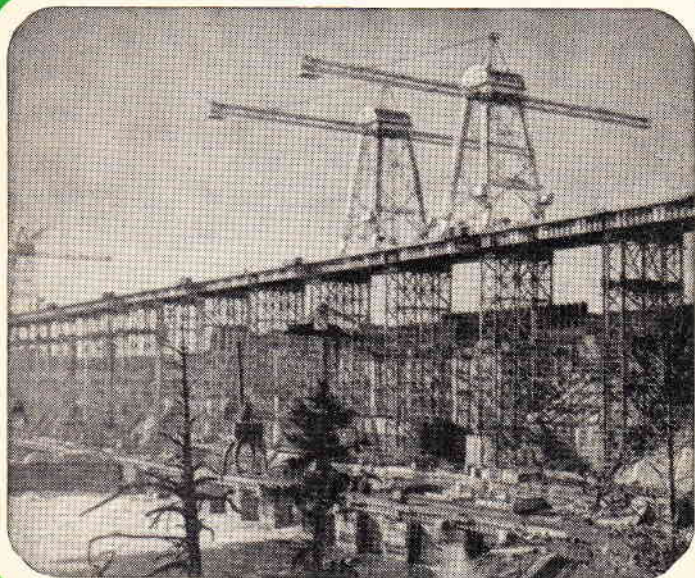


# USSR

*YESTERDAY, TODAY, TOMORROW*

## Economic Development Under the Tenth Five-Year Plan

**B. Mochalov**



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The victory of the Great October Socialist Revolution in Russia in 1917 marked the beginning of socialism's economic competition with capitalism. The starting positions of the contestants were far from equal: on the one side there was the economy of the just born Soviet Republic, ravaged by the First World War and the Civil War (1914-20) and accounting for a mere 3 per cent of world industrial production; on the other, the well-fitted economy of the capitalist states. The difference in the aims of this competition was aptly described by the well-known Danish writer Martin Andersen Nexö, who said that capitalism plumed itself on having penetrated into the mystery of the stars but was in no hurry to weigh out bread for the hungry, while socialism had started with weighing out bread and would eventually reach the stars.

Life has proved him right. Six decades after the October Revolution, the Soviet Union accounts for 20 per cent of world industrial output. Since October 1917 it has been implementing a programme aimed, in the words of Lenin, the founder of the Soviet state, at "ensuring *full* well-being and free, *all-round* development for *all* the members of society." \*

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\* V. I. Lenin, *Coll. Works*, Vol. 6, p. 54.

Today Soviet people send up spaceships, build new cities, grow bumper crops, and probe the depths of the earth and of the world ocean. There has been built in the Soviet Union a developed socialist society free from oppression of man by man, crises, inflation and unemployment.

### The Scale of Growth

The Tenth Five-Year Plan (1976-1980), like the preceding five-year plans for the development of the national economy, is a component part of the programme for building socialism and communism in the USSR. By carrying it out the Soviet people will reach new economic frontiers. It is characterized by a harmonious fusion of the scientific and technological revolution with the advantages of the socialist system, resulting in a considerably increased scale of constructive work in the country, an improvement in the structure of the national economy and new possibilities for the further raising of the standard of living of the millions of working people and the all-round development of the individual.

To understand the role the Tenth Five-Year Plan will play in socialist construction it is worthwhile to take a look at the Soviet Union's economic development in the postwar period, i.e., during the past three decades.

As soon as the Second World War was over the Communist Party set the following long-term targets for industry: to produce annually up to 50 million tons of pig iron, 60 million tons of steel, 500 million tons of coal, and 60 million tons of oil.

In 1975 the Soviet Union produced 103 million tons of pig iron, 141 million tons of steel, 701 million

tons of coal, 491 million tons of oil, and large quantities of other industrial goods many of which (especially in engineering, consumer goods and other industries) were not produced thirty years ago. The growth is obvious. But the achievements of the past few years greatly exceed even the indicators of a comparatively recent past. Here are data of the USSR Central Statistical Board on the main indicators of national economic development over fifteen years (absolute volumes, in thousand million roubles):

	1960	1965	1970	1975
Gross national product	303.8	420.2	643.5	859
Industrial output (in wholesale prices of enterprises)	157.4	229.4	374.3	511

The annual output of agricultural produce (in comparable prices) averaged 59,200 million roubles in the Sixth Five-Year Plan period, 66,300 million in the Seventh, 80,500 in the Eighth and 91,000 million in the Ninth.

A peculiarity of the development of the Soviet economy during the Ninth Five-Year Plan period (1971-1975) was a considerable acceleration of growth rates. The increase in the output of electricity in the five years was 294,000 million kilowatt hours, which exceeds the entire output in 1960. The increase in the extraction of oil was also greater than the 1960 output figure. The extraction of gas rose by 90,000 million cubic metres—more than its output in 1963. The increase in the production of mineral fertilizers was greater than the 1965 output, of instruments and means of automation—greater than their production in 1967, and of motor vehicles—greater than their production in 1971.

In 1971-75 the average annual increment in industrial production was 7.4 per cent, as against 1.2 per cent registered in the United States and the Common Market countries. In the past quarter of a century the average annual rates of growth of industrial production in the USSR and the other socialist countries, members of the Council for Mutual Economic Assistance (CMEA), were more than twice higher than in the developed capitalist states (9.6 per cent and 4.6 per cent, respectively). This has led to an increase in the share of the socialist countries in world production.

Gone are the times when the Soviet Union was among the leading countries in the world only in those branches of industry which are traditional for it (iron ore and coal mining, timber production, etc.). Today it has reached high indicators in a number of modern, advanced-technology industries. For instance, the Soviet Union's annual output of electricity exceeds 1,000,000 million kilowatt hours, which is 30 per cent more than is produced in Great Britain, France and the FRG put together.

The Soviet Union has outstripped all other countries, the United States included, in the production of pig iron, steel, rolled metal, steel pipes, coke, mineral fertilizers, many building materials (including cement, sawn timber and glass), some engineering products (electric and diesel locomotives, etc.) and many consumer goods such as sugar, milk, butter, cotton fabrics and leather footwear. It is the only large industrial state in the world basing its economic development on its own fuel and power resources.

Fifteen years ago oil output in the USSR equalled only 14 per cent of the United States' level. Today it is greater than in this largest capitalist country.

The 25th Congress of the Communist Party of the Soviet Union has outlined even more stupendous pro-

spects of the country's economic growth in the Tenth Five-Year Plan period. In 1980 the Soviet Union is to produce 1,340,000-1,380,000 million kilowatt hours of electricity, 620-640 million tons of oil, including gas condensate, 790-810 million tons of coal, 160-170 million tons of steel, 2.1-2.2 million motor vehicles, 12,500-13,100 million square metres of textiles, 1,800-1,900 million pieces of knit-wear, etc. The national income used for consumption and accumulation will grow by roughly 24-28 per cent.

This economic growth will be ensured primarily by the enhancement of the role of intensive (qualitative) methods of increasing production as against extensive (quantitative) ones. It is known that production can be expanded either by hiring additional workers (the extensive factor) or by increasing labour productivity (the intensive factor). In the Tenth Five-Year Plan period the former factor will account for 10-15 per cent of the increment in the national income and the latter, for 85-90 per cent.

It should be noted that 92 per cent of the able-bodied population of the USSR are engaged in social production. The remaining 8 per cent are primarily mothers of large families. It is for half a century now that the country has not known unemployment. Every young man and woman starting an independent life is guaranteed work not only under the law but also in fact. "Help wanted" ads are to be seen in both town and country throughout the Soviet Union.

The socialist system of economy ensures full employment of the population. But manpower resources are not inexhaustible. Therefore the intensive factor, that is, qualitative improvement of the worker, provision of highly effective means of labour, and, in the final count, higher productivity of social labour, becomes the principal method of expanding production.

In pre-revolutionary Russia the labour productivity of industrial workers was ten times lower than in the United States. It took an American worker only 40 days to perform the amount of work done by a Russian worker in a year. In agriculture the gap was even wider. By the beginning of the Ninth Five-Year Plan period (1971) labour productivity in Soviet industry was only two times lower, and in agriculture four or five times lower, than in the United States. During that period labour productivity in Soviet economy as a whole rose by 23 per cent, which is equal to a saving of the labour of 20 million workers. In the Tenth Five-Year Plan period the expected increase of roughly 27 per cent will be equal to a saving of the labour of 26 million workers. Thus conditions are created for reducing the gap between indicators in such a highly important factor in the peaceful economic competition between the two social systems as labour productivity.

## CHAPTER I

### **ECONOMIC TARGETS OF THE TENTH FIVE-YEAR PLAN**

The main task of the Tenth Five-Year Plan, as outlined by the 25th Congress of the CPSU, is to raise the standard of living of the people both materially and culturally through dynamic and well-balanced development of social production and enhancement of its efficiency, further scientific and technical progress, higher labour productivity and better quality of work in every sector of the national economy.

The Soviet people have called the new plan a five-year plan of quality and efficiency. What is involved is such labour efforts of developed socialist society as a whole, working collectives and individual workers, which will, in their totality, increase the productivity of social labour to required proportions. This is a task requiring nationwide efforts, for the level of labour productivity is influenced by hundreds of factors some of which depend on the efforts of individual workers, others are the product of the achievements of the working collectives of enterprises and institutions, and still others are the result of more efficient work by planning and management bodies.

## The Optimal Plan

Economic planning on a nationwide scale was first undertaken in the USSR. The need for it was born of the socialist revolution. The nationalized industrial establishments and then the newly established peasants' co-operatives (collective farms) demanded centralized direction by the state. Economic plans became the principal form of such direction. These plans are not in the nature of forecasts for which nobody is responsible. They are directives on the basis of which the economy of the state is built.

The drawing up of national economic plans is closely connected with the progress of the economic science. In this sense the methods by which the Tenth Five-Year Plan was worked out differ from those that were used when drawing up the first five-year plans. At that time a nationwide search for production reserves proceeding from the available material, manpower and labour resources was the only means of forming the plan. At first a single variant of the national economic plan was drawn up. Today the workers' initiative is aided not only by the USSR State Planning Committee, the supreme planning organ in the USSR, but also by the great scientific forces possessed by more than 200 economic research institutes, which use computing technology. Hundreds and thousands of variants of the national economic plan are processed before the optimal variant is chosen. This enables the country to save means and efforts.

When working out the Tenth Five-Year Plan, the main emphasis was laid on accelerating scientific and technical progress in national economy.

The scientific and technological revolution provides unlimited possibilities for finding the most effective solutions for all the elements of the process of labour:

technology, the objects and instruments of labour, the skill of the workers. During the Ninth Five-Year Plan period, for instance, industry introduced annually about 600 new production technologies and approximately 3,500 new types of output.

The scientific and technological revolution presupposes regulation of production processes by controlling machines operating without the direct participation of man. Freeing himself from technical functions, man acquires greater possibilities for creative activity.

The labour of workers engaged in fully or partially automated production is the most productive. The extension of the boundaries of application of such labour depends, naturally, on the combined efforts of many members of society in most diverse spheres of activity.

At the present, advanced stage of development of socialist society, sets of machines and equipment ensure comprehensive mechanization of labour. In the past five years in the Russian Federation alone more than 800 industrial enterprises and 16,000 sections and shops were comprehensively mechanized and automated; 33,000 mechanized and automated transfer lines were installed, and almost 500,000 units of equipment were modernized. The introduction of achievements of science and technology into production in the Russian Federation alone afforded, between 1970 and 1975, a saving of the labour of 1.7 million workers.

The scientific and technological revolution in industry makes it possible to go over from the introduction of new machines and processes to the development, manufacture and mass-scale introduction of highly efficient systems of machines, equipment, instruments and technologies. This shortens the duration of production cycles. Continuous and combined technological processes are being introduced. The output of products maximally prepared for further processing is increasing.



For instance, comprehensive development of the mineral resources of the unique iron ore basin called the Kursk Magnetic Anomaly (in the European part of the USSR) is planned in the iron and steel industry. The production complex to be built there will include a plant to produce steel by electric smelting, omitting the blast-furnace process.

At the same time, manual labour is still used in some sections of the Soviet economy, especially in auxiliary production. One of the tasks of the Tenth Five-Year Plan is to create such production conditions which will make it possible sharply to reduce the employment of manual labour, raise the effectiveness of comprehensive mechanization, and introduce automation on a wider scale. This will be facilitated, among other things, by the doubling of the output of means of mechanization of labour-intensive and arduous work in building, materials handling and warehousing.

The production of modern equipment in the machine building industry will go up by about 50 per cent. Priority development is envisaged for atomic, metallurgical and chemical engineering, and for a number of branches of the electrical-engineering, radio-electronic, machine-tool building and instrument making industries. In this way the basis will be laid for major qualitative changes in the development of all the branches of the national economy.

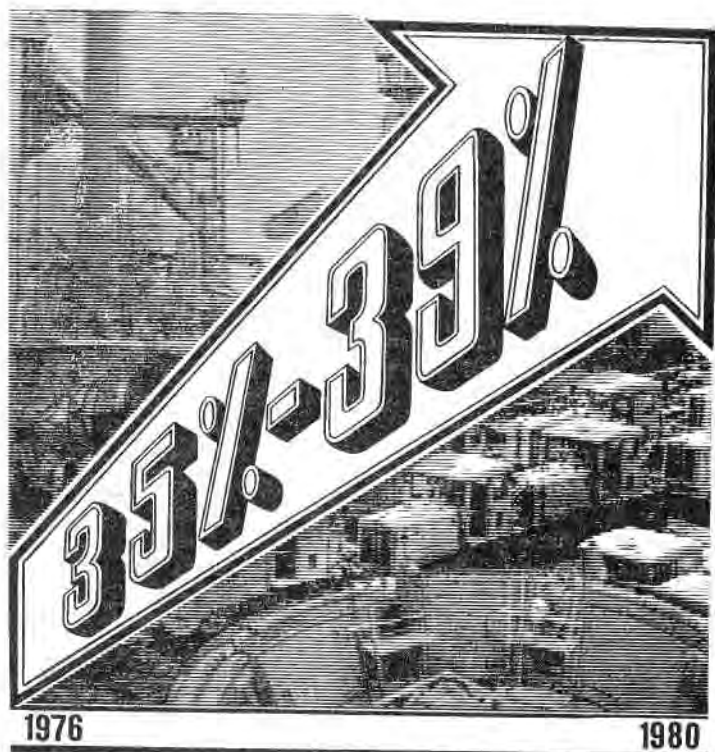
The improvement of the structure of social production will be continued. Faster-than-average growth is envisaged for branches decisive for scientific and technical progress, such as machine building, chemical, petrochemical and power industries. For instance, output in machine building, metal working, chemical and petrochemical industries will increase, in the next five years, by more than 50 per cent, while industrial output as a whole will grow by about 30 per cent. The

distribution of the productive forces will be improved through the construction of new plants in regions with sufficient manpower resources. Energy-consuming enterprises will be located chiefly in the eastern regions of the country, which have adequate energy resources.

In all the branches of the national economy provision is made for mass-scale retooling, renovation and modernization, the carrying out of organizational-technical measures and accelerated replacement of obsolescent machinery with the aim of increasing the output of high-quality products. The number of machine shifts will be increased (by an average of 20-30 per cent in machine building). More effective use is to be made of farm machinery by ensuring its operation throughout the standard service life.

More effective utilization of raw and other materials and semi-manufactures will bring, in the five years, a 5 to 16 per cent saving of ferrous rolled stock, building materials (timber, cement, etc.) and electric and thermal energy. The importance of such an economy is seen from the following examples. The planned saving of electricity (by 5 per cent, which is about 50,000 million kilowatt hours) equals the amount of electricity generated in 1975 by all the power stations serving Moscow with its population of 7 million. The amount of diesel fuel saved in the course of the five-year period will enable the passenger transport of the country to operate throughout 1980.

The socialist state raises markedly the productivity of social labour by improving the management of national economy. Enterprises of the same branch built at different times differ from one another in the conditions and effectiveness of labour. One of the ways to improve the operation of enterprises is to establish associations of enterprises of the same type, the best of which become head enterprises. Research laboratories



In 1976-80 industrial output will grow by 35-39 per cent. In physical volume, every per cent of the increase will be 44 per cent (in the consumer goods industry—40 per cent) greater than in the previous five-year period.

are concentrated at the latter, while the other enterprises become a kind of shops of the association. Such a production-economic complex combines research and production and organizes specialization and co-operation in production.

At the beginning of 1976 the number of production and research-and-production associations stood at 2,300 and they contributed 24 per cent of industrial output. In the Tenth Five-Year Plan period the establishment of production associations will be completed.

It has been estimated that improvement of the structure of management in the automotive industry alone will help save tens of millions of roubles. In the oil industry the establishment of large production associations subordinated directly to the ministry made it possible to unite more than 300 previously independent small enterprises into large complexes and to improve the management of the industry. More than 20 industrial ministries are now introducing progressive general schemes of production management. Much will be done to improve management in capital construction and in agriculture.

In management wide use is made of electronic computers. Large computing centres process vast amounts of information, grouping it according to addresses on which depends the normal functioning of concrete production units. This work is co-ordinated on a nationwide scale with the resulting emergence of a single automated control system with branches in industries and enterprises.

The maintenance of normal proportions in national economy and the economic effectiveness of production are characteristic features of the economy of the developed socialist society. They presuppose organic combination in production of the requirements of national economy, the economic interests of the working collectives of enterprises and incentives to workers in all parts of the single economic mechanism. What is beneficial to the developed socialist society must be beneficial to individual enterprises and workers. This prin-

ciple is built into the structure and proportions of the Tenth Five-Year Plan.

### Creative Quest

The working collectives of factories, mills, collective farms, etc., employ a wide range of methods to raise the productivity of social labour. Of special importance among these methods is introduction of scientific and technical achievements into production. In 1971-75 a great deal of work was done in the country to reconstruct, enlarge and modernize enterprises. This was responsible for 60 per cent of the increase in industrial output.

In the mid-sixties the Soviet iron and steel industry discontinued the construction of open-hearth furnaces, which had been the main producers of steel in the pre-war years. The appearance of converters, which make it possible quickly to obtain cheap high-quality steel, obviated open-hearth furnaces. But it would be inexpedient to dismantle the old furnaces at present, for their produce is needed by the country. As a result the two types of furnaces co-exist. However, in the course of adapting old technology to new, scientists proposed a two-bath steel smelting unit which is a kind of hybrid between the two types of furnaces combining the capacity of open-hearth furnaces to produce steel of most diverse grades with that of converters to smelt steel quickly. In 1975 nine such furnaces operated in the country, five of them at the Magnitogorsk Iron and Steel Plant in the Urals, which was the first to master the new process. Five two-bath units produce at present one-third of the metal smelted by the 35 furnaces of the plant. The overall results of the reconstruction of equipment at the plant are quite impressive: production of steel by the existing units, whose rated capacity had

long been exceeded, increased by another 5 million tons. Production of pig iron went up by 2.2 million tons, and that of steel pipes, by almost 500,000 tons. It has been estimated that, had it not been for the reconstruction, obtaining this amount of metal would have required the building of a new iron and steel plant at a cost of at least 1,000 million roubles.

Behind all those figures is the creative quest of the workers, engineers and technicians of the plant, one of the firstlings of Soviet industry.

In the Tenth Five-Year Plan period the plant will reconstruct four blast-furnaces, increasing their working volume by 20-50 per cent. Reconstruction will be conducted during the repairs period, which will require comparatively small capital expenditure.

As a result of reconstruction annual pig iron production will grow by one million tons. This will make it possible to increase the output of steel. By 1980 the Magnitogorsk Plant will have by far exceeded its 1975 record of 15 million tons of steel.

Improvement of organization of labour also helps to raise its productivity.

Improvement of the organization of labour by working collectives in 1971-74 saved the labour of approximately two million people. This process will continue in the Tenth Five-Year Plan period as well.

Every day brings news about new initiatives by individual workers and whole working collectives aimed at improving the organization of labour.

For example, the head of a team of workers of a building and assembly train participating in the construction of the Baikal-Amur Railway (a major construction project) suggested uniting all the small teams of the train into one large team working in three shifts according to a staggered schedule. As a result, labour productivity went up 150 per cent.

Socialist emulation\* is one more means of raising labour productivity. No matter how good a national economic plan designed for a period of five years may be, life always provides some new possibilities. There appear production reserves which were not taken into account before but can be used now. That is the objective of the competition of work collectives, in which the winners are morally and materially rewarded by society and at the same time all receive from the state guaranteed pay for the time they have worked. Socialist emulation has something in common with the Olympic movement, in which not only victory but the very participation brings honours. It differs cardinally from capitalist competition, in which the strong beats the weak and defeat is tantamount to economic (and sometimes also physical) death.

Socialist emulation is practised on a vast scale in the Soviet Union. In 1968, 60.5 million working people participated in it, and in 1974-80.7 million. In 1976-80, practically all work collectives will take part in socialist emulation.

### High Professional Skill to Every Worker

It's better to work well than to work much, they say. The ability, acumen, knowledge and skill of every

\* Socialist emulation is a form of labour under socialism. It is a movement in which working collectives and individual workers compete for the attainment of the highest quantitative and qualitative indicators.

Lenin worked out four principles of socialist emulation: publicity, comparability of results, creation of conditions for the adoption of progressive methods, and comradesly mutual assistance.

Socialist emulation is designed to promote the growth and improvement of productive forces and production relations, communist education of working people, and their participation in production management.

worker help to raise the productivity of social labour.

In the past 10 to 15 years the Soviet Union's work force has been joined by the best ever educated contingent of workers. Approximately 85 per cent of young workers, aged below 30, have a ten-year or an eight-year secondary education. In 1976-80 the vocational training system will add to the work force roughly 11 million workers, among them about 5 million with a complete secondary education. At the same time on-the-job training, retraining and advanced training of workers at the expense of the enterprises where they are employed will be improved. Economic education of working people has become particularly widespread. In 1975 problems of the economics of labour and production management were studied by more than 35 million people. All this means that practically every Soviet worker studies, and, as his outlook widens and his general and special knowledge deepens, he organizes his labour more efficiently, striving to improve the quality of output.

Here is one example. A team of weavers of the Leningrad fine and industrial cloths mills named after Ernst Thaelmann decided to increase the output of first-grade cloth by one per cent as against the previously achieved level which already highly exceeded the plan assignment. Every weaver and every team opened so-called quality accounts reflecting the dynamics of the improvement of the quality of output. The organization and methods of labour were improved and the weavers' skill was raised. As a result first-grade cloth began to account for 99.95 per cent of total output.

Soviet metalworking plants widely use a method of improving the quality of work which consists in entitling the best workers to turn in their manufactures without submitting them to the technical inspection

department. Such workers have the right to use personal stamps.

In a word, in every sector of socialist construction a worker who takes an active, creative approach to his work can raise appreciably his personal, and with it social, productivity of labour and improve the quality of output.

In the Tenth Five-Year Plan period higher labour productivity will contribute approximately 90 per cent of the increase in industrial output, 100 per cent in agricultural production and construction work, and at least 95 per cent of the handling operations increase in rail traffic.

## CHAPTER II

### **EFFICIENCY AND QUALITY**

In addition to its quantitative aspect, the highly productive labour of Soviet people in the Tenth Five-Year Plan period also has an important qualitative aspect. These years are to see a sharp increase in the quality of output and in the efficiency of social labour as embodied in its end result (for the consumer).

The consumer wants the goods he buys to be highly reliable, attractive and very useful. This is not to say that working collectives neglected these aspects in the past. But today, with the growth of the production potential and the well-being of people, they have acquired special importance, becoming an imperative of development of the entire national economy. This imperative has led to the initiation of state assessment of the quality of articles manufactured by enterprises. Articles whose quality measures up to world standards are issued the state Quality Mark, and the working collectives which turn them out are distinguished as model ones.

The fuel and power industrial complex is the motive force of development of the entire national economy. It accounts for one-fifth of the workers, engineers and technicians employed in the national economy. In addi-

tion to industry, it serves one-third of the transport. One out of every three roubles invested in industry is spent on its development.

### Electric Power Production

The power industry is the core of the fuel and power complex determining in large measure the pace of scientific and technical progress. Therefore, the Tenth Five-Year Plan envisages accelerated growth of the power industry with emphasis on the most advanced methods of obtaining electric energy such as atomic power stations, etc. As regards the traditional methods of obtaining electric energy (hydraulic and thermal power stations), wide use is made of the economic advantages afforded by the construction of large power stations and by co-ordination of their work. Hundreds of power stations all over the country are operating round the clock. Every hour the Soviet Union's power stations generate 133 million kilowatts of electricity. The electric power transmission lines total millions of kilometres in length. However, a large part of the energy potential remains unutilized. For instance, if fully harnessed the country's mighty rivers can produce approximately 1,000,000 million kilowatt hours annually. Many economic regions of the country have large reserves of coal, lignite, oil, gas, combustible shales and other types of energy fuel. A peculiarity of the Soviet power industry is that roughly 80 per cent of all the fuel resources of the country are situated in its eastern part, beyond the Urals Range which divides the country's territory into two unequal parts, while about 80 per cent of the consumers of energy are concentrated in its smaller, European part.

As a result, in the Tenth Five-Year Plan period the

power industry has to carry out a complex of tasks: 1) to tap still unused fuel resources, first of all in the European part of the country; 2) to continue the reclamation of the rich fuel resources of Siberia, Central Asia and the Far East; 3) to organize the transmission of energy from the eastern to the western regions.

Forty per cent of the increase in the output of electricity in the Tenth Five-Year Plan period will be obtained at hydraulic and atomic power stations. Hydraulic power stations, which are capital intensive, take a comparatively long time to build, but they are highly economical in operation and produce a considerable indirect economic effect (serve the purposes of irrigation, contain flood waters, etc.). Besides, they can generate additional electric energy in peak hours. Atomic stations are comparable to thermal stations in capital expenditure for construction and in the cost of energy production already now; in the future they promise to become the most economical.

Abundant streams of cheap energy generated by atomic power stations will meet the quickly growing requirements of the economy and the population first of all in the European part of the Soviet Union and in the Urals, which experience a shortage of natural resources of traditional fuel. Atomic power stations with an aggregate capacity of 13-15 million kilowatts will be built in this part of the country in 1976-80. The efficiency of atomic power stations is high. They obviate the need for the transportation of large amounts of fuel. Modern atomic power stations use thermal reactors operating on uranium-235, the amount of which in the concentrate is less than one per cent. Such stations in the Soviet Union include the world's largest Leningrad atomic power station with 1,000,000-kw reactors. In the Tenth Five-Year Plan period its capacity will reach 4 million kilowatts. New generating units will be put into

operation at the Novovoronezh, Smolensk and Kursk atomic power stations in the Russian Federation, and the Chernobyl, Rovno and South Ukrainian atomic power stations in the Ukraine, where the construction of two more atomic power stations will be started. The first section of the Armenian atomic power station will be completed, and the construction of the Ignalina station will be launched in Lithuania. The new stations will have generating units with a capacity of 1.5 million kilowatts.

While being the product of advanced scientific thought, the existing atomic power stations will soon yield the palm to still more effective power giants. Soviet scientists have developed and are beginning to introduce fast neutron reactors. While utilizing their original fuel, fast neutron reactors produce a new fissionable material, thus increasing the efficiency of the utilization of uranium fuel dozens of times.

In addition to atomic power plants, the network of hydraulic and thermal power stations is expanding in the regions of the European part of the USSR, where there are favourable conditions for this. Among them, special mention should be made of the Kostroma thermal power station (3.6 million kw), where construction has begun of a unique generating unit with a capacity of 1.2 million kw, equalling that of the entire power industry of pre-revolutionary Russia; the Reftinskaya thermal power station (3.3 million kw); several thermal power stations in the Ukraine; the Cheboksary and Nizhnekamsk hydro-power stations on the Volga and the Kama, respectively.

The Ekibastuz coal deposit in North Kazakhstan, where a ton of coal extracted by the open cast method costs less than one rouble, will provide the basis for four large thermal power stations whose electricity will be transmitted to the European part of the country.

Other power complexes to serve the same purpose are being built. Transmission of large amounts of electricity over long distances is economically expedient at super-high voltages. Due to be built during the Tenth Five-Year Plan period are unique transmission lines to operate at voltages of 1,150,000 a.c. and 1,500,000 d.c.

The power industry is developing in Siberia, Central Asia and the Soviet Far East on an unprecedented scale. The world's largest hydraulic and thermal power stations, super-powerful transmission lines and new industrial centres based on power giants are being built there. A role of special importance is played by Siberia. Siberia's united power grid is one of the largest in the country. It unites more than 80 power stations whose aggregate capacity exceeds 25 million kw. Its structure nears the theoretical ideal as far as the correlation between hydraulic and thermal power stations is concerned.

Siberia is famed for its giant hydro-power stations. It is for about a decade now that the Bratsk power station on the Angara (4.5 million kw) and the Krasnoyarsk station on the Yenisei (6 million kw) have been the world's largest hydro-power projects. In the Tenth Five-Year Plan period the first generating units will be commissioned at the Sayan-Shusha station, whose capacity will total 6.4 million kw. The capacity of its units (640,000 kw each) will be much greater than that of the units of the Volga stations (115,000 kw) or the Bratsk station (225,000 kw). The Sayan-Shusha station will constitute the power basis of a new territorial-production complex which will comprise an aluminium refinery, a railway car building works, a large steel foundry, non-ferrous metals working enterprises and electrical engineering, light industry and food industry plants. The giant power station and the cluster of plants around it will serve as a kind of monument to

Vladimir Lenin, who lived there at the turn of the century, exiled by the tsarist government.

One more star of the first magnitude will be added to the constellation of the famous Angara hydro-power stations. In particular, full capacity (4.5 million kw) will be reached by the Ust-Ilim station, and construction will be launched of the Boguchan station in the mouth of the Angara. The aggregate capacity of the Angara cascade will exceed 14 million kw.

Siberia also has several major thermal power stations. Due to be put into operation there in 1976-80 are tens of new power plants operating on cheap coal or gas. For instance, large deposits of high-grade lignite situated close to the surface have been found in the Kansk-Achinsk basin in the Krasnoyarsk Territory. The Beryozovka station being built there to burn this coal will produce large amounts of the country's cheapest electricity. New capacities are being added to the Surgut station in the area of the West Siberian oil fields, which operates on casing-head gas.

The accelerated development of the fuel and power complex in Siberia creates the necessary conditions for the construction of power-intensive branches of ferrous and non-ferrous metallurgy, and chemical, petrochemical and pulp-and-paper industries.

In the Tenth Five-Year Plan period one more large power centre will be created in Central Asia, to serve as the basis for new territorial-industrial complexes. Among the fifteen Union republics the Tajik Soviet Socialist Republic ranks second, after the Russian Federation, in the reserves of hydraulic energy. The Kirghiz SSR is also rich in this respect. The Kazakh SSR has large reserves of coal. The two other Union republics lying in Central Asia—Uzbekistan and Turkmenia—have large gas deposits. Hence the large scale of work to develop this region.

Several large electric power stations will be erected there. For example, in Tajikistan full capacity (2.7 million kw) is being reached by the Nurek hydro-power station and the construction of the 3.6-million-kw Rogunskaya station is starting. Both will serve the dual purpose of power production and irrigation. The reservoir of the Rogunskaya station holding 9,000 million cubic metres of water makes it possible to increase the area of irrigated land in Uzbekistan and Turkmenia by 300,000 hectares. As a result, the building expenses will be recouped in five years as a result of increase in agricultural production alone. High-grade aluminium is already produced by an aluminium refinery supplied with electric power by the first section of the Nurek station. In dry seasons during the Ninth Five-Year Plan period the fields near the Nurek station received 2,000 million cubic metres of water from its reservoir, which saved their crops.

It should be noted that the progress of the power industry to be attained under the Tenth Five-Year Plan is the starting point for further, still more impressive achievements in the economy of Central Asia. The master scheme for the utilization of the resources of the Vakhsh and Pyandzh mountain rivers, which is being drawn up, provides for the construction of 17 hydro-power stations with a total capacity of more than 25 million kw. New power plants will be erected on the Amudarya, Syrdarya and other rivers. Numerous thermal power stations will also be built.

Active work to tap the power potential of the Soviet Far East is under way. First units have been put into operation at the Zeya hydro-power station, and construction has been launched of the Bureya station. (The Zeya and Bureya are large tributaries of the Amur.) In addition to generating large amounts of electricity needed by the developing economy of the



Far East, they will safeguard the towns and villages of the region against devastating floods.

All told, by 1980, new capacities rated at 67-70 million kilowatts will be commissioned in the Soviet Union. Total power production will reach 1,340,000-1,380,000 million kilowatts, or nearly double the 1970 figure.

### The Nationwide Power Grid

The Soviet power industry develops as an integral part of the national economy. As distinct from capitalist economy, based on private ownership, where every power system, being the property of one firm, is separated from the power systems of other firms and develops in isolation, the socialist system makes possible co-ordinated development of all the elements of the power industry on a nationwide scale or even on the scale of several countries.

The main peculiarity of the Soviet integrated power grid is its size, determined by the great territory of the country (one-sixth of the world's surface). Eleven time belts cross its territory. When the sun sets in Byelorussia it is dawn in Kamchatka. Peak loads in the Urals, for instance, occur two hours earlier than in the centre. This makes it possible to use part of the capacity of the power systems of the Volga Area, and above all the hydro-power stations on the Volga, to cover the peak load first in the Urals and then in Moscow. At the same time, when night falls in Siberia and power consumption there drops to a minimum, the working day starts in the European part of the country, and the integrated power grid directs to it the released amount of electricity.

On a national scale, economy to be obtained by the

state from the establishment of the integrated power grid will amount to 5,000-6,000 million roubles. The Tenth Five-Year Plan will signify a new major step towards the completion of the grid. By the beginning of the new five-year period approximately 150 million kilowatts of generating capacities had been united in the power grid of the European part of the country, controlled from an automated centre in Moscow and operating jointly with the power systems of countries, members of the Council for Mutual Economic Assistance. The remaining 70 million kilowatts of capacities were divided among united power systems in Siberia, Central Asia, North Kazakhstan and the Far East.

The Tenth Five-Year Plan envisages the construction of at least 170,000 kilometres of transmission lines for 110,000-750,000 volts, and a number of super-powerful transmission lines. They will make it possible to join the power systems of Central Asia, North Kazakhstan and Siberia to the united power grid of the European part of the USSR.

With the completion of the integrated power grid of the USSR with an automated control centre the country will be able to save an additional 20-25 million kilowatts of power capacities. This is about as much as is generated by the Siberian power systems.

### Oil and Petrochemical Industries

The development of the fuel and power complex will be furthered also by the generation of energy through the utilization of cheap kinds of fuel (coal, lignite, combustible shales, hydraulic energy and fissionable materials), which will release large amounts of oil and gas for much more efficient utilization in the chemical and petrochemical industries. In the Tenth Five-

Year Plan period consumption of gas for production purposes will double and the processing of oil will increase by 25-30 per cent, while their utilization as fuel will be sharply reduced.

The Russian scientist Dmitry Mendeleev, the famous author of the periodic table of elements, said long ago that burning oil and gas as fuel was the same as using banknotes for firewood. The growing importance of oil and gas as raw materials for the chemical industry predetermines the interdependent development of the oil and gas extracting and processing and petrochemical industries.

Already now the USSR is the world's largest oil producer. The 25th Congress of the CPSU set a new task: to obtain an annual increase of 25-30 million tons in the extraction of oil and gas condensate. To accomplish this task, financial and material resources are concentrated on accelerating the reclamation of the vast oil resources of West Siberia. In the new five-year period the Samotlor oil fields, the largest in West Siberia, will reach the design capacity of 120 million tons per year. Smaller oil deposits will also be tapped. All this will make it possible quickly to bring the extraction of oil and gas in that area up to 300-310 million tons and 125,000-155,000 million cubic metres, respectively.

New petrochemical plants will be built in different parts of the country. In particular, construction of a petrochemical complex will be started at Tobolsk. Plants to process oil gas will also be built.

A great deal of work will be involved in building a large complex to extract and process gas at the Orenburg gas condensate deposit in the Southern Urals, tapping the resources of the Timan-Pechora oil and gas basin in the north of the European part of the USSR, and increasing the extraction and processing of oil and gas in other regions of the Russian Federation as well

as in the Ukraine, Byelorussia, Kazakhstan and Turkmenia.

To maintain output at a high level more progressive technology is being introduced in old oil fields. For example, in Tataria, which produced more than 500 million tons of oil in the Ninth Five-Year Plan period, the utilization of oil gas has reached 95 per cent and a high degree of utilization of every oil-bearing seam, of every oil well has been reached. Exhausted seams are more and more often used as storage places of natural and casing-head gas.

A major contribution to the successes of the Soviet oil industry has been made by scientists, who, together with engineers, have introduced a programme for comprehensive automation of oil extraction.

This programme commanded the attention of specialists in the past as well. But the trouble with the first projects was that they attempted to adapt automation means, intricate remote control systems to old, imperfect methods of extraction. The realization of the comprehensive programme was started with the introduction of a new, unified technological system of working oil deposits with the use of automated installations.

Retooling and comprehensive automation have made it possible to accelerate the tapping of new deposits by two to three times. There will soon appear fully automated remote-controlled oil fields (the control centre may be 100 or 200 km away). This will make it possible to work deposits situated in places difficult of access, without establishing new settlements, production bases and communications. Scientists and specialists of the oil and allied industries are working on the solution of problems connected with this.

The retooling of the oil industry, comprehensive automation of extraction processes and the introduction of automated control systems in oil fields will

be conducted on such a scale that towards the end of the five-year period these fields will yield at least 85 per cent of the total oil output.

The task set for geologists is to expedite prospecting and surveying of new deposits of oil, gas and condensate.

A nationwide gas supply network is being established, totalling more than 100,000 kilometres of main gas pipe-lines. This method is more effective than that used in the capitalist countries, where every firm looks for its own source of raw material and builds its own gas pipe-line to its plants. The united network of pipe-lines ensures stable operation of the national economy, making possible efficient use of both new deposits joined to systems with thousands of consumers and old ones serving as reserve gas storages. The effect this produces can be seen from the following example.

On April 8, 1976, a strong earthquake took place in Central Asia. Its epicentre lay under the Gazli gas deposit, where begin the transcontinental gas pipe-lines Central Asia-Centre, Bukhara-Urals and Gazli-Alma-Ata. After the first tremor Gazli's pumping station was stopped, but enterprises in hundreds of cities continued operation. Immediately after Gazli was cut off, the control centre of the united gas supply network of the USSR increased the supply of gas to consumers from deposits in Turkmenia and the Tyumen and Orenburg regions. The enterprises did not have to stand still even for a minute. Two days later the Gazli deposit resumed normal operation.

The chemical and petrochemical industries are to increase production by 60-65 per cent. The output of mineral fertilizers will be brought up to 143 million tons and that of chemical fibre and thread to 1,450,000-1,500,000 tons. The range of goods is to be widened

considerably and its quality improved. All this is to be achieved through raising the efficiency of existing enterprises and the construction of a number of new ones. Specifically, new oil refineries are being built in East Siberia, the Far East and the North-West of the European part of the USSR. The concentration of production continues; the level of specialization and co-operation in production is being raised; progressive technological processes and methods of organization of labour and production are being introduced; greater emphasis is laid on observance of technological discipline. The experimental base of industrial enterprises and designing organizations is being enlarged.

To cite one example. There operates in the North Caucasus the Nevinomyssk production association *Azot*, based on the local chemical works, which is the Soviet Union's largest producer of nitrogenous and phosphorous fertilizers. It uses as the raw material natural gas from the nearby deposits of the Stavropol Territory, water is supplied by the Kuban River, and a well-developed network of railways reliably connects it with the consumers. The enterprise was set up about 15 years ago. The first ammonia was obtained by the Nevinomyssk chemical works in August 1962. In 1970-75 the works became the Soviet Union's biggest producer of mineral fertilizers. During the Ninth Five-Year Plan period (1971-75) it supplied agriculture with 13.5 million tons of highly concentrated and compound fertilizers. Its output has been awarded the state Quality Mark. It has achieved the highest labour productivity and the lowest production cost in the industry. In the past five years it doubled output, but the number of its employees increased only by 5 per cent. Such an increase in labour productivity is due to the fact that most of its workers are raising their skill, mastering progressive experience, learning kind-

red specialities and working at them, etc. However, what has been achieved is only a stepping-stone to a new leap forward. In 1976-80 the sixth section of the works will be built, including three new compound fertilizer shops. During each five-year plan period, beginning with the eighth, the production capacities of the Nevinomyssk chemical works double. Alongside this, the quality of its output is being constantly improved.

### **Metal and Machines**

The Tenth Five-Year Plan period will see further development of ferrous and non-ferrous metallurgy, foundry production, metal working and machine building. Back in 1973, the Soviet Union's metal stock reached 1,000 million tons, roughly one-fifth of all metal accumulated by the world. The Soviet Union produces more pig iron and steel than any other country in the world. The output of ferrous and non-ferrous metals is constantly increasing.

By 1980, the annual output of finished rolled products will come to 115-120 million tons. Special attention is paid in this industry to the improvement of the quality of output, the production of effective types of rolled metal such as coated plate, formed sections, high-strength pipes, etc., and the retooling of enterprises.

The non-ferrous metals industry is to increase considerably the output of aluminium, copper, nickel, titanium, alloying, rare and precious metals, secondary non-ferrous metals and diamonds. New capacities will be added to the Norilsk mining and metallurgical combine, the biggest producer of copper and nickel. An aluminium refinery will be completed in Tajikistan. Other non-ferrous metals industry enterprises will also be built.

In the next five years, the machine building industry is to increase output by 50-60 per cent, with emphasis on considerably improving the quality of the machines, equipment and instruments produced and raising their technical level, productivity and reliability. Work is to be actively continued of developing complete systems of machines and instruments making possible comprehensive mechanization and automation of entire production cycles—from taking in raw materials to dispatching finished products.

Accelerated development is envisaged for power, heavy, transport, chemical and oil machine building, the electrical engineering industry and the inter-sectoral branches of machine building which bear directly on raising the technical level of the entire national economy.

The first section of the Kama Auto Works is to be completed; the first section of a group of electrical engineering plants in Minusinsk (Siberia) and the Novovolynsk technological equipment plant in the Ukraine are to be built; and hundreds of other enterprises are to be constructed or modernized.

### **Increasing Consumer Goods Production**

Considerable development is planned in the next five years for all industries (including a part of heavy industry) which produce consumer goods.

The output of manufactured consumer goods is to go up by 30-32 per cent. The production of furniture will increase by 40-50 per cent, and that of articles for household and cultural use by 60 per cent.

Of special importance among the branches of industry catering to the consumers is the light industry, which turns out 56 per cent of all consumer goods.

Light industry enterprises receive ever-increasing amounts of new machinery. Today, at the outset of the Tenth Five-Year Plan, the level of automation in the production of cotton textiles is about 90 per cent, woollens—more than 70 per cent, silks—about 80 per cent and linens—nearly 100 per cent. The introduction of new equipment, which is 50 to 100 per cent more productive than the old one, leads to substantial improvements in working conditions and to important social changes. For example, the introduction of spinning and twisting machines, which combine four technological operations, obviates a number of arduous processes and releases workers for more interesting jobs.

Much attention is paid to increasing the output and widening the range of new types of high-quality textiles, knitwear, garments, footwear, natural and artificial fur articles and other mass consumer goods. Every year 40,000 to 50,000 new models of clothes and footwear are introduced into production. Almost 8,000 items turned out by the light industry bear the state Quality Mark.

In 1970-75 the Soviet motor vehicle industry manufactured about 4.5 million cars. A large part of them were turned out by the Volga car factory, which makes the widely known Lada cars. Eighteen basic models of cars of all classes, including four Lada models, were manufactured in the Ninth Five-Year Plan period. A further increase in car manufacture is planned for 1976-80. Priority will be given to the production of cars designed for the mass consumer, characterized by a high level of comfort, excellent finish and reliability, economical and adapted for use both in the USSR and abroad.

Every year more than 8.5 million radios are manufactured in the USSR. A radio is owned by 85 out of every 100 families. In 1975 eleven models of TV sets

bearing the Quality Mark were manufactured. Every year up to 30 per cent of TV set models are modernized. There is constant increase in the purchase of refrigerators, washing machines, cine-cameras and other durables, and their quality is steadily improving.

An important task before the food industry is to improve the quality, biological value and taste of foodstuffs and to widen their assortment.

### For Guaranteed High Crops

A great deal is to be done in the next five years to promote the further development of agriculture. The main task before agriculture, formulated in keeping with the Party's agrarian policy, is to ensure further growth and greater stability of farm output and to improve the effectiveness of field and animal husbandry to meet the demand of the population for foodstuffs and of industry for raw materials.

Consistent intensification of production and consolidation of the material and technical basis of collective and state farms is planned to facilitate the realization of a far-flung programme of further increasing the output of the products of field farming and livestock breeding and improving their quality.

Average annual output of grain in the USSR has been growing steadily. Here are data for the past twenty years (in millions of tons):

1956-60	—	121.5
1961-65	—	130.3
1966-70	—	167.6
1971-75	—	181.5

In 1976-80 the average annual output of grain is to be brought to 215-220 million tons, an increase of 35-40 million tons over the annual average for the Ninth

Five-Year Plan period. In 1980 at least 9 million tons of raw cotton are to be harvested. The plan provides for producing every year an average of 95-98 million tons of sugar-beet, 15-15.6 million tons of meat, 94-96 million tons of milk, and 58-61 thousand million eggs.

These are quite feasible targets. For example, in 1973, a year of favourable weather conditions, grain output came to 222.5 million tons. The problem is to obtain guaranteed good crops under any weather conditions.

In the Ninth Five-Year Plan period the weather was, on the whole, highly unfavourable to agriculture. In fact, 1973 was the only exception. The conditions were particularly inclement in 1975, when drought set in early and on a large territory. A similar drought had been recorded as far back as 1891.

It is precisely severe droughts, which hit the most important agricultural areas of the country, that are largely responsible for the failure to fulfil the assignments of the Ninth Five-Year Plan as regards average annual output of grain, meat, milk and wool and gross agricultural produce. That is also the main reason why the planned proportion between the growth rates of the production of consumer goods and producer goods in industry was not reached.\*

It is no secret that so far the agriculture of the United States is more productive than that of the Soviet Union. But there are many objective reasons for this. The climatic and soil conditions in the USSR are much less favourable. About two-thirds of the ploughland lie in zones subjected to droughts. Regions with favourable conditions and an annual precipitation level of 700 mm account for only 1.1 per cent of the sown

\* In the USSR approximately 75 per cent of the consumer goods are produced from agricultural raw materials.

area, as against about 60 per cent in the United States. The US corn and especially wheat belt has never been hit by droughts, whereas in the USSR droughts periodically occur in almost all of the grain-growing zones. In the USSR only 15 per cent of the arable land lies in the zone where the frost-free vegetation period lasts 170 days and longer. The figure for the United States is about 70 per cent. Areas with the average annual temperature of  $+5^{\circ}\text{C}$  and higher include about 40 per cent of the arable land in the USSR and about 90 per cent in the United States. Until recently the United States but rarely practised irrigated cotton growing, whereas in the USSR all cotton is grown on irrigated plantations. In the USSR a vast part of the farmland is occupied by poor podzol soils. The United States has large areas of black and chestnut soils as well as red and yellow soils (in the South). Areas with the humid and dry subtropical climates are several times greater in the United States than in the USSR.

Hence, agricultural production in the USSR calls for greater capital and labour investments compared with the United States.

Scientific and technical progress is transforming Soviet agriculture, where mechanization of production and chemicalization and improvement of land are conducted on a large scale. In 1971-76 agriculture was supplied with 1.7 million tractors, more than 1.1 million lorries and large quantities of other machines. This made it possible, despite the exceptionally unfavourable weather conditions, to raise the average annual output of agricultural produce by 13 per cent compared with the preceding five-year period.

In 1976-80 agriculture will receive 1.9 million tractors, 1.35 million lorries, 538,000 grain harvester combines, etc.

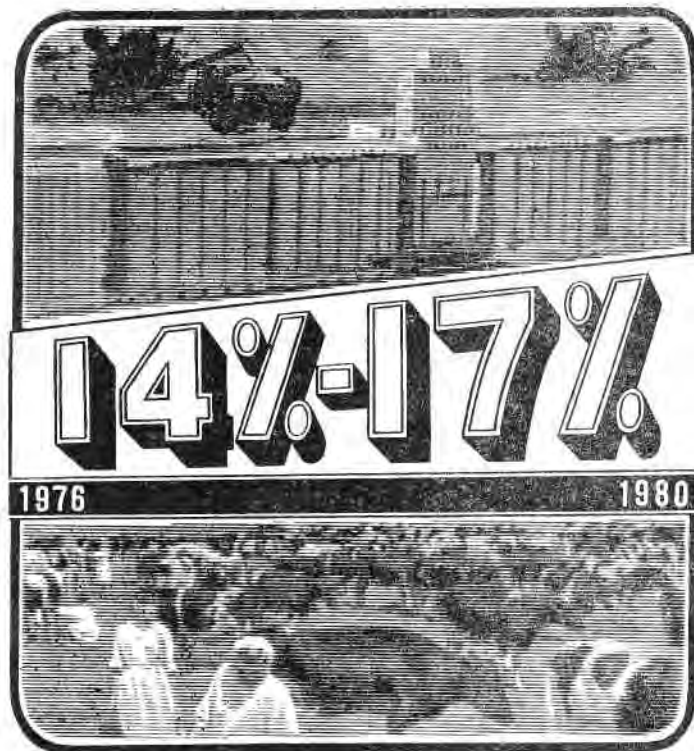
Grain production remains the leading branch of

agriculture claiming maximum attention, efforts and material resources. It is planned to use all reserves to boost grain crop yields, and where possible to expand the area under cereals. At the same time additional measures will be taken to improve the utilization of the country's grain stock.

Concerned with further raising the well-being of the people, the CPSU will continue the policy of intensifying agricultural production. The conversion of agriculture into a highly-developed branch of the economy calls for systematic consolidation of its material and technical basis and ever greater utilization, for this purpose, of the economic, scientific and technical potential of the country. The programme for the development of agriculture in the Tenth Five-Year Plan period was drawn up with this in view. Investments in it will amount to 171,700 million roubles (out of the total of 600,000 million roubles to be invested in the national economy as a whole). In the five years the delivery of farm machines and equipment will go up by roughly 50 per cent. In 1980 agriculture will receive 115 million tons of mineral fertilizers. The consumption of electricity for production and everyday needs in the countryside will reach 135,000 million kilowatt hours, as against 74,000 million kwh in 1975.

By the end of the five-year period power consumption per worker in agriculture will have nearly doubled. The use of electricity in agriculture will release about 1.5 million people now engaged in transporting fuel and tending hundreds of thousands of uneconomical little boiler rooms. Labour productivity on collective and state farms will rise by 27-30 per cent.

Zones of guaranteed crops are being established where, as a rule, extensive land improvement work is to be performed. And this calls for additional expenditure of labour, metal and energy.



Average annual agricultural output will rise by 14-17 per cent. In terms of physical volume, every per cent of the increase will be 13 per cent greater than in the past five-year period.

In the centre of European part of the USSR lies the Non-Black Soil Zone of the country. A vast sum—35,000 million roubles—is allocated for its comprehensive development in the next five years. Many livestock farms and poultry factories are to be built there and

an extensive programme of land improvement is to be carried out.

Understandably, it is not enough to invest large sums in agriculture. The important task is to obtain maximum returns on them, and that is the concern of the workers in the Soviet countryside.

### **To Build Better, Faster and Cheaper**

The Soviet Union has advanced to first place in the world in the volume of capital investments in national economy. On the average, one large enterprise has been completed daily and 20 flats have been turned over for tenancy every minute over the past ten years. In 1971-75 about 2,000 large enterprises were built and many existing factories were modernized. Fifty-six million people, almost a quarter of the country's population, had their housing conditions improved.

In the current five-year period the volume of capital investments grows by 24-26 per cent, but the number of new projects decreases. The new five-year plan reflects the structural and qualitative changes taking place in the building industry along with the constant growth of the scale of work.

Almost two-thirds of the capital investments have been allocated by the state for the reconstruction, re-tooling and expansion of existing enterprises. So far as new construction projects are concerned, efforts will be concentrated on completing those that were started earlier. This will make it possible to raise the effectiveness of capital investments, which in 1976 alone amounted to 116,800 million roubles. Early commissioning of new projects yields early results: firstly,

their products are included in the economic turnover at an earlier date and, consequently, they repay themselves faster; secondly, the effectiveness of the utilization of the latest machinery and equipment is increased.

The Volga car factory in Togliatti can serve as an example of speedy construction of a large industrial complex. Another example is the world's largest blast-furnace with a working volume of 5,000 cubic metres built in less than three years at the Krivoi Rog iron and steel plant in the Ukraine.

However, construction is not carried out fast enough everywhere. There are instances of construction taking much more time than standard limits allow, which involves considerable losses. That is why emphasis has been shifted in recent years to the modernization of existing enterprises and expediting the completion of those under construction. It should be pointed out that technological equipment is subjected to much more thorough modernization than buildings and structures.

The same purpose—raising the effectiveness of capital investments—is served by the ever wider application of the principle of comprehensive planning and building up territories, with enterprises being united in industrial complexes with common repair, power and transportation facilities and other infrastructural elements. More than 360 schemes of such complexes have been worked out, and about 100 of these are under construction already.

One of them, the Ust-Ilim complex in East Siberia, consists of large pulp, woodworking and hydrolysis-yeast plants whose total estimated cost is about 715 million roubles. Construction of the complex has cost less than it would have taken to build separate plants, and the operational costs are also lower.



An analysis of the economic indicators of the projected industrial complexes and those under construction shows that this method of locating enterprises will reduce occupied territory by an average of 8-10 per cent, the length of motor roads and railways—by 15-20 per cent, and capital investments—by 3-4 per cent.

Many industrial enterprises are to be completed within the Tenth Five-Year Plan period. Among them is the Kama Auto Works which will produce 150,000 heavy-duty trucks and 250,000 diesel engines annually. Taking up a territory of 25 square kilometres, the complex consists of six large plants. The largest shop, the one producing diesel engines, is 1,800 metres long. The complex will have more than 100 automatic transfer lines and 230 inter-shop and intra-shop conveyers. The whole country is taking part in the construction of the giant auto works. Personnel for it is trained in 50 cities. About 900 enterprises supply it with equipment. Construction work proceeds so fast that, as one journalist said, every news about the Kama Auto Works becomes stale by the time it is printed.

Progress in the building industry depends in large measure on the industrialization of construction methods and the use of prefabricated and pre-assembled units and parts. The Soviet Union has accumulated considerable experience in applying the conveyer and large-block methods of assembly. Block assemblies weighing up to 60 tons are installed on numerous construction sites. Units of blocs weighing 50 tons and more, fully preassembled and tested in near-working conditions, are used in the oil and gas fields of West Siberia.

The production of light structures and materials is also developing rapidly.

And yet the level of industrialization of construc-

tion that has been achieved does not fully meet modern requirements. Therefore, the Tenth Five Year Plan envisages a series of measures to be taken in this field. The base of complete prefabricated construction will be extended. There will be an increase in the output of structures from super-strong concrete and aluminium, articles from ceramics, glass and plastics, heat-insulation materials and light-weight fillers. The fleet of building machines will grow. The quality of building and of architectural and planning solutions will rise.

All this will ensure a 29-30 per cent increase in labour productivity in the building industry by 1980.

## GROWTH OF WELL-BEING

The labour achievements of Soviet people are not an aim in itself. All the material values produced in the national economy are property of the whole people, and its distribution is aimed at raising the people's well-being. This distribution is determined by the labour contribution of every worker to the common result. Growth of one's labour productivity brings one higher wages; whereas growth of the social and collective productivity of labour leads, on the one hand, to fuller satisfaction of the various material needs of society and to expansion of production, and, on the other, to supplementing the monetary incomes of people with payments and benefits from the social consumption funds.\*

The social consumption funds serve two aims: first, providing all members of socialist society with real conditions for the harmonious development of their capabilities through free education; for improvement

\* Social consumption funds are a part of the national income set aside for satisfying the requirements of members of socialist society over and above the wage fund, i.e., free of charge or at a reduced cost.—*Ed.*

of their work qualifications and for pursuit of sports and arts; and, second, care for the health of citizens, maintenance of the disabled, etc.

In the new five-year period the line for increasing the incomes of the people both through raising wages and at the expense of the social consumption funds will continue. The growth of the income of every worker will depend to a greater extent on his personal labour contribution and that of his working collective to the development of social production and to raising its efficiency.

In 1976-80 the average wages of industrial and office workers will be increased by at least 16-18 per cent, with the prices of the main consumer goods remaining stable. The incomes of collective farmers (members of agricultural co-operatives) from work on commonly-owned farms will go up by 24-27 per cent. Payments and benefits to the population from the social consumption funds will grow by 28-30 per cent.

As can be seen from these figures, the growth rate of social payments and benefits is higher than that of wages. This accords with the structure of growth of the productivity of social labour that has taken shape in production, where the organized labour efforts of working collectives and organs of public management of production are more effective than the efforts of individual workers.

In the next five years, payments and benefits to the population from the social consumption funds will exceed 500,000 million roubles, mounting to 114,000-116,000 million roubles in 1980. More than half of these sums will be spent on cash payments in the form of pensions, holiday pay, students' allowances, etc.

By 1980 the number of people receiving state pensions will reach 50 million, which almost equals the population of France at present. The retirement age

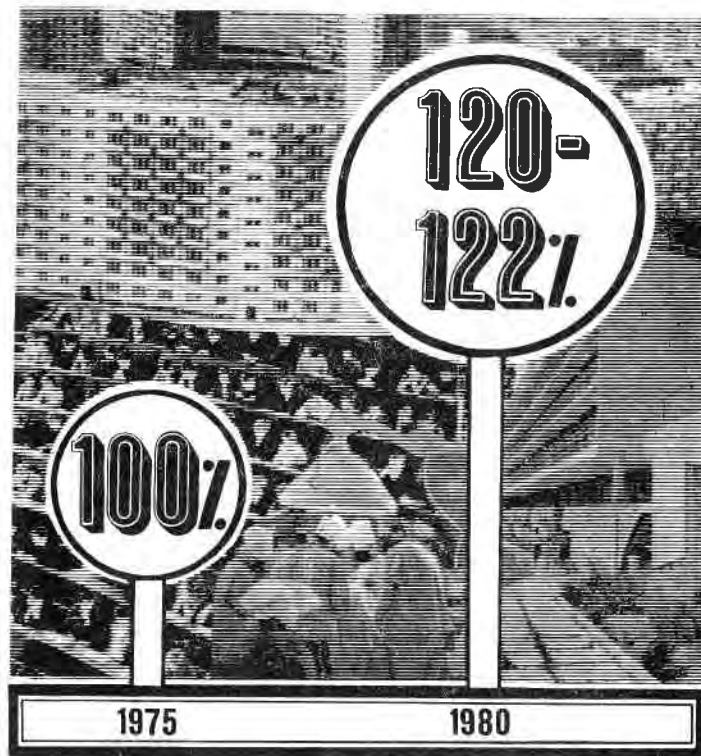
in the Soviet Union is lower than in any of the developed capitalist countries, and no deductions for a pension fund are made from the working people's incomes.

As a result of a new increase in minimum retirement pensions to factory and office workers and collective farmers, the introduction of new pension benefits and the further evening up of the level of maintenance of all categories of retired workers, approximately 18 million people will have their material condition appreciably improved.

It is planned to enhance the role of wages in stimulating growth of labour productivity, promoting scientific and technical progress, raising the quality of output and lowering costs; to improve the correlation between the wages of factory and office workers in different branches of the national economy, and to increase wage benefits to workers in regions where natural and climatic conditions are difficult (the North, Siberia, etc.) and those on arduous jobs.

The introduction of higher minimum wages is to be completed, along with increasing wage-rates and salaries for medium-paid workers employed in the non-production sectors of the national economy. A new stage will be begun in raising the minimum wages, wage-rates and salaries for industrial and office workers. Seniority bonuses will be introduced for those working in the Far East. In a number of industries higher rates will be established for night-shift work. As the levels of labour productivity and working conditions are evening up, the approximation of wage levels on collective farms and in state agricultural enterprises will be continued.

Important measures are planned to improve working and living conditions for working women. In the first place, in addition to the regular paid maternity



By 1980, per capita real incomes will increase by 20-22 per cent compared with 1975.

leave, partially paid leave will be introduced for working women so that they can look after a child until it is one year old. Mothers will be provided with greater opportunities to have a shorter working day or shorter working week, or to work at home.

Allowances for invalids since childhood will be raised, pension benefits for mothers with many children will be increased, and many other important measures will be introduced.

Along with the growth of incomes, the amount and variety of consumer goods will increase. The turnover of state and co-operative retail trade will grow by 27-29 per cent and the volume of public services, by 50 per cent. While state retail prices of basic foodstuffs and manufactured consumer goods will remain stable, the prices of some goods will be reduced in step with the creation of necessary conditions and the accumulation of commodity stocks.

In the past years there have been no changes in the prices of 99 per cent of foodstuffs and 92 per cent of manufactured goods. Bread, meat, milk, fish, textiles, watches and other basic consumer goods are sold at the same prices as five and ten years ago. The overall index of retail prices at present (meaning growth or reduction of prices in relation to a level taken as the basis) is 99.6 per cent of the 1970 level.

With remuneration for labour being the chief source of the increase in the people's incomes, increase in the monetary incomes of the people, while state retail prices remain stable, signifies increase in their real incomes as well.

### **Better Housing for Eleven Million People Each Year**

As always, great attention is paid to housing construction. The USSR is building more housing than all the Common Market countries put together. As distinct from the capitalist states, where rent claims from

25 to 40 per cent of the workers' wages, in the USSR rent amounts, on the average, to a mere 3 per cent of the family's income. For almost half a century (since 1928) it has remained unchanged. Rent pays for only one-third of the cost of maintenance of the housing stock, the rest being covered by the state, which spends for this purpose up to 5,000 million roubles a year, and this sum continues to grow as more housing is opened for tenancy.

In the past four five-year periods of intensive housing construction about 45.5 million modern flats have been built in towns, urban-type settlements and in the countryside. This is a world record. It is important to stress that in the new five-year plan period about two-thirds of new houses will be built according to improved projects. More than a hundred such projects have been prepared for all the climatic zones of the country. They envisage a greater total floor space of flats, bigger kitchens, bathrooms and anterooms, balconies or loggias, and built-in closets.

L. I. Brezhnev, General Secretary of the CPSU Central Committee, said in one of his speeches in 1974: "In our long-range plans we shall be able to provide for reconstruction of most of the towns and villages of our vast country. At the same time the complex task of providing a well-appointed apartment for every family will be solved. Not a single country in the world has been able to carry out such a task so far. But we are tackling it and we shall cope with it."

The Tenth Five-Year Plan will constitute an important stage on this road. In the course of it 13-14 million apartments will be built, for which all the sources of financing will be utilized. Every year approximately 11 million people will have their housing conditions improved.

Town building is conducted strictly in accordance

with development master plans. The architecture and planning of Soviet towns, industrial communities and rural settlements will be considerably improved. Still more flats will be supplied with gas. Their switching over to centralized heat-and-water supply will be continued.

The Tenth Five-Year Plan also contains provisions for further improving the health protection system and developing public education, culture and art.

### People's Health—Prime Concern of the State

In the USSR the state covers all expenses connected with public health. All medical assistance, including hospitalization, is provided free of charge. The same is true of systematic mass-scale preventive examinations of people (in 1975 alone about 160 million people were examined). Medicines are cheaper than anywhere else in the world, and in hospitals they are given free of charge. The incidence of infectious diseases has dropped sharply, and some of them, such as diphtheria and poliomyelitis, have been practically stamped out. Appreciable successes have been achieved in treating myocardial infarction: about 80 per cent of the patients stricken by this disease for the first time, which was lethal only recently, are restored to normal life.

Good progress has also been made in curing some types of cancer. The Soviet oncological clinics keep record of 1.7 million people who have undergone a course of anti-cancer treatment. Four hundred thousand of them received this treatment ten or more years ago.

The socialist state protects the health of its citizens from their birth—even before it, for every expectant mother is looked after by the local women's consultation centre. After childbirth women stay for 10 days

or two weeks in the maternity home under the observation of competent personnel. Children, too, are kept under close medical care, especially in their first year. During this year they are examined 14 times by pediatricists, orthopedists, otolaryngologists, psychoneurologists and later stomatologists, logopedists and other specialists. Such examinations are obligatory for all children, including those believed to be absolutely healthy.

The parents can place their children in nurseries and kindergartens, where children receive every possible care, including medical assistance. In other words, from birth till school, children have every opportunity for harmonious physical and spiritual development—thanks to the benefits offered by the social consumption funds. The process continues in school. (All types of education in the USSR are free of charge, and secondary education is obligatory). Summer camps and health-building centres help boys and girls to remain in good shape while in school. Then comes work or study in specialized secondary or higher schools, and again the doctor is nearby. Soviet doctors receive patients more than 2,000 million times a year. It is one of the duties of the district doctor\* to see to it that his or her charges have their photofluorogram taken once a year, that people over 40 get a cardiological check, and that all women undergo cytologic examination.

Having become part and parcel of the socialist way of life, free medical assistance is being constantly improved in step with the growth of the economic possibilities of the state. What has been achieved by the health service and what is planned can be assessed

\* The entire territory of the country is divided into districts, each having a physician in charge.

from different angles, but the main yardstick is the decrease in the death rate of the population and the increase in life expectancy. In the years of Soviet power the death rate has decreased to one-fourth of what it was and become lower than in the majority of other developed countries, while the average life expectancy has grown from 32 to 70 years.

### Cultural Progress

Every new five-year plan provides better conditions for the cultural development of Soviet citizens. Working and living conditions are improving, and people make higher demands on both the character of labour and the organization of everyday life. Their leisure time increases.

Owing to the rise in the educational level, ever more Soviet people devote their leisure to books, the theatre and cinema, the arts and sports.

The Soviet people read more than any other people in the world. There appear in the country about 15,000 newspapers and magazines in 57 languages of Soviet nationalities and 22 foreign languages. There are more than 130 TV stations, over two hundred publishing houses, and two news agencies—TASS and APN. There are more than four periodicals per family. In Soviet time, 2.7 million books and pamphlets have been published in a total printing of about 43,000 million copies. One out of every seven books printed in the world is a Soviet publication.

Higher schools are to be found in all parts of the country. Among their students are thousands of young men and women from other countries.

In 1970-75 the Soviet work force was joined by 9.3 million graduates of vocational training schools and

another more than 9 millions specialists with higher or specialized secondary education. Students receive stipends from the state.

It is important to stress that the educational level of the population is rising rapidly not only in industry, in towns, but also in the countryside. Today roughly every other working rural resident has an eight-year or a ten-year secondary, or a higher education. The relevant proportion before the war was one in sixteen.

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Per capita real incomes in the Soviet Union double about every fifteen years. In other words, within the lifetime of one generation socialist society rises several times to a higher level of consumption.

Already several generations have grown which have never been confronted with the problem of unemployment. Soviet people do not know social, national or racial inequality. They have confidence in the future. As their socialist homeland grows richer and stronger, their life becomes fuller and richer, too.

## CONCLUSION

### MATERIALIZATION OF DETENTE

In conclusion, let us deal briefly with the international aspect of the Tenth Five-Year Plan. The Soviet Union will continue to extend its economic ties with foreign countries, socialist ones in the first place. Today it trades with 115 countries of the world. In 1975 its foreign trade turnover reached 50,700 million roubles. The socialist countries accounted for 56.3 per cent of this sum (the member-countries of the CMEA—for 51.8 per cent), the developed capitalist countries—for 31.2 per cent, and the developing countries—for 12.5 per cent. An increase in the volume of foreign trade by 30-35 per cent is envisaged for the Tenth Five-Year Plan period.

The socialist integration of the national economies of the CMEA countries will continue. A novel feature in this sphere will be the realization of a system of measures envisaged for 1976-80 in the Comprehensive Programme of the socialist economic integration of the CMEA countries.

The USSR and other CMEA countries pool efforts to increase the production of raw materials, fuel, industrial and consumer goods on the basis of jointly elaborated long-term programmes.

Among other things, due to be completed in the next five years is the joint opening up of the Orenburg gas condensate deposit in the South Urals. The project includes an industrial complex to extract and process gas and a gas pipe-line to the western frontier of the USSR. Many other important economic projects will be launched.

Economic co-operation with capitalist and developing countries will be further developed. In the past five years important new forms of such co-operation appeared, among them those on a compensation basis. For example, agreements and contracts were concluded with Austrian, Italian, West German and French firms on the delivery of gas pipes and pipe-line equipment on credit, to be repaid with deliveries of gas. This import, which amounted to about 2,500 million roubles, enabled the USSR to increase the extraction and delivery of gas both for internal consumption and for export.

Important agreements and contracts were concluded with firms in France, Italy, the FRG, Japan and the United States on the construction in the USSR, on a compensation basis, of large enterprises to produce polyethylene, polystyrene and other chemical products.

There will also be built, on a compensation basis, such industrial projects, unique both in size and technology, as the Oskol electrical metallurgical works, the Ust-Ilim woodworking complex and the Kostomuksha ore concentration mill.

The conclusion of large-scale deals, including compensation-based ones, is important for the economic

development of Siberia and the Far East. The Soviet Union is already co-operating with Japanese firms in the development of timber resources, the South Yakutian coal deposits and the construction of a seaport in the Wrangel Bay. An agreement has been concluded with Japan on joint geological prospecting for oil and gas on the Sakhalin shelf.

A typical feature of the Soviet Union's economic co-operation with developed capitalist countries in the next five years is the long-term character of the projected agreements and plans. For example, in 1975 six states—Iran, the Soviet Union, Czechoslovakia, the FRG, France and Austria—concluded in Teheran a contract, for a period up to the year 2003, on the delivery of Iranian gas to Western Europe via the territory of the USSR and Czechoslovakia. Under this contract the National Iranian Gas Company will deliver annually 13,400 million cubic metres of natural gas to the area of Astara on the Soviet-Iranian border. Deliveries are to start in 1981 and to reach the planned volume in 1984. The purchasers are Ruhrgas (FRG), Gaz de France (France) and OMV (Austria). Practically all of Iranian gas to be delivered to Astara will be utilized in the southern regions of the Soviet Union, while the FRG, France and Austria will be supplied, through Czechoslovakia, with the same amounts of gas from other Soviet sources. The total length of the gas pipe-line will be about 1,500 km on the territory of Iran, 3,000 km on the territory of the Soviet Union, and about 1,000 km on the territory of Czechoslovakia.

This multilateral international project is beneficial to all sides. Iran sells surpluses of gas from its southern regions. The FRG, France and Austria, which badly need fuel and raw materials, secure a reliable source of supply over a long period and on acceptable terms. The Soviet Union receives payments for transit and

can improve the supply of natural gas to regions which need it. Czechoslovakia will receive, in payment for transit, more than 1,000 million cubic metres of gas annually. It should be noted that other projects for the delivery of Iranian gas to Western Europe, envisaging its liquefaction and subsequent reconversion or its transportation by pipe-line across the territory of third countries, were rejected as unprofitable by both the seller and the buyers. It goes without saying that the conclusion of such a contract strengthens not only economic ties but also political confidence.

Speaking at the Berlin Conference of the Communist and Workers' Parties of Europe in June 1976, Leonid Brezhnev said: "It is exceptionally important to create, so to speak, the fabric of peaceful co-operation in Europe, the fabric that would strengthen relations among European peoples and states and stimulate their interest in preserving peace for many years to come. I am thinking of the different forms of mutually advantageous co-operation—trade, production co-operation and scientific and technological relations."

It can be confidently said that large-scale international economic agreements, beneficial to all participating countries, are a good example of the materialization of detente and improvement of relations among nations.

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Thus, the Soviet Union has embarked upon its Tenth Five-Year Plan. The assignments of this plan are, as we have seen, of an eminently peaceful character. They continue the great process of construction started in October 1917 by the Communists of Russia



in the name of man's happiness. Today as always, the happiness of Soviet people is inseparable from the policy of peace, friendship and all-round co-operation with all the other peoples of the world. The Tenth Five-Year Plan will signify the Soviet Union's new contribution to the overall progress of mankind.

Б. Мочалов  
СССР. ЭКОНОМИКА В ДЕСЯТОЙ ПЯТИЛЕТКЕ  
на английском языке  
Цена 15 коп.

