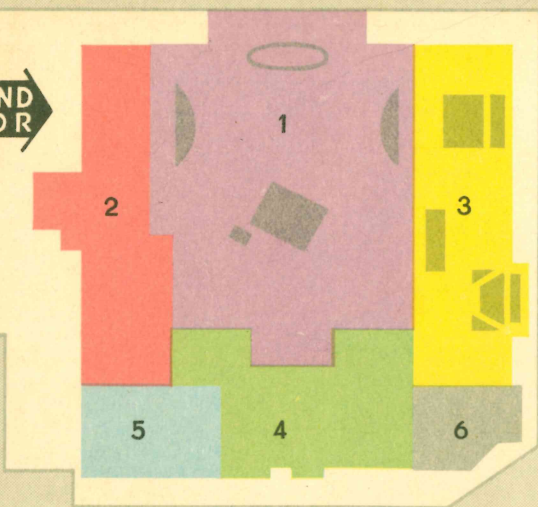


The
SECOND
FLOOR



1 Industry and Agriculture

2 Science and Technology

3 Radio and Electronics

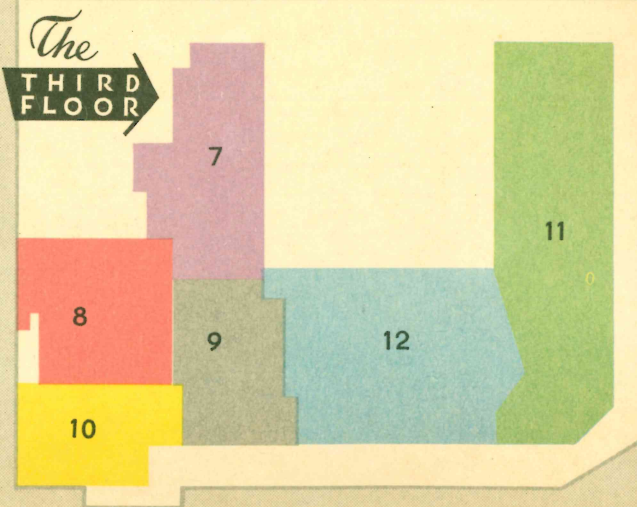
4 Peaceful Uses of Atomic Energy

5 Optics

6 Transport

LAYOUT OF THE EXHIBITION

The
THIRD
FLOOR



7 Public Education

8 Public Health

9 Sports

10 Construction

11 Culture

12 Well-being of the people

GENERAL INFORMATION



he USSR Exhibition of Achievements in Science, Technology and Culture gives the visitor an introduction to the tempestuous advance of the Soviet Union, its economy, engineering, culture, and other fields of the manifold life of the Soviet people. It stands to reason that the Exhibition cannot cover the gigantic scope of Soviet advances in all entirety. A multitude of pavilions displaying thousands upon thousands of different exhibits would be necessary to do so.

The diverse displays at the Exhibition include a large variety of industrial and farm products, working models, mock-ups, diagrams, photographs, films, and other illustrative and informative material. The machines and instruments on view are accompanied by explanatory charts and panels. In addition, any questions that may arise in the tour of the Exhibition will be answered by staff guides.

The Exhibition starts with a survey offering basic information about the Soviet Union—its State structure, territory, population, and natural resources. The Soviet Union is the world's first Socialist State which is now engaged in an all-out effort to build Communist so-

ciety. With a territory of 22.4 million sq.km (8.7 million sq.m.) and a population of over 200 million, it covers a large part of Europe and Asia. The USSR is a multinational state embracing the peoples of the 15 Socialist Union Republics in a fraternal community. It will be seen that Russia, once backward in economy and culture, has become an advanced industrial power during Soviet years. Gross industrial output has increased 36 times over as against 1913. Today the Soviet Union ranks first in Europe and second in the world in volume of industrial production. The XXI Congress of the Communist Party of the Soviet Union has approved the target figures for the economic development of the USSR for 1959-1965, and the Soviet people are successfully putting this program into practice.

The achievements of the Soviet Union and its far-reaching plans for further progress are of peaceful nature. Soviet policy towards other countries is prompted by the idea of peaceful co-existence and competition between states with different social and economic systems. The exhibits on display provide graphic evidence of the economic and cultural contacts between the Soviet Union and foreign countries and point to the vast possibilities existing for the development of Soviet-American trade.

New Chaika cars



The world's largest proton synchrotron accelerating charged particles to an energy level of 10 BeV



A

n idea is given here of the unprecedented scope of scientific activities, the extensive network of research establishments, and the growing number of scientists and engineers in

the Soviet Union.

The focal point of the display is the outstanding contributions of Soviet science to the study of outer space and problems of space travel. The visitor's attention will be attracted by full-scale models of the three Soviet sputniks. The world's first artificial Earth satellites developed and launched in the Soviet Union and the Soviet space rocket hurled into cosmos to become the first artificial planet of the solar system constitute a whole epoch in the advancement of mankind's scientific knowledge.

Some of the stands emphasize the work of Soviet scientists and engineers on the control of fusion; the use of semi conductors, synthetic materials and radio-isotopes in the national economy; cosmic ray studies; problems of nuclear and chemical physics. Pulse height and other analysers, instruments for chain reaction studies, and an installation which demonstrates paramagnetic resonance are also shown here.

The visitor will be interested to see the

optical instruments displayed at the Exhibition and extensively employed in different branches of science and technology. These are microscopes, spectral-analysis apparatus, optical-measuring instruments as well as a large variety of cameras and a wide range of optical glass.

A series of exhibits represent the important contributions of Soviet scientists to the theory of automation, comprehensive process automation and telecontrol.

The model of a biopotential-controlled manipulator and other exhibits on view point to the vast opportunities for process automation in engineering industries created by the biopotential control system developed in the Soviet Union. The visitor will see special-purpose electronic computers which automatically determine the best possible operating conditions for production processes and optimum performance characteristics for machinery.

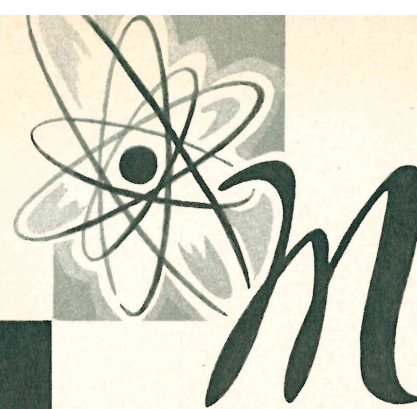
Advances in biological sciences are illustrated by exhibits dealing with the research in biochemistry, biophysics and microbiology carried on by Soviet scientists. They tell the visitor of discoveries in the study of proteins, the living cell, functions of the central nervous system, cardiac activity, metabolism in micro-organisms, photosynthesis, and the development of plants.

PROGRESS IN SCIENCE AND TECHNOLOGY

Soviet atomic ice-breaker *Lenin* afloat



PEACEFUL USES OF ATOMIC ENERGY

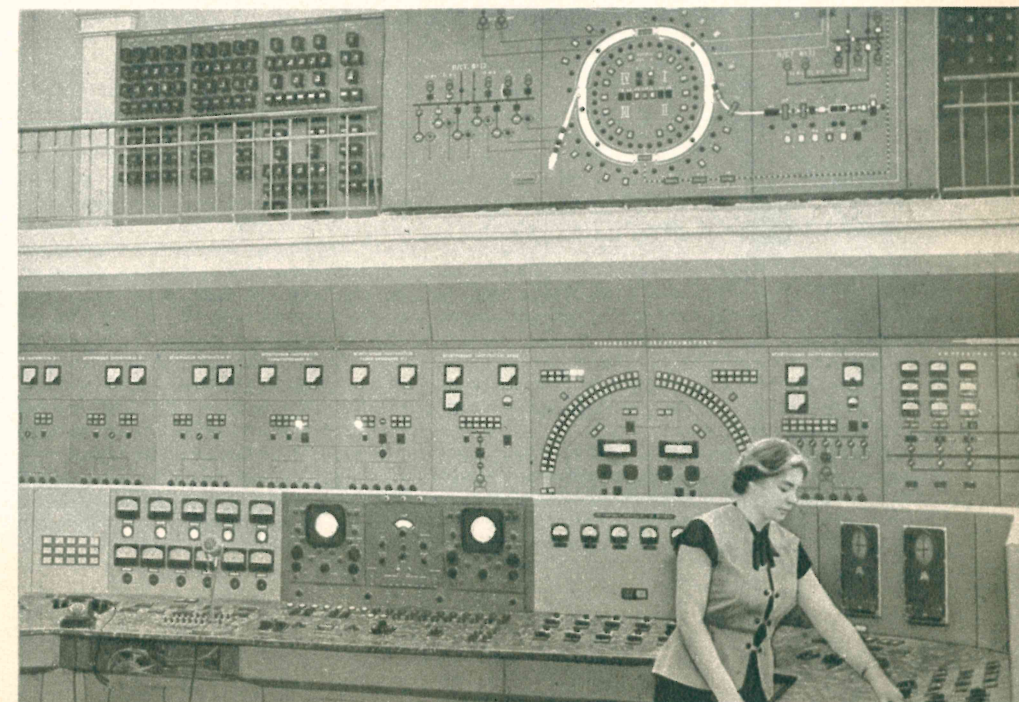


Much space in the display is devoted to the successes and prospects of the Soviet Union in the field of atomic power engineering. The visitor will be interested to learn about the world's largest nuclear power station rated at 600,000 kW , the first 100,000 kW stage of which has recently been commissioned. Isotopes in the USSR are extensively employed in industrial gamma-ray inspection of welds in gas pipe-lines, oil prospecting, process control in the chemicals and metals industries as well as in irradiation chemistry, medicine, biology and agriculture. Numerous exhibits illustrate the Soviet Union's scientific and technical co-operation in the international atoms-for-peace effort, including Soviet assistance

to other countries in setting up atomic centres, supplying nuclear reactors, accelerators and equipment for hot laboratories, training foreign personnel, and international contacts of Soviet scientists in the field.

This section catches the eye with models of the atomic power stations now under construction in the Soviet Union, the *Alpha* and *Genre-O* installations for plasma studies, toroidal chambers, and magnetic traps used in nuclear research, including a mock-up of the powerful *Ogra* installation. Presented also in model form are a variety of accelerators, such as a 680-MeV synchrocyclotron and the world's largest 10-BeV proton synchrotron, different types of reactors, and the atomic ice-breaker *Lenin*. Instruments and apparatus for uranium prospecting and health protection are displayed as well.

Central control room of the proton synchrotron

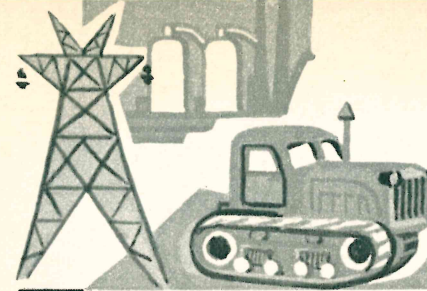




Harvesting with a self-propelled combine SK-3 in the Leninsky Put collective farm, Krasnodar Territory

A vivid presentation is given here of the tremendous proportions and the high engineering level achieved by all industries in the Soviet Union. The visitor will learn that over 4,500 newest types of machines, mechanisms and apparatus have been designed and put into operation in Soviet industry; construction; transport and agriculture in the past three years. The diagrams, charts and photographs on display speak of the steep increase in the production of electric power, ferrous and non-ferrous metals, chemicals, coal, oil, gas, and engineering goods. The section features a working model of a large iron-and-steel plant complete with blast-furnaces, a mixer and an open-hearth furnace, a model of an arrangement for continuous steel teeming, and other exhibits. The Soviet metals industry advances on the basis of process

mechanization and automation. In 1958 the Soviet Union produced about 55 million tons of steel. Today a month's steel output in the country exceeds what was produced for the whole of 1913. By 1965 annual steel production will reach 91 million tons. From the display devoted to the coal industry the visitor will learn about what has been done in the Soviet Union to raise coal output, to mechanize arduous operations, and to ease the miner's work to the utmost. The exhibits here include a working model of an automatic underground coal-loading station, a model of a mine where coal is extracted by a hydraulic method, as well as a variety of automatic and safety devices. While 113 million tons of oil were produced in the Soviet Union in 1958, its annual production will go up to 240 million tons by 1965. The progress made in the oil industry as well as the use of automation and telemechanics on oil fields are exemplified by working model of an off-shore and a land oil field. Among other exhibits are a screw-type oil pump, an electric drill, a small-size sectional turbodrill, and other newest types of equipment used in the oil industry.



A model of a modern synthetic rubber plant with samples of its products, a stand with new types of plastics commercially available in the Soviet Union, together with other products and illustrative material, show the

growing output and prospects of the Soviet chemicals industry.

The chemicals industry was practically non-existent in pre-revolutionary Russia. The Soviet Union of today ranks second in the world in volume of chemical production. The Seven-Year Plan envisages a nearly threefold increase in gross output of the chemicals industry.

The many interesting exhibits devoted to power engineering illustrate numerous applications of thermal, water and nuclear power in the USSR and the program now under way which involves the setting-up of a single power grid and the complete electrification of the country.

The display features models of the huge Stalingrad Hydropower Station, a 200,000 kW turbine-and-generator set, and a 1,200,000 kW thermal power plant.

In 1958 the production of electricity reached 233 billion kW-hrs, while the 1965 output will rise to 520 billion kW-hrs. At present it takes the Soviet Union three days to produce as much electricity as pre-revolutionary Russia did annually. The Soviet engineering industries are represented by a large number of exhibits: program-controlled machine-tools, automatic measuring instruments, new makes of cars such as the *Chaika*, *Zil-111* and *Volga*. The latest designs of coal cutter-loaders, modern tractors and a variety of farming machines can also be seen here. Photographs and panels trace the history of the powerful Soviet engineering industries which are now capable of producing the most complicated and precise machines. The production of the engineering and metal-working industries has grown 240 times over since 1913.

From the section dealing with construction the visitor will learn of the immense scale of housing and industrial construction in the Soviet Union, new building methods making use of pre-fabricated component parts, the most efficient forms of work management, and the

basic principles of Soviet town planning.

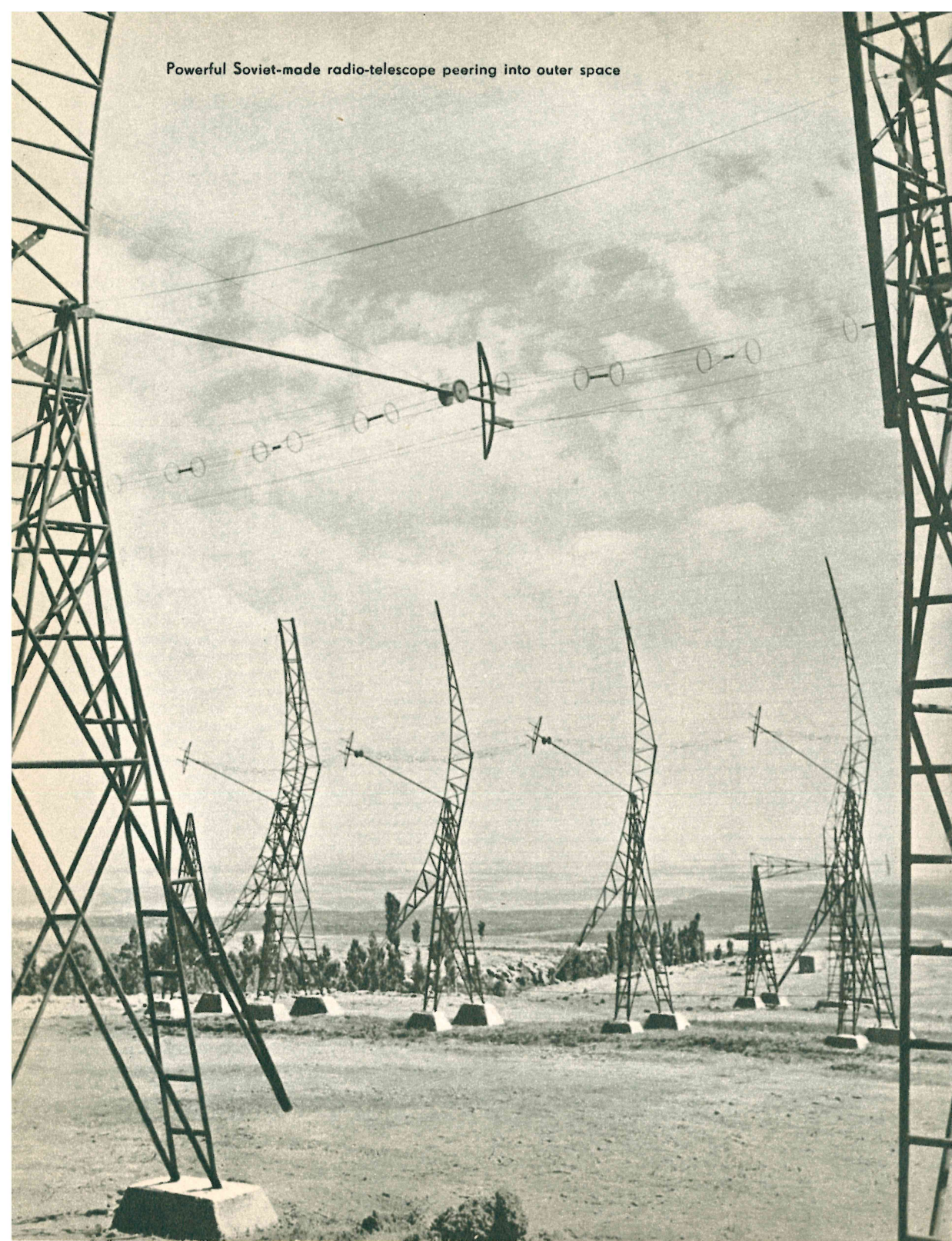
The numerous exhibits on show in this section include an electrified diagram displaying the General Plan for the Reconstruction of Moscow and a model of the new scientific centre in Novosibirsk. A large number of models, diagrams and photographs illustrate the progressive techniques used in the reconstruction, planning and building of Moscow, Leningrad, Novosibirsk, Chelyabinsk and other cities. They also tell the story of how the appearance of cities in the Union Republics is changing, how hundreds of new towns are being built and war-destroyed communities are being rehabilitated. All the exhibits provide convincing proof that the building industry in the Soviet Union is being transformed into a mechanized continuous process in which buildings and structures are assembled and erected from ready-made parts.

Photographs, diagrams, charts and posters on agriculture show that a large-scale, highly mechanized socialist agriculture has been created in the country under Soviet power. It will be seen that headway in the output of farm products has been particularly striking in the past few years as a result of a number of major steps taken by the Communist Party and the Soviet Government. State capital investments in agriculture totalled about 100 billion roubles in the past five years. 36 million hectares of virgin and idle land has been ploughed up (1 hectare = 2.47 acres). In 1958, the State procured 3,500 million poods of grain, or 1,600 million poods more than in 1953 (1 pood = 36.4 lb). In 1965, gross grain output will reach 11,000 million poods.

Hundreds of thousands of tractors and harvesting combines as well as millions of various machines and implements are used in agriculture in the Soviet Union. An idea of the machinery employed will be given by the universal wheeled tractors, self-propelled chassis and a variety of farm machines on display.

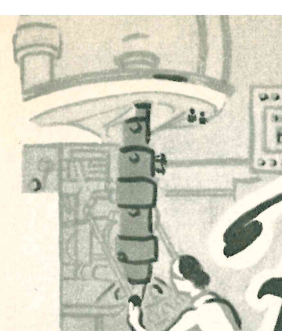
The program for the further development of the Soviet economy, as approved by the XXI Party Congress, envisages a tremendous increase in production, rapid development of all branches of economy and culture.

Powerful Soviet-made radio-telescope peering into outer space



RADIO AND ELECTRONICS

9

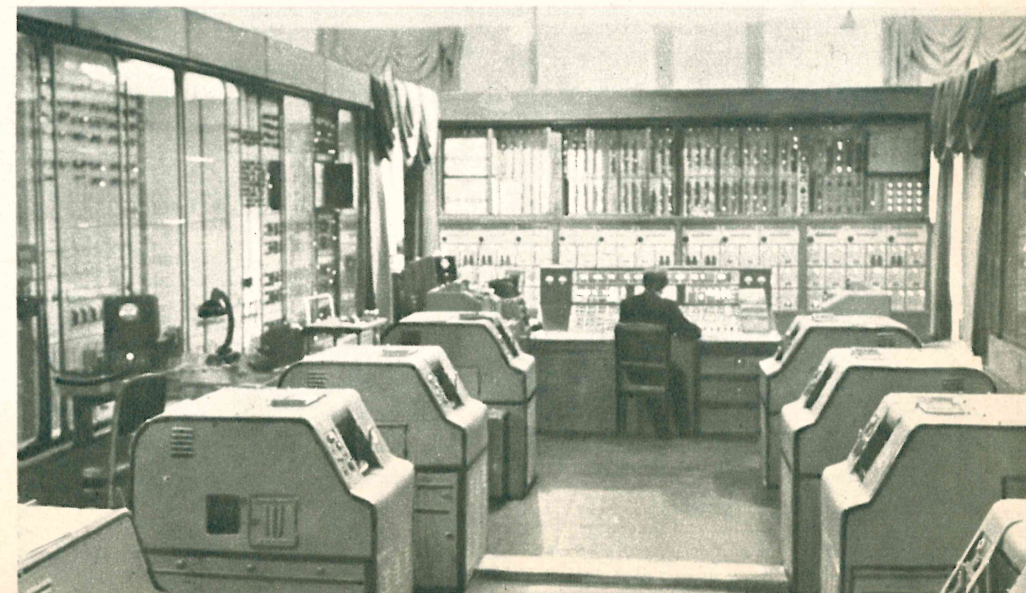


Here the visitor will learn much of the development of radio and television in the USSR and the application of radio and electronics in various branches of science and technology. The exhibits displayed include instruments and equipment for exploration of outer space and TV systems widely employed in Soviet industry, transport and medicine.

The stands given over to radio broadcasting and acoustics show the latest types of radio sets, electric gramophones, tape recorders, audio amplifiers, and the like.

This section also offers a display of electronic equipment for civil aviation, seagoing vessels, electronic computers, electric and radio communications equipment, semi-conductor tubes, infra-red instruments and electronic microscopes.

Universal electronic computer at the Computing centre of the USSR Academy of Sciences





Moscow University



PUBLIC EDUCATION

his section features numerous exhibits illustrating the large-scale development of public education under Soviet power which covers all the nationalities in the country.

From these exhibits the visitor will learn that the Soviet Union now has 766 higher and 3,344 specialized secondary schools with an enrolment of over 4,000,000 and that the entire system of education and training, which is free of charge, embraces more than 50 million people. The number of specialists now

engaged in the Soviet economy totals about 7,500,000, or 39 times as many as in Russia in 1913. Universal compulsory eight-year education has been introduced throughout the Soviet Union and much attention is paid to vocational training. Public education will make another big stride forward in connection with the present reorganization of the school system. Closer links are being established between school, on the one hand, and life and production, on the other. More facilities are being put at the disposal of those who attend evening classes or take correspondence courses.

Lecture-hall at the Department of Biophysiology, Kirov Institute in Gorky





Sklifasovsky First Aid Institute in Moscow.
Professor B. Petrov introduces anaesthetic in the spinal cord

PUBLIC HEALTH



any exhibits in this section bear witness to the fact that the Soviet public health system has done much to increase average life expectancy, to reduce morbidity as well as adult

and child mortality, to raise birth-rate and overall increase of population.

The visitor will learn that the Soviet Union leads the world in public health services, with all forms of medical aid being free of charge.

Wide coverage is given to the achievements of Soviet medicine in the treatment of poliomyelitis, the re-activation of organs, painless childbirth, cardiac and neurosurgery, diagnosis methods and techniques, etc. The stands feature many items produced by various branches of the medical industry, and among them antibiotics, preparations, apparatus and instruments.

The numerous diagrams, charts and pictures on display give a broad idea of the measures taken by the Soviet State to step up housing and communal construction and to improve sanitary and working conditions. There is also much information on maternity and child protection in the Soviet Union.

Ample space is given to show the ever-expanding network of sanatoriums, health resorts and rest homes where millions of Soviet working people rest and undergo medical treatment every year.

There are also exhibits describing the wide scope and popularity of physical training, sports and camping in the Soviet Union. The display on foreign tourism emphasizes the importance of reciprocal visits by Soviet and foreign tourists as a means of promoting trust and friendship among nations.

Sanatorium Novye Sochi on the Black Sea coast





The Sabre Dance, a hit from Khachaturian's ballet Gayane, as performed by ballet-dancers from the Spendiarov Opera and Ballet Theatre, Erevan

CULTURE



he many vivid and striking exhibits here introduce the visitor to Socialist culture – literature and arts the fundamental features of which are deep-rooted humanism, faith in a happier future for mankind, the ideas of democracy, peace, friendship and respect for all nations and their cultural traditions. Soviet culture reflects the manifold nature of the spiritual life of Soviet people.

Presented in this section are outstanding Soviet paintings, sculptures and graphic works, many of which were awarded Grands Prix, gold and silver medals, and honorary diplomas at the Brussels Exhibition in 1958. Separate stands cover the careers of Soviet art celebrities. The display includes Russian classics and contemporary Soviet literature, as well as books and periodicals on all branches of knowledge. There are special stands featuring the socio-economic and political literature.

The First Ball-Bearing Plant in Moscow. Art Studio in the Plant's Palace of Culture





Statistics and other material in this section testify to the fact that the policy of the Communist Party and the Soviet Government aimed to fully meet the growing material and cultural demands of the population is being successfully implemented.

The right of every Soviet citizen to work, as written down in the Constitution of the USSR, is actually guaranteed by the steady growth of production and employment in the country. This is convincingly shown in the factual information displayed at the Exhibition. In seven years the number of workers and other employees engaged in the national economy will increase by another 12 million.

The display includes a diagram showing the distribution of the national income in the Soviet Union, from which it is clearly seen that the country's material resources are utilized to raise the living standards of the population and to expand socialist production.

The per capita income, which provides a measure of the living standards of the population, has grown 15 times over in Soviet years. In 1965 the national income is to show an increase of 62 to 65 per cent over the 1958 figure.

The increase in the real income of working people is accompanied by a corresponding increase in the consumption of manufactured goods and food-stuffs in the country.

There are other exhibits showing the importance to the well-being of the Soviet family of State expenditures on social and cultural needs: budget allocations on public health services, education, paid holidays for factory and office workers, pensions, etc.

Plans for further progress in public welfare are also given much space at the Exhibition. The Seven-Year Plan provides for higher living standards of working people, higher real incomes, shorter working hours and working week, greater output of consumer goods, increased housing construction, and improved cultural and welfare services for the population.

City Nursery School No. 115, Kiev, Ukraine



New dwelling houses in Cheryomushki, Moscow

On the front cover: The third Soviet artificial Earth satellite

On the back cover: A Russian landscape

