tremendous programme of new electric power station construction. Within twenty years, about 200 district power stations with a capacity of up to 3 million kw. each, and also 440 large thermal and hydro-electric stations must be built. With the aid of long-distance transmission lines groups of large power stations will be interconnected through a central power grid feeding numerous power-consuming centres. By interconnecting the stations in one system, the reliability of their work is increased, they can “insure” or replace each other in cases of sudden accidents, or reinforce each other when the consumption of power increases. Efficiency is increased and the fuel resources and power of rivers are better utilised. When the rivers grow shallow in summer, thermal stations come to the help of the hydro-electric stations. At other times, the latter take on an additional load.

The complete electrification of the country requires the construction of additional power grids. By 1980, not only single stations, but many power grids will be interconnected. This work will be completed with the creation of a single Power Grid of the U.S.S.R., which will make the power industry more economical and flexible.

In order to accomplish this task, several hundreds of thousands



INDUSTRY: Backbone of Soviet industry is its iron and steel production.

Above we see an addition to the giant Magnitogorsk steel plant in the Urals—a strip rolling mill—largest in Europe—which turns 21-ton ingots into strips 656 feet long and an inch wide.

AGRICULTURE: Now highly mechanised, Soviet agriculture feeds the people and exports its surplus. On the left, combine harvesters in a wheat field.



Another thing which is becoming increasingly important in Soviet economy is oil—both as a fuel and as a source of chemicals. Above: a new oil-refinery at Krasnovodsk.

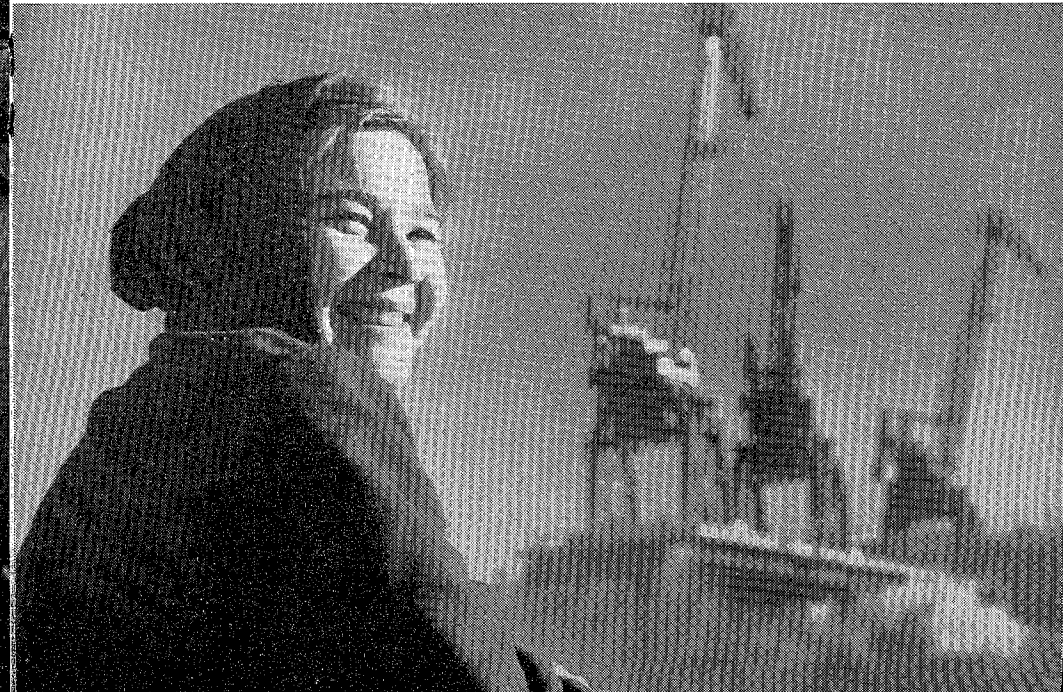


Above: Dynamiting the coffer-dam during the building of the Krasnoyarsk Hydro-electric Station on the River Yenisei. When completed this will be the biggest in the world.



Science promises great things for the future and Soviet scientists are well to the fore. Right: insulators of the test equipment which can produce "lightning" of 7,300,000 volts. Note the size of the two scientists in white overalls.

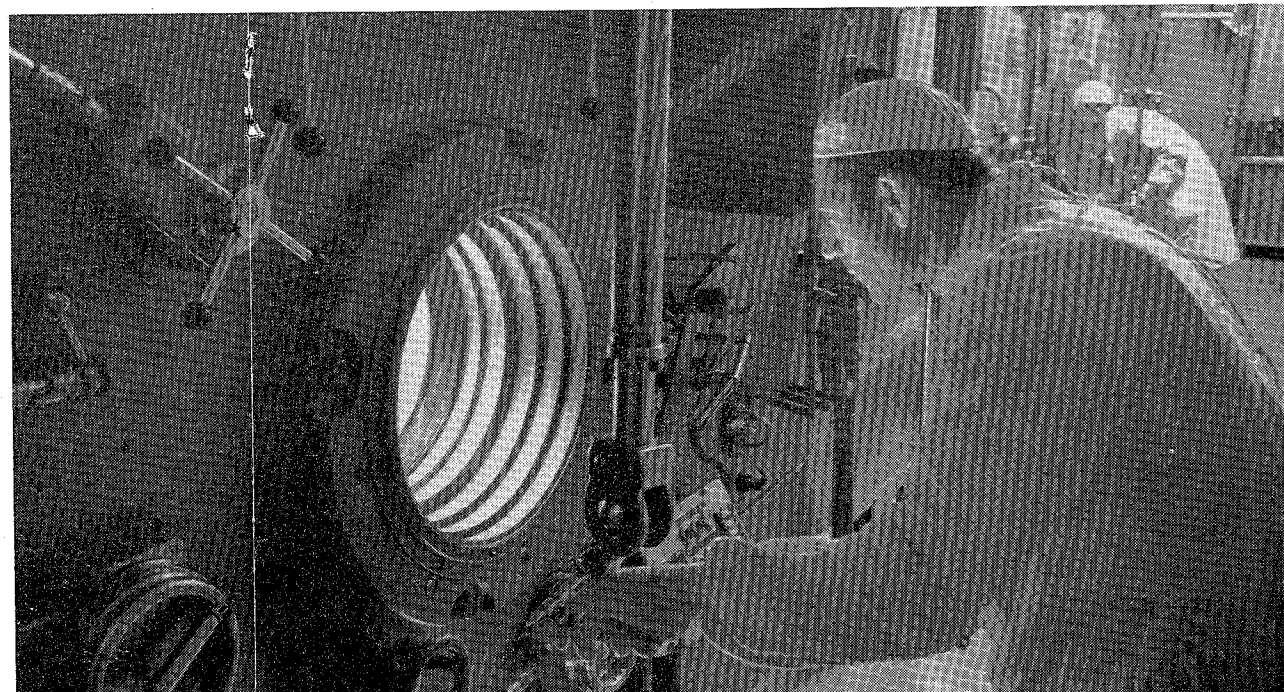
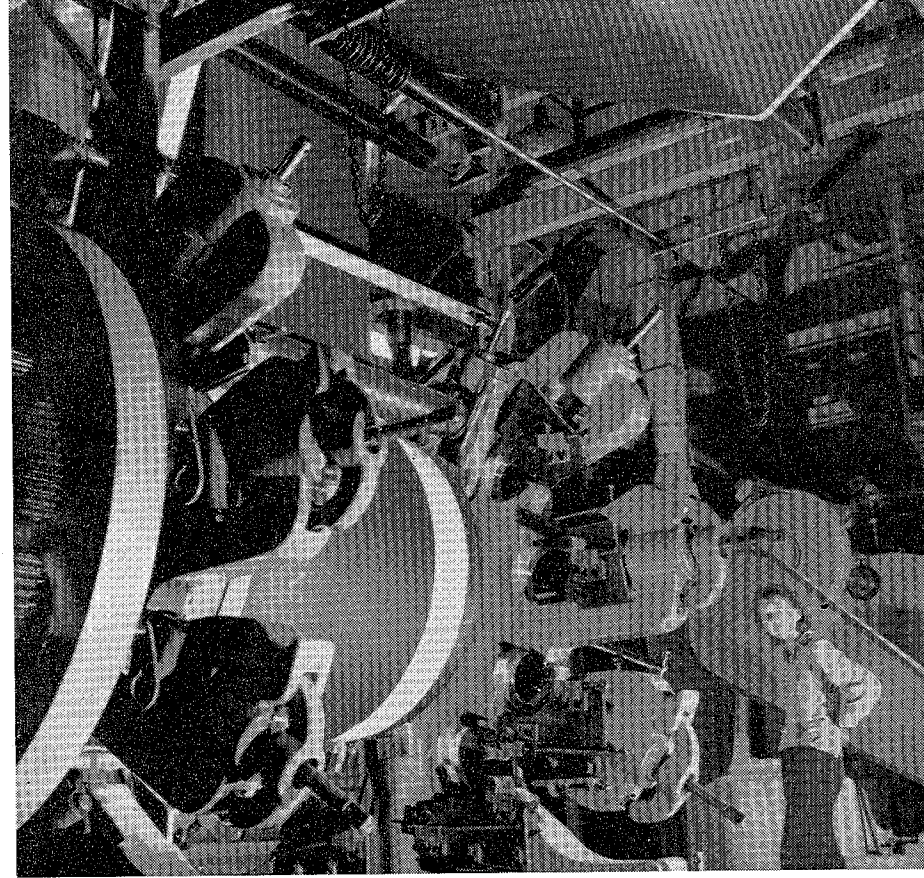
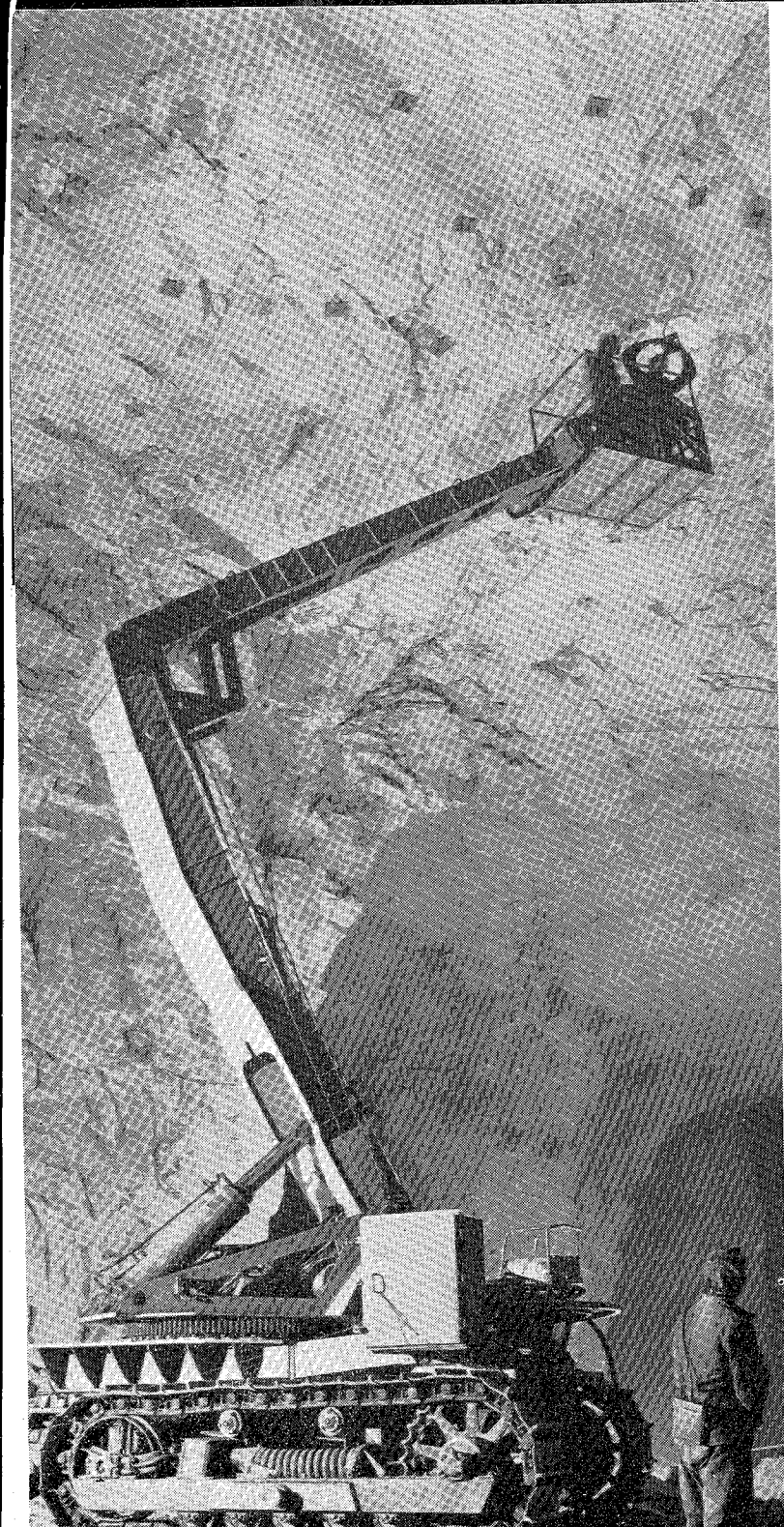
Soviet women play their part in every Soviet undertaking. The one below, Lydia Abakumova, is a concrete mixer on one of the many hydro-electric schemes. After attending evening secondary school on the site, she is preparing to enter a power engineering institute.

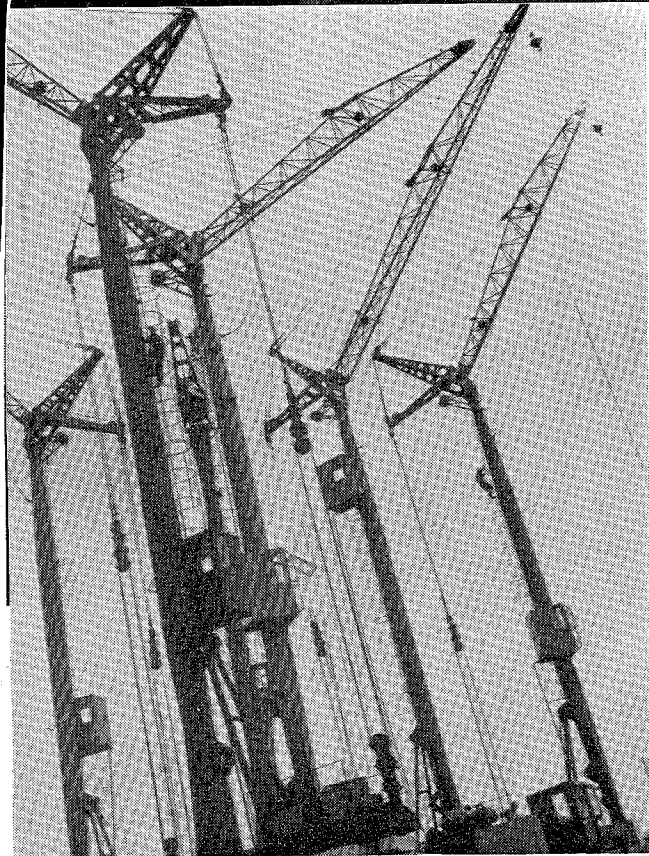


NEW DEVELOPMENTS IN SOVIET INDUSTRY: Left: modern methods have taken much of the toil and danger from mining. This mobile work-tower enables copper miners to pin the roof.

Right: A textile worker alongside mill machinery of revolutionary design in Cheboksary, RSFSR.

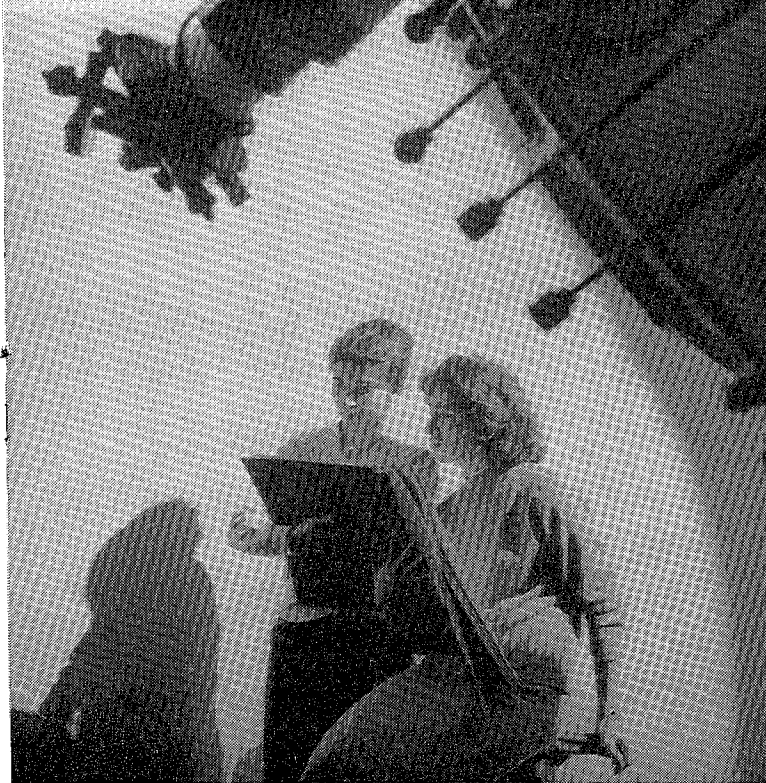
Below: packing radioactive isotopes in chambers of the atomic reactor of the Leningrad Physico-Technical Institute.





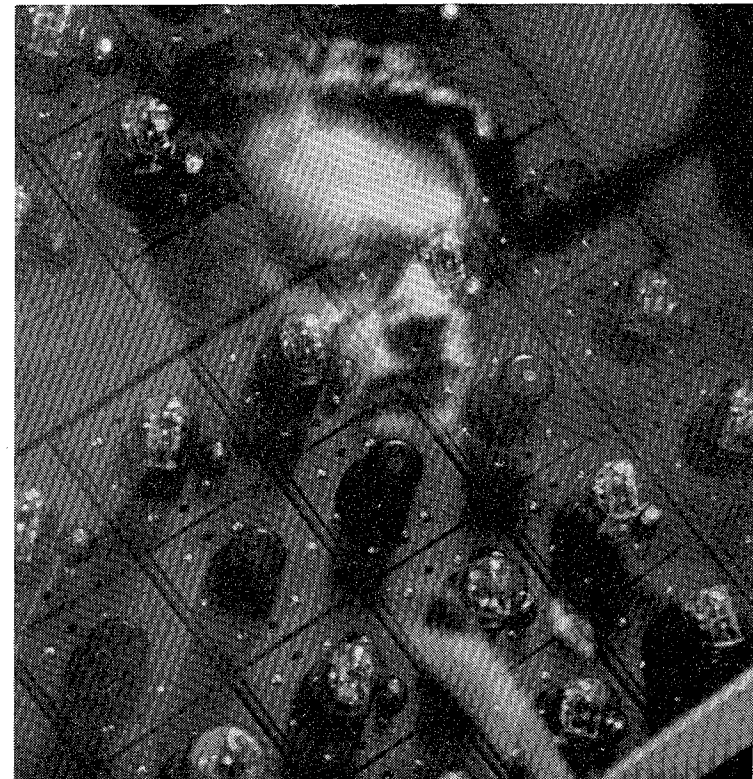
Symbolic of the tremendous building programmes which are in full-swing throughout the Soviet Union are these tower-cranes (left).

Safety and output in Soviet coalmines are both greatly increased by the introduction of the newest devices. Below we see an underground transport control office in a Donets coalmine.



The future has much in store for these young astronomers at the Byurakan Astro-physical Observatory in Armenia, where new instruments and new knowledge are constantly enlarging man's view of the universe.

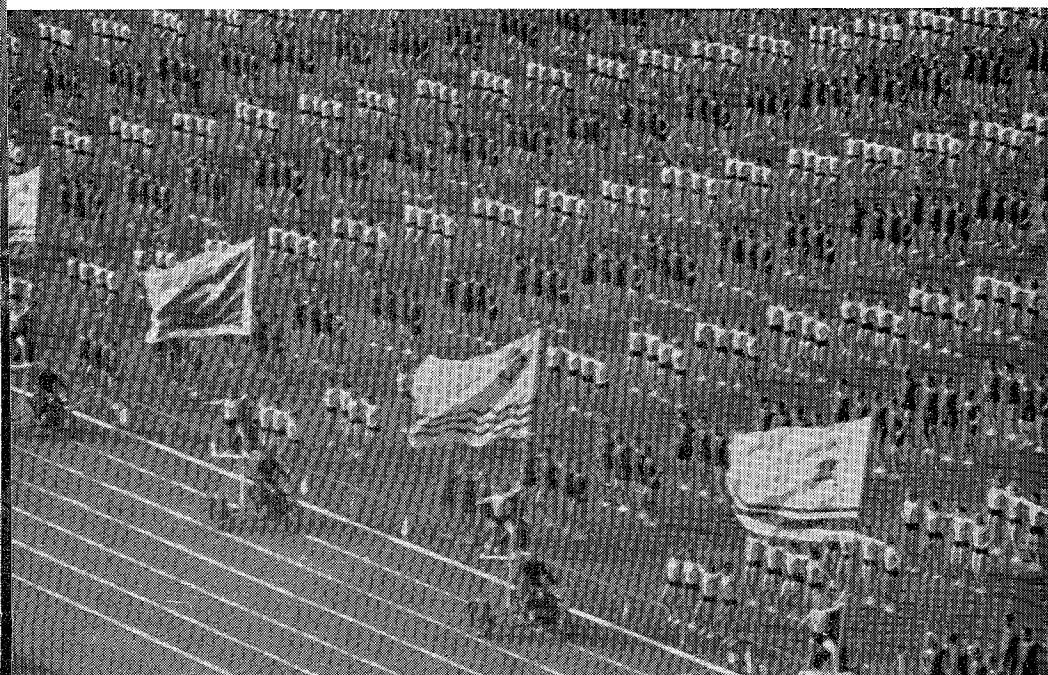
Symbolic of the scientific aids of the future, this operator is reflected in the valve-panel of a cybernetics computer.





At the control panel of a transfer line in an automated factory, where the machines do the hard work.

Increasing leisure releases the Soviet people for many pursuits, including sport and physical culture exemplified by the youngsters below.



of miles of transmission lines will have to be built, including 31,000 miles of alternating current lines at 500 kv., about 22,000 miles at 330 kv., and 6,250 miles of direct-current lines at 720 kv. A number of lines will also be built linking the power grids of the Soviet Union with those of the neighbouring socialist countries.

In addition to the trunklines, several million miles of local distribution networks will be built. Almost one-half of these will be in the rural districts. The countryside will be supplied with an abundance of electric energy. This will help to eliminate the distinctions between town and countryside.

MECHANISATION AND AUTOMATION

THE MOST IMPORTANT and radical change, however, which will affect the lives of all, will be that the products of every type of labour will be vastly increased.

An abundance of foodstuffs and consumer goods, fully catering for the reasonable requirements of the whole population, is the only real way of ensuring genuine communist equality. For we strive for equality based on universal well-being and prosperity. But communist abundance is not simply an abundance of goods produced at any cost. It is abundance obtained with the least consumption of labour.

In Charlie Chaplin's film *Modern Times*, Charlie, the embodiment of the "little man" of the capitalist world, oppressed and crushed by the misfortunes of the bourgeois "way of life", appears in the role of a worker on a conveyor-line. All day long he repeats one and the same movement, tightening nuts. The poor fellow has to quicken his pace to keep up with the conveyor until he goes mad from the strain: in everything around him he sees nuts – the buttons of a lady's coat, the badge on a policeman's cap, and even the nose of the prison warder. This episode typifies the essence of the capitalist method of raising labour productivity, chiefly at the expense of the health of the workers.

Socialism by its very nature cannot accept this method. The easing of labour is the first aim of any rationalisation measure introduced in a Soviet factory. The Soviet Union has a very strict labour code. Vigilant inspectors ensure that all dangerous sections are carefully fenced off, that noxious gases do not poison the air breathed by the workers, that they are protected from the heat of furnaces and other dangers.

In order to raise the productivity of labour all techniques will have to reach the highest level: the machinery and mechanisms which will practically all be renewed, the quality of the raw materials,

fuel, and other materials, the consumption of electric energy per worker and above all, the organisation of production.

The transformation of Soviet industry into the best equipped and most up-to-date industry in the world, envisaged for 1980, will give the Soviet citizen great reserves.

By the end of the decade 1961-70, comprehensive mechanisation of industry, agriculture, building and transport, including loading and unloading jobs will be completed. This will finally exclude hard labour from production. In the course of twenty years comprehensive automation of production will be effected on a mass scale. More and more fully automated shops and enterprises will be built.

To ensure mass production of highly efficient equipment 1,900 engineering works and metal-working plants will be reconstructed and 2,800 new ones built. In the twenty years, the total volume of production in this branch of industry will increase ten to eleven-fold, and the output of automatic transfer lines more than sixty-fold.

The new technology opens up possibilities of not only controlling but also influencing production processes. This will be achieved by cybernetic machines which can analyse the state of the production process, appraise the results, compare them with the objective and influence control devices to ensure the correct end product.

As automation develops, man will handle industrial equipment less and less. We are close to the elaboration of machinery which will be able to work practically without supervision. Of course, for this it will have to be absolutely reliable and durable.

The very nature of enterprises will also change beyond recognition. At present, when speaking of a factory or plant we think, first of all, of a building containing equipment, apparatus, machinery. But, as scientists assert, buildings are more necessary for the people who work in them, than for the machinery. As in the future machines will take upon themselves the functions of control, buildings will be necessary only to house particularly delicate and intricate aggregates and machines. The greater part of the equipment, intended for continuous work, will be situated either under the open sky, under water, or underground, according to convenience and economy.

MAN AND MACHINERY

WHAT ROLE WILL man play under these conditions? The chief role; since the role of science will increase immeasurably both in the creation of new automatic machinery of the future and in its control. Science requires the brain of man. In automated industry the potentialities of both man and machinery will be utilised to the utmost, in order to make work easier, more "clever" and creative.

Under socialism, technique is the friend of the workers, their irreplaceable assistant, the basis of successful free labour. All the benefits resulting from the introduction of technique go to the working people. Technical progress under socialism means not only the perfection of equipment and a wider range of raw and other materials used in production, it also means a higher level of engineering and technical knowledge and general culture of the workers. Already in many industries which are developing particularly swiftly, the technician and engineer have to take a refresher course practically every four years. Production is being run to an ever greater extent on a scientific basis, without which progress is impossible.

Technology represented by the most up-to-date machines and mechanisms will not do away with either manual or mental work. But as it is further perfected, mental and physical labour will merge in an organic whole.

Naturally, the manual labour of the future will be neither arduous nor exhausting. Man will hand over to machines all automatically-performed monotonous mechanical operations. The main content of his labour will be adjustment, control and regulation of machinery. That is a variety of engineering work.

It goes without saying that under communism there will still be specialists in science, and specialists in the arts, as well as representatives of various other professions. But people themselves will no longer be divided into the categories of intellectual and manual workers. A worker who is a poet or a lecturer, a composer or an inventor as well, is no exception in our day. Already today the ordinary working people in the U.S.S.R. are no longer mere executors; they organise production, manage enterprises, participate in the administration of the state.

The working people of Soviet society will not lose their qualifications but, on the contrary, will become versatile specialists, well-educated and trained intellectuals. They will have much more leisure time in which to broaden their outlook.

WORK AND LEISURE

HOWEVER GREATLY machinery eases labour, it requires the application of considerable physical and mental efforts. It tires the worker the more, the longer the working day. Man must have time in which to relax.

That is why the Programme of the C.P.S.U. envisages the transition during 1961-70 to a six-hour working day with one day off a week, or to a 35-hour working week with two days off and in under-

ground jobs and injurious trades – a five-hour working day or a 30-hour (five day) working week. All this will not cause any reduction in wages. During the second decade the transition to a still shorter working week will begin. The Soviet Union will become the country with the shortest and the highest-paid working day. At the same time, the working people will have much more leisure.

But leisure may also present a problem. The way in which it is spent depends on social conditions. But, you may ask, must leisure time be “occupied” in any special way? Does not the very conception of leisure mean freedom from everything that now constitutes activity?

Yes, it is precisely this type of complete, “relaxed” rest that man needs. But when work is a joy and up-to-date technique excludes overstrain, strength is rapidly restored. Therefore, the need for active recreation arises. The opportunity arises for all-round development of the abilities and talents of man. In the worker’s heart “work and beauty must live side by side”, as a young worker-poet wrote.

The heralds of scientific communism, Marx and Engels, dreamed of the harmoniously developed man of communist society, in whose life free and happy work, according to his own choice, will be combined with the all-round development of his abilities and physique, with sport and interests in science and art.

Our era has given life to this ideal. In the Soviet Union it is represented by the movement of communist work teams and shock workers. The participants of this movement strive to become worthy as soon as possible, in their work, their studies and their recreation, of that great future which we are about to enter.

How often even now, leisure time is a pleasant continuation of the chief occupation! How many innovators, how many inventors go home from work at factories, design bureaux and laboratories, turning some unsolved problem over in their minds! In their spare time they read up on it and work on drawings. Such, for instance, are the students of the Kazan Aviation Institute, who designed and built new aircraft models in their spare time.

More leisure means greater opportunities of acquiring an education at higher and secondary schools without discontinuing work, of attending people’s universities which have now appeared in all parts of the Soviet Union, more time for clubs and Palaces of Culture and for sport.

More leisure means more time to devote to one’s family, to the upbringing of one’s children and to public affairs.

The shorter working day also leaves the worker more time in which to carry out state and public functions. That is yet another sign of the times. The people are now taking upon themselves more and more functions formerly carried out by the state.

LABOUR-SAVING IN THE HOME

LEISURE, THAT IS the time free from the chief occupation, still has to be exempted from many daily cares. How is this to be done?

The chief reserve lies in reduction of the time spent on work at home. This is still very great: about 150,000 million man-hours a year. We spend only one-fourth more time on production. Women particularly devote a great deal of time to housework. Housewives spend from four to five hours a day and more on these duties – even on Sundays.

One of the most important ways of saving time in the home is the use of electricity. Electricity can equip the small non-productive household with the same facilities as a large-scale public enterprise.

Municipal services plus the use of electricity in domestic life will increase the spare time of a family by an average of six hours a day, or forty-two hours a week. The further reduction of the working day and the working week will add still more to this. Every worker will have at least seven or eight hours a day, instead of two-and-a-half hours, as at present, for recreation, self-education and cultural requirements – in short, for a “higher type of activity”, as Karl Marx said.

Increases in municipal services and the use of electricity in domestic life will not only reduce the time spent by the population on work in the home, but will radically change the nature of housework, make it easier and create the necessary conditions for doing away with the traditional division of housework in the family, in which the greater and hardest part, is done by women.

All this, of course, can be attained on the basis of complete abundance, primarily, of consumer goods. But what about agriculture? What changes will take place in this important aspect of work?

THE ROAD TO ABUNDANCE

IT HAS BEEN estimated that if the world’s agricultural output today were to be equally divided among all people, the average daily share per individual would be: 2.2 lb. of grain, 0.6 lb. of milk, 1.1 lb. of meat, 1 oz. of fish, and 1 lb. of vegetables, potatoes and fruit. This is barely the normal subsistence minimum. As we know, however, agricultural products are not equally shared out. Besides, in capitalist countries a considerable part of these products is destroyed, perishes, or remains untouched in order to keep prices high.

Furthermore, the population of the globe increases by almost 50 million people annually. In the conditions of capitalism, agriculture cannot keep up with this swift growth although all the natural

conditions are available in abundance. Only the socialist system can ensure the steady growth of agriculture.

The Soviet Union has set itself the target of ensuring a considerable increase in the rates of agricultural output growth. Without this, abundance cannot be ensured.

How can the productivity of plants and livestock be increased?

First of all, by increasing the fertility of the soil, and here a powerful industry comes to the aid of Soviet farmers.

By use of every type of farm-machinery, work to clear, drain, or irrigate the soil will be developed over an area of many million acres. Some of the big northern rivers which flow into the Arctic Ocean, run through areas which are unsuitable for agriculture; they will be "turned", and their waters made to flow to the south, to the republics which have an abundance of warmth and sunshine and where agriculture can be greatly developed. By 1980, the waters of the Pechora and the Vychegda will flow into the Volga. The proposal to redirect a part of the waters of Siberian rivers to Kazakhstan and Central Asia is being carried out. In other cases, the melting of glaciers will be accelerated to feed the rivers irrigating deserts. These arid lands, on which oases are now few and far between, will be turned into a huge blossoming garden.

On the same grand scale a struggle will be waged against weeds and agricultural pests. The chemical industry of the Soviet Union can ensure the complete protection of plants by the production of the most varied preparations. Aircraft can be used to spread chemicals over fields and orchards threatened by pests.

The application of scientific methods of agriculture will open up new opportunities. Special systems have been worked out for each climatic zone, for each type of soil. Each system represents a combination of measures intended to restore and increase the fertility of the soil. These include a definite system of crop rotation, effective methods of soil cultivation and care of the crops, well-thought-out combinations of fertiliser and top dressing, the planting of shelter belts, and so on. The application of these scientific methods will increase the yields of many crops. For instance, if at present an average of 7-9 cwt. of wheat and 11-13 cwt. of rice are reaped per acre, with progressive methods of agriculture these yields can be increased to 16-24 and 32-40 cwt. per acre, respectively. But record yields of 80-135 cwt. per acre are known. This means that even with the present methods the productivity of agriculture can be increased at least ten-fold, and the level of agronomy is steadily rising.

Secondly, the productivity of plants and animals can be raised by selecting and spreading the most early-maturing varieties of plants with the best immunity and drought and frost-resistance and highly-productive breeds of animals. At the same time, intensive crops

which yield a much larger quantity of nutritive substances than ordinary grain will be widely cultivated. These are sunflowers, sugar beet, the soya bean and, in particular, maize.

The tremendous resources of both marine and fresh water plants will be widely utilised. Algae provide excellent fodder for livestock. When cultivated, the microscopic chlorella, for instance, can provide up to 28 tons of fodder, exceptionally rich in protein, per acre of water surface. This is more than the most fertile land fodder crops yield.

Thirdly, the tasks of increasing the efficiency of agriculture will be promoted by mechanisation. In the Soviet Union machines of various systems have been and are being produced, which make it possible to mechanise all the processes of production of different agricultural crops from beginning to end. This type of mechanisation, in which the work of one machine is continued by another until the entire cycle is completed, is called complex mechanisation.

Industrial experience has shown that comprehensive mechanisation paves the way for a transition to the automation of production. Experiments in remote control of agricultural machines, which are now being made in our country, show that agriculture will be no exception to this rule. A tractor and plough, or a combine can be turned into an automatically functioning mechanism as can a lathe or a blast furnace.

Of course, it is difficult to imagine automatic enterprises in the sphere of livestock breeding right away. But here also the transition to new progressive methods of maintaining cattle makes it possible to introduce machines on a growing scale (the loose housing system for dairy cattle, free maintenance of hogs and the system of poultry yards are already being practised in the Soviet Union). This has shown that one worker can attend to hundreds of cows, thousands of sheep or hogs, tens of thousands of chickens, geese or ducks. Large poultry farms are approaching complex mechanisation of production and many automatic mechanisms are already in use.

In future electronic devices will help to regulate the supply of fodder and water to the animals, machines will ensure regular cleaning of the livestock premises, control the work of electric milking apparatus, electric washers and other machines. As a result of all this the total volume of agricultural output in the U.S.S.R. will increase approximately 2.5-fold by 1970 and 3.5-fold by 1980. The productivity of labour will rise five- or six-fold in the course of the twenty years (1961-80). Agriculture will no longer lag behind industry, and this will make it possible to ensure an abundance of foodstuffs for the population.

All these innovations which require great efforts and resources, as well as the implementation of all types of industrial development,

will be introduced at the scheduled times thanks primarily to the planned economy and the possibility of concentrating funds on the most important sectors of construction.

UNIVERSAL WELL-BEING

WHEN WE SPEAK of abundance, naturally we do not mean the achievement of illusory and unstable individual prosperity. Under capitalism danger lies in wait for every man who has reached almost any level of prosperity. He lives in constant anxiety, beset by all kinds of fears – ruin, unemployment, disease, and finally poverty in old age. Illness is a very “expensive pleasure” in many western countries.

In the Soviet Union, when we speak of further improving well-being, the word “universal” is always emphasised. Only on this condition can genuine equality of all people, their complete freedom, be ensured.

As a result of the creation of the material and technical basis of communism, the highest living standards in the world will be ensured for all Soviet citizens without exception. What does this mean?

An important measure of the public well-being is the *per capita* real income of a nation. By 1980, in the U.S.S.R., it will increase more than 3.5-fold. By 1970 there will be no low-paid brackets of factory and office workers in the country. The incomes of the collective farmers will grow more rapidly than those of the workers. Labour productivity will rise more rapidly in agriculture than in industry. In 1980 the real *per capita* incomes of the population in the U.S.S.R. will exceed the present level of incomes of the working people in the U.S.A. by approximately 75 per cent.

Some interesting research has been carried out recently in the Soviet Union. Scientifically-grounded norms of consumption of all the vital foodstuffs of man (with the exception of eggs, fruit and fish) have been calculated according to accurate data. The requirements of man for foodstuffs and housing, proceeding from scientific concern for the public health and the most hygienic living conditions, will be fully catered for in the Soviet Union. The demand for durable, elegant clothes, footwear, furniture, and other consumer goods will also be satisfied. At the same time, the differences in the level of consumption of town and countryside will be eliminated. In order to achieve this, sales of goods will increase more rapidly in the rural areas than in the towns.

The growth of public wealth as we approach communism means a great increase in society's care for each individual. This is a very

important feature of the building of communism, and needs a little more elaboration.

At present, the budget of the Soviet worker is made up not only of the wages of the working members of the family, but also of the very tangible additional benefits coming from the public consumption funds.

In socialist society the national income is the property of the whole of society. It is a genuinely national income. A part of it is assigned to the expansion of production, to capital construction and to the formation of reserves. The remainder goes to satisfy the material and cultural requirements of society. This is the consumption fund. The major part of this fund is used to pay for the labour of the working people. The other part is devoted to the maintenance of scientific institutions, establishments of public education, art, and public health, social insurance and social maintenance of the working people. It is from this part of the national income that the public consumption funds are basically formed. They play a considerable role in improving the living standards of Soviet people. For instance, in 1961 alone, pensions were granted to more than 20 million people from the public funds (in 1956, pensions were doubled or more than doubled under a new law; pensions are established on the scale of 50–100 per cent of the earnings plus an additional percentage for a prolonged continuous service record and for disabled members of the family). Grants were awarded to 7,500,000 women with large families (in the U.S.S.R., women with more than three children receive special monthly allowances; on the birth of the third, and every succeeding child the mother receives a grant). More than 7 million people visited sanatoriums, holiday homes and Young Pioneer camps. Over 4 million students and pupils of secondary, special and vocational-technical schools received stipends from these funds.

The public funds are used to pay for the medical services, which are free of charge in the U.S.S.R. In case of illness, factory and office workers receive sick benefit amounting to up to 90 per cent of their earnings. Kindergartens, primarily for children of mothers who go out to work, are maintained at the expense of the public funds.

Much attention is being devoted to the development of these funds in the next twenty years. At present the public funds ensure about one-fourth of personal consumption but in twenty years' time they will total about one-half of the aggregate real income of the population.

Parents may keep their children at boarding schools where not only tuition but also maintenance will be free of charge. Society will gradually take upon itself the care for the maintenance of all disabled people. Free medical services for all citizens will be reinforced by free medicines and sanatorium treatment. By 1980 every family,

including newlyweds, will have a comfortable modern self-contained flat. Housing accommodation, as well as municipal transport and some forms of public services will be free. Accommodation at holiday homes, boarding houses and tourist camps will be available at reduced charges or free.

At present the overwhelming majority of Soviet students do not pay for instruction and at the same time they receive stipends. This stipend fund will grow considerably. The transition to free public catering will gradually be made at all enterprises and offices, and in agriculture: all workers and collective farmers will be able to get a midday meal, free of charge, at their place of work.

The growth of the public consumption funds brings Soviet people nearer to the implementation of the principle "to each according to his needs", gradually ensuring fuller satisfaction of all human needs.

THE NEW MAN OF THE NEW WORLD

SOVIET PEOPLE ARE devoting so much energy to creating the material fundamental principles of the new social relations because these principles open up unbounded opportunities for the satisfaction of the vital needs of each individual, for his all-round and harmonious development.

First of all, as we have already seen, the very nature of labour will change. From a source of material welfare, work will develop into the source of all human joys. Moreover, man will be accustomed to connect each separate production task with the great common aims pursued by society. A conscientious attitude to labour will enable each individual to discover new ways of improving his work, it will be inseparable from a constant search for the new. Under circumstances in which labour is so highly appraised by society, the distinctions between more and less "honourable" occupations will disappear.

A highly conscientious approach to work does not only mean the ability to see broad horizons or to display statesmanship. In his daily work the man of the new society will need not only clever hands, not only a keen mind, but also a great heart. The new society not only instils in man an unyielding spirit, persistence, the ability to overcome difficulties, but also teaches him to act in accordance with his principles, his conscience and the highest morality.

Gradually, Soviet people will acquire also other communist qualities. If we take all the inherent features and qualities of the national cultures, we see that each, even the smallest of the peoples of the great Soviet family have preserved and developed their distinctive features. But at the same time, a new culture, socialist in content,

has flourished. The Communist Party, encouraging in every way the development of the best national traditions, enriches them with new, communist properties. Special features, which we may call the features of the Soviet character, are being fostered in Soviet people. They are equally developed in the Russian and the Azerbaijanian, the Ukrainian and the Georgian, the Byelorussian or the Uzbek, in short, in all the peoples of our country.

What are these features? They are the ability not to lose heart in the face of the most difficult trials, inexhaustible faith in the victory of the people, tirelessness in work and in struggle, the highest comradeship, expressed in the words "one for all, all for one", internationalism and adherence to one's ideals.

The moral make-up of the man of the new society includes genuine love for all people, true brotherhood among all men. In Soviet language, to love people means to show concern for their happiness, to help them to develop and apply their abilities with the greatest benefit to themselves and to society, to encourage their best aspirations and help them to conquer their failings, always to be attentive to people and, at the same time, exacting. Love of people means an uncompromising attitude to the few renegades, idlers, thieves and bandits who interfere with the normal life and work of the people and delay the progress of society.

Thus we see that as we come closer to communism, the spiritual forces of man will flourish as never before. Society will infinitely enrich each of its members, placing all its wealth at his disposal, while man, on his part, will strive to do everything in his power for society.

REALITY OR FANTASY?

THE FEASIBILITY OF all these plans may be questioned. I shall not quote statistics confirming that the U.S.S.R. economy is steadily developing at a high rate, or any other figures. They are sufficiently well known. Let us dwell on the fundamental aspect.

The decisive factor in building communism is the creation of its material and technical basis. In the realisation of this task, the Seven Year Plan (1959-65) is an important link. Therefore, the feasibility of our aims may be judged by the fulfilment of this plan. If the Soviet people complete it successfully, a decisive step will have been made on the way to the creation of the material and technical basis; if they fail, it will be hard for them to achieve their goal by 1980.

Four years of the seven-year period have passed, and it may be said confidently that the plan is being overfulfilled. The growth of industrial output during 1959-62 equalled 45 per cent, instead of 39 per cent as called for by the plan. If in the remaining years of this

period Soviet industry continues to grow at the same rate (and there are no grounds to doubt this), production over the seven years will increase, not by 80 per cent, as envisaged, but by approximately 100 per cent.

But each percentage stands for definite amounts of metal, petroleum, electric energy, consumer goods – that is, new additional resources for the growth of production and of the Soviet people's living standards. And, indeed, in 1962 the national economy of the U.S.S.R. produced, over and above the target figures: 2,500,000 tons of pig iron; about 13 million tons of steel; 11 million tons of iron and steel rolled stock; almost 17 million tons of petroleum; 35,000 tractors; 60,000 metal-cutting lathes. Soviet people received an additional 1,400 million yards of fabrics; 189 million knitted goods; 88 million pairs of leather footwear; 617,000 TV sets, etc. In the four years 9 million new flats were handed over to tenants in towns and 2,400,000 houses in rural localities. Fifty million Soviet people – almost one-fourth of the population of the U.S.S.R. – moved into better housing.

Soviet people are competing successfully with the United States of America. In 1953 the Soviet Union produced only one-third of the amount of cement mixed in America, in 1962 the U.S.S.R. overtook the U.S.A. in cement production and in 1963 it will by far outstrip the present level of the U.S.A. In 1961 the United States manufactured 127,000 metal-cutting lathes, but in 1963 the Soviet Union will produce 180,000 such machine-tools.

During the five years preceding 1962, the growth in industrial output *per capita* equalled 48 per cent in the U.S.S.R., and only 8 per cent in the U.S.A. Altogether, the volume of industrial output of the Soviet Union in 1962 amounted to about 63 per cent of that of the U.S.A., as compared to 47 per cent in 1957.

Economic changes give rise to changes in social relations. The people are developing their initiative more and more and local organs are coming to play an ever greater part in deciding different questions in the life of the country. That is the road to communist self-government. The example of the Union Republics is characteristic in this respect. As a result of the extension of their rights, the role of the Republics in all fields of state, economic and cultural activity has grown. In 1955 the share of their budgets in the State Budget of the U.S.S.R. equalled 26·2 per cent, but in 1963 it will amount to 54·9 per cent. This year 65·8 per cent of the total outlay on national economic development and 70 per cent of all expenditures on social and cultural measures will be financed from the budgets of the Union Republics.

The Communist Party pays great attention to ensuring that the organisation of national-economic management accords with the

changes taking place in the period of building communism. Any discrepancies may retard it. That is why a reorganisation of the management of industry, building and agriculture has been carried out. In November 1962 a Plenary Meeting of the Central Committee of the C.P.S.U. adopted a decision on the reorganisation of Party organs. The Communist Party is the ruling party and, hence, it is responsible for the development of the whole of the national economy. Its organisational structure must comply with the demands of the time. At present, the cardinal tasks of building communism are concentrated in the field of production. That is why the Plenary Meeting resolved to organise the structure of Party organs, from top to bottom, on the production principle.

These production successes and the subordination of the whole life of the country and the Party to the aim of building communism, guarantee that the future of the Soviet people which we have described, will become and is already becoming a concrete reality.

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