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OPENING OF THE NEW BUILDINGS OF MOSCOW STATE UNIVERSITY IMENI M. V. LOMONOSOV

The following report gives information on some of the administrative organs set up to equip the new buildings, some statistics on the buildings, and extracts from a popular scientific description of the work and equipment of some faculties of the university.

[redacted] Numbers in parentheses refer to appended sources.

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The new buildings of Moscow State University were declared open on 1 September 1953, and at the same time the Physics, Chemistry, Mechanics and Mathematics, Geology, and Geography Faculties moved to their new quarters. A meeting of the construction workers, students, and instructors was held in front of the main building. The meeting was addressed by P. K. Ponomarenko, Minister of Culture USSR; Academician A. N. Nesmeyanov, President of the Academy of Sciences USSR; A. V. Voronkov, Head of Construction; and Academician I. G. Petrovskiy, the Rector of the University.(1)

The following facts and figures on the new buildings have been published:

The main building is 32 stories high, with a total volume of 1,370,000 cubic meters. It houses the Geology and Geography Faculties, six and seven stories respectively (2); the auditoriums of the Mechanics and Mathematics Faculty, five stories (2); and the general university chairs, the scientific library, and the main assembly hall, which seats 1500.(1)

The Physics Faculty building is six stories high, with a volume of 274,600 cubic meters.

The Chemistry Faculty building is a six story building, with a total volume of 267,700 cubic meters.

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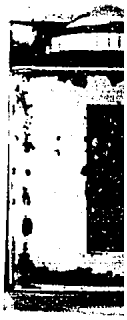


Living accommodations for staff and students, a botanical garden of 42 hectares, and recreational facilities are included.

More than 3,000 students were accepted for first-year courses in September 1953.(1)

BUILDING AND EQUIPPING THE NEW BUILDINGS

In 1949 the Central Committee for the Construction and Equipping th. New Buildings was formed. The following were members of the committee:

Professor A. S. Predvoditelev, Corresponding Member of the Academy of Sciences USSR (Head)

Professor A. V. Kiselev (Deputy Head)

Docent N. L. Pokrovskiy (Scientific Secretary). Organizational work was delegated to him and to V. A. Filippova senior laboratory assistant.

The heads of faculty committees on problems of construction and equipping the new buildings were as follows: A. V. Belyayev, Doctor of Technical Sciences, Mechanics and Mathematics Faculty; Professors N. A. Kaptsov and S. N. Rzhevkin, Physics Faculty; Professor K. G. Khomyakov and Docent S. M. Skuratov, Chemistry Faculty; Docents L. V. Levinson and D. A. Trankovskiy, Biology and Soil Science Faculty; Docent N. I. Bykovskiy, Geology Faculty; and Docent A. I. Kamenskiy, Geography Faculty.(1)

Commissions of the Central Committee

The following commissions of the Central Committee have been mentioned:

Commission for the Control of Electromagnetic Interference, headed by Professor N. A. Kaptsov.

Commission for the Control of Vibrational and Acoustical Interference, headed by Professor S. N. Rzhevkin.

Library Commission, headed by Professor R. I. Gerasimov.

Commission on Visual Aids, headed by Professor K. P. Yakovlev.

Commission on Furnishings, headed by Docent L. V. Levinson.(1)

Groups for Ordering Special Equipment

In order to prevent duplication of orders for apparatus for the new buildings, a number of groups were formed in order to coordinate demands by faculties, chairs, and laboratories. These groups were also responsible for determining whether "serial" (i.e., standard production) or "nonserial" (specially designed and produced) instruments were to be ordered. The following groups have been mentioned, together with the apparatus with which they dealt:

Group for Spectrographic Optics (Headed by Professor V. M. Tatevskiy)

Different types of spectrographs and spectrometers, with high resolving powers throughout the whole frequency range of the spectrum, have been and are being prepared in the engineering shops of the university. Those listed are vacuum spectrographs and spectrometers, spectrographs with rapid development for registering high-speed processes, and spectrographs with diffraction gratings. This will give chairs and laboratories the most modern spectroscopic equipment in the world.(1)

Group for Astronomical Equipment

The energetic work of Professor S. M. Zverev in this group was noted. First class clocks, quartz clocks, registering chronographs, and passage instruments of original design have been provided. Such equipment was formerly made in foreign countries exclusively. The Sun Service has demanded special equipment. It has been provided with a coelostat which has been set up on the roof of the observatory and which directs the sun's rays through a vertical tube running through the whole building to the semi-basement, where a registering apparatus has been set up on a special mounting. There will also be a radic telescope, a 70-cm telescope with Professor D. D. Maksutov's meniscus reflector system and a 60-cm telescope with a parabolic reflector.(1)

Group for Equipment for Electrical Measurements (Headed by Professor R. V. Telesnin)

[The following information on a high-sensitivity galvanometer is quoted in full:] "A significant event in electrical instrument building is the introduction of a mirror galvanometer with a sensitivity of 1.10^{-11} amperes. It must be noted that a cheap form of mirror galvanometer has been ordered for practical work of laboratories. The high cost and comparatively limited production of mirror galvanometers have heretofore made their extensive use in teaching difficult. With the production of a cheap model, however, this will be overcome, and will end the monopoly of certain foreign firms."

The liaison of Professor A. V. Kiselev and Docent S. M. Skuratov with producers has led to high class, accurate instruments, particularly to new types of thermometric bridges, low-resistance potentiometers, and other instruments required for exact calorimetric work.(1)

Group for Radio Physics Instruments (Headed by Docent P. A. Petrov)

This group has dealt with electronic instruments and high-voltage apparatus, such as oscillators, receivers, amplifiers, and radio engineering measuring instruments.(1)

Group for Electronic and Power Apparatus (Headed by Professor N. A. Kaptsov)

This group is responsible for supplying chairs and laboratories with modern cathode oscillographs, high resolution electron microscopes, X-ray apparatus, including a portable table type, and electronic instruments for making up other apparatus.(1)

Group for Cryogenic Apparatus (Headed by Docent N. A. Bril'yantov and Professor A. I. Shal'nikov)

Apparatus for research and teaching work at the temperature of liquid nitrogen, hydrogen, and helium was ordered by this group. Part of the equipment must be mounted in the Liquefaction Station, which is also responsible for the production of liquid nitrogen and oxygen to meet the needs of all the natural science faculties.(1)

Group for Instrument Equipment (Headed by Docent N. G. Pokrovskiy)

This group was responsible for equipping the repair and machine shops of the faculties, chairs, and laboratories. These shops will be able not only to carry out repairs, but will be able to make new equipment.(1)

Group for Computing and Calculating Machines (Headed by Professor B. M. Shchigo_ev)

A Central Computing Bureau has been set up in the Mechanics and Mathematics Faculty, and the following types of machines have been supplied: combination calculating and analytical machines, the only examples of their kind; complex computing machines, including integrators of various types for the solution of systems of linear equations with constant coefficients and partial differential equations; simple calculating machines; fully automatic electro-arithmometers; full text printing calculators; ten-key calculating machines and printing calculators; manual arithmometers; drafting machines; planimeters; intergraphs; and harmonic analysers.

Computing bureaus have also been established for the Chemistry and Physics Faculties on a smaller scale than the central bureau. Docents K. D. Shcherbakov and A. A. Samarskiy took an active part in the formation of these two lesser bureaus.(1)

Group for General Laboratory Equipment (Headed by Senior Scientific Associate I. M. Gibalo and Assistant A. A. Mezentseva)

This group, which was drawn wholly from the Chemistry Faculty, dealt with weighing instruments: high sensitivity microanalytical balances, single-arm microanalytical balances, and balances with noncontinuous suspension.(1)

Group for Furnaces and Thermostats (Headed by A. B. Bilevich, Candidate of Chemical Sciences)

The furnaces built for the university allow study of physical and chemical processes up to a temperature of 2,500 degrees centigrade, and permit the determination of the pressure of saturated steam and the heat evaporation of heat-resistant substances.

The need for apparatus for low temperatures has also been foreseen, and apparatus ranging from standard refrigerators to complex compressors has been supplied. Various instruments for the measurement and regulation of temperature, such as automatic pyrometers, electronic thermoregulators, electromagnetic relays and contact thermometers with magnetic adjustment, are also available.(1)

Group for Geophysical Equipment (Headed by Docents S. V. Dobroklonskiy and M. M. Arkangel'skiy)

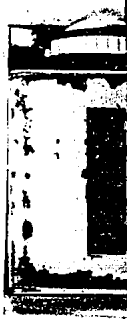
This group coordinated the supply of aerological equipment, such as radiosondes, for studying atmospheric layers, and instruments for studying the electrical and optical properties of the atmosphere, the physics of the sea, the reaction of the ocean and the atmosphere, and the formation of waves.

Instruments have also been supplied for the study of river-bed currents, the interaction of the river bed and the current, the movement of alluvium in a turbulent current, and the propagation of flood currents.

For the investigation of the earth's crust, seismic phenomena, the earth's magnetic field and gravity, the following instruments are mentioned: seismographs, magnetic theodolites, and gravimeters.(1)

Group for Photographic and Cinematographic Equipment (Headed by Docent S. R. Zhukovskiy)

This group looked after the needs of all natural science faculties. It provided slow-and-fast-motion photographic and motion-picture equipment.(1)



Group for Microscopic and Geodesic Equipment (Headed by Docent D. A. Trankovskiy)

This group was responsible for providing various microscopes, including ultraviolet microscopes, and the spare parts and accessories to go with them. The accessories included instruments for microphotography and microcinematography. Senior Assistant G. V. Gospodinov took part in ordering the geodesic instruments. (1)

Group for the Equipment of Expeditions (Lead - Assistant G. A. Breysler)

All the equipment which might be needed by expeditions of the University was coordinated by this group. It included clothing, tents, sleeping bags, means of transport such as cars, bicycles, boats and ships, the newest means of radio communication and special geological, geographical, and biological expeditionary equipment.(1)

Other Groups mentioned

The following groups have been named, but their activities have not been described:

Group for Special Biological Equipment (Headed by Docent D. A. Trankovskiy); Group for Demonstrational Equipment (Headed by Assistants A. I. Minayev and S. I. Usagin); Group for Aerodynamic Equipment (Headed by Professor V. V. Golubev, Professor Kh. A. Rakhmatulin, and Docent S. G. Popov [Goluben may be Lt Gen Vladimir Vasil'yevich Goluben]; Group for Hydromechanical Equipment (Headed by Docent D. S. Vil'ker); Group for Aerial Photography Equipment (Headed by Senior Instructor G. V. Gospodinov); and Group for Testing Machines and Presses (Headed by Senior Scientific Associate I. A. Skoryy).(1)

Experiments were carried out by members of the University on the prevention of vibrational, electromagnetic, and acoustic interference to sensitive instruments throughout the entire campus. Work on the problem was carried out in the Physics Faculty by Professors N. A. Kaptsov and S. N. Rzhevkin; and in the Chemistry Faculty by Professor A. V. Kiselev and Senior Scientific Associate Pitszhelauri.(1) It has also been stated that certain portions of the Physics Faculty building have been constructed with vertical flexible joints, in order to isolate them from vibration, and that some 80 portions of the buildings have been fully screened against interference from vibration, electromagnetism, and noise.(2)

NOTES ON THE FACULTIES

Mechanics and Mathematics Faculty

Dean of the faculty is Yu. A. Rabotnov, Corresponding Member of the Academy of Sciences USSR.

Part of the Faculty is housed in the main building of the university, but a special mechanics building is being completed, as is the astronomical observatory. The mechanics building will be three-storied and will have a total area of 8,000 square meters, housing all the laboratories of the chairs of the faculty, namely, hydrodynamics, aerodynamics, theory of elasticity, theory of plasticity, and applied mechanics.(2)

Physics Faculty

[Professor R. V. Telesnin, Doctor of Physicomathematical Sciences, gives a short description of the facilities of the faculty, as follows:] Some 20 rooms of the faculty are air-conditioned and more than 100 others are equipped with a ventilation system. Laboratories are all equipped with gas, water, compressed air, and electricity of various voltages. There are also several special laboratories for third and fourth year students to do practical work; these are the magnetic, X-ray structural analysis, molecular physics, electronics, oscillations, optics, and geophysics practicums.

The faculty has radio equipment, powerful electromagnets, induction furnaces, and apparatus for obtaining high vacuums. The Chair of Magnetism has an instrument which makes it possible to obtain a magnetic field of 12,000 oersteds without the use of iron cores. High frequency furnaces make it possible to produce heat-worked precision alloys.(2)

Chemistry Faculty

A. V. Novoselova, Corresponding Member of the Academy of Sciences USSR, is the dean of the faculty.(2) The following new chairs and laboratories have been established as a result of the larger space available: Chair of Chemistry and Physics of High Pressure, Chair of High Molecular Compounds, Laboratory of Radio Chemistry, and Laboratory of Crystal Chemistry.(1) Other Chairs and laboratories which have been mentioned are the Chair of Inorganic Chemistry; Chair of General Chemistry; Laboratory of the Organic Cycle, which will be working with the assistance of tagged atoms; Laboratory of Adsorption of the Physicochemical Cycle; and Laboratory of Gaseous Electrochemistry.(2)

Geology Faculty

Professor G. P. Gorshkov, Doctor of Geological and Mineralogical Sciences, is dean of the faculty. A Chair of Frost Science has been established as a result of the expansion made possible by the new buildings, and this chair will have at its disposal a cold room for obtaining constant negative temperatures, laboratories for modeling thermophysical processes, calorimetric instruments for determining the phase composition of water in frozen strata, electrical measuring instruments, and optical instruments. On the grounds of the University are an icehouse, and "islands" where mineral ores under permafrost can be studied.

A new Chair of Geochemistry has also been established, where students will be able to study rare elements and isotopes, and determine the age of mineral deposits.

Another newly established chair is the Chair of Useful Minerals. It has been equipped with boring instruments, mine sinking and ore dressing equipment, and models of mining developments; also it has a valuable collection of metallic and nonmetallic ores, chemical raw materials, etc.

The equipment of the Laboratory of the Geophysical Cycle is protected from interference, and its instruments have shockproof mountings. Apart from static equipment, it has been allocated seismic, electric prospecting, and gravimetric equipment mounted in automobiles.(2)

New special courses are also available to students. These are as follows: the elements of engineering frost science, radio geology, and spectroscopy.(1)

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Geography Faculty

Professor K. K. Markov, Doctor of Geographical Sciences is the dean of the faculty. The faculty has been equipped with 30 specialized studies, 10 laboratories, an enormous cartographic collection, and paleographic and geographic laboratories. In the near future hydrological, meteorological, and geomorphological laboratories will be built.

The Chair of Oceanography has been reorganized and has also started a special course for fifth course [year?] students on the climate of the ocean. The Chair of the Study of Foreign Countries [Stranovedeniye] has also been reorganized. A Chair of Biogeography has been established.

Students of the faculty spend part of their 4-year course in the two field stations of the faculty, which are located near Mozhaysk (Central Station) and in the Khibiny [Kola Peninsular] (Northern Station). In the near future a hydrological station will be set up on the Moscow River.

The faculty will also be supplied with its own air and water transport for expeditions.(2)

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