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THE SOVIET UNION

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ONE SIXTH OF THE GLOBE

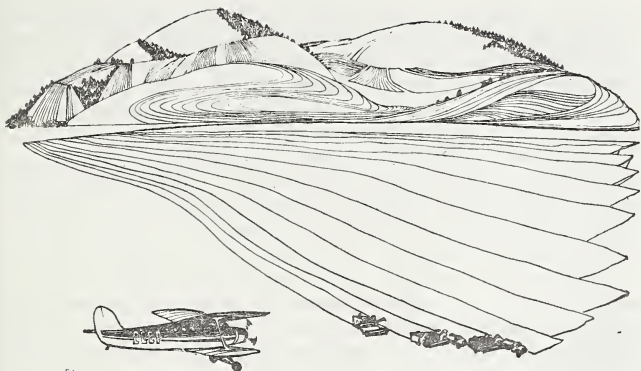
The Largest Country in the World

The Union of Soviet Socialist Republics is the largest country in the world. Its territory is three times the size of the United States and forty times that of France, the largest European country. The Soviet Union stretches for more than 4,500 kilometres from north to south and nearly 10,000 kilometres from east to west. Even a modern jet plane would need more than 12 hours to fly non-stop from one end of the country to the other, say, from Kaliningrad to Chukotka. When the residents of the Far East hurry to work in the morning people in Byelorussia or the Baltic Republics are changing for an evening show. The territory of the USSR crosses eleven time zones.

The Soviet Union borders on twelve states. No other country in the world can boast a 60,000-kilometre border, i.e. one and a half times the length of the equator. Two-thirds of the borders are maritime; twelve seas and three oceans wash the shores of the USSR.

Contrasts in Physiography

The Altai, Tien Shan and Caucasian mountain ranges, with their vast and lofty chains extending for thousands of kilometres, are in marked contrast to the lands they encircle. The plain of Western Siberia, which occupies an area of two million square kilometres, is the world's greatest lowland. A wide zone of fertile black earth steppe land, stretching from the western borders to the Altai Mountains, neighbours on the scorched deserts and semi-deserts of Kazakhstan and Central Asia.



A description of the country's relief would be incomplete without mentioning the two lowlands lying below sea level: the Caspian, 28 m below sea level and the Turan lowland with the Karagis hollow, 132 m below sea level, on the eastern shores of the Caspian Sea.

For all its variety the relief falls into a certain pattern. The country can roughly be divided into two almost equal parts with a natural border running along the Yenisei River. To the west of the Yenisei lie vast lowlands: the almost absolutely flat Western Siberian lowland and across the Ural Mountains, which separate Asia and Europe, lies the gently undulating Eastern European (or Russian) plain, the largest plain in Europe. Both plains are of low relief, seldom more than 200 metres above sea level. Mt. Narodnaya, the highest point in the Urals, is 1,894 metres above sea level. The part lying east of the Yenisei is largely mountainous. It begins at the enormous Central Siberian Plateau (average height 400—700 metres), which occupies an area equal to half of Western Europe. To the north-east beyond the Lena River lies the vast Kolyma-Indigirka mountain system which rises to 3,147 metres. To the south-east there are vast highlands and ridges, the highest being Stanovoi Range.

Girdled by Mountains

The outlying areas are girdled by mountains: the Khibin Mountains on the north-west, the Carpathians on the south-

west, the Crimean range on the south near the Black Sea, the Caucasian Mountains between the Black and Caspian Seas (with 5,633 m Mt. Elbrus, Europe's highest peak), the Kopet Dagh range on the Iranian border, the Pamirs and Alai ranges, the highest in the USSR (Mt. Communism — 7,495 m) on the Afghanistan—Chinese border, the Tien Shan mountain chain (Mt. Victory—7,439 m), Altai ridge in southern Siberia, Sayan Mountains on the Mongolian border, Sikhote Alin mountain range, Jugdzhur and Kolyma ridges, Kamchatka and Chukotka Mountains along the Pacific coast.

There are over 100 volcanoes on Kamchatka Peninsula, among them Klyuchevskaya Sopka, 4,750 m, the highest in Europe and Asia. The Avachinskaya, Shiveluch Sopkas and other volcanoes erupt frequently. All told there are 22 active volcanoes.

Incalculable Resources

The USSR has the richest mineral resources in the world, the greatest supply of metals, fuels and other resources.

The known deposits of the most important iron ores are estimated at 95—100 thousand million tons, and constitute 40 per cent of the world known reserves. About 60 per cent of iron ore deposits are to be found in the European part of the USSR, largely near the towns of Krivoi Rog and Kursk. These two deposits are the largest in the world. The ores here contain 70 per cent iron and are situated in the proximity of the Donetsk coal-field. In the eastern areas the largest iron ore deposits are situated in the Urals, in Kazakhstan and in Eastern Siberia.

The USSR manganese ore deposits are located at Chiatura in Georgia and Nikopol in the Ukraine. The two principal chrome deposits are in Kazakhstan (Kempyrsai) and in the Urals (Saransk).

All Elements of Periodic Table

The principal copper-fields are situated in Kazakhstan, in the Urals and in the Caucasus. The numerous polymetal ore deposits distributed throughout the Altai Mountains, Central Asia and Siberia are a source of lead and zinc and also, frequently, gold, tellurium, bismuth, selenium and

other metals. The country's polymetal ore deposits are the largest in the world. The Soviet Union possesses great deposits of tin (Siberia and the Far East), cobalt and nickel (the Norilsk field, etc.). In fact the Soviet Union possesses all the metals of the periodic table, including gold and uranium.

The USSR has about 50 per cent of the world's oil reserves. Overall gas reserves are estimated at 60 million million cubic metres. The chief oil and gas bearing regions are the Volga-Urals, Crimea-Caucasian, Urals-Embensk, West Turkmenian, Central Asian, Dnieper-Donetsk, Carpathian, Western Siberian and Far Eastern basins.

The total coal deposits in the USSR are estimated at approximately 8,700 thousand million tons, i.e. 57 per cent of the world total, 6 times more than in the USA. The largest coal-fields are the Kuznetsk and Irkutsk basins in Siberia, the Karaganda basin in Kazakhstan, the Donetsk and Pechora basins in the European part of the USSR. Over four-fifths of the reserves is high quality coal.

The country possesses tremendous peat reserves (150 thousand million tons, i. e. 61 per cent of the world's total). The USSR oil shale deposits, estimated at 156 thousand million tons, are second only to those of the USA. All told the country has about one-fourth of the world's fuel resources.

Russian Gems

The USSR has a wide array of non-metalliferous minerals, which are put to many different uses. The country has over half the world deposits of phosphorite, two-thirds of the potassium salt reserves, a practically inexhaustible supply of common salt, mirabilite, marble, spar, granite, porphyry, limestone, volcanic tuff, graphite, sulphur. For many generations the USSR has been a world supplier of mica. Russian gems—emeralds and rubies—are world-famous. In the midstream of the Vilyui River there is a large industrial diamond deposit.

Climate: From Freezing Cold to Blistering Heat

In the USSR one can encounter sun as gentle and warm as on the Mediterranean Riviera, frost more severe than in



Alaska, heat almost as scorching as in the Sahara. An astonishing variety of climate which no other country can boast. On the whole, however, the USSR climate is continental. However, the difference between winter and summer is here sharper than in the temperate zone countries of Western Europe and America.

The mean January temperature in the westernmost parts of the USSR is only slightly below 0°C , in the central region of the European part of the USSR it is -10°C , in the Urals -16° , in Western Siberia -25° , in the Lena basin -40° .

The Pole of Cold

In Yakutia, near the town of Oimyakon, is situated the Northern hemisphere's pole of cold. Here the mean January temperature is -50°C and it goes down to -72°C . Farther to the east as one approaches the Pacific, it gets warmer again. The mean January temperature on the eastern shores of Kamchatka, Sakhalin and Southern Primorye is -10°C .

Winter is warm (above 0°C) in the South West, in the southern Crimea and on the Caucasus Black Sea coast, and also in some parts of Central Asia.

Scorching Desert Heat

The mean July temperature is lowest in the Far North, $+2^{\circ}\text{C}$. Elsewhere it ranges from $+10^{\circ}$ to $+15^{\circ}\text{C}$. The hottest summer is experienced in Central Asia which is farthest from the ocean. The mean July temperature on the plain here is $+30^{\circ}\text{C}$, i. e. higher than in the tropics. The temperature goes up to $+50^{\circ}\text{C}$ and the desert sands to $+80^{\circ}\text{C}$.

Torrential Rains to Parching Droughts

The amount of precipitation differs greatly from one place to another. Humid air from the Atlantic extends over the whole of the western part of the country as far as the Yenisei. The most humid area lies between the 55th and the 60th parallel, where the total annual precipitation is 24—



28 inches from the western border to the Urals and some 20 inches beyond the Urals. To the north and south of this humid belt the amount of precipitation decreases. The area around Batumi on the Caucasian Black Sea coast is the most humid part of the USSR and Europe. The annual rainfall is 96 inches and heavy downpours are frequent. The driest area is the middle of Central Asia which only gets a scant 4 inches of precipitation a year. The Turan lowland is the hottest and driest place in the USSR. Droughts are especially frequent in the south-east of the European part of the USSR and in the south of Western Siberia. In the south of the European part of the USSR droughts are often accompanied by severe hot winds which are disastrous to plants.

The humid south-easterly winds from the Pacific provide abundant water for the Primorye area, the Okhotsk coast and the Kamchatka, where the annual precipitation is 28—40 inches. Mountains prevent the further spread of the Pacific air mass into the mainland, and the amount of precipitation westward is decreased to 16 inches.

Snow 260 Days a Year

Snow precipitation which constitutes 35 per cent of the total precipitation in the north and 10 per cent in the south of the country is typical. Kamchatka and Sakhalin get the most snow; the earth is covered with a blanket one metre thick. Throughout the rest of the territory the snowfall is usually several score centimetres deep. In the centre of the European USSR there is snow-cover about 100—160 days and in the Far North up to 260 days.

All climatic zones except for the tropics are represented in the USSR. However, four-fifths of the country is in the temperate zone. In the eastern part the climate is more severe and continental in character, in the west it is somewhat milder. The northern shores washed by the Arctic Ocean have a cold polar climate. In the south the climate is subtropical and falls into two categories: dry subtropics on the South Crimean coast and in certain valleys in Central Asia and humid subtropics on the Caucasian Black Sea coast and the south-western coast of the Caspian Sea near Iran.

100,000 Rivers

There are over 100 thousand of them totalling 3 million kilometres in length. They vary greatly as to size and character.

The longest, most copious rivers flow into the Arctic Ocean. The 5,410 km long Ob is fifth in length after the Mississippi-Missouri, the Amazon, the Yangtze, and the Nile and as to the volume of water. The Lena ranks tenth in length and sixth in abundance.

The Amur is the main river of the Pacific basin. It is the third longest river in the USSR and ninth in the world. In summer heavy floods are caused by excessive rainfall brought by Pacific monsoons.

The most important river of the Caspian basin is the Volga, the longest (3,690 kilometres) and most copious river in Europe. Originating in the Valdai hills at a height of only 228 metres above sea level, it flows with the speed of a leisurely pedestrian (3—4 kilometres an hour).

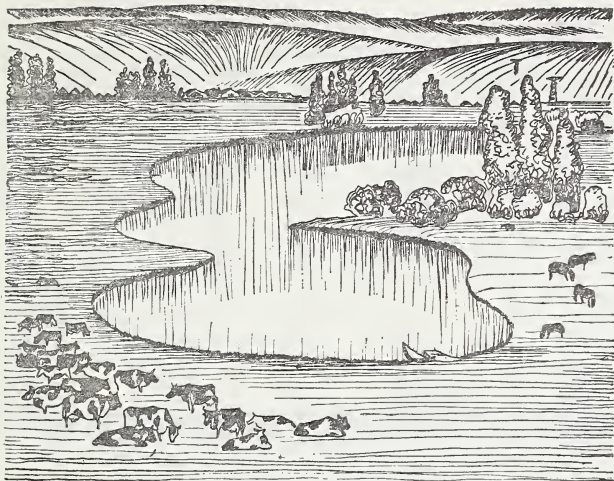
The largest rivers in Central Asia are the Syr Darya and Amu Darya, both emptying into the Aral Sea and both twice as long as the Rhine. They begin high up in the mountains and most of their water comes from mountain snows and glaciers. They are most copious in the hot summer months.

The chief rivers of the Atlantic basin are the Dnieper, Don and Western Dvina (Daugava).

In winter almost all the rivers freeze over. Thus the lower Dnieper is frozen for 80 days a year, the Volga—140 days, the lower Pechora—200 days, and the Ob—220 days. The lower reaches of the East Siberian rivers are covered with ice for nine months of the year.

Waterways and Hydropower Resources

Rivers provide important domestic transportation routes. The USSR has the longest system of waterways in the world. The total length of waterways suitable for navigation is 520,000 kilometres, of which 140,000 are actually used for navigation, i. e. three times the length of navigated waterways in the USA. All the rivers of the European part of the USSR are connected by canals in a single transport system which links the western seas with the Caspian Sea.



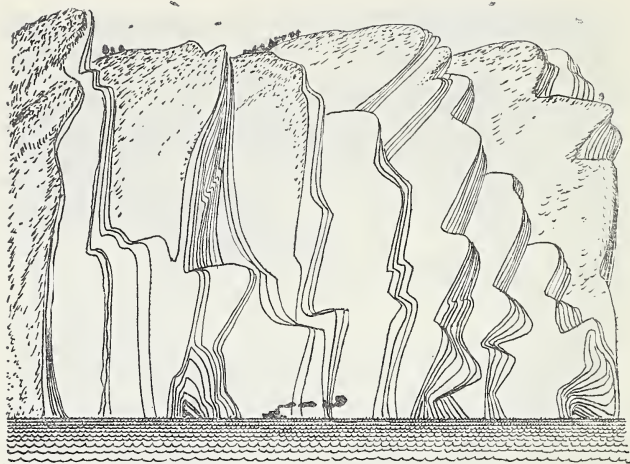
Soviet rivers possess 11 per cent of the world hydropower resources, exceeding the power potential of the USA 4 times, Canada 9 times, Japan 20 times and just slightly less than that of Chinese rivers. The total power potential of USSR rivers is estimated at 434 mln kw. About 60 per cent of the hydropower resources are in Siberia and the Far East.

Rivers are also important for fishing and fish-breeding. In large rivers much fish is caught, especially the carp-like species. Sterlet, the only true fresh-water species of sturgeon, is also caught. Most of the fish caught in rivers are salmon, sturgeon and white fish.

270,000 Lakes

The USSR has 270,000 lakes, more than any other country although they are very unevenly distributed. The greatest number of lakes are to be found in the north-west and in the south-east of the European part of the USSR, in Western Siberia and in the northern parts of Eastern Siberia.

The north-west of the European USSR is typical lake country. There are tens of thousands of lakes which fill



hollows of glacial or tectonic origin. The chief one among the latter is Lake Ladoga, the biggest fresh water lake in Europe, having an area 30 times larger than Lake Geneva. The copious Neva River flows from Lake Ladoga into the Baltic. The mouth of the Neva is accessible for ocean-going ships which can sail upriver to Leningrad port.

The lakes in the south-east of the European part of the USSR, in Kazakhstan and Central Asia are usually depressions filled with run-off snow and rain waters. They are not drained and in summer become shallow or even dry up altogether. Many are salt lakes. At such lakes as Elton and Baskunchak in the Volga region salt has been worked commercially on a large scale.

Large Lake Balkhash in central Kazakhstan is remarkable in that one half of it is salt and the other fresh water.

Baikal — Pearl of Siberia

Lake Baikal, the largest lake in Siberia, is one of nature's greatest wonders. Having an area of 30.5 thousand sq. kilometres it is the sixth largest fresh water lake in the world and the largest in the USSR. It is the deepest lake in the world (1,741 metres).

The surface is 453 metres above sea level, which means the bottom is 1,288 metres below sea level. This is the lowest point of continental surface. Baikal water is extraordinarily clear. The lake water is practically desalinized. It contains 0.1 gram of salt per litre. The water is so pure that it maintains extremely varied fauna and flora. All told there are 1,800 species of plants and animals, most of which are not found elsewhere. Among them is a little viviparous fish called *golomyanka*, a name which in the vernacular means it is without scales and therefore transparent. Its body contains up to 30 per cent fat. Another wonderful Baikal fish is omul, which is widely acclaimed by gourmets. Baikal is the only body of fresh water where seal is found, a mystery which to this day challenges the ingenuity of zoologists.

Man-Made Lakes

As a result of extensive hydroelectric construction large water reservoirs have been created, the most important being on the Volga, Dnieper, Don and Angara rivers. The biggest such reservoir is in the mid-Volga near the city of Kuibyshev. Having an area of 6,500 sq. kilometres (i. e. more than half the area of the Sea of Marmara) it ranks third among Europe's freshwater basins. The Bratsk and Rybinsk reservoirs are only slightly smaller. The total number of man-made lakes including smaller ponds runs into tens of thousands. Apart from their function in providing power and irrigation, ponds are extensively used for breeding fish and domestic water fowl.



A UNION OF EQUAL REPUBLICS



126 Nationalities and National Groups

The Soviet Union is a multinational state, made up of 126 nationalities and national groups. Besides the Russians, who comprise nearly 55 per cent of the population, or the Ukrainians who account for some 20 per cent, there are very small nationalities numbering less than a thousand (the Orochi and Nganasani) and even less than 500 (the Aleutians and Yukagirs).

Soviet citizens belonging to other ethnic groups include a large number of Germans (over 1.6 million, according to the 1959 census), Poles (about 1.4 million), Bulgarians, Koreans and Greeks (more than 300,000 each), as well as Hungarians. There are also Czechs, Slovaks, Rumanians, Finns, Turks, Frenchmen, Italians, Spaniards, Chinese, Japanese, Iranians and many others, in considerably smaller numbers.

234 Million Soviet Citizens

The Soviet Union ranks third in the world in size of population, next to China and India. Although the Nazi invasion took a terrible toll of 20 million Soviet lives, the population of the USSR has increased by 40 million over the prewar period, and now exceeds 234 million. Higher living standards, better health protection and social security have contributed to this rapid growth, and the mortality rate is steadily dropping. The natural increase in population in the Soviet Union is among the highest in the world being more than twice that of Britain, France, and

Federal Germany, and about 20 per cent higher than in the United States. The average life-span in the USSR has more than doubled compared with the prerevolutionary period, zooming from 32 to 70-odd years.

Child Welfare Guarantees Growth of Population

The rapid growth of the population in the Soviet Union is to a considerable degree also the result of a sharp drop in child mortality, now only one-tenth of prerevolutionary figures, a direct outcome of the great solicitude displayed for the younger generation in our country. This is seen, among other things, in the extensive network of maternity hospitals, nurseries, kindergartens, Young Pioneer camps, forest schools, specialized medical institutions and sanatoriums for children. Legislation prohibiting child labour is also of major significance. As a result, the mortality rate of children under five years has dropped from nearly 50 per cent before the 1917 October Socialist Revolution to less than 4 per cent today.

Contrasts in Population Density

The population in the Soviet Union is very unevenly distributed. Certain regions of the Russian Federation (highly industrialized), the Ukraine and fertile valleys in Uzbekistan are as heavily populated as the most densely populated countries of Europe. But there is less than one person per square kilometre in the vast North, in the north-east of the Asian part of the USSR and in some of the mountainous regions. Thus, one-fifth of the entire population of the USSR lives within the limits of a 500-kilometre zone around Moscow, the Soviet capital. Moscow Region, which has a population of over 11 million, has an average of 250 residents per square kilometre. This is close to the population density of Japan and somewhat less than Belgium and the Netherlands, the most densely populated countries of Europe. At the same time in Kamchatka there is only one resident per two square kilometres, while the respective figure for Chukotka and the Yamal-Nenets National Area is one resident per 10 square kilometres. The years after the October Revolution and especially after World War II witnessed a mass migration of the popu-

lation from the central and western districts of the country to the east. This was the result of an economic upsurge in the Urals area, Kazakhstan, Soviet Central Asia and Siberia where the country's main natural resources are concentrated. The population in these areas grows at a much faster pace than in previously settled territories.

Population Moves into Towns

The Soviet Union's rapid economic progress in the last ten years has radically changed the ratio between the urban and rural population. Prerevolutionary Russia was mainly a peasant land. The towns and industrial communities accounted for less than one-fifth of the entire population.

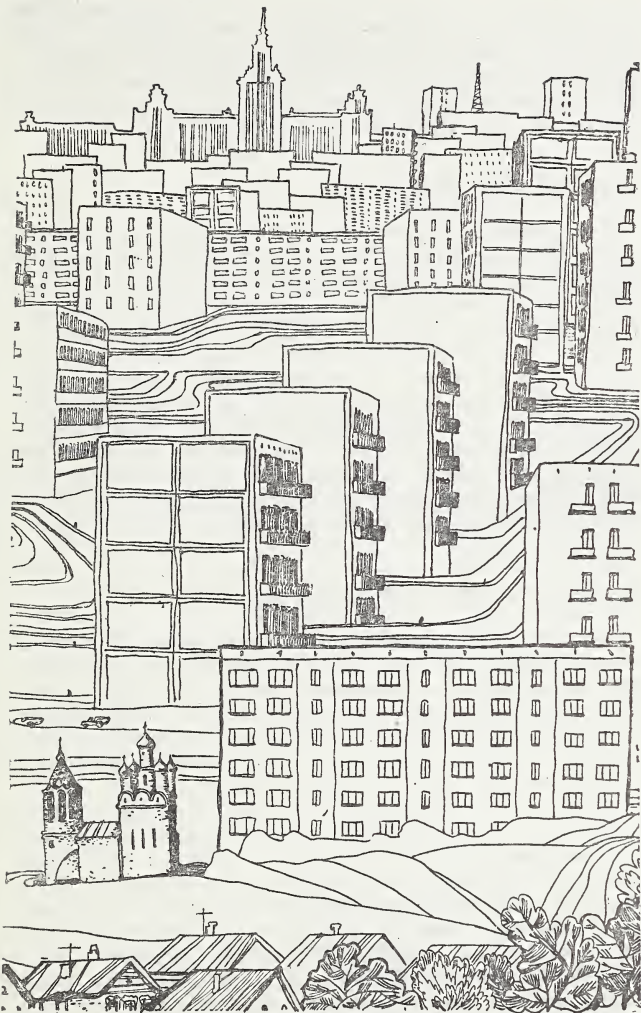
Industrialization of the country and the emergence of new industrial centres resulted in a rapid growth of the urban population. By 1939, the towns and cities accounted for about one-third of the total population, while in 1966 the number of urban residents reached the 125 million mark (54 per cent). By way of comparison we find that the share of the urban population in the USSR is higher than the average world figure (32 per cent), and approximately the same as the average European level.

Cities of over a Million

The creation of new industrial centres resulted in a large number of towns and urban communities. Between 1926 and the beginning of 1966, 3,325 new industrial communities sprang up in the country. This process was accompanied by a rapid growth in the size of towns. Until Soviet times there were only two cities in the country with a population of over one million: Leningrad (formerly St. Petersburg), then the capital of Tsarist Russia (2.2 million), and Moscow (1.7 million). Today eight cities in the Soviet Union have a population of more than a million, while Moscow and Leningrad have over 6.5 million and 3.7 million residents respectively (as of January 1, 1966).

Changes in Social Structure

Big changes have taken place in Soviet times in the social structure of the population. Before the revolution wage and salary earners accounted for a mere 17 per cent of the popu-



lation. Today this group has grown to 75 per cent. The remaining 25 per cent are farmers and craftsmen, united in collective farms and producers' cooperatives. The ranks of the intellectuals have multiplied many times over. In 1926 they accounted for some 2 per cent of the population whereas by 1967 the figure exceeded 10 per cent.

One out of Every Three Studies

The political and social revolution was accompanied by a cultural upheaval. Before the revolution 80 per cent of the people were illiterate. Today the Soviet Union is a land of total literacy. By the beginning of 1966 the number of people with a secondary or higher education topped 80 million, i. e. more than 30 per cent of the entire population or nearly 55 per cent of those employed. Now one out of every three Soviet citizens over the age of seven studies. Tuition is free in all schools throughout the country all the way through college and university. Students in specialized secondary and higher educational establishments receive state scholarships. More than 200,000 children go to boarding schools where they are fully provided for by the state.

125 Million Women Enjoy Equal Rights

Women comprise more than half of the population of the Soviet Union (125 million, nearly 55 per cent, as of January 1, 1966). They play an important role in the economic, cultural, political and public life of the country. Women in the Soviet Union enjoy complete equality of rights with men in all spheres of endeavour. They are guaranteed the same pay as men for equal work. Women account for 75 per cent of all the doctors in the country, 66 per cent of the teachers, more than 50 per cent of the economists, nearly 50 per cent of all agronomists, livestock experts, and other agricultural specialists. The work of an engineer used to be considered a man's job, but now nearly one-third of all Soviet engineers are women. One-third of the lawyers are women too. The remarkable space flight of Valentina Tereshkova, the world's first woman astronaut, in June 1963, is a vivid illustration of the tremendous successes scored by the Soviet women in all spheres of endeavour.

Absolute Equality

Tsarist Russia was justly called a "prison of nations." National inequality and great-power chauvinism were the official policy of the state which fanned the flames of national strife.

One of the first steps of the Soviet Government after the October Revolution of 1917 was to proclaim full equality of all the nationalities living in the country, big and small, irrespective of race, religion, political or cultural development. Lenin, the founder of the Soviet state, said: "We want a voluntary union of nations, a union founded on complete confidence, on a clear recognition of brotherly unity, on absolutely voluntary consent."

Union of Sovereign Republics

This idea was embodied in the 1922 treaty on the formation of the USSR concluded between the Soviet Republics, and in the Soviet Constitution. The Soviet state is a voluntary alliance, a union of fifteen Republics: the Russian Federation, the Ukrainian, Byelorussian, Uzbek, Kasakh, Georgian, Azerbaijan, Lithuanian, Moldavian, Latvian, Kirghiz, Tajik, Armenian, Turkmen and Estonian Republics. All the Union Republics enjoy complete sovereignty, including the right to freely secede from the Union. The Republics have settled among themselves what matters come within the jurisdiction of all-Union bodies of power. These include international relations and defence, the determination of the principles of legislation, administration of certain branches of economy such as, for example, transport and communications.

The Russian Soviet Federative Socialist Republic (RSFSR)

Formed on November 7, 1917. Area 17.4 million square kilometres. Population 127.3 million (55 per cent of USSR total). The RSFSR is a multinational state made up of representatives of more than 60 peoples and nationalities. Unlike the other Republics, the RSFSR is a federative state. It unites on a voluntary basis 16 Autonomous Republics, 5 Autonomous Regions, and 10 National Areas. Russians

account for 83 per cent of the Republic's population. Other nationalities include Tatars (about 4 per cent), Ukrainians (nearly 3 per cent), Chuvashes (about 1.5 per cent), etc. The capital is Moscow (6,507,000). The largest cities are Leningrad (3,706,000), Gorky (1,120,000), Novosibirsk (1,064,000), Kuibyshev (992,000), Sverdlovsk (961,000), Kazan (821,000) and Volgograd (743,000).

The Ukrainian Soviet Socialist Republic

Formed on December 25, 1917. Area 601 thousand square kilometres. Population 45.9 million. The Ukraine has the second biggest population of the Soviet Union, with Ukrainians accounting for 77 per cent, Russians nearly 17 per cent, Jews 2 per cent, the rest being Poles, Byelorussians, Moldavians, Bulgarians, Hungarians, etc. The capital is Kiev (population 1,417,000). Other big cities include Khar'kov (1,125,000), Donetsk (841,000), Dnepropetrovsk (817,000), Odessa (776,000), Zaporozhie (596,000).

The Byelorussian Soviet Socialist Republic

Formed on January 1, 1919. Area 207.6 thousand square kilometres. Population 8,744,000 comprised of 80 per cent Byelorussians, 8.2 per cent Russians, 6.9 per cent Poles, 1.9 per cent Jews, 1.7 per cent Ukrainians. The capital is Minsk (population 772,000).

The Uzbek Soviet Socialist Republic

Formed on October 27, 1924. Area 449.6 thousand square kilometres. Incorporates the Karakalpak Autonomous Republic. Population 10.8 million; 61.1 per cent Uzbeks, 13.5 per cent Russians, 5.5 per cent Tatars, 4.1 per cent Kazakhs, 2.1 per cent Karakalpaks—altogether some 60 peoples and nationalities. The capital is Tashkent (population 1,241,000).

The Kazakh Soviet Socialist Republic

Formed on December 5, 1936. Area 2 million 720 thousand square kilometres. Population 12,413,000 comprised of 30 per cent Kazakhs, 42.7 per cent Russians, 8.2 per cent

Ukrainians. The influx of settlers from the European USSR as a result of the turbulent industrial growth and the reclamation of virgin land in Kazakhstan has decreased the percentage of the indigenous population. Tatars, Uzbeks, Koreans, Uigurs, Dungans and others make up the balance. The capital is Alma-Ata (population 653 thousand).

The Georgian Soviet Socialist Republic

Formed on February 25, 1921. Area 69.7 thousand square kilometres. Population 4,600,000. Incorporates the Abkhazian and Ajarian Autonomous Republics and the South-Ossetian Autonomous Region. Georgians make up about two-thirds of the population, Armenians 11 per cent, Russians 10 per cent, the rest being Azerbaijanians, Ossetians, Abkhasians, Ajarians, Ukrainians, Greeks, Kurds, etc. The capital is Tbilisi (population 842 thousand).

The Azerbaijan Soviet Socialist Republic

Formed on April 28, 1920. Area 86.6 thousand square kilometres. Population 4 million 802 thousand. Incorporates the Nakhichevan Autonomous Republic and the Nagorny-Karabakh Autonomous Region. The bulk of the population are Azerbaijanians (67.5 per cent), Russians (13.6 per cent) and Armenians (12 per cent). Other nationalities are Lezgins, Jews, Georgians, Galyshes. The capital is Baku (population 1,200,000).

The Lithuanian Soviet Socialist Republic

Formed on July 21, 1940. Area 65.2 thousand square kilometres. Population 3,026,000—80 per cent Lithuanians, 8.5 per cent Russians, 8.5 per cent Poles, 1.1 per cent Byelorussians. The capital is Vilnius (population 317 thousand).

The Moldavian Soviet Socialist Republic

Formed on August 2, 1940. Area 33,700 square kilometres. Population 3,425,000—two-thirds being Moldavians, over 14 per cent Ukrainians, 10 per cent Russians, over 3 per cent Gauzes (a people of the Turkic language group), over

3 per cent Jews, over 2 per cent Bulgarians, 0.25 per cent Gypsies.

The capital is Kishinev (population 302,000).

The Latvian Soviet Socialist Republic

Formed on July 21, 1940. Area 63,700 square kilometres. Population 2,285,000, of them 62 per cent Letts, 27 per cent Russians, 3 per cent Byelorussians, 3 per cent Poles, 2 per cent Jews, 1.5 per cent Lithuanians, 1.5 per cent Ukrainians. The capital is Riga (population 680,000).

The Kirghiz Soviet Socialist Republic

Formed on December 5, 1936. Area 198,500 square kilometres. Population 2,749,000, among them 40 per cent Kirghiz, 30 per cent Russians, 10 per cent Uzbeks, over 6 per cent Ukrainians. The rest are Tatars, Dungans, Uigurs and other nationalities.

The capital is Frunze (population 396,000).

The Tadjik Soviet Socialist Republic

Formed on December 5, 1929. Area 143,100 square kilometres. Population 2,654,000, of them 53 per cent Tadjiks, 23 per cent Uzbeks, 13.3 per cent Russians, 1.3 per cent Kirghiz. The Republic includes the Gorno-Badakhshan Autonomous Region.

The capital is Dushanbe (population 332,000).

The Armenian Soviet Socialist Republic

Formed on November 29, 1920. Area 29,800 square kilometres. Population 2,253,000, of them 88 per cent Armenians, 6.1 per cent Azerbaijanians, 3.2 per cent Russians, 1.5 per cent Kurds. The rest are Ukrainians, Greeks, Aissors and others.

The capital is Yerevan (population 665,000).

The Turkmen Soviet Socialist Republic

Formed on October 27, 1924. Area 488,000 square kilometres. Population 1,971,000, of them 61 per cent Turkmen, 17 per cent Russians, 8 per cent Uzbeks, 5 per cent Kazakhs. The rest of the population consists of Ukrainians, Tatars, Armenians, Azerbaijanians, Kurds, etc.

The capital is Ashkhabad (population 238,000).

The Estonian Soviet Socialist Republic

Formed on July 21, 1940. Area 45,100 square kilometres. Population 1,294,000, of them 73 per cent Estonians, 20 per cent Russians, 1.4 per cent Finns, 1.3 per cent Ukrainians, 1 per cent Byelorussians.

The capital is Tallinn (population 340,000).

A Federal State — Uniform Union Citizenship

Each constituent Republic is a sovereign Soviet state, a component part of one federal state with all-Union bodies of power and a single Union citizenship. Any Soviet person, no matter in what Union Republic he was born and lives, is a citizen of the USSR.

Soviets — Bodies of People's Power

As defined in the USSR Constitution adopted in 1936, all power in the country belongs to the people. The Soviet socialist state presents a single and integral system of popular representation. The people exercise their power through representative bodies—Soviets of Working People's Deputies—which form the political basis of the state.

No Discrimination

All higher and local bodies of government are formed by democratic elections on the basis of universal, direct and equal suffrage by secret ballot. The right to vote is enjoyed by all citizens of the USSR from the age of 18, regardless of race and nationality, sex, religion, education, domicile, social and property status; the exception are persons duly certified insane and citizens deprived of suffrage rights by a court ruling for criminal activity. The electoral system is based on the principle of democratic centralism. This means that:

1. All higher and local bodies of power are elected by the people;
2. Deputies of the Soviets are accountable to their electors;
3. The electors have the right to recall deputies;

4. The administrative bodies are formed by the representative bodies;
5. The rulings of higher bodies of power are binding on all lower ones.

Guaranteed Rights

The USSR Constitution guarantees all citizens without exception the right to work and rest, material security in old age, in case of illness, or disability, the right to education, inviolability of the person, the homes of citizens and privacy of correspondence, freedom of speech, press, assembly, including the holding of mass meetings, processions and demonstrations, the right to form various societies and organizations, freedom of conscience and religious worship, as well as freedom of antireligious propaganda.

Freedom of Religious Worship

In the Soviet Union the church is separated from the state and the school from the church. The state does not interfere in its affairs. The Soviet Constitution guarantees freedom of religious worship. The fact that a person professes a religious belief does not in any way restrict his civic rights. In the USSR believers have the same electoral rights as the rest of the population, they may be elected to any state bodies and take part in social affairs, including high-ranking clergymen. Believers have the same rights as other citizens, they are also equal before law with regard to constitutional duties, such as observance of the laws, military service, etc. State agencies do not keep records of believers, and religion is not stated in the passport, marriage certificate or any other document, including applications for employment; on the other hand, the church does not act as a civil registry. For instance, birth and marriage certificates are issued by a state institution. The following churches function in the USSR: Russian Orthodox, Roman Catholic, Lutheran, Armenian, Reformed, Methodist, Old Believers, Evangelic Baptists, Seventh Day Adventists, Moslem, Jewish synagogues and other smaller denominations. No religion is predominant.

The USSR Supreme Soviet

Supreme power in the Soviet Union is vested in the USSR Supreme Soviet which consists of two chambers: the Soviet of the Union and the Soviet of Nationalities. The deputies are elected for a term of four years. Any Soviet citizen who has reached the age of 23 may be elected to the Supreme Soviet. The Soviet of the Union considers matters of common interest for all Soviet citizens, while the Soviet of Nationalities is concerned primarily with the specific interests of the citizens pertaining to their characteristic national traits. All constituent Republics send the same number of representatives (32 deputies) to the Soviet of Nationalities, regardless of the size of the population, be it the Russian Federation which has over 127 million people, or Estonia with a population that is only about 1 per cent of that figure. Autonomous Republics elect 11 deputies, Autonomous Regions, 5 deputies, National Areas, one deputy. Both chambers of the USSR Supreme Soviet enjoy equal rights. A law is considered adopted if passed by both the Soviet of the Union and the Soviet of Nationalities.

Supreme Legislative Body

The USSR Supreme Soviet is vested with absolute authority in the country. It decides all major problems of home and foreign policy. The Supreme Soviet has the sole right to adopt laws which are binding on all citizens and institutions of the USSR. It adopts the Constitution of the USSR and, if necessary, revises and amends it. It also exercises control over the observance of the Constitution. A joint session of both chambers of the USSR Supreme Soviet forms the Government—the USSR Council of Ministers—elects the Supreme Court and appoints the Procurator-General of the USSR. The Supreme Soviet annually approves the national economic plan and the state budget.

Justice

Justice is administered by the USSR Supreme Court, the Supreme Courts of the Union and Autonomous Republics; Territorial, Regional and Area Courts elected by respective Soviets of Working People's Deputies as well as

People's Courts elected by the public. Supreme supervisory power to ensure the strict observance of the law by all Ministries and their departments, as well as by official and private citizens is vested in the Procurator-General of the USSR who is appointed by the Supreme Soviet for a term of 7 years.

Collective President

Between sessions of the USSR Supreme Soviet supreme power in the country is vested in the Presidium of the USSR Supreme Soviet—the collective president of the Soviet state elected at a joint sitting of both chambers. The Presidium appoints and recalls ambassadors and envoys, ratifies and denounces international treaties. When the USSR Supreme Soviet is not in session the Government is responsible to the Presidium which has the power to appoint and release Ministers. All the decrees passed by the Presidium, including decrees on changes in the Government, come into force as soon as they are adopted, subject to subsequent approval by the session of the USSR Supreme Soviet.

USSR Council of Ministers

The USSR Council of Ministers has extensive duties and responsibilities: it guides the country's economic and cultural development, enforces the laws passed by Soviet Parliament, adopts measures for the maintenance of public order, for the protection of the interests of the state and for safeguarding the rights of the citizens, exercises general guidance in the sphere of relations with foreign states, directs the general organization of the Armed Forces of the country.

Constitutions, Parliaments, Governments of the Union Republics

Each of the 15 Union Republics has its own Supreme Soviet, which adopts and revises the Constitution of the Republic and passes laws operating on the territory of the given Republic. Unlike the USSR Supreme Soviet, each

Supreme Soviet of the Republic has only one chamber. It also elects its Presidium which is vested with supreme authority in the Republic between sessions of the Supreme Soviet, and appoints the Government of the Republic.

Equal Rights and Broad Opportunities

The essence of Soviet national policy is that all nationalities, both large and small, enjoy equal rights and broad opportunities. With this in view Autonomous Republics, Autonomous Regions and National Areas have been formed on the territory of the Union Republics. These smaller state units comprise comparatively large, territorially compact national groups living in the Union Republic. At present there are 53 national autonomies of various kinds on the territory of the USSR. The Autonomous Republics are self-governing territories within the respective Union Republics. They each enjoy political autonomy and have their own Constitution which is adopted by their own Supreme Soviet. Citizens of an Autonomous Republic, like the citizens of a Union Republic, are at the same time citizens of the USSR.

Wide Scope of Self-Government

The Supreme Soviet and Council of Ministers of an Autonomous Republic enjoy extensive rights in guiding the local economy and cultural life of the population. The formation of Autonomous Regions and National Areas is based on the same principles. However, these state units enjoy only administrative autonomy. Politically they come within the jurisdiction of the respective Union Republics of which they are an integral part. The fraternal union of equal nations and national groups, the national basis of the Soviet state, has stood the test of time. The strength of this voluntary alliance of nations united in a single family has been tried and tested during the grim years of World War II. The war showed that this union of equal nations was neither split nor weakened but, on the contrary, grew even stronger. To make administration easier and improve ser-

vices to the population, the Union Republics which cover vast areas are divided into territories and regions which, in turn, are broken down into districts. Each of these administrative units has its own organs of power—the Soviets of Working People's Deputies, elected by the population. Similar self-government bodies manage the affairs of the thousands of towns and cities, industrial and rural communities throughout the country. During the past decade nine million people have been elected as deputies to the all-Union, republican, territorial, regional, district, city, community and village Soviets. This goes to show the vast scale of public participation in running the state.

60 Per Cent of Deputies — Workers and Peasants

During the last elections some two million people were elected to local Soviets. More than 60 per cent were workers and peasants, the rest included nearly 200,000 teachers, research workers and college and university teaching personnel, over 160,000 engineers, technicians and economists, about 70,000 medical workers and the same number of agronomists, zootechnicians and veterinaries.

Rights and Duties

At the same time all citizens share equal responsibilities to observe the Constitution and abide by the laws, maintain labour discipline and fulfill one's public duties, respect community rules, preserve and increase socialist property as the sacred and inviolable material basis of the Soviet system. Military service in the Armed Forces and defence of homeland is the sacred duty of every citizen.

A Country of Peaceful Labour

The Armed Forces were founded on February 23, 1918 when the voluntary workers' detachments of the Red Guard and the regular units of the revolutionary army won their

first victory over German troops, who perfidiously attacked the young Soviet Republic, near Petrograd. Under the law on universal and compulsory military service, all male citizens of the USSR regardless of race, nationality, creed, education, social origin and status must serve for three years in the ground and air forces or four years in the navy.

Rockets — the Principal Weapon

The Soviet Armed Forces consist of an up-to-date army, navy and air force. The core of the Soviet Union's defensive might are the strategic rocket troops armed with rockets of practically unlimited range and exceptional accuracy which are capable of delivering nuclear charges of colossal power. The air defence troops which form a separate branch of the armed forces are composed of ground-to-air rocket units, rocket-carrying planes, radiotechnical and special services. Ground troops have tactical rockets with nuclear warheads.

They also include large armour formations and motorized gun, howitzer and anti-tank artillery. All infantry units are motorized.

Atomic Rocket Carriers

The air force consists of supersonic fighter and bomber units. Their basic weapons are rockets of the "air-to-ground" and "air-to-air" class. The navy has atomic submarines carrying rockets and torpedoes with nuclear charges. These seaborne rocket carriers can fire ballistic self-guided missiles from under water far from their bases. The navy has its own rocket-carrying and anti-submarine air force.

Defence Appropriations

The supreme guidance of all the Armed Forces of the USSR is the responsibility of the Supreme Soviet, which alone has the right to pass laws relating to the Armed Forces and the country's defences. The Supreme Soviet (between sessions, the Presidium) has the exclusive right to declare war. No individual, regardless of his position in the govern-

ment, has such authority. The Supreme Soviet also determines the size of defence allocations. Defence appropriations for 1967 were 14,500 million roubles, or 13.2 per cent of the USSR budget. General matters relating to the Armed Forces are dealt with by the USSR Council of Ministers, while direct guidance is exercised by the Defence Minister.

USSR Threatens No One

The Soviet Armed Forces do not threaten any country. They are needed to guard the peaceful labour of the Soviet people, the building of socialism and communism in the USSR and fraternal countries. Unfortunately, recent events show that the more aggressive elements of world reaction have not abandoned attempts to reverse the course of history, not halting even at military ventures.

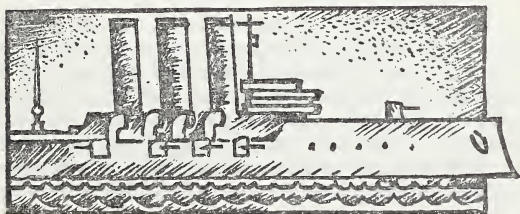
Policy of Peace, of Preventing a New War

The Soviet Union has consistently pursued the policy of peace inherent in the nature of a socialist state, which places the interests of the people before all else. The Soviet government stands for relaxation of tensions, for peaceful coexistence between states with different social systems, for international conditions in which every nation can, without interference, follow the course it has chosen, the course of national independence and social progress. It is for that reason the Soviet Union is for quashing all intrigues of the aggressive forces. It has always rendered the necessary assistance to peoples fighting for their independence against the neo-colonialists and will continue doing so. The USSR is prepared to live in peace with the rest of the world but it cannot reconcile itself to imperialist violence on the part of any nation toward other peoples. The Soviet Union stands solidly for non-interference in the domestic affairs of countries, for respecting their sovereignty and territorial integrity.

The Soviet Union advocates normalizing the international situation, promoting peaceful cooperation between nations, stopping the arms race and taking practical steps toward disarmament as the course to eliminate the danger of a new war.



A BRIEF
HISTORICAL OUTLINE
(500 A.D.—OCTOBER 1917)



Ancient Rus (6th—10th centuries)

More than a thousand years ago a vast Slavonic state emerged in Eastern Europe and existed as an early feudal monarchy till the second half of the 12th century. The contemporaries called the first Slav state "Rus." The mention of "Rus" and its inhabitants, "the Rus" or "Ros," first appeared in various sources in the 6th century A. D. and with increasing frequency in the 8th—9th centuries. There are records of Russian troops attacking Constantinople and fighting on the shores of the Caspian Sea and in the Caucasus. In history Rus is known as Kiev Rus since for many centuries Kiev was the capital and "mother of Russian towns."

Kiev Rus grew and gathered strength in the struggle with nomadic tribes—Polovtsy and Pechenegi, as well as Varangians who came from Scandinavia. By the 10th century it was one of the biggest states in Europe. Russia maintained trade, cultural and political relations with Bohemia, Poland, Hungary, Bulgaria and Byzantium.

The Adoption of Christianity (988 A. D.)

The adoption of Christianity (about 988) was an important stage in the development of a united Russian state. Grand Prince Vladimir of Kiev had himself and his retinue baptized and forced the Kievans and all of his subjects to accept Christianity. At the time it was a progressive step, since a single state religion cemented ideologically Russia's unity, promoted the development of a written language and the introduction of elements of Byzantine culture, the heir to antique civilization.

Beginning of Feudal Strife (11th century)

The development of feudal relations in Kiev Rus in the 11th century led to the formation of local political centres, such as Chernigov, Galich, Smolensk, Vladimir, Novgorod, Suzdal and others, whose growth reduced the significance of Kiev as the centre of the state.

The first signs of disintegration of Kiev Rus appeared at the end of Vladimir's rule (died in 1015). His son Yaroslav the Wise (who ruled from 1015—1054) managed to maintain the unity of the Russian state in bitter struggle, with the help of concessions to local feudal centres.

The struggle against the Polovtsy nomads once again demanded unity of the Russian principalities.

Vladimir Monomakh and Polovtsy

The struggle against the Polovtsy was led by Vladimir Monomakh who became Grand Prince of Kiev in 1113. He succeeded in overcoming feudal disunity by strengthening the ties between the Grand Principality based on a union of towns.

Disintegration of Kiev Rus (2nd half, 12th century)

The temporary strengthening of Kiev Rus under Vladimir Monomakh could not stop the feudal disintegration of the Russian lands. Kiev Rus fell apart in the second half of the 12th century, several feudal states appearing in its stead.

Sovereign Great Novgorod

The separatist tendency first made itself felt in Novgorod. The struggle for independence culminated in a victorious uprising of the townsfolk and the formation of the Novgorod Republic (1136—1137). Russian chronicles first mentioned Novgorod in 859. The city site was very fortunate—on the banks of the River Volkhov, where it empties into Lake Ilmen. From here one could sail to the Baltic Sea along the Volkhov and the Neva. Lake Ilmen was also linked with the Volga and the Dnieper. Novgorod grew

rapidly and soon became a rich trading city, the capital of a large state, known as the Sovereign Great Novgorod. It controlled the Russian North of that time, from the Gulf of Finland to the Arctic Ocean and the Urals.

Novgorod profitably exported to Western Europe furs, hides, wax, fat, and imported copper, arms and fabrics. The state was governed by the *Veche*, an assembly of free citizens of Novgorod: *boyars*,* merchants and "black people," i.e. artisans and petty traders. From among the *boyars* the Veche elected the city authorities—the *posadnik* who ruled over the whole of Novgorod state and the *tysiatsky*, or military commander. *Boyars* and rich merchants were the real masters of the city.

Principality of Yuri Dolgoruki (1125—1157)

Another feudal state—the Rostov-Suzdal Principality—was formed in the north-eastern part of the Kiev Rus. The Principality freed itself from Kiev's domination during the rule of Yuri Dolgoruki, son of Vladimir Monomakh. He was a prominent political leader who won independence for his principality and fought to establish its supremacy in Russia. The advantageous economic and geographic situation also added to the rise of the Vladimir-Suzdal Principality. Among its major cities were Vladimir, Pereyaslavl, Zvenigorod and Dmitrov.

Founding of Moscow (1147)

It was then that Moscow was founded, first mentioned as such in a chronicle of 1147.

Mongol-Tatar Invasion (1223—1240)

The year 1206 saw the formation of the immense Genghis-Khan feudal empire in Central Asia. The first clash of Mongol-Tatars with Russians took place in 1223 on the

* *Boyars were the aristocracy of Russian feudal society in the 10th-17th centuries. Their social, economic and political privileges were greatly restricted at the close of the 15th century when a centralized Russian state was formed.*

River Kalka where the Russian troops were defeated. Feudal intestine strife prevented the Russian lands from uniting against the common enemy.

Soon the Mongol-Tatars headed by Batyi-Khan launched another offensive against Europe. They destroyed and burned down Ryazan, Vladimir, Kolomna, Moscow, Chernigov, Kiev and other Russian cities.

Invasion from the West

Swedish and German feudal lords took advantage of Russia's predicament and sought to capture the rich Novgorod possessions.

On June 15, 1240 the Russian troops led by Grand Prince Alexander of Novgorod routed the Swedes on the River Neva. For this exploit the Grand Prince was named Alexander Nevski.

"Ice Massacre" (1242)

On April 5, 1242 the Russians, commanded by Alexander Nevski, scored a decisive victory on the ice of Lake Chudskoye over German knights. The battle of the Neva and the "ice massacre" on Lake Chudskoye saved Russia from capture by Swedish and German feudal lords.

Russia Engages Mongol-Tatar Hordes

The resistance put up by the Russians was one of the main reasons why Batyi-Khan failed in his attempt to conquer all of Europe.

Russia bore the brunt of the Mongol-Tatar invasion, thus enabling the peoples of Western Europe to continue their economic and cultural development.

Mongol-Tatar Yoke

The Mongol-Tatars settled in the steppes of the Lower Volga and formed the state of Golden Horde which stretched from the Danube to the Irtysh and from the Urals to the Northern Caucasus and had its centre in Sarai-Batu on the Lower Volga, not far from modern Astrakhan. Later the capital was moved to Sarai-Berke, near today's Volgograd.

From that time Russia languished under the Mongol-Tatar yoke which lasted for 240 years. The Mongol-Tatar conquest greatly retarded Russia's economic and cultural development. The tribute imposed by the Golden Horde was a heavy burden for the peasants and artisans. The Tatar khans promoted Russia's political disunity in every way. By the mid-13th century Russia consisted of independent principalities. The country was headed by a prince who received the charter for the all-Russia grand principality from the Khan of the Golden Horde.

In the latter part of the 13th century the Muscovite Principality began to play an increasingly important role in the political life of medieval Russia.

Being the centre of Russian lands where the Great Russian nation began to take shape at that time, the Muscovite Principality offered refuge to Russian people fleeing from the peripheral areas ravaged by the Tatars. The town population grew and trade and crafts developed.

Ivan Kalita — Unifier of the Russian Land (1325—1342)

Moscow attained major political importance under Prince Ivan I, known as Ivan Kalita. Together with the charter for the grand principality he succeeded in obtaining the right to collect tribute from the Russian principalities for the Golden Horde. This strengthened the power of the Grand Prince, barred the other princes from direct contacts with the khan and made them dependent to a certain extent on Ivan I. The rule of Ivan I was, in the words of a chronicler, a time of "great quiet" all over Russia in which it was able to strengthen its economic position. Contemporaries called Ivan Kalita the "unifier of the Russian land." A good portion of the Tatar tribute landed in the coffers of the Grand Prince, hence his nickname (Kalita means "money bag").

Mamai's Offensive

In order to prevent the unification of the Russian lands around the Muscovite Principality Khan Mamai of the Golden Horde began an offensive against Moscow in 1380.

The Russian people rallied together in the face of the mortal danger. Military units and detachments of volun-

teers poured into Moscow from many lands and towns. The combined Russian army numbered 100 to 150 thousand men. Since most of the warriors were farmers and townsfolk, the army was very much like a national voluntary force. Its commander was Grand Prince Dmitry, grandson of Ivan Kalita. An upsurge of national awareness swept over Russia.

Kulikovo Victory (1380)

On September 8, 1380 Prince Dmitry's troops crossed the Don, took positions on Kulikovo Field and engaged the Tatars. The Russian units stood their ground in the face of fierce Tatar attacks and finally routed them. Contemporaries called the battle of Kulikovo Field "Mamai's Massacre" and gave Prince Dmitry the honorary title of Donskoi. The Kulikovo Battle undermined the foundations of Tatar yoke and strengthened the forces fighting for Russia's unity. But the final liberation from Tatar oppression came a hundred years later, under Ivan III.

Andrei Rublev (1360—1430)

The struggle against the Mongol-Tatar invaders accelerated the consolidation of the Russian nation and promoted cultural development. Particular mention should be made of the brilliant artist Andrei Rublev. The founder of Russian easel painting, Rublev ingeniously conveyed the dynamics of events, proportions of figures and used a broad gamut of colours. His greatest masterpiece is the "Trinity" icon (now in the State Tretyakov Gallery in Moscow). Another characteristic icon is that of the Saviour found in Zvenigorod (State Tretyakov Gallery). Under his brush the austere and immobile Byzantine image customary for that time was transformed into a gentle, generalized portrait of a Russian man. Though the faces he painted resembled portraits of antiquity, they retained a national character.

Grand Muscovite Principality

The rule of the Grand Prince Ivan III of Muscovy (1462—1505) was an important stage in the formation of a single Russian state. An able statesman, Ivan III was a wise and cautious man. He continued and brought to fruition the policy of uniting the Russian lands around Moscow. Ivan III

forced Novgorod to recognize the authority of the Muscovite Prince (1471) and subsequently deprived it of its independence. The symbol of Novgorod's freedom, the Veche Bell, was brought to Moscow and hoisted in a Kremlin belfry in 1478.

“Voyage Beyond Three Seas” (1466—1472)

That was a time when Russia expanded its foreign trade relations. Russian merchants travelled far beyond their country's borders. In 1466—1472 merchant Afanasy Nikitin from Tver made his “voyage beyond three seas” (the Caspian, the Indian Ocean and the Black Sea) to India.

Russia's trade relations with foreign lands were hindered in the east by the Kazan Khanate which controlled the trading route along the Volga, in the south by the Crimean Khanate which closed the outlets to the Black Sea, in the west by the Lithuanian-Polish state and Sweden.

End of the Tatar Yoke (1480)

In 1478 Russia stopped paying tribute to the Golden Horde and in 1480 finally freed itself from the Tatar yoke.

In 1485 the Muscovite Prince officially assumed the title of Grand Prince “of all Russia”. In the same year Ivan III joined the Tver Principality to Moscow.

Muscovite *Sudebnik* (1497)

The unification of Russian lands went along with centralization of state government. The new relations between the feudals and central power required legal expression. The establishment of serfdom and the results of the struggle between Moscow and other principalities were summed up in the *Sudebnik* (collection of laws), an important legislative code of the epoch when a unified Russian state was in the making.

In 1499 the lands around the town of Perm were annexed to the Muscovite state, and in 1500 the struggle began for the return of Byelorussian and Ukrainian lands which had belonged to Kiev Rus.

In 1510 Pskov joined the Russian State. The territorial unification of Russia was completed in 1521 when the Ryazan

Principality was added. The grand principality of Moscow was thus being gradually transformed into a centralized all-Russian state.

Ivan the Terrible (1547—1584)

The assumption by Ivan IV, grandson of Ivan III, of the title of tsar in 1547 was an important event in Russian history. The crowning strengthened the foundations of autocracy and raised Russia's international prestige.

The strengthening of the feudal-absolute monarchy was accompanied by intensified exploitation of the ordinary people, aggravation of social contradictions and class struggle. On June 21, 1547 an uprising of townsmen broke out in Moscow as a result of a disastrous fire which destroyed most of the city. It demonstrated the need for radical changes.

A New *Sudebnik* (1550)

A new *Sudebnik* (code of laws) compiled in 1550 to replace the outdated code of Ivan III was a legislative attempt to settle questions pertaining to the land and other peasant matters and to reorganize the central and local administration. This was another step in strengthening the centralized Russian state, consolidating the political position of a rising dominant class — the nobility* and laying the foundation of serfdom.

Ivan IV reorganized the army. He tightened discipline in the nobility-composed cavalry and formed a permanent

* *Nobility were the lower section of the feudal class in the Russian state who originally formed the court of a prince or a prominent boyar and emerged as a definite social group in the 12th-13th centuries. In the course of unification of Russian lands and the setting up of a centralized Russian state the nobility became the bulwark of the Grand Prince's power.*

Ivan IV rooted out the remnants of feudal disunity and elevated the nobility. In his struggle with political and ideological enemies, the boyars and clergy, he resorted to cruel methods, not stopping at physical destruction. For his merciless persecution of political opponents and stern character the Russian tsar was named Ivan the Terrible.

military force, the *Streltsi*. The *Streltsi* soldiers were picked from among the townsfolk, they received a cash and food allowance and a uniform from the tsar and were his main guard.

Union of the Volga Area (1552—1557)

After a prolonged struggle the Russian State annexed the Kazan and Astrakhan Khanates (1552 and 1556) and Bashkiria (1557). Union of the entire Volga area was essential for economic development of the Russian state. It enabled Russia to expand its trade with the East and step up its struggle against aggression from the Crimea and Turkey.

Beginning of Book Printing (1564)

Book printing in Russia began in the mid-16th century. In 1564 Ivan Fedorov and Pyotr Mstislavets printed the book *Apostle*. Its text was carefully checked, edited and well illustrated. Books continued to be printed in Moscow and later in Alexandrovskaya settlement near Moscow (in 1909 a monument to Ivan Fedorov was unveiled in Moscow).

The Livonian War (1558—1583)

Ivan IV tried in vain to secure an outlet to the Baltic Sea. The Livonian War which lasted from 1558 to 1583 impoverished the country and caused dissatisfaction among peasants which could lead to a general uprising.

"Troubled Times" (1603—1604)

The end of the 16th and early 17th centuries was one of the most difficult periods in Russian history. After the death of weakminded tsar Fyodor his brother-in-law Boris Godunov began to rule. In Poland there appeared a man who posed as tsarevitch Dmitry, the younger son of Ivan IV who died in 1591. In 1604 the false Dmitry I supported by the Poles crossed the Russian border at the head of the army. Taking advantage of the dissatisfaction of the masses and the dire economic situation he managed to capture Moscow and take the Russian throne.

The new tsar and his Polish henchmen behaved like conquerors in Moscow, which led to an uprising. On May 17

the rebellious Muscovites broke into the Kremlin and killed the false Dmitry. The Moscow *boyars* made Vassily Shuisky a tsar. The *boyar* oppression caused unrest among the peasants which resulted in the first peasant war (1606).

The Peasant War (1606)

The uprising was led by Ivan Bolotnikov. In his appeals to "*boyars'* peasants" Bolotnikov urged them to fight their oppressors. He gathered a strong force and captured several towns on his way to Moscow. Russian peasants were joined in the struggle against the oppressors by peasants of other nationalities—Mordvinians, Chuvashes, Tatars and Cossacks from the Dnieper and the Don*.

On December 2, 1606 the tsar's troops routed the poorly armed and socially heterogeneous army of rebels. Bolotnikov retreated to Kaluga (1607), won a battle there and moved to Tula. The townsfolk sympathized with the insurgents. They defended Tula for four months but hunger forced them to surrender on October 10, 1607. The participants in the uprising were ruthlessly punished. Ivan Bolotnikov was executed in 1608.

The peasant war, though unsuccessful, was of great importance. It was a reaction to the mounting oppression of the peasants which delayed the final establishment of serfdom for almost fifty years.

Polish Occupation (1610)

The Polish nobility found another impostor, false Dmitry II, and in collusion with Russian *boyars* marched on Moscow. On September 21, 1610 the interventionists entered Moscow and settled in the Kremlin. The foreign oppression started a broad liberation movement.

Minin and Pozharsky (1612)

In September 1611 merchant Kuzma Minin appealed to the residents of Nizhny Novgorod, a big trading city on the

* *Cossacks were a military grouping in prerevolutionary Russia. Peasants and townsfolk who fled to "free lands" also called themselves Cossacks.*

Volga, to help the Muscovite state, to spare nothing, if necessary, "to sell houses and pawn wives and children" to save the homeland from foreign enslavement. Everybody donated what he could and many enrolled in voluntary military units. Leadership was entrusted to Count Dmitry Pozharsky who was known for his bravery. His forces soon became an all-Russian army.

In August 1612 the main forces of the Russian army reached Moscow and attacked the foreign invaders entrenched there. On October 26 the Kremlin, the last stronghold of the Poles, was liberated.

Romanov Dynasty (1613)

A *Zemski Sobor** was convened in Moscow in January 1613. Besides representatives of the nobility and townsfolk it was also attended by peasants who had made the bulk of the voluntary force that liberated the country. *Boyar* Mikhail Romanov was elected to the throne. The Romanov dynasty ruled Russia for three hundred years.

Uprising in the Ukraine (1648)

Hetman Bogdan Khmel'nitsky headed the struggle of the Ukrainian people which began in 1648.

The Ukrainians and Byelorussians whose languages and mode of living had much in common with the Russians were separated from their Slav brothers.

Feudal, national and religious oppression forced peasants to flee to free lands. They called themselves Cossacks and established a large settlement of free warriors beyond the rapids on the Dnieper, the famous Zaporozhskaya Sech. The Cossacks frequently rose to fight the Polish nobility.

* *Zemski Sobor* was a representative council elected from various social strata in the 16th-17th centuries. The permanent participants were boyars, senior clergy and wealthy townsfolk. Participation of peasants in 1613 was the only exception. Vital political issues as the election of tsar, etc. were discussed at the *Zemski Sobor*. They ceased to function in the middle of the 17th century.

Khmelnitsky negotiated with Moscow to admit the Ukraine into the Russian state.

Reunification of the Ukraine with Russia (1654)

A Big Rada (council) which met in Pereyaslavl on January 8, 1654 was attended by delegates from the Cossacks and Ukrainian towns and villages. The council unanimously voted for reunification with the Russian people.

The reunification of the Ukraine with Russia made war with Poland inevitable. The prolonged war which began in 1654 and exhausted both sides ended in peace negotiations in 1667. Russia and Poland signed the Andrusov Truce under which Russia received the Smolensk land and the Ukraine on the eastern bank of the Dnieper. The Ukraine on the western bank and Byelorussia remained under Polish rule.

Peasant War Led by Stepan Razin (1670—1671)

The long war stirred anti-feudal sentiments. Thousands of peasants fled to Siberia, the Middle and Lower Volga and the Don.

From among the Don Cossacks came Stepan Razin, leader of peasants and Cossacks in the peasant war of 1670-71. Razin called on the people to fight the *boyars*, landlords and merchants. Razin's army included Russian, Chuvash, Mari and Mordovian peasants and was over 7 thousand strong. The rebels captured towns on the Volga—Astrakhan, Tsaritsyn, Saratov and Samara. The town poor joined the rebellious army. It moved up the Volga, reached the town of Simbirsk, but could not take it. The fruitless siege lasted for more than a month and ended in the insurgents' defeat. In spite of this, the rebellion broadened and spread to the eastern bank of the Volga.

In spring of 1671 the tsar's troops succeeded in liquidating the main centres of the uprising. Stepan Razin was captured and executed on June 6, 1671 on the Red Square in Moscow.

Although unsuccessful, the peasant war made an important contribution to the revolutionary traditions of the Russian people. Its leader Stepan Razin is celebrated in numerous songs as a man of great power and courage who gave his life for the people.

Peter I (1689—1725)

Peter I, grandson of the first Romanov, ascended the Russian throne at a crucial moment in its history (1689). It was necessary to create industries, rebuild the system of state government, reorganize the army, build the navy and obtain an exit to the Baltic. Peter I was well aware of the need for such reforms. In strengthening his power the young tsar relied on the nobility. He introduced primogeniture whereby the eldest son inherited the estate and the rest served the tsar, for which they were paid.

Peter I paid much attention to the organization of schools and the training of officers for the army and the navy.

An artillery school was opened in Moscow in 1699 and a navigators' school in 1701.

Founding of St. Petersburg (1703)

The Peter and Paul fortress, founded on May 16, 1703 on Zayachi Island in the Neva delta, marked the birth of Russia's new capital, Saint Petersburg. Officially the capital was moved from Moscow to St. Petersburg in 1713.

Administrative Reforms (1715—1718)

A marine academy was set up in St. Petersburg in 1715. Reforms were made in all spheres of state government. The *Boyar Duma** was replaced by the Senate.

In 1718 *prikazy* (administrative departments) were replaced by 12 colleges, each in charge of a certain branch of administration. Many privileges were granted to merchants. They were offered favourable terms for setting up factories and given state protection against foreign competition in trade.

* *The Boyar Duma was the supreme council of a prince (from 1547, of the tsar) in the 10th-18th centuries. Upon the formation of a centralized state in the late 15th century the Boyar Duma became a permanent consultative body. Peter I reduced the size of the Boyar Duma, removed important matters from its jurisdiction and finally replaced the Duma by the Senate.*

Under Peter I Russia received a new calendar and a lay alphabet. The Academy of Sciences was founded in 1724.

The Northern War (1700—1721)

For 21 years Russia fought for a secure position on the Baltic. The Russian army was reorganized in the course of the Northern War against Sweden (1700-21). Well-trained soldiers spent almost all their life in the service. The new army and navy scored several spectacular victories.

Poltava (1709) and Hangö (1714)

On July 2, 1709 the army of the Swedish King Karl XII was defeated near Poltava, and in 1714 the Russian navy dealt a decisive blow to Swedish naval forces at Cape Hangö. Thus Russia won an outlet to the sea.

Peter I was an outstanding historical figure, a statesman of rare insight and breadth of vision. He went down in history as Peter the Great. Under him Russia further strengthened its international prestige and became an empire.

Mikhail Lomonosov. First Russian University (1755)

The foundation of Russia's first University in Moscow in 1755 was an event of immense cultural importance. Its organization was mapped out by the great Russian scientist Mikhail Lomonosov. Lomonosov was a man of varied interests; he made important discoveries in physics, chemistry, astronomy, geography, technology, geology, history and philosophy. He elaborated the theory of the atom, first formulated the concept of a chemical molecule, initiated physical chemistry, was one of the first to formulate the law on the conservation of energy. Lomonosov sought to use science for increasing productive forces and raising the wellbeing of the country.

His anti-feudal ideas, concern for the interests of the masses and his efforts to promote science and education made Lomonosov an outstanding enlightener. Mikhail Lomonosov was a prominent historian. Moscow University has been named after him.

Peasant War of Yemelian Pugachev (1773—1775)

The peasant war of 1773-75 was another result of the ruthless oppression of peasants by the landlords. Its leader Yemelian Pugachev from the very beginning considered the peasants his main force. The uprising spread to the Orenburg, Perm and Siberian *gubernias*. Cossacks from the Don and Bashkir units commanded by Salavat Yulayev also fought with Pugachev.

Although the peasants were defeated and their leader was executed in Moscow on January 10, 1775 the war dealt a heavy blow at Russian absolutism and made many progressive people think of the problems of serfdom.

“The Journey from St. Petersburg to Moscow” (1790)

The peasant war greatly influenced the revolutionary views of Alexander Radishchev, one of the first Russian revolutionaries, an irreconcilable enemy of autocracy and serfdom.

In May 1790 Radishchev published his book *Journey from St. Petersburg to Moscow*, a passionate appeal against autocracy and serfdom. Empress Catherine II called Radishchev “a rebel worse than Pugachev” and exiled him to Siberia.

In spite of Radishchev’s sentence and destruction of his book, *The Journey* was distributed in manuscripts and was read by all progressive Russia. The revolutionary ideas of Radishchev played an important role in the development of the democratic movement in Russia.

Napoleon’s Invasion (1812)

On June 12, 1812 Napoleon’s army, which had conquered almost all European countries, crossed the Russian border. The Patriotic War of 1812 began.

In the face of heavy odds the Russian troops retreated, exhausting the enemy and destroying food supplies and ammunition. The peasants burned their houses, drove away the cattle and fled to the woods.

Borodino Battle

Field Marshal Mikhail Kutuzov was appointed Commander-in-Chief of the Russian army. On August 26, 1812 he decided to give battle at the village of Borodino, one hundred kilometres from Moscow. "Of all my battles the most horrible was the one near Moscow," Napoleon said later. "There the French showed themselves worthy of winning a victory, while the Russians earned the right to be invincible."

In order to save the Russian army Kutuzov abandoned Moscow after Borodino. Most Muscovites left the city together with the troops.

Unable to defeat the Russian army, left almost without food and fodder in the burning city in the face of approaching winter, Napoleon realized the futility of his efforts and ordered a retreat.

Heroes of the Patriotic War

The Russian army pursued the enemy with the help of guerillas. Among the heroes of the Patriotic war were Gerasim Kurin, a peasant from a village near Moscow, Vasilisa Kozhina, the wife of a village elder in Smolensk Gubernia, Denis Davydov, writer, poet and initiator of the guerilla movement, and many others.

The Russian army and the people had defended their country's independence. The patriotic upsurge caused by the victorious war made progressive young noblemen proud of the Russian people, prompted them to fight for its liberation from serfdom.

First Revolutionary Organizations (1821—1822)

In 1821 the Southern Society was formed in the Ukraine. It was a secret society of revolutionary-minded young officers led by Colonel Pavel Pestel.

The Northern Society formed in 1822 in St. Petersburg was led by Captain of the General Staff Nikita Muraviev.

The Southern Society adopted the programme drawn up by Pestel, in the form of a directive to the future revolutionary government, named "Russian Pravda." Under this programme Russia was to become a republic, social estates were to be

abolished, peasants were to be freed from the power of landlords and receive land.

The programme of the Northern Society was more moderate; it proclaimed the abolition of absolutism and serfdom. Russia was to become a constitutional monarchy. The narrow class nature of the programme was particularly noticeable in its treatment of feudal property. It was only in the final draft of the constitution that Muraviev, urged by the more democratic members of the Society, included an item granting peasants about two hectares of land per household.

Both societies prepared for a revolutionary coup. According to the plan worked out in the apartment of Kondrat Ryleyev, member of the Northern Society, the revolutionaries intended to capture the emperor's residence, the Winter Palace and the Peter and Paul Fortress where political prisoners were held.

Uprising in Senate Square (1825)

December 14, 1825, the day the troops were to swear allegiance to the new tsar Nicholas I, was selected to make the Senate publish a "Manifesto to the Russian People" which would abolish autocracy and free the peasants from serfdom. But the organizers of the uprising acted irresolutely, permitting the troops loyal to Nicholas I to surround and disarm the rebellious units. The Supreme Criminal Court sentenced to death five leading Decembrists, as they are known in history—Pavel Pestel, Kondrat Ryleyev, Sergei Muraviev-Apostol, Mikhail Bestuzhev-Ryumin and Pyotr Kakhovsky; many Decembrists were sentenced to penal servitude in Siberia.

The Decembrist uprising was of great historic significance. All previous rebellions were spontaneous peasant movements without conscious political guidance. The Decembrists were the first organized revolutionary force in Russia to propose an advanced political programme.

Crimean War (1853—1856)

By the mid-19th century the crisis of the feudal-serf system in Russia reached its climax. The old relations of serfdom retarded the development of the productive forces.

The Crimean War between Russia and Turkey revealed the country's extreme backwardness and led to further pea-

sant uprisings against serfdom. A revolutionary situation was in the making. In these conditions the government of Alexander II was forced to abolish serfdom.

Abolition of Serfdom (1861)

On February 19, 1861 Alexander II signed the "Rules for Peasants Who Have Been Freed from Serf Bondage" and a Manifesto abolishing serfdom. Under the Rules the peasants received less land than they had under serfdom. The best lands remained with the landlords. The peasants also had to buy out what little land was granted them. The landlords were in no hurry to sell the land, and it was only in 1881 that the redemption of land was made compulsory. As Alexander II himself said while discussing the Rules, everything that could be done to protect the landlords' privileges had been done.

The landlords received the total amount of redemption from the state, while the peasants had to pay, within 49 years, both the basic sum and the accruing interest.

It was only the 1905-1907 revolution that forced the tsarist government to cancel land redemption payments.

Development of Capitalism in Russia

Vladimir Lenin said that the peasant reform was a step towards transformation of a feudal monarchy into a bourgeois one.

The rapid development of Russian industry led to the formation of a working class. The workers' movement in Russia began to make its first steps in the 1870's. Among the leading revolutionaries of the time were Victor Obnorsky, Stepan Khalturin, Petr Alexeyev and other workers.

First Workers' Organizations (1875—1878)

The first Russian proletarian organization, the South-Russian Union of Workers set up in Odessa in 1875, engaged in spreading liberation ideas among workers and uniting workers for the future struggle against the existing economic and political order.

The Union had 60 active members and 200 sympathizers. It had a branch in Rostov-on-Don and tried to establish

contacts with other workers of the Russian South. They took part in strikes at Odessa factories. Among the Union's active members were E. Zaslavsky, F. Kravchenko, O. Rybitsky and S. Naumov.

The South-Russian Union of Workers existed for one year. Then 15 of its leading members were arrested and sentenced to imprisonment and penal servitude.

A big proletarian organization, the Northern Union of Russian Workers, was formed in St. Petersburg in 1878. It was headed by Victor Obnorsky and Stepan Khalturin who had an immense influence among the workers of St. Petersburg and were outstanding organizers and men of great courage and energy.

The members of the Northern Union believed that the proletariat was destined to play the leading role in the revolution. Their programme demanded freedom of speech, press and assembly. The Union had 200 members and as many sympathizers, and a branch was set up in Moscow. In St. Petersburg it was headed by a committee of ten. The Union succeeded in setting up an underground printing press and publishing the first issue of the leaflet "Workers' Dawn." A year after the arrest of Obnorsky and Khalturin in 1880 the organization ceased to function.

Marxist Group "Liberation of Labour" (1883)

The historical significance of the first workers' unions in Russia was that they made the struggle for political freedom their immediate task.

On September 25, 1883 Russian revolutionary emigrants in Geneva—Georgy Plekhanov, Pavel Akselrod, Lev Deutch, Vera Zasulich and others—began publishing the *Library of Modern Socialism*. This marked the birth of the first Russian Marxist group named "Liberation of Labour". It translated into Russian and distributed many works of Marx and Engels, including the first volume of the *Capital*, laid the theoretical foundation of the Russian Social-Democratic movement and made the first step towards a union with the workers' movement. Along with the "Liberation of Labour" group Marxist circles and groups began to appear in Russia itself.

“Union of Struggle for Liberation of the Working Class” (1895)

In 1895 workers' Marxist circles in St. Petersburg merged into the "Union of Struggle for Liberation of the Working Class". It was headed by Vladimir Lenin, Georgy Krzhizhanovsky, Vassily Starkov, Anatoly Vaneyev, Pyotr Zaporozhets and others. The Union had cells at 70 factories. It planned to publish a newspaper, the *Workers' Cause*, but the arrest of its four leading members—Lenin, Krzhizhanovsky, Vaneyev and Starkov—prevented the printing of the first issue. The Union carried on despite continuous arrests.

Three-week Strike of Textile Workers (1896)

A major revolutionary action under the Union's influence was the three-week strike of textile workers in 1896, which involved 30 thousand workers and was subsequently called the Petersburg Industrial War.

Following the example of St. Petersburg, Unions of Struggle for Liberation of the Working Class were organized in Kiev and Yekaterinoslavl and Workers' Unions in Moscow and Ivanovo-Voznesensk.

“The Union of Struggle” in St. Petersburg was the nucleus of the Marxist party of the Russian proletariat.

The mounting working class movement required the elaboration of a programme and tactics of revolutionary struggle.

While in prison Lenin wrote the Draft Programme of the future party and *Analysis of the Programme*. Both documents played an important role in preparing the party programme of the Russian revolutionary Social-Democrats.

First Congress of RSDWP (1898)

On March 1st-3rd 1898 the 1st Congress of the Russian Social-Democratic Workers' Party (RSDWP) was held in Minsk, in the apartment of a local Social-Democrat. The congress was attended by nine representatives of the St. Petersburg, Kiev, Moscow and Yekaterinoslavl “Unions of Struggle” and decided to merge all Social-Democratic unions, groups and circles into one Russian Social-Democratic Workers' Party (RSDWP). It elected the party's central

committee and made the *Workers' Newspaper* the central press organ of the Party.

However, the Party had not yet been properly organized. Soon after the congress mass arrests of Social-Democrats were made, and five of the nine congress delegates were arrested. From within the Party was being undermined by opportunists. That was a period of profound ideological and organizational confusion in the ranks of the Russian Social-Democrats.

Lenin and his associates made tremendous efforts to build a Marxist Party on a higher ideological and organizational level.

Plan for Setting up a Marxist Party

The plan for setting up such a Party was elaborated by Lenin in the Siberian village of Shushenskoye where he was exiled for his part in the organization and work of the "Union of Struggle for Liberation of the Working Class." Under the prevailing conditions the first step was to start an all-Russian political newspaper.

Lenin's "Iskra" (1900)

That newspaper was *Iskra* (Spark) founded by Lenin together with the "Liberation of Labour" group in 1900 abroad, where he emigrated after his exile in Siberia. The first issue of the *Iskra* was printed on December 11 in Leipzig. The newspaper gave rise to a whole generation of professional proletarian revolutionaries.

Second Congress of RSDWP (1903)

Iskra was also instrumental in the preparation of the 2nd congress of the Russian Social-Democratic Workers' Party which was held in London in 1903. There the Party took a definite organizational shape and adopted a Marxist Programme and Rules. Lenin's associates who secured a majority in the election of the party central committee and the editorial board of its central newspaper, *Iskra*, became known as Bolsheviki and their opponents, Mensheviki.

The Communist Party of the Soviet Union dates from the 2nd Congress of the RSDWP.

Revolution of 1905

January 9, 1905 went down in history as Bloody Sunday. On that day a demonstration of St. Petersburg workers that marched to the Winter Palace to petition the tsar to improve their situation was shot down. This caused a storm of indignation all over the country. On the following day 650 of the capital's factories went on strike. Thus began the first bourgeois-democratic revolution in Russia. Its aims were to overthrow the autocracy and eradicate the remnants of serfdom. It was led by the proletariat in union with the peasants.

For the Overthrow of Autocracy

The 3rd Congress of the RSDWP held in April 1905 determined the party's further tactics and methods of struggle. The Party considered the preparation of an armed uprising to be its principal task.

First Soviets

The revolution was gaining scope. The participants in the 1905 strikes formed Soviets of workers' deputies, a new organizational form of the proletariat. In their class content Soviets were a form of revolutionary-democratic dictatorship of the proletariat and peasantry. In May the workers of Ivanovo-Voznesensk elected a Soviet of Authorized Representatives which was the first Soviet of Workers' Deputies. In October a Soviet of Workers' Deputies was set up in St. Petersburg and in November, in Moscow. All in all, Soviets were elected in 50 Russian towns.

Mutiny of the Battleship "Potemkin"

Unrest spread to the army and the navy. On June 14, 1905 the sailors of the battleship *Potemkin* rose up in arms. This event was portrayed in the well-known film.

Frightened by the scope of the revolutionary struggle, the tsarist government issued a manifesto on October 17 where it promised to "grant" civic freedoms and to convene a legislative assembly, the Duma.

Parties of Landowners and Capitalists

New political parties came into being in October and November. One of them was an organization of nobility and landlords, the Union of Russian People, headed by V. Purihkevich and N. Markov, powerful landowners. Emperor Nicholas II also joined the Union.

The leading party of the Russian bourgeoisie was the Constitutional Democrats, or cadets. Among its leaders was well-known historian Pavel Milyukov. Rich bourgeoisie and landlords formed their own party, the Octobrists, which was headed by Alexander Guchkov and Mikhail Rodzyanko,

December Armed Uprising in Moscow

On December 5, 1905 the city conference of Moscow Bolsheviks passed a decision to begin a general political strike and turn it into an armed uprising. In the very first days over 150 thousand people went on strike. On December 10 an armed uprising began. Nearly one thousand barricades were built in Moscow. The workers' district, Presnya, was the centre of the uprising.

The Moscow proletariat fought for several days. But they lacked experience and arms and could not establish contact with the troops. The Moscow uprising did not become nationwide. On December 18 it was ruthlessly suppressed by the tsarist troops.

Lenin called the first Russian revolution a "dress rehearsal" without which the victorious October Revolution could not have been possible.

Onset of Reaction (1907)

Reaction settled in after the second State Duma was dispersed and its Social-Democratic faction was arrested on June 3, 1907.

The head of the reactionary government Stolypin, a rich landlord, initiated mass reprisals during which thousands of revolutionaries were arrested and executed.

At the same time the Stolypin government initiated economic and political measures to strengthen the social base of tsarism. Special attention was given to the land reform designed to create a strong section of rich kulaks in the

countryside which could be used in the struggle against the revolutionary poor.

Wavering petty bourgeoisie who had joined the RSDWP during the revolution now left it. So-called liquidators who appeared among the Mensheviks called for an end to fighting for revolution and opposed the formation of an illegal party.

Some of the Bolsheviks also wavered under the pressure of reaction. They were known as *otzovists* and advocated refusal to work in any legal organization. A group of Mensheviks took a reactionary position against Marxist philosophy.

New Revolutionary Upsurge

In the summer of 1910 a wave of strikes swept Moscow, Riga, Odessa, Saratov, Kazan and other cities. Russia was experiencing another revolutionary upsurge.

Events at the Lena Gold Fields stepped up revolutionary developments. The Lena Gold Fields belonged to a big monopoly headed by British and Russian capitalists. High ranking officials and members of the royal family had an interest in the fields.

Massacre on the Lena

The workers laboured under monstrous exploitation, deprived of all rights. A strike was called on February 29, 1912, which spread all over the fields. The workers demanded better conditions. In reply the troops shot down a peaceful crowd. More than 500 were killed or wounded. The brutal massacre caused a wave of indignation all over Russia. Meetings and strikes spread to Moscow, the Ukraine, the Baltic area and the central industrial regions. Three hundred thousand people took part in political strikes.

Outbreak of World War I (1914)

World War I broke out on July 19, 1914. It was caused by sharp contradictions between the two rival groups of countries: Germany, Austro-Hungary, Italy on the one hand and France, Britain, tsarist Russia on the other. At the turn of the century the world had already been divided

between the great powers: monopolies, no longer content with home markets, seized vast colonies in their craving for profit and subjugated underdeveloped countries.

Particularly aggressive were the German militarists who sought a redivision of the world in order to get their "rightful" share. At the time Germany outpaced Britain in industrial development and was successfully competing on the world market. German industrialists and generals sought to tip the balance by force of arms. The ruling quarters of the other belligerent parties also were out for gain. Russia, for one, made no secret of her claims to the Bosphorus and Dardanelles.

Even the masses of the warring countries were infected with jingoistic frenzy. World War I engulfed 28 countries with a total population of over 1.5 thousand million.

Some 74 million were called up. The war brought untold hardships to the peoples. Between 1914 and 1918 10 million were killed and 20 million wounded.

Social-democratic parties, self-styled people's representatives came out in favour of the war and voted in favour of military expenditures.

Bolsheviks were the only party which openly opposed the aggressive war and waged a revolutionary struggle against it.

Three years of war undermined the country's economy, and the tsarist government was powerless in the face of economic difficulties. The people who bore the brunt of the war sought to end it and to do away with the hated political system.

1917— the Year of the Victorious Revolution

In January 1917 the Petrograd proletarians started a political strike. They were followed by the workers of Moscow, Baku, Donbas and Nizhny Novgorod. Bolshevik leaders organized political actions.

Mass demonstrations were held in Petrograd on February 23. That was the beginning of the second Russian Revolution. On February 27 the Central Committee of the RSDWP issued a manifesto demanding democratic freedoms—an eight-hour working day, confiscation of landlords' estates,

etc. The Central Committee Bureau also called for the formation of Soviets of Workers' Deputies. In some districts of Petrograd the workers began electing their delegates to the Soviets.

Soviets of Workers' Deputies

The Petrograd Soviet was directly supported by armed workers and could have become the sole ruling power. But the Mensheviks who had taken leading posts in the Petrograd Soviet did not allow this.

On February 27, 1917 armed workers and soldiers seized the arsenal, the railway station and other key buildings. Prince Golitsin, Chairman of the Council of Ministers, and other members of the tsarist government were arrested. On February 28 Tsar Nicholas II abdicated.

Autocracy Falls, Bourgeoisie Strives to Seize Power

The Bolsheviks proposed to form a provisional revolutionary government from representatives of various parties in the Soviets of Workers' and Soldiers' Deputies. However, the Petrograd Soviet's Executive Committee dominated by mensheviks decided to authorize the provisional committee of the State Duma to form the government.

Dual Power

There emerged two powers in the country—the bourgeois dictatorship in the person of the Provisional Government and the dictatorship of workers and peasants as represented by the Petrograd and other Soviets of Workers' and Soldiers' deputies.

The political immaturity and lack of organization of the masses as well as the influence of reformist ideology on the petty bourgeois sections of the population in town and country helped the petty bourgeois parties, the Mensheviks and the Social-Revolutionaries, to secure a majority in the Soviets. These parties took the course of supporting the Provisional Government—a government of rich bourgeoisie and landlords.

Course for a Socialist Revolution

On April 3, 1917 Lenin returned to Russia from emigration. On the following day he reported on the tasks of the Party and proletariat in the revolution. His theses, known as April Theses, were printed in the Bolshevik newspaper *Pravda*. They envisaged the growth of bourgeois democratic revolution into a socialist revolution and called on the masses to struggle for transferring all power to the Soviets all over the country.

The first All-Russian Congress of Workers' and Soldiers' Deputies convened in June 1917 elected the guiding body of all Soviets, the Central Executive Committee. Again the Mensheviks and Social-Revolutionaries held the majority.

The people were dissatisfied with the policy of the Provisional Government.

The Provisional Government continued the hateful war which was lucrative for the capitalists at the cost of untold suffering for the people. Bourgeois leaders, the Mensheviks and Socialist-Revolutionaries—members of the Provisional Government—resorted to terror. On July 3rd a peaceful demonstration of workers was shot down in Petrograd by junkers*. The demonstrators demanded that all power be transferred to the Soviets and the war be immediately stopped (news had reached them that an all-out offensive on the Southwestern front had failed).

Counterrevolution unleashed a reign of terror. Wholesale arrests were taking place, revolutionary-minded soldiers and workers were being disarmed. The peaceful period of the Revolution was over, it was thwarted by the Mensheviks and Social-Revolutionaries who colluded with the counterrevolutionaries. The bourgeoisie put an end to dual government and set out to crush the Revolution. General Kornilov, a new Commander-in-Chief, was to install a dictatorship. Nevertheless, reaction failed to subdue the revolutionary upsurge of the masses.

For the Power of Workers and Peasants

The 6th Congress of the Russian Social-Democratic Party (Bolsheviks) was held from July 26 to August 3. On the basis of analysing the balance of class forces in the country

* *Junkers were students of military colleges loyal to the Provisional Government.*

the Congress appealed to the party to prepare the masses for an armed uprising. An important part in the preparation for the uprising was played by the Military-Revolutionary Council set up on the Bolsheviks' initiative. This efficient body was connected with broad masses of workers and soldiers.

All direction of the uprising came from the Smolny Institute, headquarters of the Central Executive Council, the Petrograd Party Committee, the Petrograd City Soviet and the Military Revolutionary Council.

On the night of October 24th the Provisional Government made an attempt to wrest the initiative from the Bolsheviks—a detachment of military cadets seized the printing shop of the Bolshevik paper *Worker's Way*. The Central Committee of the RSDWP (Bolsheviks) then decided to begin an armed uprising. Red Guard units captured the bridges across the Neva, the railway stations, the telegraph, power stations and many government buildings. The decisive victories were won on the night of October 25.

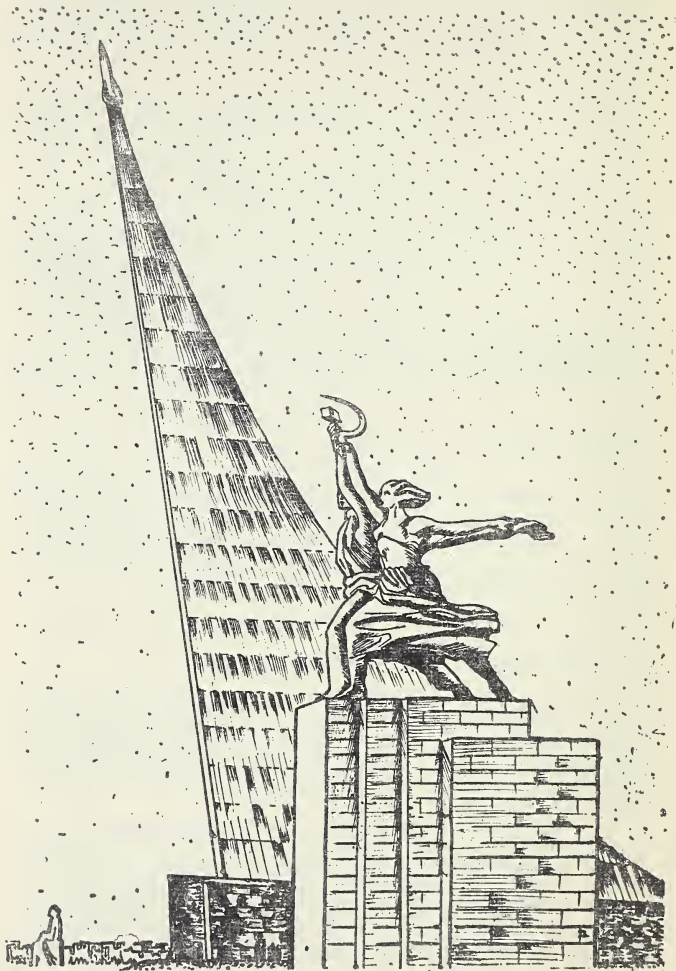
Russia is Proclaimed a Soviet Republic

On October 25, 1917 the revolutionaries captured the Winter Palace and arrested the Provisional Government. That evening the 2nd All-Russia Congress of Soviets proclaimed Russia a Soviet Republic and passed the first decrees of Soviet power.

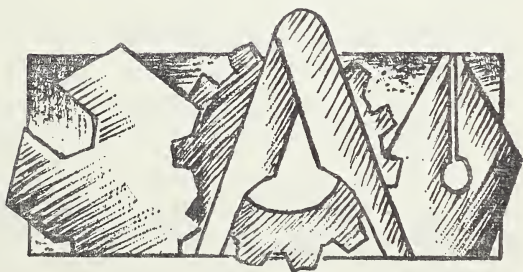
First Decrees: Peace and Land

The Decree on Peace announced the complete rejection by the Soviet Government of any aggressive treaties and proposed that all belligerent nations and their governments immediately begin negotiations for the conclusion of universal democratic peace.

The Decree on Land pronounced the confiscation of all landlords' land without compensation and its nationalization. The Congress formed the Soviet Government, the Council of People's Commissars, led by Vladimir Lenin and a new All-Russia Central Executive Council with a Bolshevik majority. Soon Yakov Sverdlov was elected its chairman. The October Socialist Revolution had triumphed.



FROM WOODEN PLOUGH TO ROCKETRY



New Epoch in World History

The revolution of October 1917 in Russia ushered in, as Lenin put it, "a new epoch in the history of the world." The first socialist state was born fifty years ago. Having overthrown the autocracy and cast off the yoke of exploitation by landlords and capitalists, the workers and peasants of the former Russian Empire took power. They established a revolutionary-democratic dictatorship and formed a new state—the Soviet Socialist Republic.

Under the leadership of their political vanguard, the Communist Party, the working people of Soviet Russia got down to the task of building a new society. The road the land of Soviets has traversed during the half-century has been marked by tireless creative labour and selfless struggle, experiments and failures, unbelievable difficulties, and astounding successes.

Half-Century Long Road of Successes on the Labour Front

It has also been a road that led from the landowning-capitalist system to a socialist society which makes impossible exploitation of man by man; from lack of political rights for the masses to their most active participation in government; from national discord and oppression to liberty, equality, fraternity and friendship; from technical and economic backwardness to modern industry and collectively-

run agriculture; from almost universal illiteracy to unheard-of advances in public education, science and culture.

From the very first years of Soviet government the working people had to take up arms to defend their revolutionary gains, their right to peaceful creative labour.

Breaking Out of Encirclement

In the years of the Civil War and foreign intervention (1918-21) the young Soviet Republic was an island in an ocean of hostile forces, which did everything to smother the world's first socialist state. However, their schemes were frustrated due to the staunch revolutionary spirit and heroism of the workers and peasants, and due to the solidarity and support of the international democratic forces. It was at the cost of tremendous effort and sacrifice that the encirclement by White Guard armies and intervention troops was broken, the economic blockade lifted, and hunger and economic chaos done away with.

Enthusiasm of First Five-Year Plans

A new period in the life of the country began—a period of economic rehabilitation and construction. The rehabilitation period (1921-27) and the first five-year plan periods (1928-41), during which the Soviet people displayed labour heroism en masse, are glorious pages in the history of the country. People spared no effort, were willing to go through any privations, and worked perseveringly and selflessly to overcome the country's age-old backwardness and to turn it into a major industrial state.

But soon world reaction again resorted to armed force in an attempt to wipe out the socialist state. Nazi Germany's treacherous attack on June 22, 1941 halted the Soviet people's peaceful labour.

Twenty Million Dead

It was the beginning of a long and bloody war. Over 20 million men, women and children died; 1,710 cities and

towns, and over 70,000 villages were either completely or partially destroyed; 32,000 industrial enterprises were reduced to ruins. An estimate of only part of the damage caused by the war—loss of property of individual citizens, mass organisations, state institutes and enterprises plus war expenditure from the national budget, results in an enormous sum: at least 1,890,000 million roubles (old currency).

Rebuff to Hitlerite Invasion

The Soviet people and the armed forces displayed unparalleled valour in defending the liberty and independence of their Motherland from a ruthless enemy. The Nazis' hopes for the disintegration of the Soviet commonwealth, of the Soviet state, fell through. The social system established by the October revolution withstood the severe test of time. The defeat of the monstrous fascist war machine, that instrument of rabid imperialist reaction, was fresh testimony of the vitality and might of the first socialist state. The victory of the Soviet Union and its allies created favourable conditions for the development of socialist revolutions in a number of European and Asian countries, and also for a powerful upsurge of the national liberation movement in the colonies and dependent countries.

In a very short time after the war the Soviet people rebuilt the ruined villages and towns. By 1950 the economy of the war-devastated regions of the country was completely restored, and total national industrial output was almost 75 per cent above the prewar level. This was yet another indication of the vitality of the socialist system and the people's unanimous support of the plans for further economic development. The postwar successes in industry, agriculture, science and culture were a stepping stone to the nation-wide construction of a communist society.

All-Out Construction of Communism

This is a direct outcome of the revolutionary changes begun in October 1917. It is also the greatest historic task the Soviet people have ever faced. Socialism's gradual transformation into communism has been prepared by the entire

development of Soviet society. The new programme of the Soviet Communist Party adopted by the 22nd Congress in October 1961 says:

“Communism is a classless social system with one, public kind of ownership of the means of production, with full social equality for all members of society, in which all-round development of the individual takes place along with the development of productive forces on the basis of constantly progressing science and engineering; in which all sources of public wealth will be brimming full, and in which the great principle ‘from each according to his ability, to each according to his need’ will be realized. Communism is a highly organized society of free and conscientious working men and women, with public government, in which labour for the wellbeing of the people will be everyone’s vital need, a cog-nized necessity; in which everyone’s abilities will be used for the utmost benefit of the people.”

Three Main Lines

All-out construction of a communist society requires speedy development simultaneously along three main lines: first, rapid and comprehensive economic progress to create the necessary material and technical basis for communism; second, perfection and further extension of socialist democracy; and finally, education of a new man—a conscientious and harmoniously developed member of communist society.

New Man

Moulding the new man for the new society is a most difficult but noble task of communist construction. From the October revolution onward, a decisive struggle has been waged against the habits and prejudices of private enterprise society, with its egocentric individualism, mercantilism, the cult of money and prosperity of a few at the expense of the majority. The years of socialist construction have radically changed the nature of relations among people in the Soviet Union. Socialism has demonstrated its ability to overcome the inertia and egoistic habits of the old society. There have appeared generations of people who are keenly aware of their public duty, who are imbued with

the spirit of collectivism and comradeship, for whom life without socially useful labour and creativeness is unthinkable. The birth of the new man, a model of high moral standards, is the greatest achievement of the October Revolution.

23rd Congress of the CPSU

At its 23rd Congress held in Moscow in the spring of 1966 the Communist Party of the Soviet Union reviewed the economic achievements following the successful fulfilment of the seven-year plan (1959-65), and endorsed directives for a new five-year economic plan (1966-70). The Congress discussed outstanding issues of the political, economic, organizational and educational work of the Party at the present stage of communist construction.

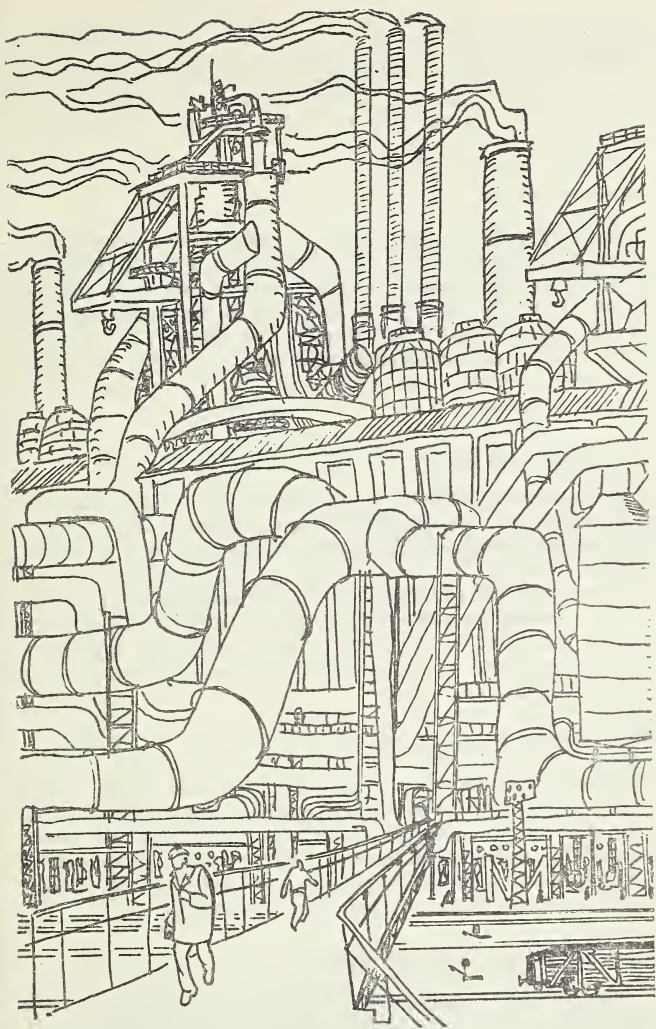
The decisions of the Congress reflect the collective experience of the Party and the entire people, and map out the course of the CPSU and the Soviet state for the near future in all spheres.

The National Economy of the USSR

The Economic Structure of the Soviet state is based on the socialist system of national economy and socialist ownership of the instruments and means of production.

Public Ownership—Foundation of People's Welfare

The Soviet Union has two kinds of public property—state or national property and cooperative and collective farm property. All land, its mineral wealth, forests, waters, railways, water and air transport, means of communication—post, telephone, telegraph and radio—all plants, factories, mines and pits, banks, power stations, trading establishments, scientific and cultural institutions, utilities, the basic housing space in towns and workers' settlements—all that is produced by enterprises is the property of the entire people and is governed by the Soviet state.



For Everybody's Good

The Soviet state determines and directs economic life with the help of national economic plans to add to the national wealth, to steadily raise the material and cultural standards of all the people.

Collective Farms and the State

A cooperative agricultural enterprise—the collective farm—has been created by peasants. It is a voluntary association where all property and all produce belong to the collective farm. The state gives the land to the collective farm for its perpetual use and helps it in every way possible: grants credits, provides seeds, sells farm machinery on favourable terms, carries out land improving operations, builds irrigation systems, etc.

Own House and Car

The predominance of public property does not encroach on the material rights of individual citizens. The right to personal property and the right to inherit it are protected by law.

Any Soviet citizen may own a house, a garden, an apiary, a cow, a motor car, etc, but he may not have a factory or plant, a tenement house or shop, that is, means of exploiting hired labour and the possibility of enriching oneself at other people's expense.

Work for the Common Good

Thus labour alone can be the source of personal property in the USSR and useful work for the common good is the duty of each able-bodied citizen. The principle of socialism—from each according to his ability, to each according to his work—which is observed in the Soviet Union ensures harmony of public and individual interests.

Infinite Possibilities for Everyone

The socialist system gives infinite possibilities for displaying personal interests of citizens and their initiative in any sphere of social life. This creates the most favourable

conditions for the application of personal abilities of each person and the best distribution of material benefits among individuals.

How Soviet Industry Is Run in the USSR

There are more than 200,000 plants, factories, power stations and mines in the Soviet Union. The planned system of economy, which has become possible due to public ownership of the means of production lends itself to the most efficient organization of production and cuts down waste of material, manpower and financial resources.

One Aim—One Programme

A planned economy rids society of the destructive influence of private competition and anarchy of production, and rules out economic crises, ensuring continuous growth of industrial production. The ultimate aim of production in the Soviet Union is to create an abundance of material and cultural wealth as an indispensable condition for transition to communism with its principle: "From each according to his ability, to each according to his need".

Industry — the Basis of Economy

Industry is the determining force in the planned system of economy. It ensures the development of all branches of the national economy by supplying them with fuel, power, metal, machines, chemicals, plastics, various raw materials and everything else they need. Industry provides the population with consumer goods. The processing of farm produce provides the population with the main foodstuffs.

Heavy Industry Calls the Tune

In developing Soviet industry the stress was on the heavy industry. The need for this was obvious, considering that the country had to overcome the industrial backwardness of prerevolutionary Russia in the shortest possible time. Tsarist Russia lagged far behind the United States, Britain

and France in the level of industrialization and labour productivity. In addition, the Soviet Union had to repair the damage wrought by World War I, the Civil War, and later the Nazi invasion.

Light Industry Catches Up

In order to carry out rapid industrialization the Soviet people made great sacrifices, denying themselves many comforts and even the barest necessities. Therefore the output of consumer goods lagged behind producer goods. The present level of economic development makes it possible substantially to accelerate the growth of the consumer goods industry, and bring it closer to the rate of development of heavy industry. This growth has been significantly stepped up in recent years. Whereas during the preceding 5 years (1961-65) the rate of development of heavy industry was 50 per cent higher than that of light industry, the ratio in the current five-year plan (1966-70) is approximately 7 to 6.

Heavy industry continues to develop at a somewhat faster rate than light industry. And this is to be expected since heavy industry forms the basis for the development of all other branches of national economy, including the consumer goods industries.

Within the current five-year period (1966-70) the manufacture of consumer goods by heavy industry (household refrigerators, washing machines, TV sets, etc.) will outpace by far capital goods' production rates. The production of cars will quadruple in five years to come close to one million cars annually. For the most part these will be for domestic consumption.

Search for the Most Efficient Methods of Economic Management

At times there have been fairly radical changes in the Soviet system of economic management. There is nothing strange in this since the socialist state, the first in history, had no experience in running a planned economy and had to grope for ways to discover the most efficient forms of economic management.

This task is exceedingly involved particularly in view of the rapid growth and complexity of the economy. Consequently, it was practically impossible to avoid errors. For example, the decentralization of economic management by means of National Economic Councils and numerous economic districts (over 100) established throughout the country during the seven-year period (1959-65) proved ineffective. It failed to ensure overall national interests, provide a uniform technological policy, or properly satisfy the requirements of all branches and all regions of the country.

More Extensive Rights and Independence for Individual Enterprises

It became necessary to return to the system of economic management wherein centralized State Ministries and Committees would control the respective industries. Simultaneously, individual enterprises would be given more extensive rights and independence than previously. This is the essence of the economic reform currently in process in the Soviet Union, a reform aimed at applying cost accounting more extensively, thereby stimulating the interest of each enterprise and each operator in the results achieved.

To Serve the Interests of the State and Workers Alike

This will serve the interests of the state and workers alike.

The reform has already proved its worth. It covers an ever growing number of enterprises and branches of the economy.

The current reform is essentially intended to enhance democratic principles in economic management; individual enterprises are granted extensive rights to encourage maximum initiative. Nevertheless, the enterprises have to coordinate their actions with the targets of the state national economic plan, whose ultimate goal is to ensure the advance of all branches of national economy and the greatest possible satisfaction of the people's material and spiritual requirements.

Democracy and Discipline

All industrial enterprises in the Soviet Union are managed by executives who are responsible to the state and have a great deal of leeway in running their enterprises. They have a free hand in handling the money and material resources of the enterprise. They are also responsible for hiring personnel, awarding bonuses and premiums for good work and imposing penalties for bad work. However, no director can discharge a worker without the consent of the public organizations. He must heed the opinion of the trade union organization which expresses the will of the working people, and strictly observe labour legislation which protects the rights of the wage and salary earners.

Plan — Scientific Programme of Action

It should be noted that the state plan is neither guesswork nor wishful thinking, but a scientifically substantiated programme for developing the national economy, its individual branches and enterprises. Long-term plans, drawn up for a period of five years, determine the progressive trends in the development of the country's economy. These are then broken down according to branches, economic areas and Republics. Current yearly plans are regularly compiled on the basis of the long-term national economic plan.

From Factory to State Planning Committee

Plants, factories, mines, designing and research institutions actively participate in working out draft development plans. These plans are discussed by the workers at meetings, production conferences and in the press. Then the draft plan is amended in line with the discussion and reviewed by the planning bodies existing in every town, district, region and Republic. The draft economic development plan of the Republic is submitted to the USSR State Planning Committee. The latter, together with all ministries and departments concerned, with the help of the USSR Academy of Sciences draws up a draft national economic plan for all branches of the economy and all areas of the country. After

thorough examination and discussion, the USSR Council of Ministers submits this draft for approval to the USSR Supreme Soviet.

The Plan Becomes Law

When the plan is adopted by a session of the USSR Supreme Soviet it becomes law.

However, in line with the current economic reform state plans today, unlike former ones, envisage a rather limited number of compulsory economic indicators. This enables the managers to "freely manipulate" available funds and materials.

MAIN STAGES OF INDUSTRIAL DEVELOPMENT

The highly-developed modern Soviet industry was built up in a very short period of time. It only took several decades to turn backward Russia into a mighty industrial power. Moreover, nearly half the time was spent on defending the country against its enemies and restoring the war-devastated economy.

From Backwardness to a Mighty Industrial Power

Ravaged by World War I and the Civil War, foreign intervention, famine and devastation, it took the young Soviet Republic full ten years, after the 1917 October Revolution, to reach the prewar level of industrial production. Added to this, while restoring the ravaged economy the working people had simultaneously to learn how to run production.

Valuable Experience of First Five-Year Plans

Valuable experience was gradually accumulated over the years, and the tremendous advantages inherent in the new planned system of economic development became ever more obvious. The first five-year plan periods (1928-41) laid a firm foundation for the industrialization of the country. These years saw the reconstruction of the old and the creation of many new industries, hitherto unknown in Russia:

aircraft, motor-car and tractor production, instrument-making, etc. During these years experienced workers and engineers—managers of enterprises emerged.

Second Only to the United States

By the beginning of 1941 industrial production was nearly eight times that of the prerevolutionary period, and the Soviet Union had become a major industrial power, second only to the United States. The treacherous assault of the German nazis on the USSR in June 1941 interrupted the peaceful work of the Soviet people aimed at the fulfilment of the third five-year plan. But the high level of industrial development achieved by the USSR helped it to withstand the onslaught of the fascist hordes and defeat them after a fierce struggle. And this despite the fact that the nazis were being armed and equipped by the industries of practically the whole of Europe.

Damage Caused by the War Quickly Repaired

The damage caused to Soviet economy by the fascist invaders, including war expenditures, ran into an astronomical figure. More than 32,000 enterprises employing nearly four million workers were destroyed. However, it took but a few years to compensate the losses and resume the country's rapid advance. Such are the advantages of the Soviet system. Five years after the war, in 1950, industrial production was 173 per cent of the prewar, 1940 level, and by 1960 had grown 5-fold. The year 1959 saw the adoption of a seven-year national economic plan which envisaged speeding up industrial growth. This plan was also successfully fulfilled. Industrial output in the period between 1959 and 1965 increased 84 per cent as against the planned 80 per cent.

Industry in the Soviet Union is Developing Three Times Faster than in the USA

Industrial production in the USSR is developing at a much faster rate than in the major capitalist states. During 49 years (1918-1966) the average annual growth of industrial production in the USA was 3.7 per cent and in the USSR—9.9

per cent. Fifteen years ago the volume of Soviet industrial production was hardly one-third the respective figure for the USA, whereas by now it has already grown to two-thirds. In 1913 Russia's share of world industrial output was only a little over four per cent, whereas by 1966 the Soviet Union accounted for nearly one-fifth of the total volume of world industrial production. Under the current five-year plan (1966-1970) the industrial production will increase 50 per cent.

Main Branches of Industry

Soviet industry consists of many branches of industrial production, which have been able to ensure the rapid development of such a vast state as the USSR and allot a considerable share of their output for export. Compared with the prerevolutionary period the country's gross volume of industrial production increased nearly 60-fold by 1967.

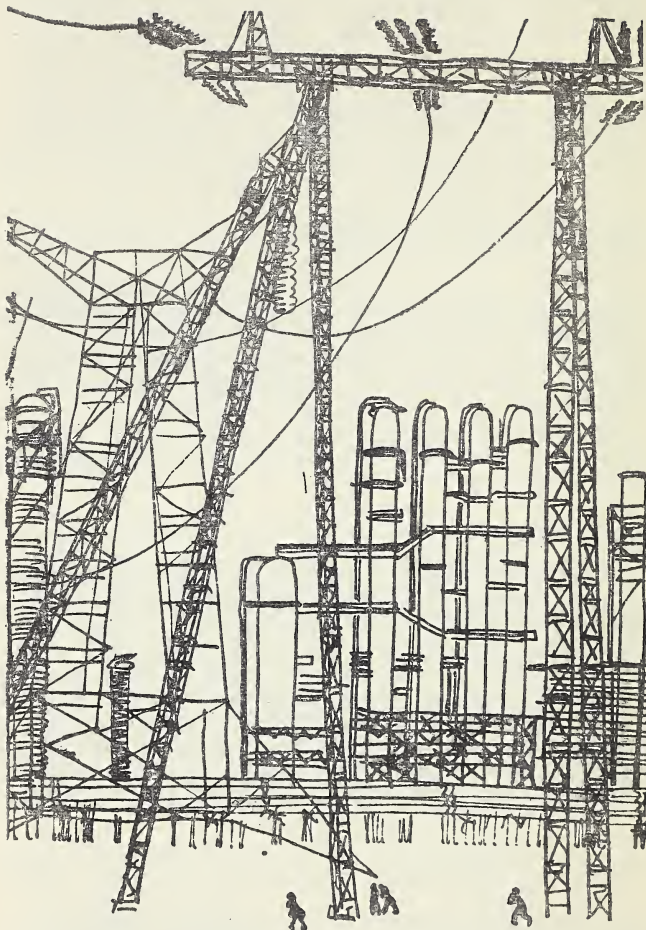
Mounting industrial resources are being increasingly channelled to satisfy consumer demand and expand communal services and public utilities.

FUEL INDUSTRY

Nature has generously endowed the Soviet Union with all types of mineral fuel: coal, oil, gas, peat and shale. But they are not always located in likely places for present-day requirements. Thus, the bulk of the coal resources is situated in the Asian part of the USSR while most of the oil extraction is carried out in the European part of the country. This has led to considerable transportation outlays connected with delivering these two major types of fuel to the consumer. True, this state of affairs will be rectified in the near future since large deposits of oil and gas have been discovered in Siberia and Central Asia.

Oil and Gas Replace Coal

For a long time due to a number of reasons coal was the main fuel in the Soviet Union. The transition after World War II to more economical types of fuel—oil and gas—is especially important for the European part of the USSR,



where the bulk of Soviet industry is concentrated, since only 10 per cent of the country's total coal reserves are located there.

At present oil and gas account for more than half of all the fuel consumed, while the corresponding figures for 1950 and 1958 were only 19.7 and 32 per cent respectively.

25 Per Cent of the World Output

Despite the fact that the share of coal in the country's fuel balance has been dropping in recent years, it still plays a very important role, and coal mining is constantly being expanded. In 1966 coal output reached 585 million tons (i. e. 25 per cent of the world output) compared with 166 million tons mined in 1940. Plans have been made to further develop this branch of the fuel industry especially in the eastern regions of the USSR, primarily in the Eastern Siberia and Kazakhstan where reserves of coal are conveniently located near the surface and can be developed by the open-cut method, a much cheaper means of obtaining coal. The current five-year plan has a target of 665 to 675 million tons of coal a year by 1970. By 1980 coal mining is expected to double the figures for 1965.

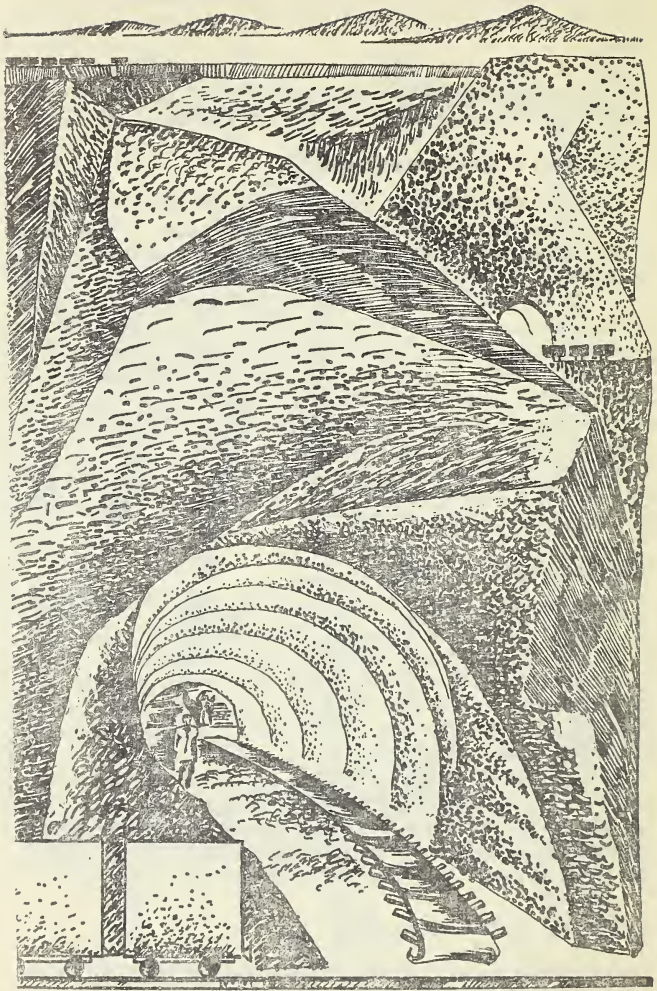
New Geography of Coal

In prerevolutionary Russia only one large coal basin, the Donets Basin (Donbas), was developed in the true sense of the word. And it accounted for nearly 90 per cent of the country's total coal output. Today this basin produces less than one-third of the coal mined in the USSR even though the output of coal in the Donets Basin increased 7- or 8-fold in Soviet times.

The Kuznetsk Basin in Siberia (Kuzbas) and the Karaganda Basin in Kazakhstan have become major coal centres. The postrevolutionary years saw a sharp increase in the output of coal in the Urals, Eastern Siberia, in the Soviet Far East, Central Asia and in the Moscow Region.

High Level of Mechanization

Practically all jobs in coal mines and especially in open-cut coal fields are mechanized, except for a few operations which are difficult to mechanize completely.



The last few years have seen the rapid development of open-cut coal mining in the Soviet Union. Highly productive excavators and other machines work the coal seams at a depth of 100 to 200 metres and even deeper.

Today nearly 25 per cent of all coal produced in the Soviet Union is mined by the open-cut method, while the corresponding figure for 1940 was a mere four per cent.

28 Times More than in 1913

Oil extraction in the Soviet Union is on the upsurge. The country produced 265 million tons of oil in 1966 (one-seventh of the world output). During the seven-year plan period it grew to nearly 28 times the 1913 level. In the output of liquid fuel the USSR is second only to the United States, and the gap between them is rapidly closing. Annual oil extraction increase in the USA came to 8 million tons. The annual increment of oil extraction in the USSR was about 20 million tons over the past seven-year period. Towards the end of the current five-year period (1970) oil extraction will reach 345 to 355 million tons.

Only one major oil-bearing district was developed in tsarist Russia—the oil fields in the vicinity of Baku.

Now the old Caucasian oil fields, well known for the excellent quality of their fuel, have been modernized. And now their output has increased considerably. Development of oil deposits in the bottom of the Caspian Sea in the vicinity of Baku and Derbent was an important event. Trestles stretch out into the sea for over 200 kilometres.

Between the Volga and the Urals

Soviet geologists did wonders to revise the geography of the oil fields. The results were even more spectacular than in the case of coal industry.

After the end of World War II a new oil-bearing district—the oil fields lying between the Volga and the Urals—became the top producer in the Soviet Union. This area was once known as the “Second Baku” but it has long since left the original Baku far behind. Today this district accounts for 75 per cent of the total volume of oil extracted in the country. The Second Baku is situated much more conveniently in respect to the main oil consumers than the other oil

centres. After the war numerous oil pipelines were laid from this major oil-bearing region in all directions, stretching east towards Irkutsk, south to the shores of the Caspian Sea, north to the city of Perm and north-west to the vicinity of Leningrad. The Friendship Pipeline, the world's largest, stretches westwards for 4,500 kilometres, crosses the Soviet border, bringing oil to Poland, Hungary, Czechoslovakia and the German Democratic Republic.

Full-scale development of another promising oil-bearing region was launched during the postwar years. It is situated on the eastern coast of the Caspian Sea in the deserts of Western Turkmenistan. Despite extremely difficult conditions for prospecting and oil-extraction a number of major oil fields were built in this area, including the Nebit-Dag, Kum-Dag, Chelēken and others. Still more promising oil and gas deposits were recently discovered on Mangyshlak Peninsula in the Caspian Sea.

New Oil Fields

New oil centres have appeared on Sakhalin Island, in a number of districts in Uzbekistan, Kazakhstan and Kirghizia, and in the basin of the Pechora River. Oil extraction has been considerably expanded in the vicinity of the Carpathians. After twenty years of prospecting oil was discovered in Byelorussia, in the extreme west of the country.

Oceans of Oil in Siberia

Huge oil and gas deposits have been discovered in Western Siberia in recent years. And there is every reason to believe that they will eclipse all known deposits of oil and gas. The construction of the Ust-Balyk-Omsk pipeline is in full swing. The Shaim-Tyumen pipeline is already in operation. They will be used to pump Siberian oil to the railway.

Improved Technology

The Soviet oil industry is provided with excellent equipment. Soviet scientists and engineers are pioneering in oil extraction. The oil wells are drilled with world-renowned Soviet turbo- and electric-boring equipment. In most cases

artificial pressure is applied to the oil beds to exploit the wells. Entire rivers of water are pumped into the oil beds: more than 200 million cubic metres a year. As a result, the share of oil received from gushers now amounts to 75 per cent of the total output.

«Blue Fuel» — New Branch of Industry

The Soviet gas industry, which was built up in the main during the postwar years, is developing at an even faster rate than the oil industry. Known reserves of natural gas already run into 60,000,000 million cubic metres. This is twice the United States' resources and nearly 40 per cent of the total world reserves of natural gas.

The country receives most of its "blue fuel" from the North Caucasus (Stavropol and the Kuban), the Volga area (Saratov and Volgograd Regions and the Tatar Autonomous Republic) and the adjacent Bashkir Autonomous Republic, the western and south-eastern regions of the Ukraine (Dashaava and Shebelinka), the Transcaucasus (the Baku area), the Bukhara district in Central Asia (Gazli and Jarkak). Large deposits of natural gas have recently been found in Turkmenistan (the Kara-Kum Desert) and Siberia (Beryozovo, Viluy and other districts). Gas deposits have also been discovered in Tajikistan, on Sakhalin Island, and in the Pechora area.

Extensive Gas Network

A ramified network of gas pipelines has rapidly covered the entire European part of the Soviet Union. Moscow receives natural gas from Saratov, Shebelinka, Dashaava and the North Caucasus. Gas pipelines stretch in all directions: towards Leningrad, to all the capitals of the Baltic and Transcaucasian Republics, to hundreds of towns and communities in the European part of the USSR and the Transcaucasus, to most of the capital cities and many towns in the Central Asian Republics.

A 2,000-kilometre gas pipeline was recently built between the Gazli deposits and Nizhni Tagil (via Chelyabinsk and Sverdlovsk). It crosses two deserts. Another gas pipeline has been laid to these cities from Beryozovo (West Siberia). A huge pipeline is being laid from the gas deposits in Turk-

menistan to the central industrial districts of the country. Blueprints have been prepared for a big pipeline to connect the vast deposits, discovered in northernmost West Siberia, with the said industrial districts.

Gas — Fuel with a Promising Future

The use of gas intensifies blast-furnace operation, lowers the cost of electric power production and improves many productive processes. Chemists are particularly interested in gas as a cheap and convenient raw material for the production of nitric fertilizers, plastics, fibres, synthetic rubber and many other commodities. And, finally, there is a growing use for gas in communal services.

Extraction of natural gas in the Soviet Union is being stepped up in every possible way. In 1966 the country's total gas output comprised 145,000 million cubic metres compared with 30,000 million cubic metres produced in 1958. By 1970 gas extraction is planned to reach 225,000 to 240,000 million cubic metres.

POWER INDUSTRY

The power industry in prerevolutionary Russia was in a rudimentary state. The country was sixth in Europe in the production of electric power. The low-capacity power stations of Russia produced a total of just over 2,000 million kwh a year. During the years of World War I and the Civil War even this midget power base was seriously devastated.

From Scratch

The young Soviet state received a heritage of rusty skeletons of machines surrounded by the battered, crumbling walls of power-houses. Certainly it is no exaggeration to say that the Soviet people had to begin building their power base from scratch. In 1920 the young Soviet Republic produced a little over 500 million kwh of electricity—about as much as is generated today by a small power station.

One cannot but marvel at Lenin's amazing foresight and faith in the people when in those dire days he put forward

his plan for the electrification of the entire country which seemed fantastic at the time. On Lenin's proposal two hundred leading scientists spent several months drawing up a detailed plan for the electrification of the country known as the GOELRO plan.

This was the first scientifically substantiated long-term national economic plan in history and it envisaged the construction of 30 large thermal and hydropower stations over a period of 10 to 15 years. These were to form the power base for reconstructing the old and building up new industrial centres.

Plan of «the Dreamer in the Kremlin»

H. G. Wells, the well-known British science fiction writer, called Lenin "the dreamer in the Kremlin" and his plan an "electrical utopia." However, this utopia became a reality. The plan was fully realized over a period of 10 years and in another 15 years the original targets were topped almost 3-fold. This made it possible in a short period of time to build up a powerful up-to-date industry in the country and collectivize and mechanize agriculture.

Leading Europe

During the war with Hitler Germany the fascist hordes devastated and ransacked the Soviet power industry. However, it was rapidly rehabilitated due to the heroic efforts of the people. By 1950 the USSR produced more electric energy than any country in Europe. The power output in 1966 ran into 545,000 million kwh, i. e. approximately 12 times the figure for 1940. The amount of electricity used for lighting the homes and streets today is not much less than the total power consumption in 1945. Even so the Soviet Union noticeably lags behind the United States in the production of electric energy. However, it should be noted that annual increment rates of electric power generation (over 12 per cent within the last 15 years) are higher than those of the USA while the absolute increment is still lower than the USA figure. Towards the end of the present five-year plan power generation is to reach 840,000 to 850,000 million kwh.



Gigantic Turbines — Most Powerful in the World

The Soviet Union now boasts large thermal power stations with a capacity of up to 3.6 million kw and is building and designing still more powerful electric stations. Soviet power plants are equipped with 300,000 kw turbines. The USSR has launched the production of still more powerful electrical machines (with a capacity of 500,000 and 800,000 kw) and is designing one-million-kilowatt power installations. This means that one turbogenerator will have the capacity of approximately all power stations of prerevolutionary Russia taken together. The high degree of concentration of production at major electric stations equipped with powerful generators considerably reduces the cost of electricity.

In Remote Areas

Large power stations dot the country, including remote, sparsely populated areas richly endowed by nature. This makes it possible to successfully develop the country's diverse natural resources, to inhabit thinly populated territories and propagate culture in the most distant parts of the USSR: in the taiga, Far North, deserts...

Some 50 years ago there was not a single electric light throughout a vast territory known as Kirghizia and Tajikistan. Today each of these sparsely populated Republics produces as much electricity as the whole of tsarist Russia.

Extensive use of the most diverse resources is being made to produce electric power: coal (including low-quality local coal and chippings), oil, natural gas, peat, combustible shale, river hydropower resources, and, finally, atomic energy.

World's First Atomic Power Station

The Soviet Union holds priority in the construction of atomic power stations, the first of which was built in 1954. The construction of two major atomic power stations is now nearing completion: one near Voronezh (the Novovoronezh) with a design capacity of 210,000 kw and the other

one in the vicinity of Sverdlovsk (the Beloyarsk). The first sections of these atomic power stations were commissioned in 1964. An atomic power station is under construction near Melekes, north of Kuibyshev. Some atomic power stations are operating in Siberia. Their aggregate capacity exceeds 600,000 kw. Electric energy produced by the peaceful atom is still more expensive than the power generated by conventional thermal stations, but it is obvious even now that atomic power stations will soon be able to compete with thermal power stations.

Power Systems

The Soviet Union has gone in for hydropower construction in a big way. The Volkhov hydropower station was the first to be built (66,000 kw). The year 1932 saw the commissioning of the Dnieper hydropower project, at that time the biggest in the world with an initial capacity of 562,000 kw. Plans have now been drawn up for increasing the capacity of the Dnieper hydropower station to 1,500,000 kw.

However, it was not until the postwar years that hydropower construction acquired a truly vast scope. This was the period when giant hydropower plants began to spring up on the Volga one after another. Today there are six of them, including the Lenin hydropower station with a capacity of over 2.3 million kw, the first to exceed the famous American Grand Coulee Station (1,947,000 kw), and the hydropower station named after the 22nd CPSU Congress with a capacity of over 2.5 million kw. Hydropower systems are being built on the rivers Dnieper, Dniester, Western Dvina, Niemen, Irtysh, Ob, Angara, on many rivers in the Kola Peninsula, the Transcaucasus and Central Asia.

Largest in the World

The aggregate capacity of the Bratsk station on the Angara, which is in the final stages of construction, will run into 4.5 million kw. The Ust-Ilim hydropower station being built on the same river will have a similar capacity.

Some of the hydropower projects going up on the Yenisei (the Krasnoyarsk, the Sayan) will exceed even this tremendous capacity.

The construction of hydropower stations takes more time than the building of thermal power plants and entails much greater outlay. However, hydropower stations have a number of advantages, the first being the low cost of the electricity produced. Besides, the construction of hydropower station systems provides the answer to many important problems: control of drainage, irrigation, water supply for towns and industrial centres, navigation, and fish breeding.

Power Grids — Guarantee of Reliability

The linking up of power stations by high-tension transmission lines, the setting up of district and inter-district power grids ensure a reliable power supply for the entire country.

This work has been carried out on a particularly grand scale in the main industrial districts of the country situated west of and along the Urals Ridge. The most powerful grids in this area have been linked up in a single high-tension system. These power systems include the Central Grid, which was formed around Moscow and was later linked up with the Middle Volga Grid; the Urals Grid, also linked up with the Volga system; the Southern Grid, embracing the Donets Basin and the Dnieper area; the North Caucasus Power System. Recently this joint power grid was linked up with the united Transcaucasian Power System. In the near future, all the power grids of the European part of the USSR will be linked together.

Power Grid Embracing Half of Europe

In this way a gigantic power grid will soon emerge covering a territory of more than five million square kilometres and stretching from the shores of the Barents and White Seas to the Iranian and Turkish borders, and from the Ural Mountains to the western borders of the USSR.

Simultaneously, power grids are being united in Central and Southern Siberia, Kazakhstan and Central Asia with the subsequent aim of merging them with the power grid of the European part of the Soviet Union. And in the future they will be linked up with the power systems of the Far East. This will complete the creation of a United Power Grid embracing the entire populated territory of the USSR.

United Power Grid of the USSR and Adjacent Countries

The united power system extends beyond the borders of the USSR. At Mukachevo on the western border it merges with the inter-state Peace Power Grid which embraces nearly all the socialist countries of Europe.

Cooperation between the Soviet Union and the neighbouring states with regard to the power industry is not restricted to the socialist countries alone. Under an agreement signed with Norway a large hydropower station is being jointly built on the river between the two countries. The electricity produced by this station will be utilized by both sides. Similar power stations have been built, or are under construction, on rivers between the Soviet Union and Finland. Negotiations on the subject are under way with other countries bordering on the USSR.

METALLURGY

Today the Soviet Union produces nearly a fifth of the world steel output. It turns out more metal than Federal Germany, Britain and France taken together and is rapidly catching up with the United States, the world's biggest steel producer. In 1966 the USSR smelted 96.9 million tons of steel and the United States, 125 million tons. By 1970 the total volume of steel produced in the Soviet Union is planned to reach 124 to 129 million tons.

In the past there was only one comparatively large metallurgical base which supplied Russia with metal. This was the Donets Basin and Dnieper area in the south of the European part of the country which accounted for about 75 per cent of all Russian pig iron and approximately two-thirds of the steel. The second metallurgical base which emerged in the Urals back in the 18th century was notorious for its technical backwardness and, despite the excellent quality of the ore, could not compete with the output of the southern metallurgical base.

Iron and Steel Industry Moves to the East

Today the south is responsible for about half the pig iron and 40 per cent of the steel produced in the country. The new metallurgical base created in the east is not far behind. Here priority goes to the Ural area where four very big

modern plants were built: in Magnitogorsk, Chelyabinsk, Nizhni Tagil and Orsk. The Magnitogorsk plant is one of the largest in the world.

In recent years metallurgy in Siberia and Kazakhstan has developed rapidly. A major, rapidly expanding full-cycle plant has been built in Karaganda. Construction of another iron and steel works has been planned for the north-west of Kazakhstan. It will be based on the vast deposits of iron ore recently discovered in the Kustanai Region.

From Leningrad to Georgia

Large full-cycle plants have been built in the north-west of the country near Leningrad (Cherepovets) and in the south—in Georgia (Rustavi). This has greatly contributed to the metal supply of areas far removed from the country's main metallurgical bases.

The development of machine building throughout the country has called for the building of local steel-smelting mills. Such enterprises have been built in Liepaja (Latvia), Leningrad, Gorky, Novosibirsk, Usbekistan (Begovat), and the Far East (Komsomolsk-on-Amur).

Kursk Magnetic Anomaly — World's Largest Iron Ore Reserves

Ferrous metal is produced on a wide scale in the central part of the European USSR—the country's major machine-building area. This area is also a major steel-smelting centre with large plants in Moscow, Elektrostal, Tula, Lipetsk and other towns. Lipetsk and Tula also produce pig iron. The role of the central regions in the country's metal production will considerably increase in the near future due to the development of tremendous iron ore deposits which have become widely known as the Kursk Magnetic Anomaly. The ore is bedded in a long and wide belt to the north of Kharkov. The known area of the Kursk Magnetic Anomaly comprises 160,000 square kilometres, which is equal to the size of Austria, Belgium and Denmark combined. The reserves of rich ores alone (with an iron content of up to 63 per cent) run into 30,000 million tons, while there are thousands of millions of tons of ore with a 25 to 40 per cent metal content. Some of the ore deposits lie very close to the

surface of the earth. The Kursk Magnetic Anomaly could satisfy all mankind's requirements for iron ore for hundreds of years.

All Districts Will Be Provided with Ore

Its mines and open-cut workings will provide iron ore not only for the central and other districts of the European USSR, but also for foreign countries. The development of these deposits will make it possible to plan for unlimited expansion of southern metallurgy now based primarily on the Krivoi Rog (the Ukraine) deposits. Here the ore is of excellent quality but its reserves are much smaller than those of the Kursk Magnetic Anomaly.

Prospecting work carried out during the postwar years has also fully provided all metallurgical centres of the country with iron ore. Many thousands of millions of tons of various grades of ore have been discovered in the Kustanai Region (Kazakhstan) not far from the Urals. These deposits have formed a new base for the iron and steel industry of the Southern Urals, since its own iron ore base (Magnitogorsk, Bakal, Orsk-Khalilovo), which seemed inexhaustible during the first years of industrialization in this area, has begun to show signs of rapid exhaustion in recent years. Plants in the Northern and Middle Urals also received a new powerful ore base—the Kachkanar deposits where the ores have a low metal content (as compared with other Ural deposits), but are easily concentrated and exceed the combined Ural reserves.

Siberia's metal industry, which was set up on Urals ore, now has its own iron ore base. Major mining enterprises have been established in Siberia which fully meet the area's current and long-term requirements for ferrous metals. A similar situation exists in Kazakhstan.

The areas prospected in recent years ensure the development of the iron and steel industry in the Far East.

Non-Ferrous Metals

The Soviet Union also has ample resources of non-ferrous, rare and precious metals (gold, silver, and platinum). The USSR is far ahead of all the other countries in the volume of its geological reserves of bauxites, copper, lead, zinc,

nickel, tungsten, mercury and other non-ferrous metals. This has enabled it to build up an extensive non-ferrous metals industry capable of satisfying the country's rapidly growing requirements.

Special note should be made of the aluminium production which did not exist in prerevolutionary Russia. Until recently this industry was fully based on bauxites prospected in the Urals (Sverdlovsk Region) and in the Leningrad Region (Tikhvin). Ural bauxites are of very high quality and the alumina is processed both locally (at the Kamensk-Uralsky plant) and shipped to other parts of the country: to Western Siberia (Novokuznetsk), the Volga area (Volgograd), the Transcaucasus (Sumgait). The Tikhvin deposits supply the Volkhov and Zaporozhye plants.

In recent years large bauxite deposits were located in the Kustanai Region. They served as a raw materials base for the new Pavlodar plant which was commissioned in 1964.

However, today bauxites are not the only raw material used for the production of aluminium.

Aluminium from a New Raw Material

Soviet engineers have worked out a highly economical method of obtaining aluminium from nephelites with the simultaneous expansion of soda products. This has led to a considerable expansion of the raw materials base of the Soviet aluminium industry since the country has tremendous reserves of nephelites in Eastern Siberia, the Kola Peninsula, the Transcaucasus and other districts.

The Kandalaksha and Nadvoitsy plants in the Murmansk Region and Karelia are already operating on Kola nephelites. Large-scale aluminium works are under construction in the vicinity of Irkutsk and Krasnoyarsk, near the largest nephelite deposits in the country and the cheapest power sources (the hydropower stations on the Angara and Yenisei and rich coal deposits lying close to the surface of the earth). A large plant is being built in the vicinity of Bratsk, near the gigantic hydropower station.

Export of Non-Ferrous Metals

The Soviet Union produces large quantities of non-ferrous and rare metals sufficient for its own rapidly growing requirements and for export. These include: copper, lead, zinc,

tin, nickel, chromium, magnesium, tungsten, molybdenum, titanium, cobalt, antimony, mercury and many others.

Most of the non-ferrous metals are mined and smelted in the eastern regions of the country, particularly Kazakhstan, a major producer of copper, lead, zinc, gold, silver and many rare metals. Aluminium production has also been started in Kazakhstan. Major centres of non-ferrous metallurgy have been set up in Ust-Kamenogorsk, Leninogorsk, Chimkent, Balkhash, Jezkazgan, Achisai, Pavlodar and other places. Many of them have sprung up in formerly uninhabited, barren deserts.

Another major centre of non-ferrous metallurgy is the Ural area which smelts copper, aluminium, magnesium, nickel and zinc and mines gold, platinum and other metals.

Important centres of the non-ferrous metals industry have been set up in Karelia and the Kola Peninsula (copper, nickel, aluminium, rare metals), in the Caucasus (copper, aluminium, zinc, lead), the Ukraine (aluminium, magnesium, zinc, etc.), Siberia and the Far East.

ENGINEERING

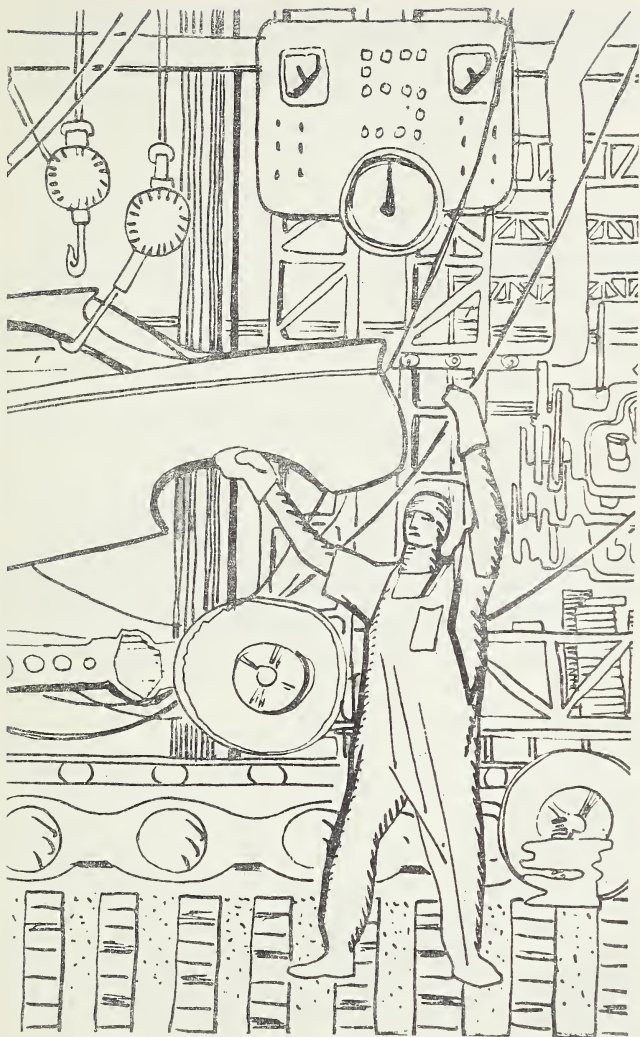
Today the Soviet Union produces more machines in one day than old Russia turned out during the whole of 1913. From a country which imported machines the USSR has turned into a major exporter of engineering products. For many years now the Soviet Union has been a leading machine producer, second only to the United States; while in the production of metal-cutting lathes and electric and diesel locomotives it comes first.

The spaceships and inter-continental missiles, atomic installations, jet air liners, cybernetic devices, drilling rigs and a wide range of diverse engineering equipment built in the USSR are convincing proof of the tremendous successes scored by the Soviet engineering industry.

In this chapter we shall only dwell on the main branches characterizing the level of this industry.

185,000 Machine-Tools a Year

Machine-tool building. The Soviet Union manufactures all types of metal-cutting lathes, including automatic machine-tools and automated production and assembly



lines. In 1966 the Soviet Union turned out 185,000 machine-tools (not counting semi-automated and automated production lines). The Soviet Union leads in the manufacture of machine-tools. By 1970 the output of metal-cutting lathes is to reach 220,000 to 230,000.

Development of the engineering industry has been accompanied by a change in the distribution of enterprises. Originally confined to such old centres as Moscow and its environs and Leningrad, the engineering industry has branched out to nearly all the Soviet Republics and major economic districts. Large plants have been built in Gorky, Saratov, Kuibyshev, Tula, Ryazan, Kharkov, Minsk, Kramatorsk, Sverdlovsk and many other towns in both the old and newly developing districts.

Some 500 Electric Motors an Hour

Power and electrical engineering equipment. This branch of the engineering industry has been built up veritably from scratch. The annual manufacture of turbines has grown 2,000 times over in Soviet years. The country produces nearly 250 times more electric bulbs than before the revolution. Every hour Soviet enterprises turn out an average of 500 electric motors. The production of power and electrical engineering equipment has been widely developed in the central districts of the European USSR, in Leningrad, Sverdlovsk, Gorky, Yerevan, in many towns of the Ukraine and Baltic Republics, and in the east of the country.

End of the Steam Locomotive Era

Transport facilities. In 1958 the Soviet Union stopped building steam locomotives which were replaced by electric and diesel locomotives. Today the country turns out more than 2,000 electric and diesel locomotives a year compared with the 14 built in 1940, and their capacity has approximately doubled. The Soviet Union annually builds nearly three times as many trunkline diesel and electric locomotives as Britain, twice as many as Federal Germany and some 40 per cent more than the United States. The Soviet Union manufactures a great number of passenger coaches and freight cars, as well as trolley-buses, street-cars and subway coaches.

These are mainly produced in central districts (Kolomna, Bryansk, Mytishchi, Kalinin), the Ukraine (Lugansk, Khar'kov, Nikolayev), Leningrad, Nizhni Tagil, Riga, Tbilisi, Novocherkassk and many other towns. The Soviet Union also imports a fair amount of rolling stock.

Hydrofoils and Hovercraft

The Soviet shipbuilding industry has developed in a big way. Shipbuilding enterprises can be found in all sea and major river basins. Soviet shipyards build ships of all classes with a displacement of up to 60,000 tons. The building of high-speed hydrofoil vessels is being successfully developed in recent years. The Soviet Union also turns out twin-body ships (catamarans) and hovercraft. Soviet vessels are readily bought by many countries. The USSR, in turn, purchases ships in a number of countries of the world.

From Assembly Plant to Mass Production

Automobile industry. Old Russia did not have an automobile industry of its own. It assembled automobiles from parts manufactured abroad. And even this was done on a very small scale. The first Soviet-made automobile was built in 1924 at the AMO plant in Moscow (now the Likhachov Motor Works). This was a truck with a small carrying capacity. Today the Soviet Union annually produces over 600,000 motor vehicles of every possible type and purpose. About two-thirds of them are trucks. Soviet trucks are exported to scores of countries. Several models of Soviet vehicles are very popular abroad.

There will be a sharp increase in their production within the current five-year period. By 1970 it is planned to put out 1.3 to 1.5 million vehicles a year including 700,000 to 800,000 cars.

The motor works are situated in the central districts of the European part of the USSR — Moscow (two plants), Gorky, Pavlovo, Likino; in Byelorussia—Minsk, Zhodino; in the Urals—Miass, Kurgan; in Georgia—Kutaisi; in the Ukraine—Zaporozhye, Kremenchug, Lvov; in Latvia—Riga.

Assembly plants have recently been built in Frunze and Yerevan. A number of motor works will be built in the near

future; in volume they will dwarf all currently operating motor works. Foreign firms will take part in their construction.

Large Range of Machines

Agricultural machines. The Soviet Union manufactures a wide range of farm machines and implements: dozens of types of tractors and combine harvesters, potato-planting machines, seeders and mowers, beet and potato harvesters, cotton-picking and tea-harvesting machines, equipment for livestock farms, electrical milking appliances and many other agricultural machines and implements which form an integral part of modern Soviet farming.

In recent years Soviet industry has been laying ever greater emphasis on replacing trailer implements by more economical mounted implements—ploughs, seeders, cultivators, etc. Most of the farm machine enterprises are situated in the south of the country: in the Ukraine and Rostov Region. Many large plants are also located in the central districts, the Volga area, Byelorussia, the Urals and Siberia.

Dream Comes True

In the early twenties Lenin dreamed of the country having 100,000 tractors. Today Soviet industry puts out more than 380,000 tractors a year. This figure will be upped to 600,000—625,000 by 1970.

Harvesters and Reaping Machines

The manufacture of grain and maize harvesters, beet pickers and silage cutters has almost reached the 160,000 mark. It should be noted that all the grain combines built in recent years are self-propelled machines. Two-stage harvesting of grain crops has led to a nearly 200-fold increase in the manufacture of reaping machines (as compared with 1950). Today their output approaches 100,000 a year.

Specialized tractor plants have been built in Volgograd, Kharkov, Lipetsk, Vladimir, Minsk, Chelyabinsk and Rubtsovsk (Altai). Tractors for various types of agricultural work are also built by plants in Leningrad, Bryansk and Petrozavodsk. Combine harvesters are produced in Rostov-on-

Don, Taganrog, Tula, Lyubertsy (Moscow Region), and Zaporozhye. Large-scale production of these machines has also been organized in the eastern regions of the country.

Farm Machines and Implements for Export

Soviet engineering industry not only satisfies the country's needs in farm machines and implements but also produces a considerable number of them for export.

The same is true of the manufacture of bearings, which was organized and developed in Soviet times and now exceeds 500 million a year, road-building and construction machines, as well as equipment for all branches of the light and food industries.

Soviet engineering is flexibly adapting itself to servicing the most progressive branches of industry which are coming to the fore in the national economy. Developing especially rapidly in late years was production of equipment for the chemical industry, technological control instruments and computers.

Geography of Engineering Industry

The distribution of the engineering industry in tsarist Russia was extremely uneven, due to the abnormal concentration of machine-building enterprises in the central district and partly in St. Petersburg (now Leningrad).

In Soviet times large engineering centres have sprung up practically everywhere in the country. A variety of modern machine-building plants have been put up in the Urals, the Ukraine, Byelorussia, in all the Baltic Republics, Transcaucasia and Central Asia.

Let us take, for example, some of the capital cities in the Republics which in the past had no engineering industry at all.

Everything Built in Soviet Times

FRUNZE (capital of the Kirghiz SSR) manufactures machine-tools, motors, bicycles, washing machines, farm and other machines. The production of physics laboratory equipment has been started recently and a motor vehicle assembly plant has been built.

ALMA-ATA (capital of the Kazakh SSR) has almost a score of engineering enterprises manufacturing machine-tools, equipment for metallurgical plants and mines, electrical machines, scales, fuelling trucks, tip-up freight cars, scraper winches, etc.

YEREVAN (capital of the Armenian SSR) manufactures generators, transformers, electric motors, mobile power stations (90 per cent of the total national output), machine-tools, presses, cable, electric bulbs, automation devices, various electrical instruments.

Local and National Interests

A similar picture can be observed in the capitals of all the other Soviet Republics and in many other towns and cities throughout the country. Major engineering centres have appeared in Siberia and the Far East. The engineering industry is distributed in accordance with a national plan for the economic specialization of the districts depending on their manpower, raw materials (metal) supply, power resources, etc. In this way the interests of both the districts in question and the country as a whole are taken into account.

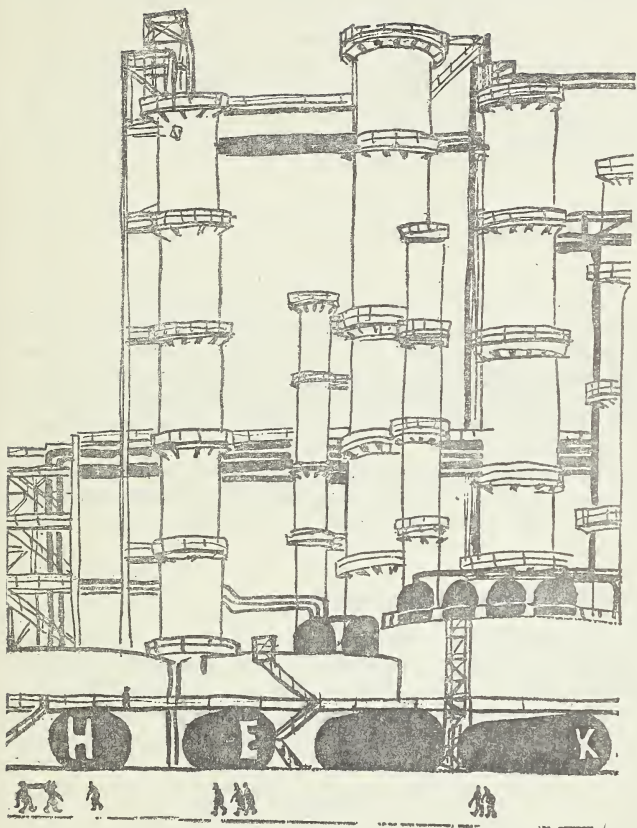
CHEMICAL INDUSTRY

During the postwar years and especially in the last ten years chemistry has rapidly become one of the leading branches of Soviet industry.

In a short period of time and on the basis, primarily, of the processing of oil, gas and coal, as well as wood and combustible shale, the country has built up a wide variety of large-scale organic chemistry enterprises producing plastics, chemical fibres, synthetic rubber, dyes, detergents and many other chemicals which are finding ever greater application both in production and everyday life.

Plastics and Chemical Fibres

Compared with the prewar period the production of chemical fibres has increased 45-fold and exceeded 458,000 tons in 1966. Although this is still only one-third of the US figure, the gap is rapidly narrowing. Under the five-year



plan (1966—1970) there is to be a drastic increase in the production of chemical fibres and plastics during the next few years.

It is planned to produce some 780,000 to 830,000 tons of chemical fibres by 1970; plastics and synthetic resins will reach 2.1 to 2.3 million tons.

New chemical organic synthesis centres have been built up mainly near raw material sources, along gas mains and near oil refineries in the Volga area, the Ukraine, the Baltic Republics, Byelorussia, the Caucasus, Central Asia and the central districts. Major centres for this branch of production have also been set up in Siberia.

High Rate of Development

The Soviet chemical industry is developing at a very rapid rate. In recent years it has been growing faster than any other branch of production. Much more capital has been invested in the chemical industry during the seven-year plan period than in all the forty-odd years of Soviet power, and the output of chemical products has grown 2.5-fold.

But it still requires a lot of capital and labour to make up for the lost time.

The current five-year plan (1966—1970) provides 2-fold increase in capital investments in the chemical industry as against the previous five-year plan period.

Synthetic Rubber from Potatoes

The production of sulphuric acid—one of the chief components in the production of most chemical goods—occupies a special place in the industry. Despite the tremendous increase in the output of sulphuric acid, it cannot keep up with the rapidly growing demand. Consequently the USSR is now stepping up the construction of sulphuric acid processing shops at many chemical plants and iron and steel works which use raw materials containing sulphur.

Many branches of the chemical industry had to be built up anew. These include, first and foremost, organic synthesis. Back in the thirties the Soviet Union organized the production of synthetic rubber, since the country had no

resources of its own for the production of natural rubber. Another reason was the artificially created difficulties the Soviet Union had to contend with in buying the necessary raw materials abroad. The geography of grain and potatoes, which go into the production of artificial rubber, determined the location of the first plants: Voronezh, Yefremov, Yaroslavl.

In subsequent years new methods were elaborated for producing ethyl alcohol from by-product gases obtained from the processing of oil, and then for synthesizing rubber directly from gases, by-passing the production of ethyl alcohol. This brought about a radical change in the distribution of synthetic rubber plants. They moved into the oil and gas areas while the enterprises built earlier were switched over to new raw materials which meant a considerable saving in crops for foodstuffs and fodder.

New Raw Materials — New Centres

New important synthetic rubber production centres have been set up in the Bashkir Republic (Sterlitamak), the Volga area (Togliatti), the Caucasus (Yerevan, Sumgait), Kazakhstan (Karaganda) and Siberia.

Wide-scale production of isoprene rubber closely approximating the natural one in quality and in many respects even superior has been started in recent years. This is particularly important in view of the development of the automobile industry.

Closely linked with this branch is the manufacture of automobile tyres started in the Soviet Union during the years of the first five-year plans. Since 1928 the manufacture of tyres has increased from 85,000 to 26.5 million (in 1965), i. e. more than 300-fold. The largest tyre factories are situated in Moscow, Leningrad, Yaroslavl, Voronezh, Dnepropetrovsk, Omsk, Krasnoyarsk.

Guarantee of a Bumper Harvest

In recent years there has been a crash programme for speeding the production of mineral fertilizers which are considered of exceptional importance for the intensification of all branches of agriculture.

The following figures graphically illustrate the development rates of this particular branch of chemistry: 1913—0.1 million tons, 1940—3.2 million tons; 1966—35.8 million tons. Towards the end of the current five-year plan the production of mineral fertilizers is to reach 62 to 65 million tons. However, this too is inadequate for such a huge country as the Soviet Union; further plans aim for at least 100 million tons a year (all figures in standard units).

Abundance of All Three “Elements of Fertility”

The USSR abounds in raw materials for the production of all the three “elements of fertility”—nitrogen, phosphorus and potassium. The two largest deposits of raw materials rich in phosphorus—the Khibiny Mountains (Kola Peninsula) and Kara-Tau (Kazakhstan)—alone account for thousands of millions of tons of this product. Vast quantities of potash salts have been discovered in the Urals (Solikamsk), Western Ukraine (the Carpathians) and Byelorussia (the Starobin deposit). Large deposits are located in Kazakhstan and Central Asia, but they still call for additional surveying. The Soviet Union has the greatest reserves of potash salts (20 per cent of the world's total).

All major economic districts of the country have boundless opportunities for producing nitrogen fertilizers, especially from natural gas and coal.

Factories producing phosphate fertilizers are situated mainly in the European part of the USSR: the Ukraine (Odessa, Vinnitsa, Sumy, Konstantinovka); Byelorussia (Gomel); the Baltic Republics (Riga, Kedanai); Leningrad and Kingisepp; the central districts (Voskresensk); the Transcaucasus (Sumgait); the Urals (Perm). There are also enterprises in Kazakhstan (Aktyubinsk, Jambul) and in Central Asia (Kokand, Samarkand, Chardzhou). Potassium fertilizers are produced in the Urals (the Berezniki-Solikamsk district), in the Carpathians (Kalush, Stebniki) and in Byelorussia (Solegorsk).

There are large nitrogen fertilizer factories in the Ukraine (Gorlovka, Dneprodzerzhinsk, Lisichansk); the Caucasus (Rustavi, Nevinnomyssk), the central districts, Byelorussia, the Urals, and Siberia. Fertilizer production is also developing

in Central Asia where vast resources of natural gases have been recently discovered.

A Leap from Backwardness to Progress

It would be apt here to add a few words about the development and distribution of the remaining key branches of heavy industry: timber, paper, woodworking and building materials. All of them have made tremendous progress during Soviet times. It is of interest that branches of economy connected with the cutting and processing of timber (total reserves run into 80,000 million cubic metres, i. e. one-fifth of the world reserves), which formerly were concentrated in the European part of the USSR with comparatively modest timber resources, are moving to regions abounding in forest wealth and situated mainly beyond the Ural Mountains. The Soviet Union holds the world record for the output and procurement of sawn timber. The country has practically unlimited possibilities for developing this branch of industry: the annual increment in standing timber is twice as great as in timber felled.

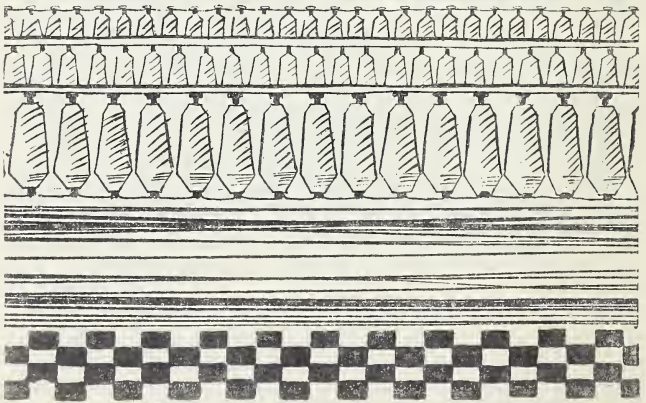
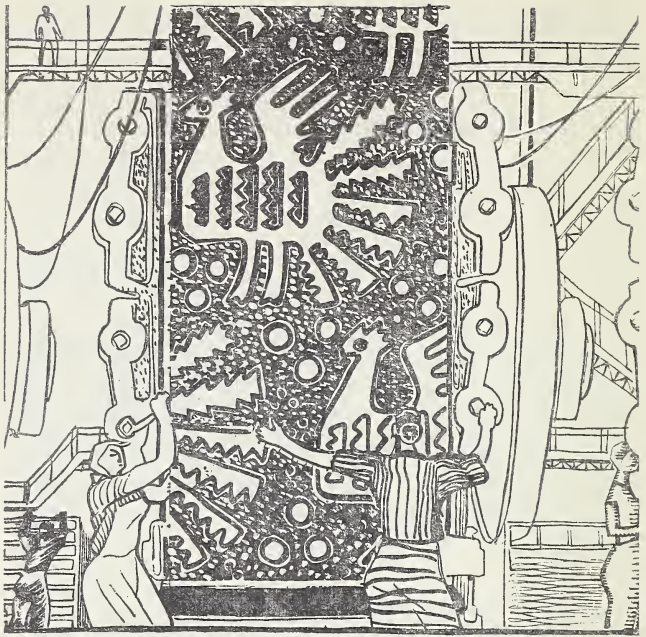
Cement and Prefabricated Ferro-Concrete Units

The Soviet Union has become the top producer of cement and prefabricated ferro-concrete units thus providing for the wide scope of industrial and housing construction. By the end of the current five-year period the country is expected to increase production 1.5-fold.

Today cement is produced practically throughout the country. This is especially important for the eastern districts which quite recently had to bring in cement from plants thousands of kilometres away.

LIGHT INDUSTRY

Light industry enterprises producing consumer goods—fabrics, footwear, food products, etc.—account for 25 per cent of the country's gross industrial output.



Wool and Flax

Textile industry. The Soviet Union holds first place in the world in the production of woolen and linen fabrics with the production of cotton fabrics developing at a rapid pace. In 1965, 7,100 million linear metres (5,500 million square metres) were produced, i. e. double the 1940 figure, although the Soviet Union is still far behind the United States in this respect.

The production of silk fabrics is soaring in the USSR, now amounting to over 12 times the prewar figure. And although at present the United States produces more silk fabrics, large capital investments in the textile industry in recent years and still greater investments planned for the near future should enable us to rapidly catch up.

New Districts of Textile Industry

A wide range of fabrics are produced in all the major economic districts. However, the central districts continue to remain the pivot of the country's textile industry (Moscow, Ivanovo, Shuya, Orekhovo-Zuyevo). The textile industry has been greatly developed in Uzbekistan, the Soviet Union's main cotton base. Formerly this area had no textile industry at all. Uzbekistan holds second place in the USSR in the production of cotton fabrics, outdoing such traditional textile districts as the north-west and the Baltic area. A well-developed textile industry has also been built up in the Ukraine, the Volga area, the Caucasus and Byelorussia. Even so the textile industry of the new areas, particularly in the east, is not sufficiently developed. The current five-year plan will introduce considerable alterations in the allocation of textile facilities. Textile projects will be mostly built in the south and in the east of the country. The major textile enterprises built in the postwar period include the mills in Kherson (the Ukraine), Kamyshin (Lower Volga), Barnaul (Siberia) and Dushambe (Tajikistan). They produce fabrics out of cotton and chemical fibres. Large worsted cloth mills have appeared in Krasnodar, Chernigov, Sverdlovsk, Minsk and Frunze; other major textile enterprises include flax mills in Smolensk and Orsha (Byelorussia), a silk-weaving mill in Orenburg (Southern Urals) and many others.

A big knitwear and garment industry has practically been built anew in the Soviet Union and is developing at a very fast rate. By 1965 the output of fabrics for various types of knitwear had increased to six times the 1940 figure and the garment industry had nearly quadrupled its production. However, the knitwear industry is still not able to satisfy consumer needs and the Soviet Union has to import knitted garments from many countries. By 1970 the output of knitwear is expected to nearly double.

522 Million Pairs of Footwear

Shoe industry. In 1966 Soviet shoe factories put out 522 million pairs of footwear. Towards the end of the current five-year period this figure will grow by 25 per cent.

The largest shoe factories are located in Leningrad, Moscow, Rostov-on-Don, Kishinev, Kirov, Kiev, Minsk, Tbilisi, Sverdlovsk and Sarapul (Udmurt ASSR). The capacity of the Leningrad Skorokhod Factory is second only to the world-famous Svit enterprise in Czechoslovakia. The footwear is made from domestic materials. Large-scale production of excellent artificial leather has also been developed.

Celebrated Russian Fur

Fur industry. Soviet furs and fur garments are in great demand abroad. The Soviet Union abounds in fur-bearing animals, enabling the country to build a major fur industry. The largest fur factory is situated in Kazan.

The production of man-made furs began in the postwar years. Garments and articles of these furs resemble astrakhan, broadtail, seal, otter, bearskin, deerskin, wildcat and many others.

Motocycles, Bicycles, Watches, Radio-Sets

Production of consumer goods. The list of such commodities manufactured in the Soviet Union is very long and keeps growing. Let us consider just a few of them.

About 700,000 motorcycles and motor scooters are produced annually with an anticipated 1.5-fold increase during

the current five-year plan. The annual output of bicycles and motor bicycles has topped 4 million.

In the postwar period the USSR became a leading producer of watches, clocks and cameras. In quality they successfully compete with the most famous trade marks in the world and are very popular abroad.

Production Launched after the War

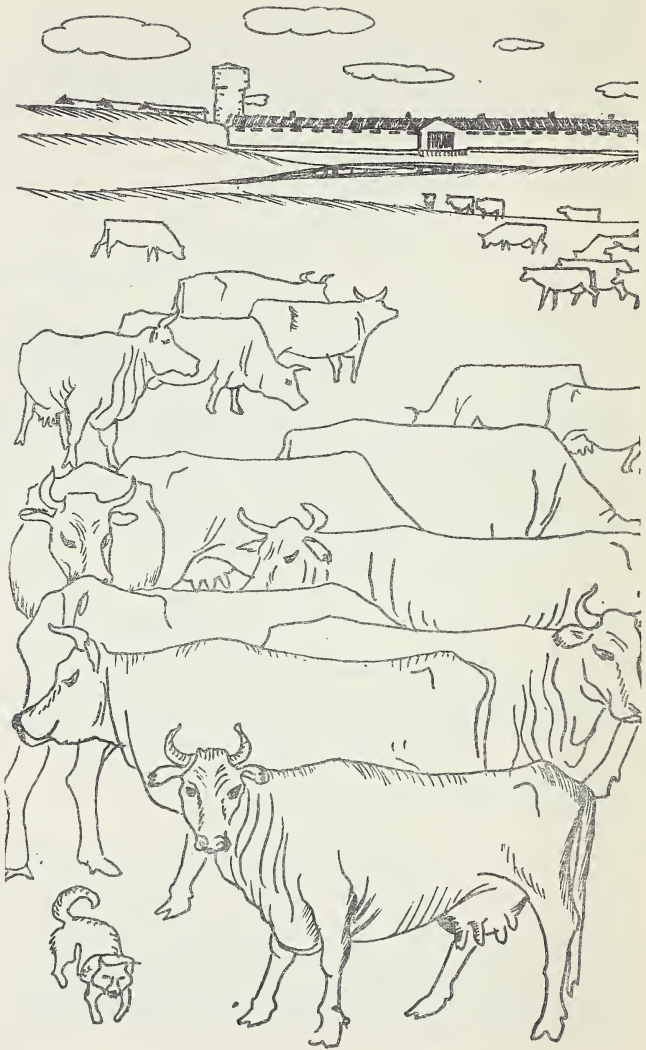
The production of radios and radiograms is rapidly growing. Annual output now exceeds five million, i. e. 32 times the number produced in 1940. By 1970 it will exceed the present output 1.5 times. The manufacture of TV sets is increasing at a still faster rate. During the past seven years their output grew more than 3.5-fold reaching nearly four million in 1966 alone with plans to produce 7.5 to 7.7 million annually by 1970. The postwar years have brought about the widescale manufacture of washing machines (almost four million units a year) and refrigerators (over two million a year in 1966). However, despite these impressive figures, the output of refrigerators does not as yet fully take care of consumer demand. Under the current five-year plan it is being stepped up approximately to 5.5 million.

In prerevolutionary Russia, and in the first years after the revolution, limited production of these commodities was centred almost completely in the traditional industrial districts (the central area, Leningrad and the Baltic area). Today these industries have branched out all over the country and are moving ever farther to the east, to newly developed districts. As yet local enterprises cannot fully supply the needs for certain types of consumer goods.

FOOD INDUSTRY

There is a high degree of concentration and automation in the Soviet food industry which turns out a wide assortment of products.

The sugar industry was comparatively well-developed even in the past. The sugar is made from sugar beet. In Soviet times the production of sugar increased 8-fold, reaching 8.3 million tons of granulated sugar in 1966, surpassing all other countries including the United States.



The distribution of sugar production has undergone considerable change, encompassing new areas far beyond the traditional sugar districts. In the past the Ukraine accounted for more than 80 per cent of sugar output, while today, despite a tremendous increase in production, it only produces a little over 60 per cent.

New Districts of Sugar Industry

The sugar industry has also expanded in Moldavia and the black-earth zone of the Russian Federation bordering on the Ukraine. It has also been developed in the Volga and Ural areas. The Kuban area with close on a score of large refineries has also become a major sugar centre. Today sugar is refined in all Republics of the European part of the USSR, except Estonia.

The construction of sugar refineries east of the Ural Mountains, in the Asian part of the USSR: South Kazakhstan, Kirghizia, the Altai Territory and the Far East has meant a considerable saving in transportation.

Modern Fishing Fleet

The fishing industry has changed radically. The fishing fleet has been completely modernized: old ships have been replaced by trawlers, seiners and other large up-to-date vessels. The Soviet fishing fleet now includes refrigerator ships and floating fish canneries, making it possible to switch over from scantier catches in coastal waters to highly productive fishing on the high seas. Today Soviet fishing and whaling fleets operate in all the oceans of the world. The annual catch of fish, and aquatic animals including whales has increased to 6-fold what it was in prerevolutionary times reaching close to six million tons. This has upped the Soviet Union to third place, next to Japan and Chile. By 1970 the present level will be topped 1.5-fold.

New Fisheries

The fishing industry has also undergone considerable changes. In the past the southern basins—the Caspian Sea, the Sea of Azov and the Black Sea—accounted for about two-thirds of the total catch, whereas today the northern

and eastern seas take precedence with over 25 per cent of the entire catch coming from the northern seas and about the same percentage from the Far East. The fishing fleets operating in the Atlantic are bringing in increasingly bigger catches. Large Soviet whaling fleets are operating in the Pacific and Antarctic.

Black Caviar and Crab

A major share of the Soviet fish catch consists of such valuable breeds as salmon, sturgeon, whitefish, herring, perch, carp and bream. A big crab industry has been organized in the Far Eastern seas. Soviet canned crabmeat and black caviar are much in demand both on the home and foreign markets.

300 Litres of Milk per Head

Meat and dairy industry. Vegetable oil production. The Soviet Union outdoes all countries in the production of butter and milk. The total milk yield in the USSR has topped 75 million tons which amounts to a per capita output of about 300 to 350 litres annually. There are dairies throughout the country. Industry accounts for about half the output of meat and butter, the other half being produced on collective farms and in personal husbandries.

Vegetable oil production is nearly six times the prerevolutionary level. It is governed by the distribution of raw materials. Sunflower seed oil is manufactured primarily in the south of the European part of the USSR and the black-earth zone; linseed oil is produced in the western and north-western districts, cottonseed oil, in Central Asia, mustard oil, in the Volga area.

Perfume and Confectionery

Plantations of roses, sage, coriander, sweet basil and other ether-bearing plants in the south of the European part of the USSR, the Transcaucasus and Central Asia, provide the perfume and confectionery industries with volatile oils.

Bread-baking

Flour, macaroni and confectionery industries. Flour mills and elevators are situated in the grain-producing districts and in large consumption centres. Bread-baking has undergone a radical change. In the past it was run on home-industry lines. Today all the towns and big rural communities have mechanized bakeries which turn out high-quality products. The macaroni industry has developed into a major branch of production. The confectionery industry is progressing rapidly with production more than tripling the 1940 level.

In the past practically all macaroni and confectionery enterprises were concentrated in a few places of Central Russia, primarily, in Moscow and Leningrad. Today this branch of the food industry has spread to many parts of the country. However, the enterprises in the eastern districts are still unable to keep pace with the demand, and the state has to spend considerable sums to ship macaroni and confectioneries to these areas.

A Leading Wine-Maker

The country goes in for wine-making, brewing, the manufacture of cigarettes and tea production. Wine-making became a full-fledged industry in Soviet times and has increased 6-fold since 1940. The Soviet Union has become one of the world's leading wine-makers with Moldavia, the Crimea, the Transcaucasus and Central-Asia as the main wine-making districts. Beer is brewed all over the country. Today the country makes twice as much beer as vodka. Compared with the prerevolutionary period there has been an insignificant increase in the amount of vodka produced (some 20 per cent) while per capita consumption has noticeably dropped.

The total output of the Soviet cigarette industry equals that of all capitalist countries of Europe taken together.

Tea Production

Tea production has been revived and is rapidly developing. It has increased 3-fold compared with 1940 and now accounts for some 10 per cent of the world output. The Black Sea coast of the Caucasus is the main tea-growing area.

7,000 Million Cans

Canned foods production has skyrocketed to 60 times the 1913 figure. Today more than 7,000 million cans are turned out yearly, i. e. 6.5 times the 1940 production. Canneries have been built all over the country, including districts which had never known them before: the Volga area, Byelorussia, the Transcaucasus, Central Asia, Siberia and the Far East. Canneries, with a few exceptions, are usually built close to their raw material resources. The canning factories in Kherson (in the south of the Ukraine) and in Krymskaya (Kuban area) are among the largest in the world. Both of them concentrate mainly on canned fruit and vegetables.

Huge meat-packing plants, which also produce canned meat, have been built in Moscow, Leningrad, Kazan, Saratov, Engels, Semipalatinsk, Frunze and scores of other towns, some of them in Siberia. Large quantities of canned fish are turned out by canneries in the Lower Volga area, the North Caucasus, the Baltic Republics and the Far East. The production of canned crabmeat is concentrated in the Far East.

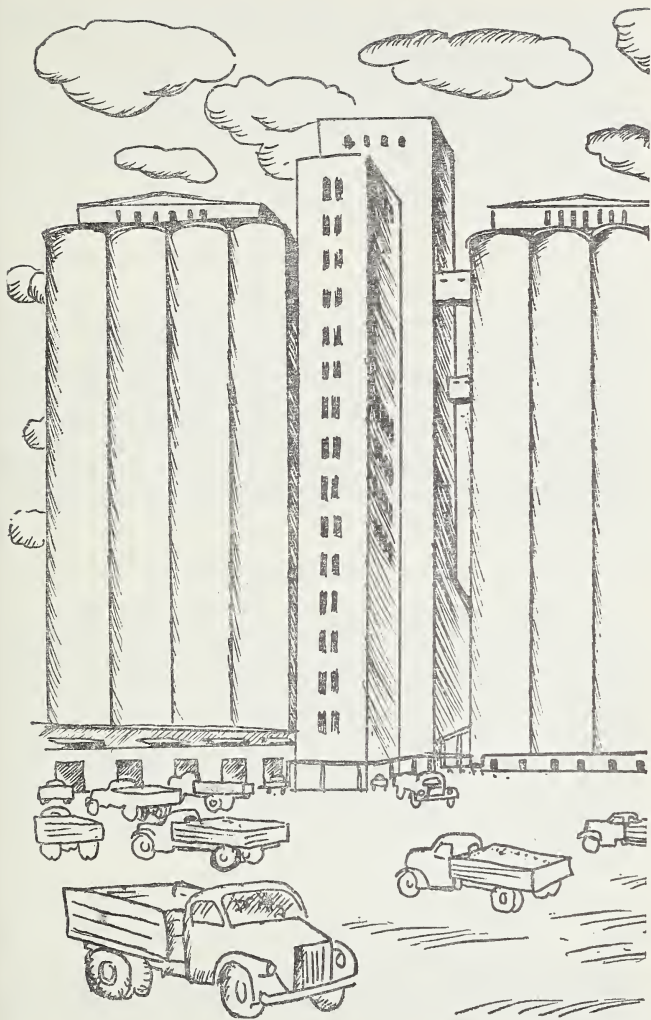
Plans for the further development of the national economy envisage an accelerated growth of all branches of the food industry; considerable funds are being allocated for this purpose. Under the current five-year plan the output of the food industry is to increase 40 per cent.

Agriculture

The Soviet Union occupies a vast territory but not all of it is suitable for farming. One-third of the land is covered with forests. Another third is occupied by high mountains, marshes and deserts. And only about one-third of the territory can be used for farming without any major preliminary outlays of money and labour.

Only One-Third

True, this third is not so small: some 750 million hectares (including reindeer pastures), which is approximately equal to the area of Australia. However, the natural conditions,



prevailing in the districts where a considerable part of the arable land is situated, are not very favourable for growing the main agricultural crops.

The tundra zone stretches through the entire Far North of the country gradually widening to the east. A very short and cool summer, a long and severe winter, very little snow and permafrost make this zone practically unsuitable for farming.

Reindeer breeding is the main branch of agriculture in the tundra.

Forest Zone

The forest zone stretches in a very wide belt to the south of the tundra from the country's western borders to the Pacific coast. This is a zone of boundless coniferous forest or taiga as it is called. Only in the south is the forest zone fringed with a narrow strip of mixed and deciduous forests.

Conditions in the forest zone are also quite severe. However, the summer is longer and warmer though the winter is cold and there is more snow. There is also adequate precipitation in summer.

Vegetables and Milk for Industrial Centres

Agricultural specialization in the forest zone is determined to a considerable degree by the fact that all the major industrial centres are located there: the central and north-western regions, the Baltic area, the Urals and the Kuznetsk Basin (Kuzbas). The largest Soviet cities are situated in this zone: Moscow, Leningrad, Riga, Minsk, Gorky, Kazan, Perm, Sverdlovsk, Novosibirsk, Krasnoyarsk and many others with an aggregate population running into scores of millions. Agriculture there must first of all supply the towns and industrial centres with vegetables, dairy products, meat, poultry, and some fruit.

The forest zone does not play a considerable role in the production of grain and does not supply its own grain requirements. The main grain crops here are rye, barley and oats. Grass is widely sown in the forest zone.

Flax, or "northern silk" as it is called, is the most important industrial crop in this zone which is a major flax producer.

200 Million Hectares of Swamps

Excessive humidity and, consequently, vast swampy areas in the forest zone are a decided disadvantage to farming. There are over 200 million hectares of such land in the country. One of the world's biggest swamps—the notorious Vasyuganye covers a vast area of the West-Siberian lowland. In flood periods one can go by boat across the 1,000 kilometres between the Ob and the Irtysh Rivers.

Melioration at State Expense

There are also numerous swamps in such well-developed areas as the Baltic Republics, Byelorussia, the north-west of the Ukraine and Central Russia. Such land requires extensive and costly melioration measures carried out largely at state expense. However, until recently the non-black-earth zone has not received the due attention of agricultural and planning bodies. Harvests are rather poor here (within the past 10 years somewhat over 0.8 tons of grain per hectare). Part of the previously reclaimed land has reverted to swamp.

Ten-Year Land Improvement Plan

In 1966 measures were taken to do away with the above drawbacks. A ten-year land improvement plan (1966-75) has been worked out and is being implemented. It provides for the draining of some additional 15-16 million hectares; the liming of all acid soil ploughlands, meadows and pastures; the extensive application of peat and other organic and mineral fertilizers so as to improve soil structure and enhance its fertility; the recovery of all cultivable land lost in the past; and the radical improvement of meadows and pastures. This will serve to double and even treble the yield of all crops and sharply increase the productivity of animal husbandry.

Main Agricultural Area

To the south of the forest zone stretches the forest-steppe and steppe land. Here starting at the country's south-western borders the black-earth and chestnut soils stretch in a

wide belt to the east, covering a large part of the Ukraine, nearly all of the North Caucasus, the central black-earth regions, part of the Middle and Lower Volga area. After crossing the Volga the black-earth belt narrows down considerably and passes through the Southern Urals, along Southern Siberia and North Kazakhstan to the upper reaches of the Ob River.

This is the country's main agricultural area where grain and many industrial crops are raised on vast tracts of land. It is also the main livestock area of the USSR.

From Wheat to Grapes

This zone gets enough heat to raise all grain crops usually found in the temperate zone. Fruit trees, various vegetables, melon and industrial crops do well in the forest-steppe and steppe land west of the Volga. The south has ideal conditions for raising grapes, rice, tobacco and many other heat-loving plants.

Droughts

Everything would seem to be well in the black-earth zone. However, it also has one drawback. Once in three or four years (and sometimes more often) a drought hits vast territories, especially in the eastern parts of the zone—the Volga area and Kazakhstan. There were 52 drought-ridden years, some worse than others, in the course of the 19th and the first half of the 20th centuries.

Sometimes, as for example in 1963, the drought spreads over a vast territory from the Altai Mountains to the Carpathians, including the entire forest-steppe zone which usually has sufficient moisture. In such years the drought becomes a calamity, causing terrible damage to agriculture.

Drought Control Plan

Droughts can be controlled by the application of appropriate farming techniques and the wide-scale introduction of irrigation. Much has been done already. The area of irrigated land in the black-earth zone amounts to about nine million hectares. And this is just a beginning. Irrigation installations, being built in the Volga, Don, Dniester,

Kuban, Terek and other river valleys in the European part of the country, will provide water for nearly 4.5 million hectares of land largely intended for wheat and rice growing. The plan also provides for a series of measures for combating river and wind erosion, for planting windbreak forest strips, for ravine and quick sand afforestation, etc.

Bordering directly on the steppe zone there is a wide belt of semi-deserts and deserts occupying a considerable part of the south of the USSR. It embraces a large part of the Lower Volga area, the eastern outskirts of the Caucasus, the central and southern regions of Kazakhstan and all of Central Asia.

No Rain for Months

Two of the biggest Central Asian deserts alone—the Kyzyl-Kum and Kara-Kum (meaning “Red Sands” and “Black Sands” respectively)—cover an area of some 600,000 square kilometres, which is greater than the territory of France.

Not a single drop of rain falls in these districts for months. Outside the irrigated area the deserts are covered with meagre vegetation: drought-resistant and salt-enduring grass and brushwood.

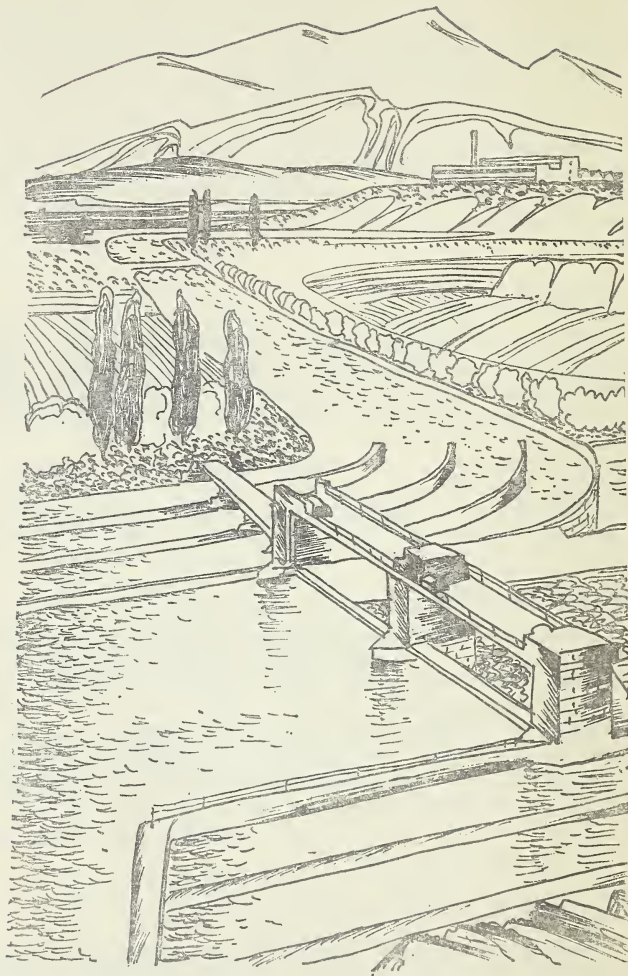
Life-Giving Water

The local soils (brown, grey-brown, and grey in the south) are potentially very fertile. With irrigation they produce, as a rule, much bigger crop yields than even the best non-irrigated black-earth.

Only two large copious rivers flow through the vast territory of Central Asia, South and Central Kazakhstan. These are the Syr-Darya and Amu-Darya. After leaving the mountains neither of them takes any tributaries and gradually becomes shallower since they are the only source of water for extensive areas.

Main Area of Irrigation Farming

The deserts and semi-deserts of Central Asia and South Kazakhstan account for two-thirds of the irrigated land in the USSR.



Before the revolution irrigation farming in this area was extremely primitive. The irrigation systems had no engineering structures and the fields were cultivated by primitive implements. Central Asian cotton used to have one of the lowest yield in the world.

In Soviet times irrigation farming underwent a striking change. Irrigated areas doubled. The old structures were modernized and many new irrigation systems built. The digging of canals, levelling and cultivation of the fields, irrigation, harvesting and other labour-consuming work has been largely mechanized.

Hungry Steppe Becomes Arable

Especially important is the development of a vast plain lying at the junction of three Republics—Uzbekistan, Kazakhstan and Tajikistan—expressively called the Hungry Steppe. These 800,000—900,000 hectares of fertile grey soil suitable for irrigation have long attracted attention. However, the irrigation and development of this area turned out to be a difficult job. The construction of two major hydropower stations on the Syr-Darya—the Farkhad station (1948) and the Kairak-Kum station (1956)—provided a reliable source of power for the development of the Hungry Steppe. Two big canals have been built there—the Central and Southern Hungry Steppe canals—whose total irrigation capacity exceeds 200,000 hectares of land.

Today the name Hungry Steppe is no longer an apt one. Numerous collective and state farms have been set up here growing hundreds of thousands of tons of cotton annually, as well as large quantities of fruit and vegetables. Livestock breeding is progressing. The famous Pakhta-Aral state farm pioneered in developing the Hungry Steppe. Today this giant farm uses more than 750 tractors, 200 cotton-picking machines and scores of sprinkling installations.

Breathtaking Project

However, the Hungry Steppe canals seem small as compared with the Kara-Kum Canal—a tremendous project built in Turkmenistan. It begins at the Amu-Darya River and crosses the southern part of the Kara-Kum Desert in the direction of Ashkhabad, capital of the Republic. The main

canal is 850 kilometres long. This is a big river with a flow equal to that of the Zeravshan, one of the largest rivers in Central Asia. When construction is completed its water will flow towards the shores of the Caspian Sea and its total length will be 1,200 kilometres. The Kara-Kum Canal is navigable for small ships. Many other irrigation systems are under construction in Central Asia and Kazakhstan. Operating systems are being expanded to increase the area of irrigated land here 1.5-fold, i. e. nearly up to 9 million hectares altogether.

Animal Husbandry

Animal husbandry is developing on lands far removed from the river-beds or the large canals. Water for the population and livestock in these districts is usually obtained from deep conventional or artesian wells. In the past few years large-scale construction of water supply canals has been undertaken to bring water to the pastures.

Considerable areas of the Transcaucasus in the valleys of the Kura and Araks likewise require irrigation because of similar climatic conditions. The areas under irrigation have more than doubled here in Soviet times. In the next decade (1966-75) they are to expand by another 500,000 hectares (i. e. by 25 per cent).

Main Crop — Cotton

Cotton grows well on the irrigated lands of Central Asia, South Kazakhstan and the Transcaucasus. The best tracts of land are allotted to cotton which has become the main crop there, determining to a considerable degree the zone's economy.

Other southern industrial crops also do well. They include: flax, jute, southern hemp, tobacco, essential-oil plants. Central Asia and the Transcaucasus are famous for their excellent varieties of fruit and grapes.

Subtropical Garden

The humid subtropical zone stretches in a narrow strip along the Black Sea coast fringing the south-western spurs of the Caucasian Mountains. Although small in territory

this zone is very important for Soviet economy. A small section of the zone is situated on the south-western coast of the Caspian Sea. The subtropical zone is characterized by a very mild and damp climate (1,500 to 2,500 mm of precipitation). The Caucasian subtropics are the only area in the USSR where there is practically no winter at all. When snow falls, it usually lasts for several hours, rarely for several days or more.

Palms, eucalyptus trees, laurels and magnolias grow in this zone. Tangerines and lemons, persimmons and other subtropical crops grow in abundance. Excellent tea and tobacco plantations stretch along the coast. The zone abounds in orchards and vineyards.

Resort District

The Caucasian Black Sea coast is the biggest and best resort district in the Soviet Union. A 500-kilometre chain of beautiful health resorts stretches along the coast from Anapa to Batumi. Millions of people—workers, farmers and intellectuals, as well as students and schoolchildren—vacation and receive treatment here all the year round at comfortable sanatoriums, holiday homes, tourist centres, boarding houses, Young Pioneer camps and motels. Accommodation at sanatoriums and holiday homes is provided either free of charge or at a considerable discount, with the bulk of expenses covered by the state and the trade unions. This wonderful resort district attracts an increasing number of Soviet and foreign tourists.

* * *

On the whole, the USSR has worse conditions for the development of farming than other European countries which have a milder climate, less marshes and swamps and practically no drought. The incidence of drought in the United States is much lower than in the Soviet Union. Thus, only about 25 per cent of the US grain crop is grown in the zone affected by droughts to any extent, while in the Soviet Union 75 per cent of the grain crop is grown in drought-ridden areas.

Organization of Agricultural Production: Science and Engineering at the Service of Farming

State planning in the Soviet Union is not restricted to industry alone but embraces all branches of the national economy: transport and communications, finances and construction, home and foreign trade. And agriculture is no exception.

Planned Farming

The planning of agriculture is facilitated by the fact that all the land in the country is nationalized. A major share of the farmlands has been turned over to large collective farms (kolkhozes) for perpetual use free of charge. The rest of the land is largely in the hands of state-owned farms (sovkhozes); while part of it is used by fattening stations, various state-owned experimental farms, poultry farms, studs, as well as training and research establishments, schools and other organizations.

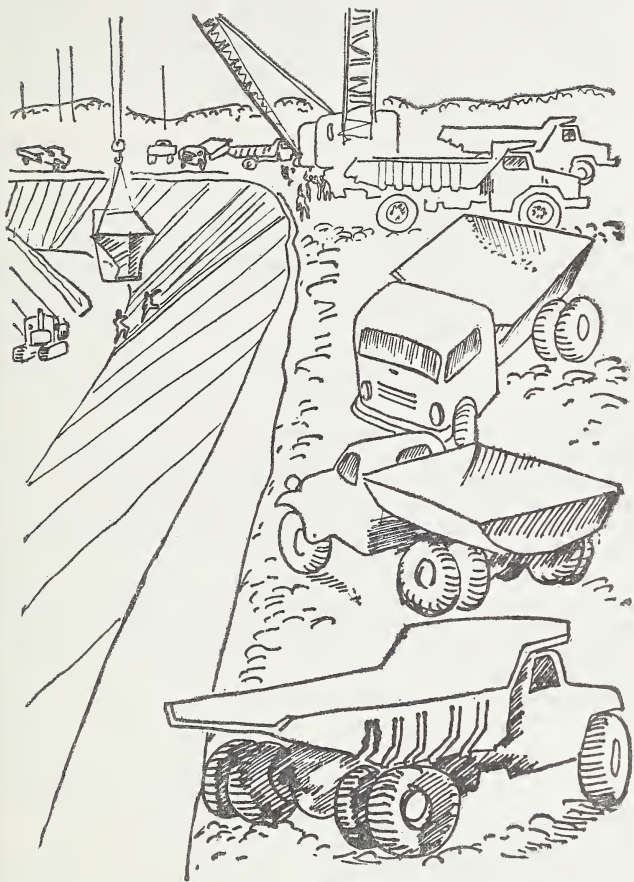
Land: not for Sale

No one has the right to sell land. The transfer of land into other hands can only be effected with the permission of the local Soviets. Collective-farm land can only change hands or be taken away with the consent of the farmers' general meeting.

There are over 36,000 collective farms (excluding fishermen's cooperatives) and more than 12,000 state farms in the Soviet Union. The collective farms account for 229 million hectares, more than half the country's 543 million hectares of farmland (excluding reindeer grazing grounds).

Large Farms

All collective and state farms are large agricultural enterprises. The average area of farmland used by a collective farm exceeds 6,000 hectares, while a state farm has about 30,000 hectares. This enables the farms to make efficient use of modern agricultural machinery. The bulk of the gross and marketable output of a kolkhoz is produced



by the joint effort of the collective farmers. And this is their main source of income.

The collective and state farms allot the farmers, workers and employees small plots of land (up to 0.5 hectare) for personal use to raise fruits and vegetables. All in all, these household plots account for some 7.5 million hectares, i.e. about 1.5 per cent of all the country's farmlands (3 per cent of the ploughland).

The owner of the household plot disposes of all produce raised there as he sees fit.

Collective Farm — Voluntary Association

A kolkhoz is a cooperative, collective farm, run on democratic principles by an elected farm board headed by a chairman. The highest authority of a collective farm is the farmers' general meeting which appoints and removes farm executives, approves plans and accounts, and takes other important decisions concerning the functioning of the kolkhoz.

The work of the collective farmers in the common husbandry is remunerated in accordance with the quantity and quality of their labour. As of July 1, 1966 all collective farms have gone over to guaranteed monthly cash payments in accordance with pay rates at state farms. Since 1965 collective farmers receive old-age pensions.

The collective farm receives the bulk of its income from the sale of its marketable produce to the state at stable prices, differentiated according to zones, which the state has raised several times in the past few years to assist the collective farms.

The collective farms can sell their surplus on the market or to cooperative trade organizations.

In cases of necessity the state provides the collective farms with funds and seeds on credit. In certain cases the collective farms receive free grants from the state. The banks also provide the collective farms with credits.

State-Owned Farms

Sovkhozes are state-owned agricultural enterprises similar to industrial enterprises. They are supervised by a manager appointed by the appropriate state body. All the

marketable output of a state farm is purchased by the state. State-farm workers receive fixed wages. They are also entitled to a personal plot of land like collective farmers.

As in industrial enterprises, the trade unions and other public organizations play an important role in the life of state farms.

A Bit of History

The tiny, poverty-ridden individual holdings which formed the basis of farming in prerevolutionary Russia could not cope with the difficulties of agricultural production. The small peasant holders were ruined and ousted by the landlords and kulaks (rich peasants) who gradually bought up their land.

Peasants Unite in Collective Farms

The very first years of Soviet power saw the emergence of various agricultural production cooperatives organized on a voluntary basis. And the small producers—the poor and middle peasants—readily joined them. The first state farms were also set up in that period. As time passed and the peasants became convinced of the obvious advantages of collective farming, the process of collectivization proceeded at a growing pace and was completed, in the main in the early thirties. After the war, in the western regions of the Ukraine and Byelorussia, which reunited with the Soviet Union, in the Baltic Republics and other districts the majority of individual peasants preferred to engage in collective farming. At present individual farms in the USSR are practically non-existent.

Number of State Farms Grows

The postwar years were marked by a rapid growth in the number of state farms and their share in agricultural production. Back in 1940 the state farms accounted for a mere nine per cent of the crop area. Today this figure has increased to about fifty per cent. This was the result of switching over part of the collective farms to state farms which was always done on the initiative of the collective-farm general meeting in strict accordance with the wishes of the farmers. Then,

too, practically all farms set up on the newly developed lands were state farms.

State farms produce about half of all the grain procured by the state, one-third of the vegetables, some 20 per cent of the raw cotton, more than 30 per cent of the livestock produce.

Personal Plots

The personal husbandries of the collective farmers and state-farm employees still account for a considerable share of potatoes and other vegetables, meat, milk and especially eggs produced in the USSR, while their share in grain production and in the cultivation of industrial crops is practically negligible. A large part of the produce from the household plot is consumed by the owner who sells the rest on the market or through consumers' cooperative societies.

Soviet agriculture withstood the hardships of war despite the terrible devastation inflicted by the fascist hordes. After the war, errors in agricultural management impeded the rehabilitation and further development of this vital branch of economy. Agriculture began noticeably to lag behind the rapidly developing industry, and this, in turn, hampered national economic advancement and slowed down the raising of living standards.

Intensification of Farming

In recent times a great deal of emphasis has been laid on the intensification of agricultural production. New important measures have been taken to improve the technical equipment of agriculture and increase material incentives for collective and state farms in boosting the output of agricultural produce. Irrigation farming is being widely developed and the production of mineral fertilizers has been sharply increased.

Planning from Below

As in industry, the planning of agricultural production begins at the lower level. The collective and state farms discuss their plans with the widest participation of the farmers and workers and determine their production potentia-

lities. Then the appropriate authorities and planning bodies specify and coordinate these plans, proceeding from the interests both of the farms, economic districts, Republics and the country as a whole.

The detailed plans are then returned to the collective and state farms. It should be noted that for the state farms the plan becomes obligatory, while for the collective farms it serves as a recommendation.

Farming and Science

Agronomy contributes greatly to the development of agriculture. Throughout the country there are scores of agricultural research centres, higher and specialized secondary educational establishments and experimental stations. Agricultural colleges annually graduate more than 30,000 specialists, while specialized secondary schools turn out nearly 70,000 farming specialists a year. As a result the number of people with special training employed in the country's agriculture now exceeds 650,000.

Today every collective or state farm has an average of nine specialists with a higher or specialized secondary education. Two-thirds of the collective-farm chairmen and nearly all the state-farm managers have received a special education.

The staff at agricultural research establishments, experimental centres and school is rapidly growing. Of the nearly 80,000 scientific workers, approximately 8,500 have a M. Sc. degree and about 950 are Doctors of Agricultural Sciences or Veterinary Medicine.

The Soviet Union has considerably stepped up the training of agrochemists and is setting up an extensive agrochemical service to ensure the most efficient utilization of fertilizers in agriculture.

Technological Equipment

In Soviet years agriculture has undergone both a social and radical technological revolution. Today the country boasts of some 1.7 million tractors. The average power of the tractors has increased from 39 hp to 50 hp during the last 15 years. This is considerably greater than the average power of tractors in other countries. Although the USSR has less

tractors than the United States it surpasses the latter in the aggregate capacity of the machines which has exceeded 70 million hp.

Over the same period the fleet of grain combine harvesters increased by two-thirds and now exceeds 540,000 machines. Soviet agriculture also has over 300,000 other types of combines used for harvesting maize for silage, potatoes, sugar beet, cotton, flax and other crops.

Soviet scientists and engineers have designed and built a tea-harvesting combine, a major achievement which made it possible to mechanize such labour-consuming work as tea picking.

High Degree of Mechanization

Field work in the Soviet Union has been mechanized to a very high degree. Ploughing, sowing, harvesting of grain and sunflower and the inter-row cultivation of maize have been almost completely mechanized; 90 per cent of the work in silage harvesting, grain cleaning and cotton cultivation is mechanized as well as 75-85 per cent in the harvesting of ripe maize, hay mowing and inter-row cultivation of potatoes and sugar beet. Flax pulling, potato digging, sugar beet harvesting, hay stacking and the inter-row cultivation of vegetables have been mechanized to a lesser degree (some 45-55 per cent).

The Soviet government has recently decided to step up the process of mechanization in agriculture. Large additional funds are being appropriated for this purpose. It is planned to supply agriculture with 1,790,000 tractors and 1,100,000 trucks within the next five years. It should be noted that over the past five years agriculture received 400,000 trucks and their total number reached 1,000,000. During the past five years alone the consumption of electric power in agriculture has trebled. However, in the level of electrification agriculture still noticeably lags behind other branches of economy.

Nearly all the state farms in the country are electrified. Over 90 per cent of the collective farms use electricity, although as yet mainly for communal and domestic needs. State power grids provide the collective and state farms with more than 60 per cent of the electricity used in agriculture. This

power is much cheaper than the electric energy produced by small rural power stations.

The USSR Council of Ministers has adopted a special decision to step up considerably the use of electric power in agriculture for production purposes. A special system of electrically powered machines, mechanisms and apparatus is being designed capable of servicing all types of farm work. A network of electrified model state and collective farms is being set up.

One Does the Work of Five

Mechanization introduced during Soviet times has raised labour productivity in agriculture 5-fold. However, labour productivity in this branch of economy is still noticeably lower than in a number of Western countries. The problem of raising labour productivity in agriculture is regarded as one of the most vital tasks in Soviet economy.

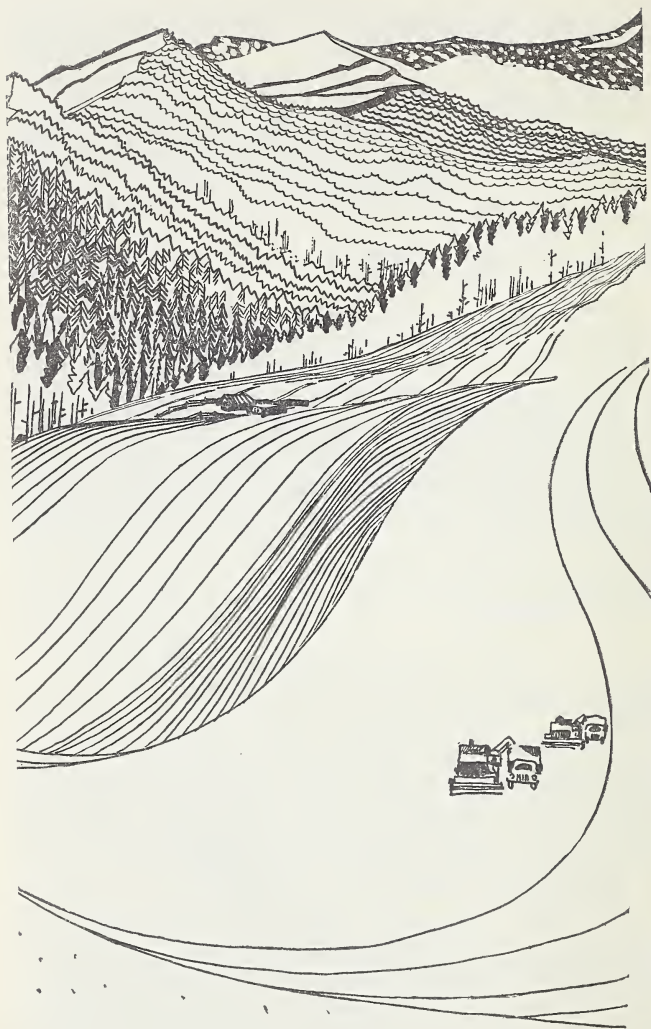
Intensification of production and growing material incentives make it possible to plan for a 25 per cent increase in agricultural production within the current (1966-70) five-year period.

Crop Farming

Wheat — Main Crop

Grain crops form the basis of Soviet agriculture. Herein, prominence goes to wheat, which accounts for more than half the total area sown to grain—i.e. about 70 million hectares—and some 50 per cent of the gross grain harvest. As a rule the USSR produces much more wheat than any other country, including the United States.

Three-quarters of the area under wheat is sown to spring wheat which is especially widespread in the central and eastern parts of the steppe zone. Spring wheat produces excellent grain which yields flour with a high protein content and wonderful baking properties. The best grades of bread, confectioneries and macaroni products are made from this flour. However, the productivity of spring wheat is lower



than that of winter wheat, which explains why winter wheat prevails in districts with a moderately cold winter and sufficient snow. Most of these districts are situated in the forest-steppe zone and the west of the steppe zone.

Rye Drops to Second Place

In Soviet times the area under wheat has nearly doubled, noticeably ousting rye which is a less valuable grain crop, whereas in prerevolutionary Russia rye was grown on almost the same acreage as wheat. There was an especially sharp increase in the area sown to wheat after the development of the virgin lands in Kazakhstan and Siberia. Today rye is only grown on one-quarter of the area sown to wheat, primarily in the forest and forest-steppe zones, in districts where it cannot be replaced by wheat.

Oats: on the Way Out

Oats are now sown on a still smaller scale than rye and account for over seven million hectares of land, i.e. a mere five per cent of the total area under grain (as against 20 per cent in the past). There has been a sharp drop in the demand for oats: horses, the main consumers, have been replaced by tractors, automobiles and various power units. As a result the number of horses has dropped by more than 75 per cent.

Barley, on the other hand, has held its ground and is grown on about 20 million hectares, i.e. 1.5 times more than before the revolution. It is sown in all zones (except the tundra) because of its wonderful adaptability to natural conditions and the big yields produced in the northernmost farming districts and in the hot southern areas.

Maize

But it was a long time before the farmers risked sowing maize outside the traditional maize-growing districts: the south of the Ukraine, Moldavia and the North Caucasus. In the postwar years, particularly in the mid-fifties maize-growing was considerably expanded and now spreads far to the north.

Expansion of maize-growing has to a certain extent helped to boost the country's gross grain harvest, but it also had its negative aspects. Thus, in the southern districts it noticeably ousted the more valuable wheat, while in the northern non-black-earth zone it was sown on an unjustifiably large scale to replace the traditional fodder crops; this threatened to undermine the fodder base of local stock farming. Today maize is restricted to the zone where it is more economical to produce it than other crops.

Rice Should not be Neglected

Not enough prominence is given to rice. This highly productive crop (its productivity is, as a rule, two or three times higher than that of wheat) is cultivated on an area of no more than 200,000 hectares. This is explained by the fact that rice, which requires a lot of water, is being ousted from the irrigated lands by such a powerful competitor as cotton in which the country is greatly interested. However, the development of irrigation work has made it possible to double the area under rice in the past few years. It is planned to expand considerably rice-growing both in the areas where it is a traditional crop (Central Asia and Kazakhstan) and in the European part of the USSR, particularly the North Caucasus, the Don area and the Southern Ukraine.

Too Much Stress on Legumes

The rapid growth of the area under leguminous plants (beans, peas, soya, lentils, vetch, lupine, etc.) is a progressive trend in agriculture. Part of these crops is used as food products while the other part provides valuable protein fodder. In addition, legumes enrich the soil with nitrogen. The area sown to legumes has sharply increased in recent years and now comprises nearly 11 million hectares.

However, this expansion of leguminous crops was excessive. An unwarranted emphasis on one crop (even though the crop is valuable) without a strict assessment of local conditions is bound to have detrimental consequences. Today the area under legumes is being reduced in a number of districts. In others the varieties are being re-examined to choose those best adapted to local conditions.

Insufficient Grain Yields

The productivity of grain crops in the Soviet Union is not very high. On the whole it is noticeably lower than in the United States, and even more so if compared with that in a number of West-European countries.

The rapid growth of the output of mineral fertilizers in recent years will soon make it possible to provide sufficient quantities for all crops, including grain, which has so far received very little of them. In 1966 about 36 million tons of mineral fertilizers were produced, which exceeds 60 per cent of the United States output.

Vegetables: from South to North

Potatoes and other vegetables are major food crops in the Soviet Union, second only to grain. The area under these crops was more than doubled in Soviet times to over 10 million hectares. Vegetables are grown everywhere: from the south to the Far North. The main potato districts are found in the forest and forest-steppe zones, where the climate is most favourable for this crop.

30 Varieties of Industrial Crops

The variety of industrial crops has sharply increased in Soviet times. Today more than 30 different varieties are cultivated in the country. The area under industrial crops runs into 15 million hectares.

The USSR is one of the leading producers of many varieties of industrial crops. In the production of cotton the country has moved from fifth place to second, next to the United States. The Soviet Union grows nearly twice as much cotton as India and four times the quantity produced in Mexico, Brazil, or the United Arab Republic.

The Soviet Union holds the record for crop yield of raw cotton. Cotton is sown exclusively on the irrigated lands of Central Asia, South Kazakhstan and the Transcaucasus. Uzbekistan accounts for nearly two-thirds of the entire area under cotton and 70 per cent of the raw-cotton yield.

Flax is another important crop widely cultivated in the Soviet Union. However, flax does not stand drought. Therefore it is grown in the temperate zone where there is suffi-

cient moisture, primarily in the southern part of the north-western district, the central area (to the north and west of Moscow), Byelorussia and the Baltic Republics.

Next in importance as a textile crop comes hemp which is used for technical purposes and grows mainly in the forest-steppe zone. The area sown to hemp has decreased by more than a half compared with the prewar period. Industrial demand for hemp is steadily dropping since chemical fibres and jute are now being used on an increasing scale in the production of string, rope, coarse fabrics and sacking.

Sunflower — a Valuable Product

Oil-bearing plants account for the largest area sown to industrial crops (more than six million hectares). The Soviet Union grows a wide range of these crops: sunflower, soya, southern flax, castor-oil plant, mustard, peanut, false flax, sesame, rape, safflower, tung, etc. Large quantities of oil are produced in the USSR from the seeds of textile crops: cotton, flax and hemp.

As a food sunflower-seed oil is the most popular of the vegetable oils. It is also widely used for technical purposes. In Soviet times the area under sunflower increased five times and now comprises some five million hectares, i. e. two-thirds of the total area sown to oil-bearing crops. The main sunflower districts are in the steppe zone, especially in Southern Ukraine and North Caucasus.

Soviet plant-breeders have developed highly productive varieties of sunflower with seeds which have a more than 50 per cent oil content as against the usual 23-25 per cent.

Foremost Producer

Sugar beet is widely grown in the Soviet Union. The area under sugar beet is steadily expanding and currently amounts to four million hectares, three times the prewar acreage. For several decades now the Soviet Union has had the biggest acreage of sugar beet and is the foremost producer of beet sugar.

In the past all the main sugar beet areas were situated in the Ukraine and partly in the central black-earth districts. New major sugar beet districts have been developed in the last 20-30 years in the Kuban area, Moldavia, the Volga

area, the Altai Territory, the irrigated lands of Kirghizia and Kazakhstan, and a number of other districts. Today early varieties of sugar beet are successfully cultivated in Byelorussia, the Baltic Republics, and the districts south of Moscow.

For Smokers

The southern districts of the Soviet Union abound in large tobacco plantations. Many brands of Soviet high-grade tobacco are very popular on the world market. The best are grown in the Crimea, Moldavia, the Southern Ukraine and the Transcaucasus.

New Home for Crops

Tea cultivation has been a marked success of Soviet agriculture. Nearly 70,000 hectares of tea plantations along the Black Sea coast and in the vicinity of Lenkoran (the south-western coast of the Caspian Sea) are growing 200,000 tons of high-grade tea a year. Credit for this belongs to the tea-growers and plant-breeders who developed new high-grade varieties of tea well-adapted to local conditions which are less favourable than in the traditional tea-growing countries: China, India, Ceylon and others. Soviet tea is sold on the home market and abroad.

The Soviet Union grows such subtropical crops as citrus fruits, (tangerines, lemons and, to a certain extent, oranges), tung nut, the bay-tree, figs, eucalyptus, persimmons, feijoa and olives. These crops were never grown on Russian soil until after the 1917 Socialist Revolution.

Traditional Fruit and Grape Growing Areas

Horticulture and viticulture occupy a prominent place in Soviet agriculture. In the past few years this branch of economy has been given considerable attention. Within the past 15 years areas under orchards and berry plantations grew 2.5 times and exceeded 3.5 million hectares. Meanwhile the area under vineyards has trebled to make over one million hectares.

The fruit yields are low as most of the orchards are still too young. As a result, the home market does not as yet cope

with the demand for these important food products, and considerable quantities of fruit, berries and grapes have to be imported from abroad.

Almost 50 per cent of the orchards, and about two-thirds of the vineyards are found in two Republics: the Ukraine and Moldavia. These branches of agriculture are now being promoted in the Transcaucasus.

Promising Areas

There are good prospects for gardening and vine-growing in Central Asia and Kazakhstan which abound in sunshine and heat. The local varieties of fruit and berries have a high sugar content and are very tasty. The only obstacle is the lack of water. The extension of irrigated farming in these districts will make it possible to set up orchards and vineyards of nation-wide importance. A large variety of fruit and berries is grown in the temperate and partly in the subtropical zones, the most abundant being apples, plums, pears, cherries, strawberries, currants, gooseberries, as well as grapes, apricots, peaches and tangerines.

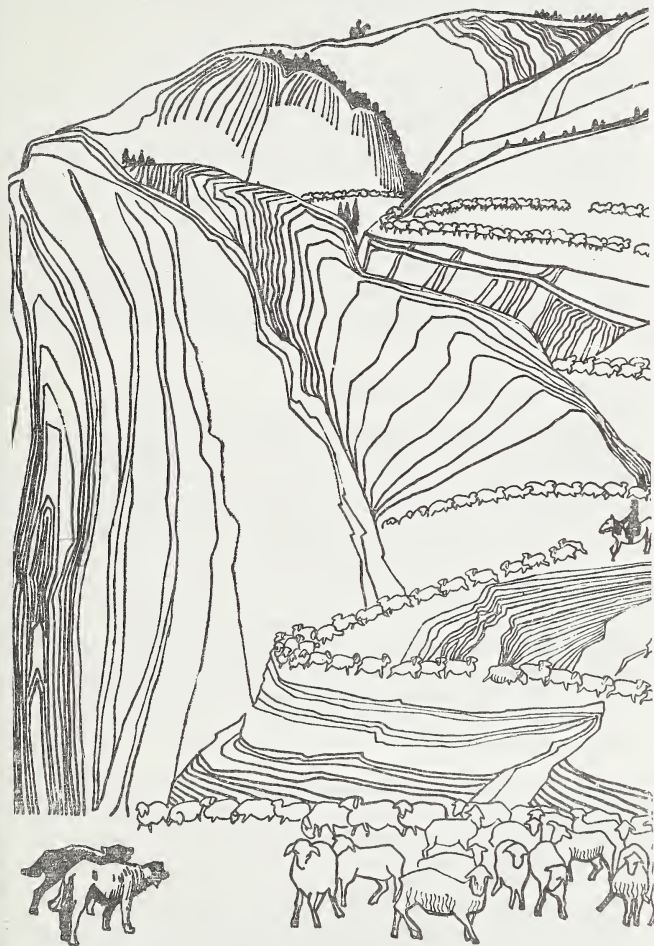
Stock Raising

The Soviet Union goes in for stock farming in a big way. By the beginning of 1967 the country's livestock amounted to over 97 million head of cattle (including over 41 million cows), 58 million pigs, nearly 141 million sheep and goats.

In Soviet times there has been a sharp increase in all livestock with the exception of horses. The herd of draught animals used in the southern districts—oxen, camels, donkeys and mules—has also decreased, being steadily replaced by machinery.

Cattle Raising

Cattle raising is the main branch of stock farming. Under the seven-year plan the cattle herd grew by 23 million head (inclusive of 7 million cows). Cattle are raised throughout the Soviet Union: from the polar regions to the southernmost. The biggest herds are found in the Ukraine (nearly 20



per cent of the total), Byelorussia, the Baltic Republics, the central districts of the European part of the country and Kazakhstan.

Pedigree Cattle

The most productive milch cattle are raised on the vast pastures of the non-black-earth (non-chernozem) districts of the European part of the country. Here one will find the Kholmogor, Yaroslavl, Kostroma and other strains of cattle famous for their record milk productivity. The Ukraine, Moldavia and the North Caucasus have big herds of milch cows.

A number of districts in the Ukraine, the Caucasus, the Volga area, as well as in Kirghizia and Kazakhstan, specialize in raising beef cattle. As yet, the productivity of these strains is insufficient.

Pig Breeding Leads the Field

Pigs breed faster than other cattle. The loss of nearly 30 million pigs due to the 1963 drought is currently being compensated.

The Ukraine accounts for almost one-third of the pigs raised in the country. Pig breeding is well established in Byelorussia and the Baltic Republics where this is a traditional branch of stock farming. Pigs account for almost 40 per cent of the total head of cattle in these districts.

Highly productive breeds of pigs, raised by Soviet scientists, make up a large part of the total pig herd. The fattening of pigs for bacon is being widely introduced, the Baltic Republics being particularly successful at this.

Ancient Art

Small cattle are raised on an extensive scale in the USSR, sheep and goats comprising almost 50 per cent of the country's total cattle herd. Sheep and goat breeding is an ancient art pursued by the inhabitants of mountain and steppe regions and desert areas.

Kazakhstan is the largest sheep breeding district, accounting for 20 per cent of the total small cattle herd in the country. Next in importance are the Republics of Central Asia and the Transcaucasus.

Better Strains

Formerly, the sheep had a very low productivity and coarse wool. Today they have been largely replaced by hybrid strains of sheep adapted to local conditions and producing fine and semi-fine fleece. Excellent strains of fine-fleeced sheep have been developed for the more rigorous conditions in Siberia. The herd of astrakhan sheep is rapidly growing. These are bred in the deserts of Central Asia, primarily in Uzbekistan and Turkmenistan. Of late astrakhan sheep have been successfully acclimatized in Moldavia. High-quality astrakhan is in great demand both on the home market and abroad.

The Ukraine and especially the North Caucasus produce large quantities of fine and semi-fine fleece. The Stavropol strain raised by Soviet scientists gives a record wool clip: in some cases up to 25 kg a year, enough for eight suit lengths of cloth.

Wool Clip Doubles

By improving the strain of sheep and increasing the herd it has been possible to double the annual wool clip compared with 1913, bringing it up to nearly 400 thousand tons. The Soviet Union is now second only to Australia, obtaining almost twice the Argentine clip and 250 per cent of the United States figure.

Poultry Breeding

Poultry breeding has become an important branch. It is common throughout the country, the main districts being: the Ukraine (over 25 per cent of the fowl), Byelorussia, Moldavia, the North Caucasus, the Baltic Republics and the central regions of the European part of the USSR.

As in most European countries, poultry farmers mainly go in for raising chickens (more than 80 per cent) with second place going to geese instead of ducks. Less turkeys and guinea-fowl are raised than in western European countries owing to severe climatic conditions.

Non-pedigree poultry, which formerly made up the bulk of the fowl flock, has been largely replaced by highly productive varieties. Such breeds as leghorn and the new Soviet



varieties are the most common. Soviet breeders have also raised many varieties of ducks. The geese are all Russian breeds.

There are thousands of large mechanized poultry enterprises in the USSR: collective farm poultry-yards, poultry state farms, suburban state-owned poultry factories which supply the cities with fresh meat and eggs. The most famous of these poultry enterprises are situated in Bratsevo and Tomilino, in the vicinity of Moscow.

A widespread network of chicken-hatcheries has been set up throughout the country to provide the consumers with high-pedigree poultry. There is also a large number of poultry factories which produce frozen chicken, egg powder, semi-finished and cooked foods. The Soviet Union has launched a wide-scale raising of broiler-chickens—the most profitable product of poultry breeding.

Poultry Meat and Eggs: Production Doubled

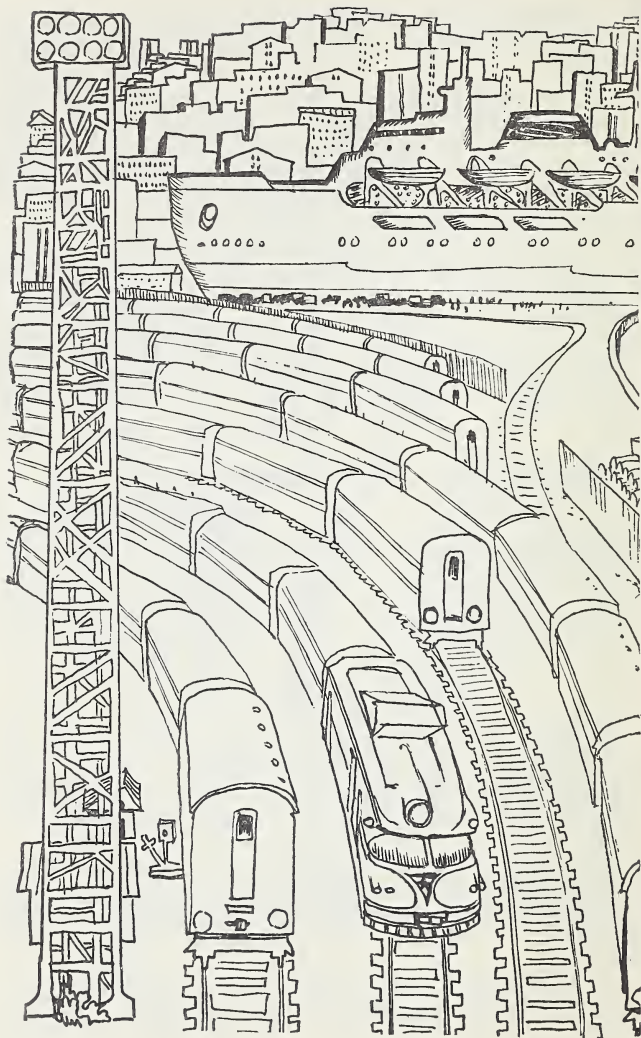
The overall poultry flock topped the 500 million mark. This is less than in the United States but more than in any other country. In the past decades the output of poultry meat and eggs doubled in the country. However, a certain volume of poultry products still has to be imported.

* * *

Soviet agriculture on the whole has made a rapid recovery after the ruin and devastation inflicted by the war and the 1963 drought. And still this vital branch of economy lags behind the other branches which retards full-scale advance of Soviet economy.

However, the resolute measures to do away with the shortcomings, undertaken by the government, open up wide vistas for the rapid and unrestricted development of Soviet agriculture along the road of creating abundance for all.

The results of the last five years when the total agricultural produce reached a record, corroborate this fact.



Transport

The vast territory and the country's rapid economic upsurge, especially in the newly developing outlying districts, make tremendous, growing demands on the transport system.

Railways: 75 Per Cent of Freight Turnover

Railways bear the brunt of the country's haulage (75 per cent of the total freight turnover).

In Soviet times the overall length of the railway lines has doubled and now exceeds 130 thousand kilometres, i. e. a little over 10 per cent of the world rail network. At the same time the USSR accounts for almost half of the world railway freight turnover. The planned system of national economy permits the most efficient use of all the rolling-stock and excludes the building of parallel railway lines since there is no private enterprise in the USSR.

Railways Stretch Eastward

Every year the railway network keeps expanding. Many railway lines are being built in the newly developing districts—Siberia, Kazakhstan and Central Asia—which in the past had practically no modern means of transportation. Siberia had only one railway.

Main Lines Branch Out

In Soviet times the eastern trunk lines began to bristle with numerous spur tracks and access lines opening up the approaches to the countless riches of these areas. Two more main lines have been built across Siberia and North Kazakhstan—the South-Siberian and Mid-Siberian railways. Another two lines have now been added to the only railway formerly crossing Kazakhstan. These are the Trans-Kazakhstan main line in the centre and the Turkestan-Siberian railway in the east, which link Central Asia with Siberia. Numerous spur tracks and access lines branch out from the new rail-

ways. A dense rail network crisscrosses the Urals. A railroad has been built alongside the Volga.

New Lines in the North and in the South

The Pechora railway played an important role in the development of the northern districts in the European part of the USSR. This main line linked the Leningrad and central districts with the coal, oil and timber of the Pechora basin.

In the postwar period a railway was built along the Black Sea coast of the Caucasus, which facilitated the development of this wealthy district. Besides, the new line has cut down the distance between Moscow and Tbilisi, capital of the Georgian Republic, by 500 kilometres.

New Types of Traction

The economic upsurge throughout the country led to a tremendous increase in freight turnover. It became obvious that without switching over to new types of traction the railways would not be able to cope with the ever increasing stream of industrial and agricultural loads.

In 1956 all the locomotive works began to build diesel and electric locomotives. And in 1966 diesel-electric and electric traction accounted for 89 per cent of the total freight turnover with nearly half being handled by electric locomotives.

First Place in the World

The USSR has by far outpaced the rest of the world in this respect with a record length of nearly 30 thousand kilometres of electrified railways.

As in most industrial countries, fuel tops the list of freight carried by Soviet railways (nearly 40 per cent of the freight turnover, with coal and coke accounting for about three-fifths of this figure and the rest consisting of oil products). Next in importance comes timber (some 13 per cent), mineral building materials (more than 10 per cent), ores and grain.

The current five-year plan envisages a 25 per cent rise in railway freight turnover.

Sea Transport

Although the Soviet Union's sea border is equal to the circumference of the globe along the equator, the merchant marine still plays a comparatively small role in the country's transport system, accounting for a mere 14 per cent of the total freightage.

Still, the role of maritime shipping grew noticeably. By 1967 sea shipping increased 19-fold compared with the 1940 figure, while its share in the total freight turnover nearly trebled. Under the five-year plan merchant fleet shipping will grow 1.5-fold; maritime freight turnover is to nearly double.

The steady expansion of the Soviet Union's foreign trade, which now includes nearly all countries provides good prospects for the development of maritime shipping. This is facilitated by the rapid growth of the Soviet merchant marine.

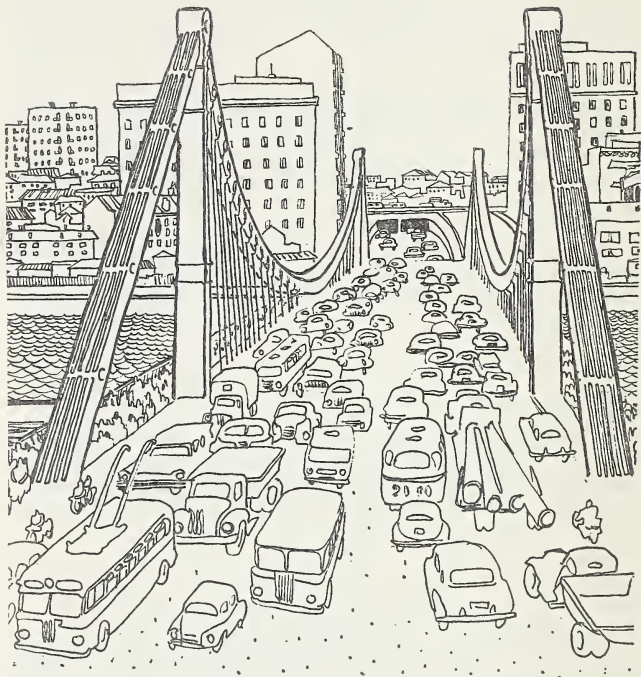
First-Class Ports

The Soviet Union has excellent ports on all seas washing its shores. Ports such as Leningrad, Riga, Klaipeda, Kaliningrad, Odessa, Novorossiisk, etc. handle most of the shipping. Major ports on the Pacific are Vladivostok, Nakhodka, Petropavlovsk-on-Kamchatka. The Arctic Sea Route is serviced by Murmansk, Arkhangelsk, Igarka (in the lower reaches of the Yenisei), Dikson (in the mouth of the Yenisei), Tiksi (in the mouth of the Lena), Provideniya.

The main ports on the inland seas are: Baku on the Caspian (with a freight turnover comparable to that of Leningrad, the country's biggest port) and Rostov near the mouth of the Don.

All Year Round Navigation

Up till recently the operation of Soviet ports was greatly impeded during the cold season since all of them, at one



period or another, become ice-bound. The powerful ice-breaker fleet built during the postwar years made it possible to continue navigation in winter in most ports. Only in the eastern section of the Arctic Sea Route does navigation stop completely.

River Transport

All the biggest rivers in the Soviet Union flow through plains; however, navigation is essentially impeded by the fact that they become ice-bound for 4-6 months in the European part of the USSR and for 8-9 months in the north of Siberia and the Far East. Hence river transport accounts for a mere 5 per cent in the total freight turnover.

The Volga

The Volga—the main inland water route—can serve as a model for future Soviet river systems.

This river has undergone radical reconstruction in Soviet times. A system of hydropower stations ensures the prescribed depth all the way from Kalinin to the mouth of the Volga. Navigable canals (White Sea-Baltic, Volga-Baltic and Volga-Don) link the Volga with the northern and southern seas, while the Moscow Canal brings Volga ships to the Soviet capital.

The Dnieper, the second largest river in the western part of the USSR, is being reconstructed on the Volga pattern. The work is already nearing completion. Reconstruction of other rivers is also underway, especially in Siberia.

Motor Transport

Motor transport as yet plays an insufficient role in the country's freightage, accounting for little over 5 per cent of the total freight turnover.

Public motor transport handles a much greater share of passenger traffic, the annual figure now running into 140,000 million passenger/kilometres. In this respect motor transport

is second only to the railways, accounting for some 30 per cent of the total passenger turnover (railways handle 55 per cent). Passenger bus service has become especially prevalent in suburban districts. The recent years have seen a considerable expansion of long-distance inter-city lines serviced by comfortable coaches travelling by modern highways. Under the current five-year plan (1966-1970) over 60,000 kilometres of hard surface motor roads will be built. Freight turnover is to grow 1.7-fold. Passenger bus transportation will nearly double.

Air Transport

Air transport accounts for an increasing share of passenger traffic. Since 1940 passenger traffic on the airlines has increased more than 22-fold, nearing 45,000 million passenger/kilometres in 1966. Soviet airlines carry over 100 thousand people a day. By 1970 passenger air service will nearly double.

Air Travel Gains Popularity

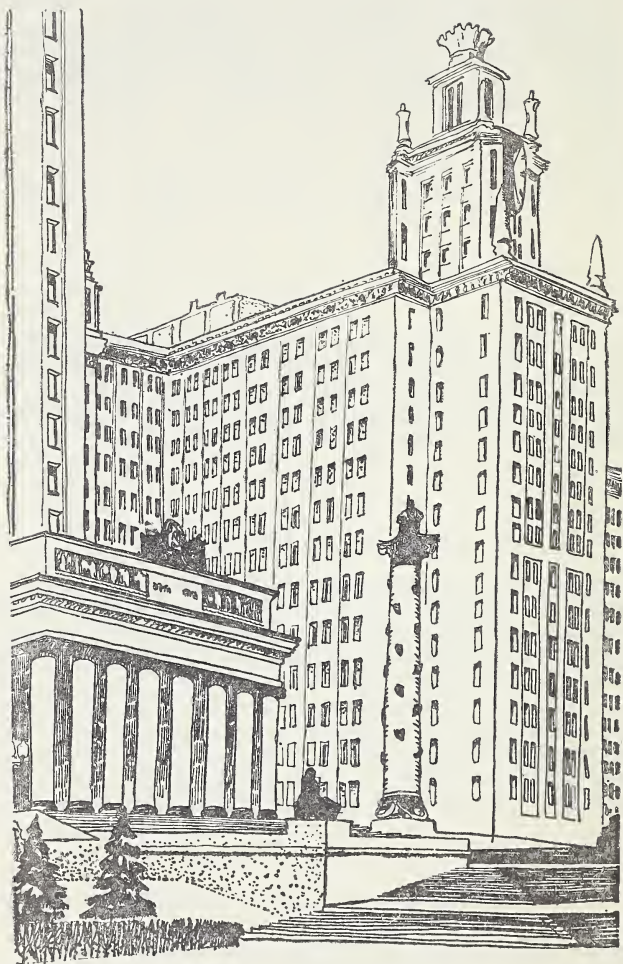
Air service has become an integral part of the transport system both in rural and urban communities. Many country dwellers prefer air travel to all other passenger services. They use the airlines for long-distance flights and for local trips—to district and regional centres. Many of the natives of the Far North, where in former times sleds were used all year round, first saw an aeroplane long before they ever saw a cart or a railway carriage. Helicopters, which require no special landing strip, are widely used in remote, almost inaccessible districts of the Far North to transport passengers and freight.

Pipeline Transport

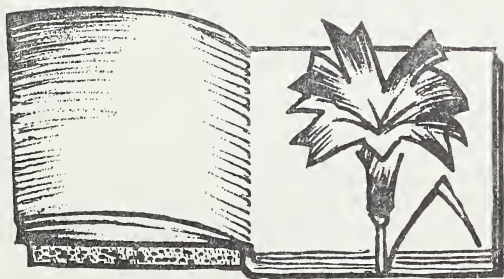
Pipeline transportation system began in Soviet times, with particular emphasis on this progressive mode of transport in the past two decades. Oil pipelines extend for 30,000 kilometres. Of these, two-thirds have been commis-

sioned in the past decade. The current five-year plan provides for another 12,000 kilometres of oil pipelines.

The oil mains handle over 165,000 million ton/kilometres which approaches the figures for river transport. By 1970 oil and oil products' conveyance via pipelines will approximately double.



FOR THE COMMON GOOD



The Basis of People's Wellbeing

The improvement of the people's wellbeing and cultural level is the goal in building communism in the USSR. In drawing up the current Five-Year National Economic Plan (1966-70) the Communist Party and Soviet Government paid special attention to measures that would further improve living standards.

Rapid development of the national economy, improved planning and management of social production will hasten the betterment of living conditions. Each year the growing material and cultural requirements of the Soviet people are being more fully satisfied.

National Income. The national income is the basis of the people's standard of living.

In 1966 the national income of the Soviet Union amounted to 206,600 million roubles, or over six times the 1940 figure.

In the Soviet Union the national income is made of two parts—the consumption fund, which accounts for about three quarters of the national income, and the accumulation fund, the remaining quarter.

The consumption fund is used to satisfy the material and intellectual requirements of society, to pay the wages and salaries of the workers, collective farmers and intellectuals, to develop public education, science, culture, public health, to provide better living conditions, to grant pensions to the aged and disabled, to help mothers of many children

and unmarried mothers and to cover the expenses involved in the upkeep of the state machinery and in national defence.

In 1965, of the gross consumption fund of 140,700 million roubles personal consumption accounted for 123,900 million roubles, or 88.1 per cent of the total.

The remaining quarter of the national income goes on expanding production, increasing fixed non-productive capital and building up reserve funds.

Public Funds for All

Public Funds. Besides direct remuneration for their work the workers, collective farmers and intellectuals receive income from public funds made up of allocations from the state budget, social insurance funds of the trade unions, and also money contributed by state enterprises, collective farms and voluntary organizations.

Public consumption funds give all the people an equal access to free education, free medical assistance, recreation facilities, treatment at health resorts, pensions, etc. The share of these payments and grants is larger for those who earn less and have more dependants.

In 1966 the public consumption funds reached 45,200 million roubles, an almost tenfold increase over 1940. Payments out of these funds raise the real income of the population by 25-30 per cent. In a year the state spent an average of 396 roubles in various payments and grants per factory or office worker over and above his basic earnings.

Rapid Substantial Growth

It is characteristic of Soviet society that the national income is constantly rising and has high annual growth rates. In 1966-70 it will rise by 38-41 per cent, as against 33 per cent in the preceding five-year period. The planned annual growth of 6.7-7.1 per cent is quite substantial, especially if compared with certain capitalist countries where during the four years (1962-65) of marked economic upswing it was 4.3 per cent in the United States, 3.4 per cent in Britain, 4.3 per cent in the Federal Republic of Germany and 5.4 per cent in France.

In 1966-70 the consumption fund will increase to nearly 40 per cent above the figure for the preceding five-year

period, while the absolute increase will be 70 per cent higher than the increment for that period. A total of 50,000 million roubles more will be spent in 1970 than in 1965 on the material and cultural requirements of the people.

Increase in Real Incomes

Real incomes of the population are an important indicator of changes in the standard of living. Since 1940 the average monthly earnings of factory and office workers have trebled. In 1966 real income per capita in the USSR grew by more than 6 per cent, about twice as much as the average annual increase between 1959 and 1965. This increase is primarily due to larger wages and salaries. In the last few years the average level of earnings in the production sphere has risen by about 10 per cent, and in the sphere of services by 21 per cent. As a result, factory and office workers received 7,400 million roubles more in one year.

By 1970 it is also planned to increase real incomes by some 30 per cent above the 1965 figure.

Improvement in Farmers' Living Conditions

The recent years have seen important economic measures to improve the living conditions of the collective farmers. These include pensions, guaranteed wages, reduction of income tax, reduced prices for farm machinery and electric power supplied to the farms, bonuses and other steps to increase material incentives to collective farmers to raise agricultural output.

In 1966 real incomes of collective farmers were 3.6 times as high as in 1940 and 8.5 times as high as in 1913.

Taxes Cut Down to a Minimum

Before the revolution the working peasants had to pay nearly 20 per cent of their income in various taxes and tithes. Today collective farmers pay less than 3 per cent of their income in taxes.

The economic strengthening of collective and state farms means a marked improvement in the living standards of the rural population. There are over 320,000 shops, more than 60,000 cafeterias, restaurants and cafés, over 44,000 commu-

nity service establishments, over 25,000 kindergartens and creches, more than 110,000 clubs, etc. in the countryside. In the 1965-66 academic year 21.6 million pupils attended village schools.

To Eliminate Traces of Backwardness in the Village

But despite the progress made in the countryside in Soviet times there are still traces of backwardness, and life in many villages is still much below the town level. The 1966-70 Five-Year Plan provides for the construction of 10,000 village schools and 8,000 clubs. Collective farms receive 15-year credits for improving living conditions and cultural facilities.

Steady Growth of Retail Trade

Retail trade is a significant indication of the growing wellbeing of Soviet people. State cooperative and collective farm retail trade turnover, including public catering, amounted to 112,900 million roubles in 1966 (70 per cent of this was state trade). Compared to the trade turnover for the prewar year of 1940 this is a sixfold increase. There are several forms of trade in the Soviet Union. Two of these, state and cooperative trade, represent an organized market where prices, goods turnover and circulation costs are determined by the planning agencies. Collective-farm trade is not regulated by the state, and here prices depend on supply and demand.

More than two-thirds of retail trade is handled by the state sector, which mainly services the urban population. In the countryside trading is done by a mass consumer cooperative organization with nearly 54 million shareholders, mostly collective farmers. The cooperatives own more than 350,000 shops, over 60,000 cafeterias, restaurants and cafés, more than 17,000 bakeries, etc. They have a food industry of their own which produces canned foods, juices, confectionery, sausages, and so on.

Growing trade turnover and an immense increase in the demand for consumer goods has become a typical feature of Soviet life. There has been an unusually rapid increase in the sale of certain foodstuffs and manufactured goods.

The sale of lard, margarine and other fats has increased 11 times as against 1940, milk and dairy products—over 9 times, meat—7.4 times and sugar—over 6 times. The sale of radios has increased 32 times, bicycles, motor bicycles and motor scooters—20 times, silk materials—12 times and watches and clocks—more than 9 times. Over 23 million watches and clocks, nearly 5 million radios and radio-record players and nearly 4 million TV sets were sold in 1966.

Some Consumer Goods Still in Short Supply

But consumer demand for certain items is not fully satisfied yet. (This applies to certain animal husbandry products, some items of clothing and footwear and refrigerators). The output of some goods, so far in short supply, is to be considerably increased under the current five-year plan. In 1966-70, 18.5 million refrigerators will be sold as against 4.2 million in 1961-65. By 1970 total retail trade turnover is expected to increase by 45 thousand million roubles (more than 43 per cent).

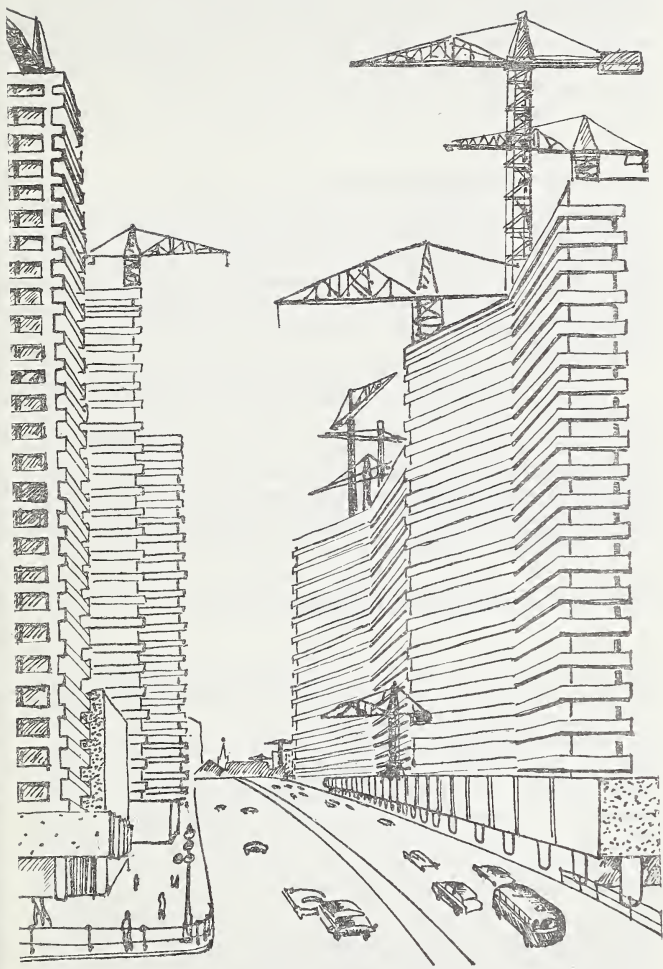
In 1966-70 it is planned to increase retail sales of meat by 21 per cent, of milk and milk products, by 37 per cent, sugar, by 22 per cent, textiles, clothing and knitwear, by 38 per cent, and footwear, by 26 per cent.

Far greater quantities of durable goods will also be sold.

Tens of millions of people are regular users of cafeterias, restaurants, cafés and snack bars. Dietetic cafeterias cater for those in need of a special diet. Public catering has become an important branch of the national economy with a total of almost 200,000 enterprises. Cash taken at public catering amounted to 10,700 million roubles in 1966 and an increase of 45 per cent is expected in the period 1966-70.

Housing for 65 Million in Six Years

Housing. The housing question is a major social problem of modern times. Vigorous efforts are being made and immense funds being spent in the Soviet Union to solve the problem as rapidly as possible. In the period of 1961-65 over 11.5 million flats were built and more than 54.6 million people received new flats, or otherwise improved their housing conditions. In 1966 another 2 million flats and nearly 370,000 houses in the countryside were completed; about 11 million



people moved to new homes or improved their housing conditions.

The Soviet Union holds a leading place in the world for number of homes built per thousand of population. In 1965 the Soviet Union built 9.6 flats per thousand of population, while the United States built 7.9, Britain, 7.3 and France, 8.4.

And Still not Enough Housing

But even at this high rate of construction the housing problem has not been solved completely. The reasons for this are the terrible housing position in prerevolutionary Russia, the rapid growth of the urban population during industrialization and the devastation wrought by the Second World War.

In 1966-70 the state will spend 45,000 million roubles for housing and utilities construction, or 10,000 million more than in the preceding five years. It is planned to build more than 11 million apartments in this time with a total floor space of 480 million square metres. In addition to that, collective farms and individual farmers are to build 2-2.5 million houses. The total housing to be provided in the five years will be more than the total existing in 1940.

The State Encourages Cooperative Housing

Housing construction is carried on mostly by government agencies, but since the state is unable to fully satisfy the housing needs of the population, cooperative construction is encouraged. Factory and office workers wishing to build apartments with their own money from cooperatives. Cooperative blocks of flats are built by government construction organizations according to standard designs, taking into account the wishes and suggestions of the cooperative members. State credits advanced for cooperative construction in 1967 will amount to 467 million roubles, a 17 per cent increase over the preceding year. The remaining sum is paid by the cooperative members who must contribute 40 per cent of the capital cost before construction is started. The state credits are paid back within 10-15 years at half per cent per annum interest. The state also pays the cost of

general development in the construction area, including that of roads and other communications, utilities and cultural amenities.

Apartments are Distributed by Local Authorities

Housing is allocated by local government bodies with broad participation of the public, preference being given to disabled persons and people who have given distinguished services to the community. A housing list is compiled by local government bodies with the help of commissions of volunteers, and this list is open for inspection to anyone who wishes to see it. Homes built by individual factories and offices are allocated by the management and trade unions, subject to the approval of the local Soviets.

The Lowest Rent

The size of the flat allocated depends on the size of the family. In the Russian Federation the quota is 9 square metres per person, and in the Ukraine 13.6 square metres. This relates only to rooms, and does not include space taken up by corridors, kitchen, bathroom and so on. The cost of rent and services rarely exceeds 4-5 per cent of a family budget.

25 Per Cent of All Doctors

Health Service. The Soviet Union has the greatest proportion of doctors. There are 580 thousand doctors—24.7 doctors to each 10 thousand people (USA—18.6, FRG—19.3). This is one-fourth of the total number of doctors in the world, though the population of the USSR accounts for only 9 per cent of the global population. Besides doctors 1.4 million para-medical personnel are engaged in health service establishments.

The mortality rate in the USSR is low—7.3 per 1,000 inhabitants. (USA—9.4, Great Britain—11.5). Among the economically developed countries Japan is the only place where the mortality rate is lower—7.1.

The birth rate in the Soviet Union is very high—18.2 new-borns per 1,000 of the population (USA—19.4, Federal Germany—17.9).

Since 1955 the average lifespan in the Soviet Union has increased from 67 to 70 years; altogether in the 50 years of its existence the average lifespan has more than doubled. Such dangerous contagious diseases as cholera, plague, smallpox and typhus, which in the past took thousands upon thousands of lives, have been completely eradicated. In recent years malaria has been practically eradicated and the number of cases of T. B., brucellosis and whooping cough is decreasing. Polio and diphtheria are on the point of complete eradication.

Free Health Service

All health services in the Soviet Union are free. Medical care is provided by district clinics and at places of employment. When necessary the doctors visit the patients at home or hospitalize them. There are first aid stations in towns and settlements.

In case of illness the employee receives 50 to 90 per cent of his wages, depending on service record. Hospital treatment, including operations if the need arises, is paid for by the state. The maintenance of one person in a hospital costs the state an average of 5-6 roubles a day, or 150-180 roubles a month. There is no charge to the patient for the maintenance, specialist consultations, medical treatment or medicines. An appendicitis operation, with the patient hospitalized for four days, costs the state nearly 68 roubles, for example, and the minimum nine days spent by a mother in a maternity home costs 175 roubles.

Guaranteed Social Maintenance

Social maintenance. All Soviet citizens without exception, regardless of nationality, race, sex or creed have the right to social maintenance. The workers do not contribute to the social security fund. All expenses are borne by the state and paid through the trade unions. There are old-age pensions, disability pensions, survivors' pensions, long-service pen-

sions and individual pensions. The pension depends on the length of service and wage or salary earned. The better a person works and the higher his pay, the higher the pension will be.

Men are entitled to pensions on reaching the age of 60 and women at the age of 55. The law has established old-age pension rates—from 50 to 100 per cent of pay earned. Those who work underground, in hot shops and in arduous conditions (they are entitled to pensions at 45-55) get from 55 to 100 per cent. The lower the wage or salary, the higher the percentage rate in determining the pension.

The state spends about 11,000 million roubles on pensions annually.

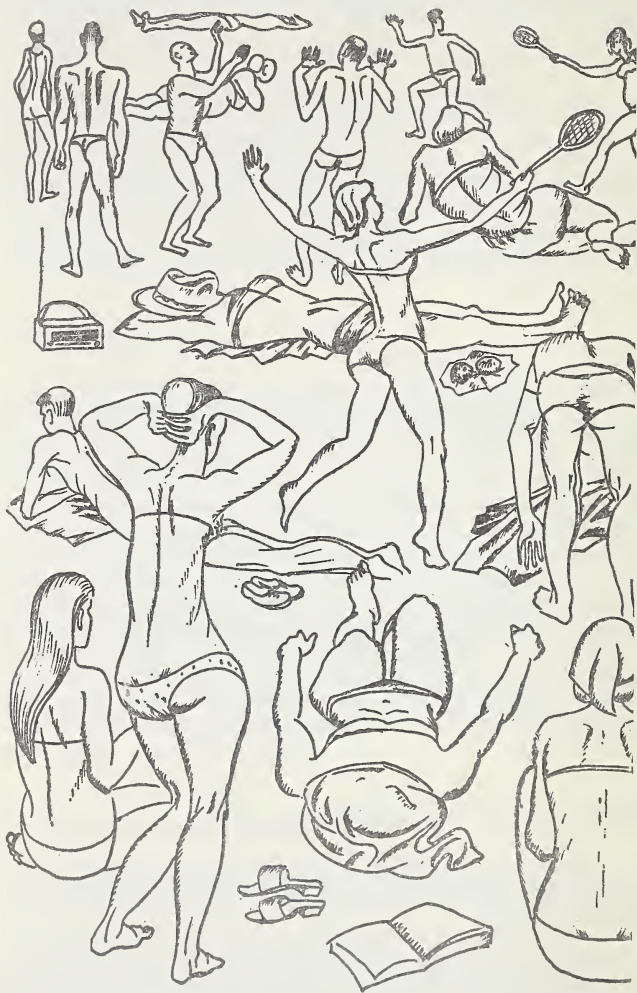
Mother and Child Care

The state displays great solicitude for children. In Soviet years a large network of creches, kindergartens and Pioneer camps has been set up. The state allocates thousands of millions of roubles for their maintenance. The parents whose children are looked after at these institutions pay only a small share of the cost (less than 20 per cent). Expectant and nursing mothers enjoy many privileges. No one has the right to discharge them, lower their pay or refuse to employ them. On the doctor's recommendation they are transferred to easier jobs at the same pay. Besides regular paid holidays expectant and nursing mothers enjoy an additional 120 day paid leave (2 months before and 2 months after child-birth). Nursing mothers have a shorter working day, they are granted breaks for nursing their babies, with no deduction in pay.

Holidays to Suit the Individual

Holidays and recreation. Soviet factory and office employees get paid holidays ranging from two weeks to two months a year.

Depending on taste, material status and family circumstances people spend their holidays in the countryside, or touring within the USSR or abroad, or simply stay at home and have a good rest. Many people go to sanatoriums or



holiday homes of which there are over 4,500. In 1966 more than 8.5 million people took advantage of these health centres of whom some 3 million people were accommodated at the more than 2,000 sanatoriums. The numerous resorts, sanatoriums and holiday homes all over the country are run by trade unions.

Today sanatoriums and holiday homes can accommodate 700,000 people at one time; this number will increase by 200,000 by the end of 1970. Beside this, of course, many people will stay at hotels, boarding houses and private homes for their holidays.

Trade Unions Provide Holiday Accommodations

Sanatorium accommodation is distributed by the trade union committees at factories and institutions and by the board of management at collective farms, often on the recommendation of a medical specialist. No such recommendation is required for a holiday home.

A considerable share of sanatorium and holiday home accommodation is granted at 30 per cent of the actual cost; sometimes it is given entirely free, the cost being paid by the trade unions out of social insurance funds. In 1965 the state allocated 347.6 million roubles to this fund for sanatorium and holiday home accommodation.

Children's Holidays

Schoolchildren may spend summer holidays at camps in the country, or attend holiday centres in the towns, some of them organized at schools. Every year over 5 million children spend summer holidays in camps maintained by the trade unions. Accommodation in such camps is not expensive, and is sometimes completely free.

Tourism

Tourism is becoming increasingly popular. Many people take routes with campings and tourist bases run by the trade unions. Others prefer the "come what may" method. More

and more people, especially young folk, are going in for hiking, boating and motoring.

Free Education

Education. All Soviet citizens have an equal right to education. Preschool educational establishments—creches and kindergartens—primary and secondary schools (including boarding schools and vocational schools), specialized secondary and higher schools constitute a unified educational system which is improved with every passing year.

Education in the Soviet Union is free. Students of higher and specialized secondary schools are given state grants except those who do not make the grade. Back in the thirties universal, compulsory primary education was introduced; in the forties compulsory seven-year education was introduced and now there is universal compulsory eight-year education.

The state spends nearly 90 roubles annually on each school pupil in an ordinary school and some 150 roubles per head on pupils at prolonged-day schools and classes. The upkeep of a pupil at a boarding school runs into 900 roubles a year. The training of a college student, including his monthly grant, costs 830 to 1,060 roubles a year.

One-third of the population, 72.5 million people, are students or pupils (not counting preschool age children). There is an enrolment of 48.2 million pupils in primary and secondary schools and 8 million in specialized secondary and higher schools.

Over 1,000,000 Specialists a Year

In 1966 over 430 specialists graduated from Soviet higher educational establishments (including 179 thousand engineers), and 683.7 thousand specialists got a specialized secondary education. In 1914 there were only 12.2 thousand graduates from all higher educational establishments in Russia.

A wide network of evening and correspondence educational establishments has been set up to enable those who are working to receive a higher or specialized secondary educa-

tion. Nearly 4 million workers take courses at institutes and secondary technical schools while keeping on with their jobs.

Scientific Development

In 1966 one-fourth of all scientific research workers in the world were Soviet specialists—over 700 thousand (including 250 thousand women)—a far cry from the 11.6 thousand research workers in Russia in 1914.

Academy of Sciences in Each Republic

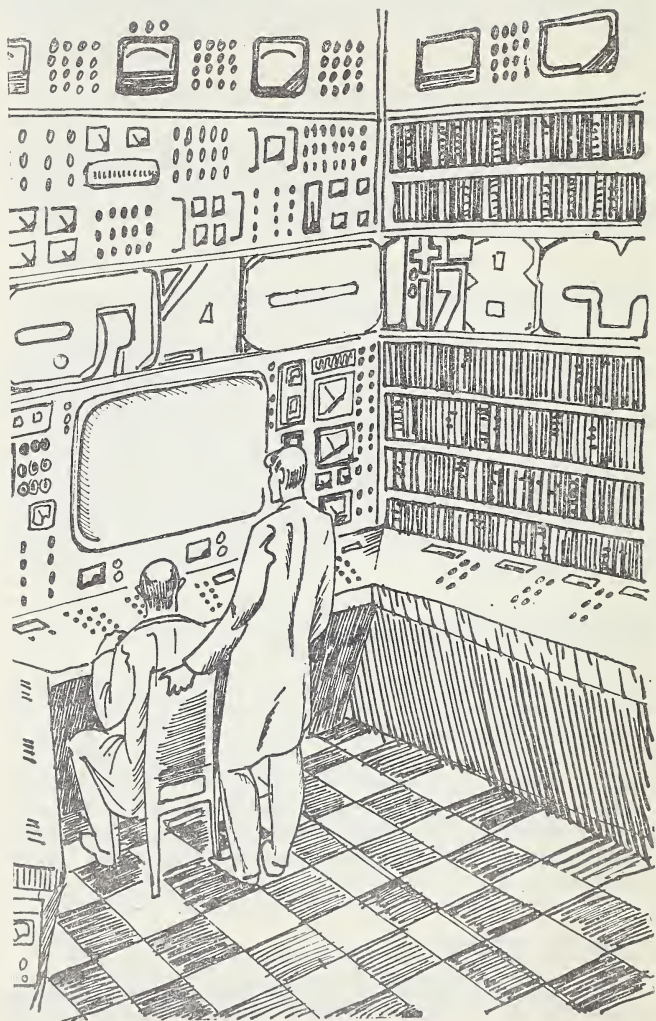
There are 538 full members and corresponding members of the USSR Academy of Sciences and 40 eminent foreign scientists who are honorary members. Besides, each Republic has its own Academy of Sciences with a total membership of over 900. There are also specialized Academies—the Academies of Medicine, Pedagogy, Agriculture and Arts with a total membership of nearly 600, which adds up to over two thousand academicians and corresponding members of the Academies. From time to time elections are held to replenish the membership.

Lenin Prizes and State Awards

Every other year Lenin Prizes and State Prizes are given for outstanding works in science and technology. Space does not permit even a brief enumeration of the trends of research being done by Soviet scientists. There is research in the field of nuclear physics and cosmogony and the search for radical means of fighting cancer, for a conclusive solution of the problem of the nature of heredity, for new substances with properties required by man and many, many other things.

Nobel Prize Winners

The title of Nobel Prize Winner has been conferred on several Soviet scientists. In 1956 Nikolai Semyonov was



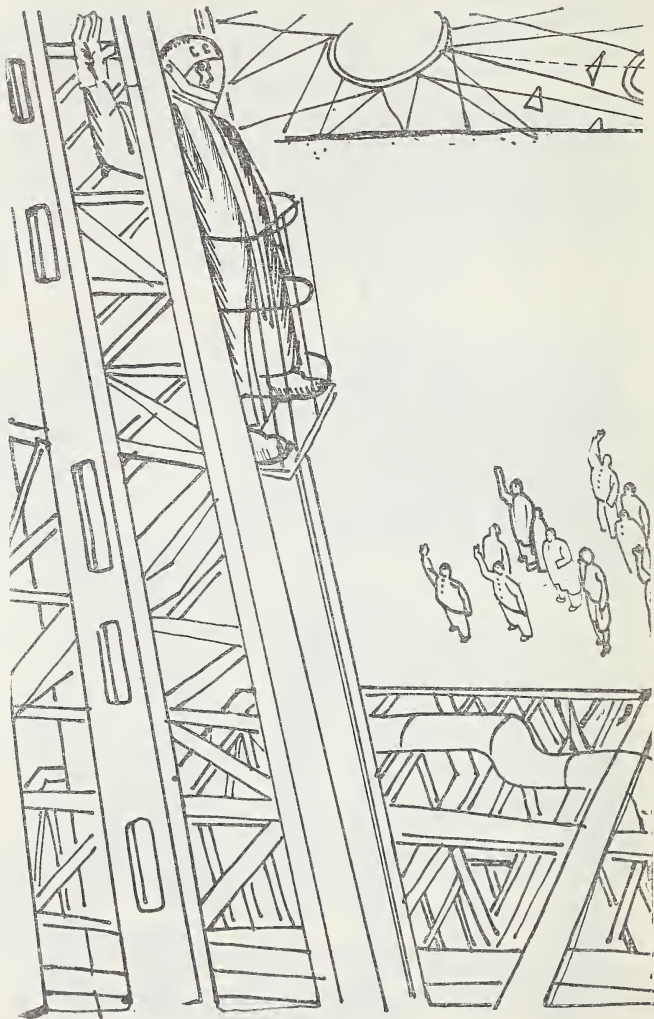
awarded the Nobel Prize for fundamental research on chain reactions taking place in nature. In 1958 the Nobel Prize was awarded to Pavel Cherenkov, Ilya Frank and Igor Tamm for the discovery, investigation and analyses of the "Cherenkov effect"—the bluish phosphorescence of water under the influence of nuclear radiation. In 1962 the Nobel Prize was awarded to Lev Landau for a number of brilliant investigations and the three-volume work *A Course of Theoretical Physics*; and in 1964—to Nikolai Basov and Alexander Prokhorov (jointly with American scientist Ch. Townes)—for works that have led to the creation of quantum generators and accelerators (lasers and masers).

Outer Space Exploration

Outer space exploration is an important aspect of Soviet science. On October 4, 1957 the world's first artificial Earth satellite was launched in the Soviet Union. Subsequent launchings of spaceships with animals on board paved the way for the launching of the *Vostok* spaceship on April 12, 1961 with Major Yuri Gagarin, the world's first cosmonaut, aboard. Herman Titov's flight on August 6 and 7 proved that man could stay in outer space. In 1962 the group of Soviet cosmonauts was enlarged by Andrian Nikolayev and Pavel Popovich who had made the first team flight round the so-called near orbits, and in 1963—by Valeri Bykovsky and the first woman-cosmonaut Valentina Tereshkova, in the *Vostok-5* and *Vostok-6*.

On October 12, 1964, a new powerful carrier-rocket put into orbit the multi-seater *Voskhod* spaceship with a crew of three—the commander of the ship, engineer Vladimir Komarov* and two research workers—scientist Konstantin Feoktistov and doctor Boris Yegorov. The cosmonauts circled the earth 16 times and 24 hours after takeoff, having completed their programme, safely landed in the designated area. On March 18, 1965 a group flight of two Soviet cos-

* Unfortunately, space exploration is not accomplished without sacrifices. On April 24, 1967, Vladimir Komarov, one of the first spacemen, died a tragic death while completing a test flight in the spacecraft *Soyuz-1*.



monauts—Pavel Belyayev and Alexei Leonov—was made in the *Voskhod-2* spaceship. Leonov was the first to step out of a spaceship into outer space.

Many achievements in space exploration, the construction of large atomic power stations, the creation of the world's first atomic ice-breaker *Lenin*, as well as other achievements have been made by Soviet scientists in close co-operation with engineers and other specialists.

Literature and the Press

According to UNESCO figures for a number of years the Soviet Union has held the record for book production and translation. Russian classics—Pushkin and Gogol, Tolstoy and Dostoyevsky, Chekhov and Gorky—are published in millions of copies and translated into the languages of many peoples and nationalities inhabiting the Soviet Union and other countries.

1,000 Million Books in a Hundred Languages

All in all, in 1965 the Soviet Union published 76.4 thousand books and booklets in a total edition of 1,300 million copies in 64 languages of the peoples of the USSR and 35 foreign languages.

Books by Soviet writers, such as Mikhail Sholokhov, Alexei Tolstoy, Alexander Fadeyev, Konstantin Paustovsky, Konstantin Fedin, Alexander Korneichuk, Konstantin Simonov, Boris Polevoy and other prose writers and poets are very popular in the USSR and abroad.

Books for children are published in enormous quantities.

Over two thousand books by foreign authors totalling over 60 million copies are published annually in the USSR, including new editions of the classics and works of modern authors.

Over 7 thousand newspapers and almost 4 thousand journals and magazines are published in the USSR. The central newspapers *Pravda*, *Izvestia* and *Trud* which are published in Moscow are reprinted in 40 cities and towns from matrices

delivered by plane or transmitted by photo-telegraph and circulated all over the country. Union Republic newspapers and magazines are published in the capitals of the Republics. There are also local newspapers published in territory, regional and district centres. Thousands of newspapers with a large circulation are published at big factories and plants, construction projects, universities and institutes.

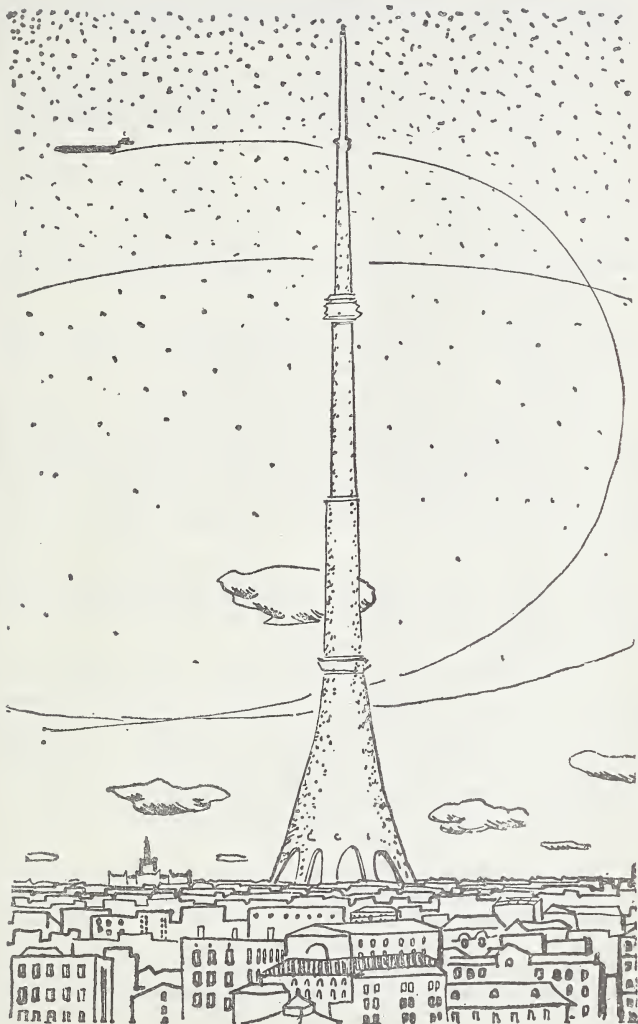
The following papers have the biggest circulation—*Pravda*, *Izvestia*, *Trud* ("Labour"), *Selskaya Zhizn* ("Rural Life"), *Komsomolskaya Pravda*, *Krasnaya Zvezda* ("Red Star"), *Sovietskaya Kultura* ("Soviet Culture"), *Sovietsky Sport* ("Soviet Sport"). The most popular magazines are: *Ogonyok*, *Rabotnitsa* ("Working Woman"—a women's magazine with a circulation of 10 million copies), *Krokodil* ("Crocodile", a humouristic and satirical journal with a circulation of over 4 million), *Yunost* ("Youth"—2 million copies), *Novy Mir* ("New World"—a literary monthly), *Inostrannaya Literatura* ("Foreign Literature"—a monthly publishing new works by foreign authors), *Nauka i Zhizn* ("Science and Life"—with a circulation of 3.6 million copies), etc.

Four Newspapers and Magazines per Family

Thirty-three periodicals are published in millions of copies. Over 22,000 million newspapers and 1,000 million magazines are printed annually. The circulation of all periodicals exceeds 240 million copies for a single issue. Today every Soviet family gets an average of four newspapers and magazines.

100 Million Spectators, Performances in 45 Languages

Theatre and music. There are 500 professional theatre companies in the USSR, performing in 45 languages. Every year these theatres perform for over 100 million spectators. The drama of Aeschilus, Sophocles and Euripides lives on the stage side by side with the art of Shakespeare and Schiller, Chekhov and Gorky. A large number of plays by Soviet



playwrights and comedies and dramas by Shaw, Brecht and de Philipppo and many other contemporary foreign playwrights are staged.

Operas and ballets by Tchaikovsky and Verdi, Mussorgsky and Leoncavallo, Glinka and Puccini, Rimsky-Korsakov and Bizet, Prokofiev and Stravinsky are presented in over 30 opera and ballet theatres. The best works of modern Russian composers and of composers of Georgia, the Ukraine, Uzbekistan, Armenia, Turkmenia and Azerbaijan are staged. Soviet ballerinas—Ulanova, Plisetskaya, Struchkova; singers—Kozlovsky, Petrov, Lisitsian, Arkhipova, Vishnevskaya; conductors—Mravinsky, Rakhlin and many others are renowned the world over.

Many Union Republics now have their own opera and ballet companies. The soloists are gifted young people from the Republics who completed their vocal and choreographic education in Moscow, Leningrad and Kiev.

There are many outstanding choirs and dance ensembles. Soviet symphony orchestras and soloists, such as Svyatoslav Richter and Emil Gilels (piano), David Oistrach and Leonid Kogan (violin), Mstislav Rostropovich ('cello) and many others are known to music lovers everywhere.

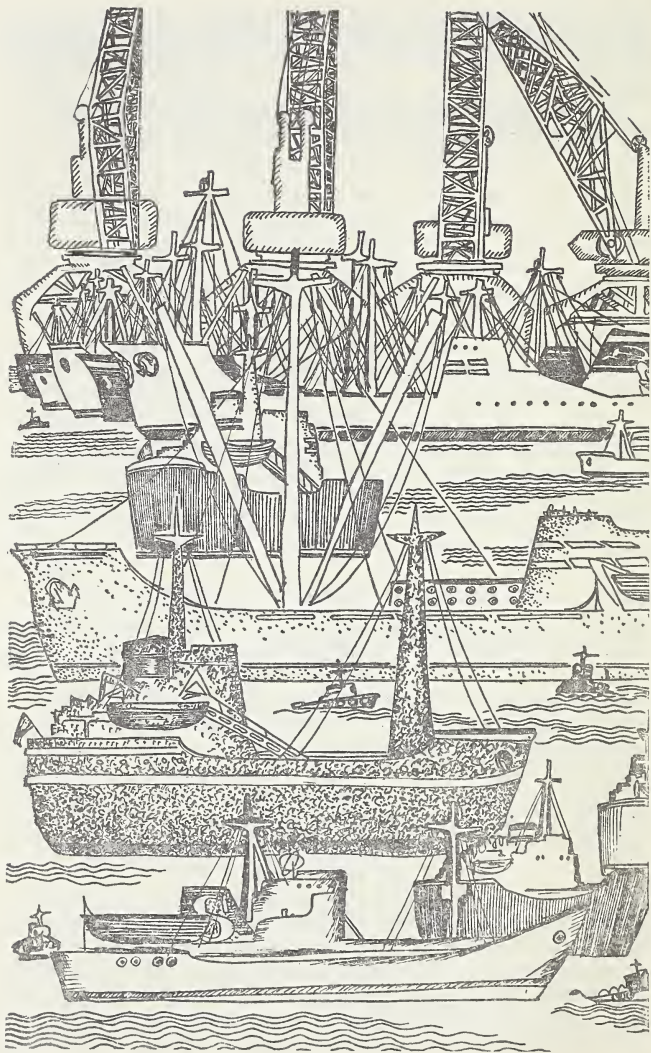
Amateur art groups and companies function all over the Soviet Union. There are 800 non-professional theatre companies alone with a membership of 25 thousand. Ten million people go in for amateur art.

Radio, television and cinema. Soviet broadcasting stations are the most powerful in Europe and second most powerful in the world. The country has a central broadcasting system in Moscow as well as republican, territorial and regional broadcasting systems. The radio stations of the Soviet Union broadcast in 64 languages of the peoples of the USSR and in 37 languages of the peoples of Europe, Asia, Africa, America and Australia.

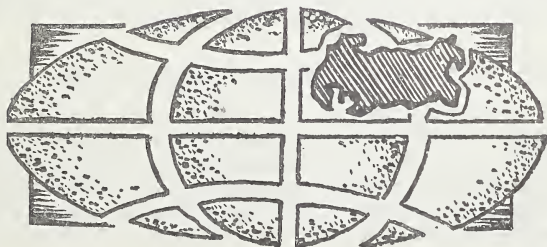
There has been extensive development of television in the postwar years. The number of TV centres and TV relay stations has increased from two in 1950 to 740 in 1966; the number of TV sets increased from ten thousand to 19 million over the same period. Over 90 million viewers watch TV programmes broadcast over several channels. Moscow will soon have a new powerful broadcasting TV station. Its tower

will be 525 metres high—far higher than the Eiffel tower in Paris. Exchange of TV programmes with other countries has been arranged through the *Intervision* and *Eurovision* systems.

In 1966 the country had 149.2 thousand film projectors, cinema-goers made up an audience of 4,200 million.



FOREIGN ECONOMIC
RELATIONS
AND TOURISM



From 16th to 5th Place

Foreign Trade. Prior to World War II foreign trade was still at a low ebb—the USSR was 16th in the world trade. Today it trades with one hundred countries and has moved up to fifth place in foreign trade—next to the USA, FRG, Great Britain and France. The foreign trade turnover in 1966 reached 15,000 million roubles—more than 11 times the 1946 figure. Important changes have occurred during the last ten years in the structure of imports and exports. There has been a sharp decrease in the share of imported machines, equipment, metals and all types of industrial raw materials in comparison with the prewar level. Very little cotton, wool and fuel is imported. In 1965 imports of finished articles and raw materials were as follows: machinery and equipment—33.4 per cent, foodstuffs and raw materials—20.2 per cent, manufactured consumer goods—14.2 per cent, metals and metal ware, ores and concentrates, chemicals, fertilizers and rubber—16 per cent.

Two-Thirds of the Exports are Finished Articles

Industrialization of the country and growth of its industrial potential has changed the structure of its exports. Today machinery and equipment, metal and metal ware, cable and wire, ores and concentrates constitute nearly half of the exports. Soviet machine tools, ball-bearings, building machines, motorcars, watches and clocks and the

like are highly valued on the world market. It is indicative that nearly two-thirds of the exports are finished articles. But while it is one of the world's largest exporter of machinery and equipment the Soviet Union is also a world supplier of various kinds of raw materials. It is the leading exporter of manganese ore, cast iron, aluminium, cotton, asbestos, apatite concentrates and sawn timber.

There is a great demand for such traditional export items as timber, furs, black caviar, tinned crabmeat, etc.

The Main Partner—Socialist Countries

The largest part of Soviet foreign trade is with the socialist countries (over 70 per cent). The Council for Mutual Economic Aid (CMEA) to which most socialist countries belong cleared the way for joint action in solving economic problems in each country. Close cooperation enables each nation to make good use of its potential and creative energy, to accelerate economic and technical progress and raise living standards. The trade between these countries is steadily developing and growing. In 1964-65 trade between the CMEA member countries totalled nearly 99,000 million roubles and during the new Five-Year-Plan period it will increase to 140,000 million roubles. Long-term trade agreements and contracts envisage a wide exchange of machinery and equipment, raw materials, fuel, and consumer goods. Imports from socialist countries will take care of 48 per cent of the Soviet Union's demand for merchant vessels, 40 per cent of the demand for electric locomotives, and much equipment for chemical and cement plants and sugar refineries. On the other hand, Soviet goods will to a great extent satisfy the needs of the socialist countries for industrial raw materials, fuel, machinery and equipment.

New International Economic Organizations

The socialist countries have set up a number of international economic organizations to actively promote mutually advantageous relationships—the International Economic Cooperation Bank, "Intermetal", "Common Rolling Stock", the Standardization Institute, etc. Large industrial enter-

prises have been and are being built by joint effort. Trade with the German Democratic Republic constitutes the lion's share of Soviet foreign trade. It is far in excess of the trade between the USA and Great Britain. Next to the German Democratic Republic, Czechoslovakia does the biggest trade with the Soviet Union.

Mutually Advantageous Trade

A growing share of Soviet foreign trade is with the developing countries of Asia, Africa and Latin America. It amounted to 10 per cent of Soviet foreign trade, a sixfold increase over 1955. In that period the developing countries' trade with the capitalist countries did not even double.

The USSR supplies the developing countries with machinery and equipment, oil and oil products, ferrous and non-ferrous metals, chemicals, building materials, etc., on favourable terms, credits and loans that are acceptable. Payments for goods imported from the USSR are usually in the form of articles of traditional export which enter the Soviet Union duty-free. Of the developing countries India and the United Arab Republic have become the Soviet Union's biggest partners accounting for 40 per cent of the Soviet foreign trade with this group of countries.

Mounting Trade with the West

So far, share of Soviet foreign trade with industrially developed capitalist countries has been rather modest, amounting to one-fifth of its foreign trade turnover. Among the European countries the most lively trade is with Finland, Great Britain, Italy, France, FRG and Sweden. In Asia Japan has become the biggest partner, in North America—Canada. Trade with Australia is developing successfully.

The Soviet Union exports oil and oil products, timber, grain, watches, cameras, furs, ferrous and non-ferrous metals and other articles and raw materials to the industrially developed capitalist countries. The main imports from these countries are machinery and equipment, ferrous and non-ferrous metals, chemicals, footwear and clothing.

A Helping Hand

Technical and scientific cooperation. Economic relations between the Soviet Union and other countries go beyond the boundaries of traditional trade relations. A new feature of international economic relations is Soviet technical and financial assistance in developing the national economies of many countries. This is done by supplying them with equipment on favourable terms and having Soviet specialists participate in designing and constructing many industrial enterprises, in setting up educational establishments, health centres and institutions and other projects. The Soviet Union helps the developing countries by training national personnel, either in their own countries or in Soviet higher and specialized secondary educational establishments. Of these, the Moscow Patrice Lumumba Friendship University has acquired world acclaim.

All in all the Soviet Union is cooperating in the construction of 600 projects in the developing countries. Model instances of international cooperation are the construction of such imposing projects as the Aswan hydro-electric station (UAR), the Bhilai iron and steel works (India) and others.

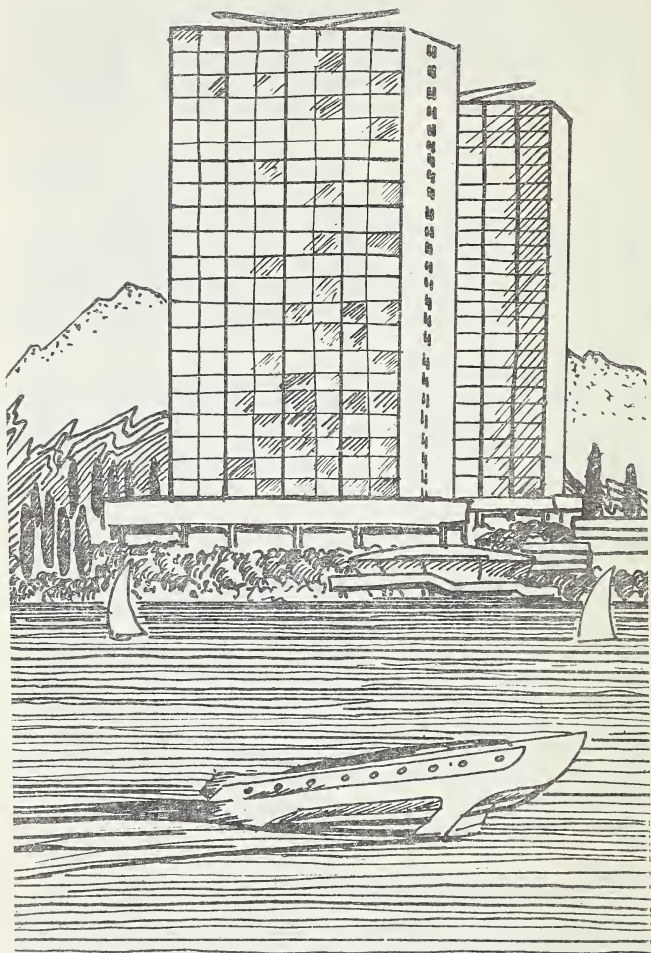
Joint Projects

Joint construction and subsequent joint exploitation of various industrial enterprises has become a new form of international economic cooperation. The USSR first began this kind of cooperation with the neighbouring socialist countries and then with neighbouring capitalist countries (Finland, Afghanistan, Iran, Turkey).

The exchange and sale of licences for technical inventions and improvements has become common practice in Soviet economic relations with other countries. The Soviet Union is an active participant and sponsor of many international exhibitions and fairs.

100 Cities Welcome Tourists

Foreign tourists. The influx of tourists is graphic evidence of growing interest in the Soviet Union. By now the number of visitors who come to learn about Soviet life, to



see the sights, enjoy the cultural attractions and spend their holidays in the USSR has reached 1.5 million a year.

Intourist (the all-Union joint stock company founded in 1929 to take care of foreign tourists) maintains constant business contacts with travel bureaus in 101 countries. In these countries Intourist is represented by over 400 national agencies.

Intourist provides services in 100 towns of the USSR. These include Moscow, Leningrad, all the Union Republic capitals, the ancient Russian towns Yaroslavl, Vladimir, Suzdal, Rostov, Novgorod, and Pskov; Samarkand and Bukhara in Uzbekistan; the Black Sea resorts—Odessa, Yalta, Sochi, Sukhumi and Batumi; the “capital” of Siberia—Novosibirsk; the old Siberian town of Irkutsk; the young town of Bratsk and many others.

From the Black Sea to Baikal

Foreign tourists have an opportunity of seeing unique Lake Baikal in Siberia, taking a cruise along the Volga and Don rivers, and sightseeing in Kazan, capital of the Tatar Autonomous Republic; visiting Lenin's birthplace—the town of Ulyanovsk, heroic Volgograd and the large southern city Rostov-on-Don. No less interesting is the trip along the Dnieper River from Kiev to Kher-son.

Foreign and Soviet cruising ships make regular trips across the Baltic and Black seas. In the east there is the Nakhodka-Yokohama-Hong Kong line.

Motor Routes

There are interesting routes for motorists: Brest-Minsk-Smolensk-Moscow; Vyborg-Leningrad-Novgorod-Kalinin-Moscow; Moscow-Tula-Kursk-Orel-Kharkov-Simferopol-Yalta; numerous routes in the Ukraine and Moldavia; the Rostov-on-Don-Caucasian Black Sea Coast-Tbilisi-the Georgian Military Highway-Ordjonikidze-Rostov-on-Don circle route.

Soviet North Caucasus health resorts—Pyatigorsk, Kislovodsk, Essentuki, Zheleznovodsk—and the Georgian

resort of Tskhaltubo are very popular with foreign tourists. Intourist programmes include such festivals as "Moscow Stars," "Russian Winter," "White Nights," hunting trips in Siberia, the Caucasus and Crimea.

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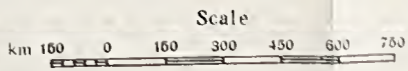
UNION OF SOVIET SOCIALIST REPUBLICS



<p>Inhabited Points</p> <ul style="list-style-type: none"> ★ Capital of the USSR ● Capitals of Union Republics ○ Capitals of foreign states ● Capitals of ASSR ○ Centres of Autonomous Regions ○ Centres of National Areas ○ Centres of territories and regions ○ Other inhabited points 	<p>Boundaries</p> <ul style="list-style-type: none"> — State boundaries — Arctic possessions of the USSR — Union Republics — Autonomous Republics — National Areas 	<p>Communications</p> <ul style="list-style-type: none"> — Railways — Motor roads — Navigation canals ↓ Ports
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Figures on the map indicate:

- 1 - Adigei A.R. 2 - Karachay-Circassian A.R.
- 3 - Jewish A.R. 4 - Ust'-Ordyn Buryat N.A.
- 5 - Com. Perm'yak N.A. 6 - Agin Buryat N.A. 7 - Dagestani ASSR
- 8 - Kabardino-Balkarian ASSR 9 - Man' ASSR
- 10 - Mordovian ASSR 11 - North-Osetian ASSR
- 12 - Udmurt ASSR 13 - Checheno-Ingush ASSR
- 14 - Chuvash ASSR 15 - Kara-Kalpak ASSR
- 16 - Abkhazian ASSR 17 - Adjar ASSR 18 - South-Osetian A.R.
- 19 - Nakhichevan ASSR 20 - Nagorno-Karabakh A.R.
- 21 - Gorno-Badakhshan A.R.



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