The University of Leningrad

1819
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1969

Leningrad Order of Lenin A. A. Zhdanov State University

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Petersburg University was founded on February 20th, 1819, through a reorganization of the Central Pedagogical Institute. At that time the University consisted of three faculties: Philosophy and Law (later Law), History and Philology, and Physics and Mathematics. In 1854 a fourth faculty was added to the original three, the Faculty of Oriental Studies. With this structure the University existed for almost a century, up to the time of the Great October Socialist Revolution. Throughout the period beginning with its foundation, up to the time of the Great October Revolution Petersburg University was one of the greatest centres of scholarship in Russia. The work done by scholars in Petersburg University made an important contribution to world knowledge. The great mathematician P. L. Chebyshev founded the Petersburg mathematical school which was successfully developed by the research work of A. A. Markov, A. N. Korkin, V. A. Steklov, and others. E. H. Lentz, a physicist and one of the outstanding scientists of his time, is well known for his classic works on fundamental questions in the study of electricity. All textbooks on physics are based on his work.

The history of chemistry in Russia is also closely connected with the activities of scientists at Petersburg University. The work and ideas of such scholars as D. I. Mendeleyev, A. M. Butlerov, and N. A. Menshutkin laid the foundations for the further development of chemistry. At the University the Russian Physics and Chemistry Society practically influenced the

organization and development of work in chemistry throughout the country.

Of outstanding importance for the development of biology were the works of such men as: I. M. Sechenov, the father of Russian physiology, N. E. Vvedensky, the famous physiologist, V. V. Dokuchaev, the founder of scientific soil study, and A. O. Kovalevsky, one of the founders of comparative embryology, and many others. The work of the talented scientist A. A. Inostrantsev was a turning point in the history of geology.

Scholars of the University also made notable contributions in the humanities as well as in science. For example, Petersburg University was the centre of oriental studies in Russia. The Arabist V. R. Rozen, the Indologist S. F. Oldenburgh, the Semitologists D. A. Khvolson and P. K. Kokovtsev, the specialist in Iranian and Turkic languages and cultures I. N. Berezin, the Egyptologist B. A. Turaev, the historian V. V. Bartold and many others brought worldwide fame to the University through their work in oriental studies. The investigations and works of A. N. Veselovsky, A. A. Shakhmatov, M. M. Kovalevsky, N. I. Kareyev and many others rank high in the development of philosophy, history and jurisprudence.

Petersburg University is famous not only for its wide range of research work and for its distinguished men of science. It has given Russia thousands of graduates whose names are known in various fields of science, culture, art and education. Such scientists as I. P. Pavlov, K. A. Timiryazev, I. I. Mechnikov and N. N. Miklukho-Maklai were graduates of Petersburg University. Such writers and poets as I. S. Turgenev, N. G. Pomyalovsky, G. I. Uspensky, D. N. Mamin-Sibiryak, V. V. Veressayev, A. S. Serafimovich, A. A. Blok, D. Bedny, Y. Rainis studied at the University. Artists, such as A. N. Benua, I. Y. Bilibin, M. A. Vrubel, N. N. Ge, V. D. Polenov and actors, such as V. I. Kachalov, A. I. Sumbatov-Yuzhin, composers M. I. Glinka, A. K. Glazunov and others were also students of Petersburg University. Among those who studied at the University

we should also mention M. V. Butashevitch-Petrashevsky, one of the first representatives of Russian Utopian socialism; D. I. Pisarev, the educationalist; the White-Russian revolutionary K. S. Kalinovsky; N. G. Chernishevsky, the great Russian revolutionary democrat; D. Blagoev, the founder of the Bulgarian Communist Party; and such well-known communist leaders as M. S. Olmynsky, N. V. Krylenko, D. Z. Manuilsky, V. R. Menshinsky, P. I. Stuchka and others.

The name of the founder of the Communist Party and the Soviet State, V. I. Lenin, is also connected with Petersburg University. There, from April to November 1891, Lenin sat for his exams and received a degree at the Law faculty.

Nevertheless, though the University came to rank high among institutions of its kind, its history was full of difficulties and obstacles. The doors of the University were closed to the great mass of the population. Teaching and the organization of research work suffered from many defects which hampered its further development. The October Socialist Revolution, however, swept away all obstacles in the way of education for the masses and opened up a new era in the history of the University.

In the half-century after the Revolution the activities of the University were continually enlarged and expanded. The number of graduates during the entire pre-revolutionary period of the existence of the University was approximately 25 000 graduates, while the number of graduates in the 50 years of Soviet rule amounts to 80 000.

The structure of the University was also modified and improved. Before the revolution there were only four faculties. Now there are fourteen. In 1917 the teaching of mathematics, mechanics and physics was carried out by three departments. Now there are about 30 departments of mathematics and physics.

In the period after the Revolution scientists and scholars at the University, following the traditions of their predecessors, widened the range of research, turning to various new problems

and thereby enriching Soviet science with numerous discoveries.

Formerly, the progress of research was due to the personal activities of individual scholars, whereas now every member of the teaching staff is expected to make some contribution. Many brilliant research teams have been formed at the University working at present in different departments.

In 1944 the University was awarded the Order of Lenin for its achievements in the training of students and the advancement of science.

At present Leningrad State University is one of the most important higher educational institutions and research centres in the U S S R. It consists of fourteen faculties: Mathematics and Mechanics, Physics, Chemistry, Geology, Geography, Biology and Soil Science, Economics, Philosophy, Law, Psychology, History, Language and Literature, Oriental Studies and Journalism. There is a total of 153 departments in the University at present. The heads of the departments are the most eminent University professors.

In January 1969 there were 1829 people on the teaching staff of the University. 281 faculty members hold the degree of Doctor of Science and 811 hold the degree of Candidate. The Russian term corresponding to "science" has a wider application: it includes every branch of knowledge, — hence, the Arts as well. The degree is specified: i. e. Doctor of Mathematics, Doctor of Philology, Candidate of History etc. 26 of the University staff are members or candidate members of the Academy of Science of the U S S R.

Scientists at Research Institutes of the University also take part in the instruction of students by giving special courses, and supervising annual student essays.

On January 1, 1969 there were 19064 students on the list of Leningrad University. Of this number 10029 were full-time students, 5046 were evening students, and 3989 enrolled for special correspondence courses.

The faculties with the largest number of undergraduates on

their lists are Mathematics and Mechanics, Physics, and the Faculty of Language and Literature. Full-time students study for five years, while evening and correspondence course students take six years to complete their course of study. All faculties with the exception of the Faculty of Oriental Studies have evening courses and nine faculties have correspondence courses (Mathematics and Mechanics, Geography, Economics, Philosophy, Law, Language and Literature, Journalism, History and Psychology).

All full-time students who make good progress in their studies and who need financial aid may receive government grants. 72 per cent of the students receive such grants.

Tuition, as in all Soviet educational institutions, is free. Students from areas outside Leningrad are accomodated in University hostels. In 1967 more than 5000 students lived in University hostels.

The teaching of students at the University is based upon and guided by individual study plans.

Leningrad University, with its long established tradition of research work and tuition, the high qualifications of its teaching staff and its status as a well-equipped research centre, has a syllabus of its own, different from that generally accepted in other Soviet Universities.

Although covering quite a wide range of subjects, the syllabus at the same time provides for deeper specialization in one or more fields related to their main subject. Training in the special field chosen by the student is carried on by the respective departments. The choice of possible subjects is very wide. The students may attend lectures in different departments, and on the other hand, one department may train students in several special branches of knowledge.

Special courses, seminars and laboratory sessions are arranged, based on the latest achievements of science and providing training in new fields of specialization.

Students begin to specialize in a particular field of study during the latter part of their course and at that time are atta-

ched to a particular department where they complete their studies with a thesis on a topic which they choose and which must be approved by that department. In the last few years the practice of allowing excellent students to follow special individual study plans (which are approved by the department concerned) is cultivated on a large scale. This method provides for subsidiary subjects of study. In this way students acquire knowledge and skills in subjects which may not be taught in their own departments, but which are relevant to their chosen field of specialization.

At the present time the University teachers are training students for 45 specialities and more than 200 aspects speciality.

Practical experience has an important place in the training of students. In the faculties of Geology, Geography, Biology and Soil Science students begin to get practical, on-the-job training beginning with the first year. In other faculties practical experience is provided for in senior classes. Such practical training is carried out in appropriate industrial organizations or scientific institutions. Students who will become teachers must do teaching practice in schools as well.

The Faculty of Mathematics and Mechanics

The Faculty prepares students in the following three subjects: mathematics, mechanics and astronomy. The training of undergraduates for these subjects is carried out by the various departments, but the number of possible specializations is not limited to the number of departments. Thus, in the Department of Mathematical Analysis students may specialize in the theory of real-valued variable functions and in the constructive function theory.

There are sixteen departments in the faculty: Astronomy (A. A. Nemiro), Celestial Mechanics (V. S. Novoselov), Astrophysics (V. V. Sobolev), Higher Algebra and the Theory of Numbers (Z. I. Borevich), Higher Geometry (Y. A. Volkov), Mathematical Analysis (B. Z. Vulikh), Differential Equations (V. A. Pliss), Theory of Probability and Mathematical Statistics (V. V. Petrov), Mathematical Physics (V. I. Smirnov), Computing Mathematics (M. K. Gavurin), General Mathematics (M. M. Smirnov), Theory of Programming (V. I. Zubov), Physical Mechanics (B. V. Filippov), Theoretical Mechanics (N. N. Polyakhov), Hydroaeromechanics (S. V. Vallander), Theory of Elasticity (L. M. Kachanov). The Department of General Mathematics provides for the teaching of mathematics at all the faculties, with the exception of the Physics Department.

The Faculty of Physics

This faculty prepares wide-profile research physicists in two fields, physics and geophysics. There are sixteen departments in the faculty: Quantum Mechanics (M. G. Veselov), Nuclear and Elementary Particles Theory (Y. V. Novozhilov), Higher Mathematics and Mathematical Physics (V. I. Smirnov), Nuclear Spectroscopy (B. S. Djelepow), Nuclear Reactions (Y. A. Nemilov), Radiophysics (G. I. Makarov), Solid Bodies Electronics (A. A. Lebedev), Molecular Physics (E. F. Gross), Molecular Biophysics (F. I. Vilesov), Polymer Physics (V. N. Tsvetkov), Theoretical and Applied Spectroscopy (V. M. Chulanovsky), Optics (S. E. Frish), Atmospheric Physics (K. Y. Kondratiev), Geophysics (G. V. Molochnov), General Physics 1 (N. I. Kaliteevsky), General Physics 2 (M. F. Vuks). The Department of General Physics 2 provides for the teaching of physics at all faculties, where the curriculum includes this subject.

The Faculty of Chemistry

In the Faculty of Chemistry students receive wide theoretical training for specialization in one subject, namely, chemistry. Beginning with the third year students are attached to one of the departments of the faculty where training in a specialized branch of chemistry is achieved.

The faculty includes twelve departments: Inorganic Chemistry (S. A. Shchukaryov), Electrochemistry (Y. V. Durdin), Analytical Chemistry (V. I. Tikhomirov), Physical Chemistry (B. P. Nikolsky), Solution Theory (A. V. Storonkin), Colloidal Chemistry (D. A. Fridrikhsberg), Radiochemistry (A. N. Murin), Organic Chemistry (K. A. Ogloblin), Structure of Organic Compounds (T. I. Temnikova), High-Molecular Compounds (A. I. Jakubchik), Natural Compounds (V. F. Martynov), Quantum Chemistry (A. V. Tulub). Some of the departments carry out instruction in chemistry for other faculties.

The Faculty of Biology and Soil Science

The faculty prepares students in the following six fields of specialization: Botany, Plant Physiology, Zoology, Human and Animal Physiology, Soil Science and Agronomy, Biochemistry and Biophysics. Further narrower specialization is carried out at the following eighteen departments: Higher and Lower Plants (A. I. Tolmachev), Darwinism and Geobotany (I. H. Blumental), Vertebrate Zoology (A. S. Malchevsky), Invertebrate Zoology (Y. I. Polyansky), Ichtiology and Hydrobiology (B. N. Kazansky), Entomology (A. S. Danilevsky), Embryology (B. P. Tokin), Microbiology (Z G. Razumovskaya), Genetics and Selection (M E. Lobashev), Cytology and Histology (A. A. Zavarzin), Physiology and Biochemistry of Plants (S. V. Soldatenkov), Soil Science and Geography of Soil (V. N. Simakov), Agricultural Chemistry (A. G. Trutnev), Physiology of Higher Nervous Activity (E. Sh. Airapetiants), Human and Animal Physiology (N. V. Golikov), Biochemistry (I. P. Ashmarin), Biophysics (P. O. Makarov).

The Faculty of Geology

The curriculum of the faculty is designed to train geologists in four branches of knowledge embracing a wide variety of subjects: Geological Survey and Prospecting for Economic Minerals, Geochemistry, Hydrogeology and Engineering Geology, Geology and Geophysical Methods of Prospecting for Economic Minerals.

Narrower specialization is carried out by the following fourteen departments: General Geology (V. N. Ognev), Historical Geology (S. S Kuznetsov), Palaeontology (I. A. Korobkov), Mineral Deposits (V. S. Domarev), Petrography (G. M. Saranchina), Mineralogy (A. A. Kukharenko), Crystallography

(V. A. Frauk-Kamenetsky), Geochemistry (V. F. Barabanov), Lithology and Ocean Geology (N. V. Logvinenko), Geochemistry II (L. V. Komlev), Geophysical Methods of Prospecting for Mineral Deposits (A. S. Semenov), Hydrogeology (M. I. Vrublevsky), Soil Science (A. K. Larionov). Nuclear Geophysics (V. A. Mejer).

The Faculty of Geography

There are eight branches of special training offered by the faculty: Physical Geography, Climatology, Geomorphology, Oceanology, Hydrology of Land, Biological Geography, Cartography, Economic Geography.

There are eight departments at the faculty: Physical Geography (S. V. Kalesnik), Botanical Geography (A. A. Korchagin), Geomorphology (S. S. Shults), Hydrology of Land (N. V. Razumikhin), Oceanology (V. H. Buinitsky), Climatology (O. A. Drozdov), Cartography (K. A. Zvonarev), Economic Geography (B. N. Semevsky).

The faculty has at its disposal two field research stations in the Leningrad district — the Lake Ladoga station and the Sablino station.

The Faculty of Economics

The faculty of Economics prepares specialists in three branches: Political Economy, Economic Cybernetics, Statistics and Accountancy. Five departments carry out the work of the faculty: Political Economics (N. D. Kolesov), Economics of Modern Capitalism (S. I. Tjulpanov), Branch Economics (A. A. Markin), Statistics and Accountancy (I. V. Sipovskaya), Mathematical Methods in Economics (I. V. Kotov). These departments carry out the teaching of political economy for all faculties of the University.

The Faculty of History

The Faculty of History prepares students in two main branches: in History, and in the History of Arts. Further specialization is undertaken by the student in the particular department of the faculty which he chooses. There are nine departments in the faculty: the History of the USSR (V. V. Mavrodin), the History of the Communist Party (N. A. Kornatovsky), Modern and Contemporary History (V. G. Revunenkov), Mediaeval History (M. A. Gukovsky), the History of Ancient Greece and Rome (K. M. Kolobova), History of Art (M. K. Karger), Archaeology (M. I. Artamonov), Ethnography and Antropology (P. F. Its), the History of the Soviet Society (V. A. Ovsiankin).

The Faculty of Philosophy

Instruction at the Faculty is carried out in two main directions: Philosophy and Scientific Communism. In the later part of the course the students are trained in one of the following special subjects: dialectical materialism, historical materialism, philosophical problems of physics, philosophical problems of biology, logic and cybernetics, ethics and aesthetics, scientific atheism and history of philosophy.

Three are seven departments in the faculty: three departaments of Marxist-Leninist Philosophy headed by the professors V. I. Svidersky, V. P. Rozhin and V. P. Tugarinov and the departaments Scientific Communism (A. K. Belykh), the History of Philosophy (A. A. Galaktionov), Logic (I. Y. Chupakhin), and Ethics and Aesthetics (V. G. Ivanov).

These departments of the faculty carry out the teaching of philosophy and scientific communism for all faculties of the University.

The Faculty of Psychology

The Faculty gives training in Psychology and supplies a wide background of the subjects. At upper levels a student chooses certain disciplines for deeper study. The following department are parts of the faculty: General Psychology (B. G. Ananiev), Ergonomics and Human Engineering (E. P. Ilyin), Pedagogy and Educational Psychology (Y. A. Samarin), Socian Psychology (E. S. Kuzmin). The faculty has several research laboratories at its disposal.

The Faculty of Law

Its curriculum is designed to train students in law.

The Faculty has nine departments which carry out research and instruction in the following fields: Theory and History of State and Law (K. E. Livantsev), State and Administrative Law (G. I. Petrov), International Law (R. L. Bobrov), Civil Law (O. S. Ioffe), Labour Law (A. S. Pashkov), Land and Collective Farm Law (A. M. Kalandadze), Civil Procedure (N. A. Chechina), Criminal Law (N. A. Belyaev), Criminal Procedure and Criminalistic (N. S. Alexeyev). The faculty has laboratories of criminology and codification.

The Faculty of Language and Literature

The Faculty trains specialists in languages and literature: Russian Language and Literature, Romance Languages and Literature, Germanic Languages and Literature (including English, German and Scandinavian Languages and Literature), Slavonic Languages and Literature, Finno-Ugric Languages, Classical Philology, and Mathematical Linguistics. Senior students specialize in particular languages and literature. The faculty includes 18 departments: Russian Language (N. A. Meshchersky), History of Russian Literature (G. P. Makogonenko), History of Soviet Literature (P. S. Vykhodtsev),

Slavonic Languages and Philology (P. A. Dmitriev), Romance Languages and Philology (A. A. Kasatkin), English Language and Philology (I. P. Ivanova), German Language and Philology (A. V. Fedorov), Scandinavian Languages and Philology (M. I. Steblin-Kamensky), Finno-Ugric Languages and Philology (Z. M. Dubrovina), Classical Philology (A. I. Dovatur), History of Foreign Literature (B. G. Reizov), General Linguistics (Y. S. Maslov), Phonetics and Methods of Teaching Foreign Languages (L. R. Zinder), Mathematical Linguistics (L. P. Stupin), Russian for Foreign Students (V. S. Maslov), General Department of English (E. N. Zvereva), General Department of German (N. V. Spizharskaya), General Department of French (N. A. Shigarevskaya).

The latter four departaments provide instruction for students of all faculties of the University who do not specialize in the language in question.

The Faculty of Journalism

The Faculty trains students who work in the field of journalism. There are three departments in the faculty: the Theory and Practice of the Soviet Party Press (A. F. Berezhnoi), the History of the Russian and Foreign Press (N. P. Emelyanov), Stylistics and Editing (V. A. Alexeyev).

The Faculty of Oriental Studies

The Faculty of Oriental Studies trains students who not only study the languages and literature of the peoples of Asia or Africa, but who also have a good knowledge of the history, economics, and culture of the respective countries. There are eleven departments in the faculty: Chinese with sections for Chinese, Korean, Tibetan, Burmese, Vietnamese, Thai, Indonesian and Khmer (E. A. Serebryakov), Mongolian with sections for Buryat, Mongolian and Kalmyk (D. A. Alexeyev), Japanese

(E. M. Pinus), Indian Language and Philology with sections for Hindi, Bengali, Marathi, Punjabi, Tamyli, Telugu and Sanscrit (V. A. Novikova), Iranian Philology with sections for Persian, Tadjik, Afghan, Kurdish, Ossetic, Pamiri, and Old and Middle Iranian (A. N. Boldyrev), Turkish Philology with sections for Turkish and Turkic (A. N. Kononov), Arabic Philology with sections for Arabic and Semitic studies (V. I. Belyaev), African Studies with sections for Amharic, Bantu and West African languages (D. A. Olderogge), History of the Far East (G. V. Efimov), History of the Near East (I. P. Petrushevsky), History of the Ancient East (B. B. Piotrovsky).

In addition to the departments of the various faculties already mentioned there are also some departments of the University which are not attached to any of the faculties. Among them are: the Department of the History of the Communist Party (P. R. Sheverdalkin), the members of which lecture at all the faculties; the Department of Physical Education (V. U. Ageevets) which provides physical training compulsory and optional for all students. Instructors in this department also work on general problems of physical education for students of higher educational institutions and on questions related to the efficient training of sportsmen.

The University naturally does not limit itself to providing education for its own students. Courses for post-graduate training play an important part in the activities of the University. The University also provides consultation for school children and young people planning to enter the University or other higher educational institutions. The University has an institute which offers refresher courses for teachers of the history of the Communist Party of the Soviet Union, for teachers of philosophy, scientific communism and political economy. There are also refresher courses for teachers of physics, mathematics, and theoretical mechanics. In addition there are two-year advanced courses for foreign language teachers. About 4000 students are taking such courses at the University.

There is also a special boarding school for the children who

are markedly gifted in mathematics and in science. Most of the pupils accepted by this school are children of workers and farmers from rural areas in the North-Western part of the R S F S R who have passed competitive examinations in mathematics, physics and chemistry. Members of the University staff do much of the teaching at this school.

Academic work at the University is closely linked to research work and through this close link a high level of teaching is attained. The University plan of scientific research is characterized by a coordinated approach to fundamental theoretical enquiry in the basis questions of modern science. At the same time the University is concerned with applied research aimed at dealing with practical problems and also at pretting in to practice the results of theoretical work carried out by its scholars. Most of the research work, both theoretical and practical, is financed by government funds. However, a concideрable amount of research is financed through special contracts between the University and various industrial organizations, institutes and other enterprises. Every year the University carries out more than three hundred such orders for research for a total of approximately four million rubles.

Research Institutes at the University

The existence of scientific research institutes and laboratories is a distinctive feature in the organization of the research work of the University. These institutes are centres for the organization of research. The institutes have their own staffs which do not do any regular teaching. Their well-equipped laboratories are used not only by the institutes' own staff members, but also by professors, instructors and post-graduate students of the respective departments of the University; they are centres coordinating and directing the work of the departments as well as their own

In addition to professors, instructors and post-graduate students there are 743 trained scientists working in such institutes. Among them are 45 Doctors of Science and 369 Candidates of Science. Finally, there are several hundred technicians and service personnel and approximately 1000 research workers who are paid from funds obtained by the University from such special research contracts as those described above.

At present there are eight scientific research institutes at the University and also several special departments and laboratories: the Institute of Mathematics and Mechanics, the Physics Institute, the Chemistry Institute, the Biology Institute, the Physiological Institute, the Institute for Study of the Earth's Crust, the Institute of Economic Geography, the Institute for Complex Social Research, a Computer Centre, an Astronomical Observatory, the Limnology Laboratory, a Branch Laboratory of Mathematical Economics, an Industrial Psychology Laboratory, a Botanical Garden, and a research station on the banks of the river Vorskla.

The Research Institute of Mathematics and Mechanics, the Computer Centre and the Astronomical Observatory are attached to the Faculty of Mathematics and Mechanics. They coordinate the research work of the departments and their own. They have the following laboratories: the theory of elasticity, the optical method of the investigation of stresses, vibrations, the strength of the polymers, gasodynamics, hydroaeromechanics, computers designing, investigations of operations, automatical regulation and mathematical cybernetics, astrophysics, planetary astronomy, Solar physics, Time Service and others.

The scientific research work deals with different problems of mathematics, mechanics and astronomy. Astronomy laboratories and department work on the problems of the theoretical study of stellar and planetary atmospheres, gaseous and dust nebulae, Solar study by methods of spectroscopy, the study of polarization of stars and nebulae, dynamics and evolution of

stellar systems, the determination of coordinates and orbits of artificial satelites, the problems of the Earth rotation.

In the field of mathematics and mechanics the most important are the problems of the aerodynamics of discharged gas, theoretical and experimental investigations of deformations, stress and destructions in bodies including plastics, the theory and principles of designing self-educating identifying systems, investigations of mathematical methods of analysis and synthesis of control systems, methods of designing complex engineering constructions, questions of the theory of linear and non-linear differential equations, questions of the theory of probability and mathematical statistics, the theory of ring groups and its application to the theory of fields and algebras, etc.

The Institute of Physics. This Institute includes the following laboratories: radiospectroscopy, non-linear acoustics, solid state spectroscopy, upper atmospheric physics and atmospheric optics, emission electronics, gaseous discharge spectroscopy, nuclear constants, liquid state spectroscopy, polymer physics, photocatalysis, cyclotron laboratory, propagation and diffraction of radio-waves, microwave physics, elastic media dynamics, spectral analysis, molecular optics, semiconductors, nuclear spectroscopy, theoretical physics and others.

The main aspects of the research done at the Institute are: spectroscopy of gas discharge plasma, optical methods for the determination of nuclear constants, solid state physics, the application of ultrasonic methods for determination of the structure of solids and liquids, the study of liquid phase of substances by methods of molecular spectroscopy, the study of polymer structure by optical and hydrodynamic methods, the study of the physical characteristics of biological and synthetic molecules, photocatalysis, nuclear spectroscopy, for quantum nuclei characteristics, nuclear structure and the mechanisms of nuclear reactions, quantum field theory of elementary particles and their interaction, quantum theory of atoms and molecules, theory of collisions, the applications of radio-

spectroscopy for physico-chemical and magnetometrical purposes, electric discharge, hydrodynamics, theoretical and experimental study of microwaves, quantum electronics, photoelectric, optical and other properties of semiconductors, high atmospheric physics, infra-red spectroscopy of the atmosphere, shortwave atmospheric radiation field, short period oscillations of the Earth's magnetic field, propagation of seismic waves, mathematical problems of the diffraction theory and wave propagation.

The Chemistry Research Institute. This Institute comprises laboratories for research in the chemistry and thermodynamics of rare elements, the chemistry of solutions, of semiconductors, radiochemistry, ion exchange processes, electrochemistry of glass, kinetics of electrode processes, electrokinetic effects, thermodynamics of heterogeneous systems, surface phenomena, chemistry of polymers, chemistry of natural products, structure of organic compounds, chemistry of heterocyclic compounds, molecular spectroscopy, mass spectrometry, gas-liquid chromatography and some others. Research work is carried out in many fields of modern chemistry, such as the investigation of thermodynamics and structure of the compounds of rare elements, the theory of chemical bonds, theoretical and experimental studies of physico-chemical properties and structure of liquid and solid solutions, investigation of electrochemical properties of glass and properties of glass as a semiconductor, equilibrium in multicomponent multiphase systems, the theory of surface phenomena, some problems of oxygen-containing compounds, mechanisms of complex chemical reactions with compounds and ring containing compounds, chemical reactions of high-molecular compounds and others.

The Biology Research Institute. The Biological Institute has a number of laboratories, among them plant genetics, animal genetics, cytogenetics, genetics of microorganisms, evolution of populations, mass cultivation of algae, ecological physiology of hydrobionts, plant root nutrition, radiobiology, entomology, ecology of vertebrates, biology and biochemistry

of soil and others. Scientific work embraces numerous fields of Botany, Zoology, Soil Science, Genetics and a great many other branches of Biology: study of flora and vegetation, their historical development and geographical zones, study of fresh-water and ocean algae, classification of different types of plant cover and their connections with environment, problems of photosynthesis as the foundation of effective usage of solar energy, mass cultivation of one-cellar algae, root nutrition and hydroponics, physiological and biochemical basis of the life regulation of organisms, cytochemical investigations of cells in connection with the problem of protein synthesis, general principles of individual animal development and control of ontogenesis, evolutional morphology and animal phylogenesis, the biological basis of parasitism, fauna of the USSR and its historical development, general laws and conditions of the development of insects, analysis of adaptations, connected with the reproduction and survival of descendants of fishes and other hydrobionts, questions of conduct genetics, scientific foundations of the rational usage of land resources and others.

The A. A. Ukhtomsky Physiology Research Institute. The Institute contains the following laboratories: higher nervous activity, bionics, trade physiology, cortical and visceral physiology, physiology of basic nerve processes, physiology of nervous system, comparative physiology, cell physiology, biophysics of sense organs, protein chemistry, metabolism, nervous system biochemistry, electroencephalography and others. The laboratories carry out scientific research work connected with wide areas of physiology: the principle of dominanta in nervous activity and the nervous regulation of organism functions, physiological nature of excitation and inhibition, functional biochemistry of nervous system, investigation of basic proteins of cell nucleus, analysis of the activity of different sensory systems (optical, acoustic, cutaneous, olfactory e. g.) in microintervals of time and space.

The Research Institute of Earth Crust. The Institute has laboratories of hydrogeology, palaeogeography and lithology,

crystal growth, palaeontology, spectroscopy, mass-spectrometry, high pressures and temperatures, genetical mineralogy, nuclear-geophysic methods for mineral deposits and others.

Research work includes a number of branches such as the study of geological structure and general laws of development of folding regions in Central Asia and the Baltic shield, the biostratigraphy of ordovic and silur of the USSR, geology, petrography, intrusions of Alai and Turkistan ranges and mineralogy of rare and trace elements in alkaline rocks, mineralogy and genesis of rare-metal deposits, connected with complexes of ultrabasic alkaline rocks, genetical mineralogy, the formation and geological role of underground waters, solving of structural and mapping and prospecting problems by methods of geophysical investigations in ore fields.

Research Institute of Economic Geography. The Institute includes different sections, such as physico-geographical investigations, landscapes, cartography, and it also includes some laboratories: pollen, palaeogeography, cartography, the geochemistry of landscapes, soil science. Scientific research work is connected with the questions of complex investigation and the reconstruction of natural and economic resources of North-Western regions of the R S F S R for the purposes of protection, reproduction and rational usage of the natural resources, research of the glaciers and conditions of the origination of snow slide, physics and dynamics of ocean waters and ice fields in the polar regions of the ocean, geochemistry of oceans, planetary jointing of the earth, economic geography of foreign countries. Work connected with making plans of natural and economic regions of North-Western areas of the R S F S R and work on atlases of natural conditions and natural resources of these areas is also of great importance.

The Research Institute of Sociology. The Research institute of integrated social studies represents a scientific body of a particular structure for, unlike the above Research Institutes, it does not form part of the pertinent department of the University. Its work is being carried out by

the staff of the Institute together with professors and teachers of different departments of the University, that of philosophy, economics, law, psychology and others.

The Institute includes laboratories and teams of social and economic research, sociological research, industrial psychology, comprehensive studies of personality, social psychology, juridicial research, working group control and others. Scientific efforts, now under way, are concerned with some problems of social planning of working groups; studies in the psychological regularities of the activity of man-operator; investigation in man-machine interaction in control systems; reception and transmission of information, research on the psychological structure of personality with its social and psychological peculiarities and the specific features characterizing an individual; studies on the individual worker and his labour; the structure and the dynamics of working groups, as well as the problems concerning the communist upbringing of students.

The Laboratory of Limnology. The laboratory is a complex scientific research institution, which includes the following sections: geography, hydrobiology, hydrophysics, hydrology, hydrochemistry, grounds and sediments. These laboratories conduct research in various branches of limnology: complex investigation of Lake Onega and its basin, silting of basins and water erosion, typisation of lakes in the North-West European part of the Soviet Union, study of hydrophysical processes in water mass in basins and methods of their investigation, the study of short-term limnological cycles, investigation of typical lakes of the Karelian isthmus and others.

The Arts Faculties have no scientific research institutes, except some special research laboratories (economic and mathematical calculation — in the Economics Faculty, engineering psychology — in the Psychological Faculty, experimental phonetics — in the Faculty of Language and Literature). In these faculties scientific research work is carried out by the departmets' staff.

Thus, the main aspects of research done at the Faculty of

Economics embrace various problems relating to political economy of capitalism, political economy of socialism, world socialist system of economy and its development, division of labour within the world socialist system, the economy of the developing countries, the economic reform and the management of industry, the economy of scientific research and the educating of specialists, research in different systems of management in industry, the applying of mathematical methods to various economic problems, economic problems of norming labour in industry, etc.

Research work of the Faculty of History is carried out in the following fields: the condition of peasantry and peasant revolts in feudal Russia, the laws governing the development of socialism and its transition to communism in the U S S R, the history of world working movement, international relations in modern and contemporary periods, national liberation movements, ancient history and archaeology of the U S S R, ancient Russian art, history of Russian and West-Europian art, historiography of ancient Greece and Rome, social and economic relations in ancient and mediaeval periods, etc.

The problems under research in the Faculty of Philosophy are: the elaboration of Lenin's philosophical heritage; methodological problems of social and natural sciences; gnoseology, logic and methodology of scientific investigation; problems of materialist dialectics; philosophical problems of biology; the fundamental laws of socialism growing into communism; the basic principles of management in socialist society; problems of psychology of social groups; criticism of modern bourgeois philosophy and sociology.

Scientific research in the Faculty of Psychology embraces problems of interrelation of labour processes, problems of engineering psychology, pedagogical psychology, etc.

The scientific staff of the Faculty of Law is engaged in working out the pending problems of the Soviet State and Law throughout the period of building communism. They are: questions connected with methods and techniques of legal

regulation; the part played by law in the organization of labour; the essence and forms of the Socialist state management; the observance of law in the activities of the State administrative bodies; constitutional problems connected with the delevopment of State Soviet management in the Union Republics; pending problems of civil, administrative and criminal law and of other branches of Soviet law.

The research work of the Faculty of Language and Literature comprises various subjects, among them the problems of the origin and development of national languages, general and comparative grammar and stylistics, lexicology and lexicography, the history of European literatures, Russian and Soviet literatures, problems of experimental phonetics and mathematical linguistics.

The scientific work of the Faculty of Journalism is directed to general problems of journalism, to the history of Russian journalism at the end of the 19th — the beginning of the 20th century, to research into tendencies in the development of the contemporary Soviet press on the basis of Lenin's teachings concerning the press, to the study of the foreign Communist and worker's press, to the sociological analysis of the character and efficiency of press propaganda.

The professors and teachers of the Faculty of Oriental Studies are working on problems of oriental linguistics (grammatical, phonetical, historical problems of a wide range of ancient and modern Eastern languages), on the theory and history of literature and literary genres of the peoples of Asia and Africa. A considerable part of the work in the Faculty concerns problems of the history of Asian and African countries and the study of sources and epigraphics.

The high standard of research, as well as the practice of team-work, the creative atmosphere in the various faculties and laboratories are extremely favourable for individual work on theses and monographs. Every year an average of about 30 members of the University are awarded Doctor's deg-

rees, and about 100 people got their Candidates' degrees. Leningrad University is one of the largest establishments training young scholars who will later work in various teaching and research institutions. Postgraduate courses are the main channel of qualifying young people for scholarly careers.

Young people with aptitude and interest in research work who pass the necessary entrance examinations are accepted for post-graduate study In the course of the three-year programme a post-graduate student must pass examinations in a foreign language, in philosophy, and in the special subject of his own choice. In addition the post-graduate student completes a research thesis under the direction of his professors which must then be presented to the Academic Council of his faculty. If his thesis is approved the University grants the degree of Candidate. The problem investigated in the thesis need not be extensive, but the investigation itself must be thorough; all previous work done on the same subject should be reviewed.

The Doctor's degree is very much the same as that of Doctor habit in Germany. The thesis must deal with an extensive problem and suggest new solutions or a new conception of the question; all previous work done on the subject must be exhaustively reviewed.

A considerable number of post-graduate students are sent to the University each year from other institutions. Upon completion of their studies these students return to their home institutions to teach or do research. Such a cooperative programme enables Leningrad University to give considerable help to other institutions and especially to new ones which may be experiencing a shortage of qualified specialists.

In 1968 there were 961 students at the University on leave from their work for post graduate training. In addition there were 321 post-graduate correspondence students. Besides regular post-graduate students there were 287 students at the post-graduate level working for shorter periods in the various faculties.

A large number of foreign students also study at the University as post-graduates and undergraduates. For many years the University has been helping various countries in the training of young scholars. Exchange programmes have also been established with universities abroad. In 1968 there were 500 undergraduate students and 230 post-graduate and also graduate students for extra training from 70 countries studying at Leningrad University. However, the University does not limit its activities in the international sphere to the training of foreign students Each year dozens of young scholars and graduate students are sent to various countries to do research. Professors go abroad to deliver lectures and to take part in international scientific congresses and meetings. Each year the University welcomes over 100 delegations from foreign educational and scientific institutions. Often members of such delegations give lectures and talks to our students. Leningrad University has connections through special cooperative international agreements with fifteen foreign universities. Exchanges of University publications with foreign institutions grow rapidly. In 1968 the University library carried on book exchanges with more than 700 foreign libraries and scientific establishments. The University Library (named after M. Gorky) and the University Press play an important part in the work of the University. The Gorky Library is one of the richest scientific libraries of the country and has over four million books and journals, Russian and foreign manuscripts and xylographs. Each year its collection is increased by 200 000 acquisitions. The library has many branch departments, more than twenty-seven thousand readers receiving about three million books and journals per year.

The work done by the University teaching staff is embodied in various printed matter, published by the University Press. The total of books and journals is about 200 per year. It publishes monographs, textbooks, Proceedings of Leningrad University, articles, and also journals: Vestnik of the Leningrad University and Jurisprudence.

As early as 1911, Museum and archives of D. I. Mendeleev were established. The exhibition, which contains 21 sections, illustrates the main periods in Mendeleev's life, his research work and pedagogic activities. His library, scientific equipment and personal belongings are also on display. The number of documents and papers preserved in the archives exceeds 16 000. The museum and archives staff is engaged in arranging and working up the collections, as well as in carrying out the preparatory work for the publishing of Mendeleev's scientific heritage.

In the organization of the various aspects of teaching and the daily life of the students, a major role is played by the Komsomol Organization, the Student Union, and different student organizations. These include the Students' Council, the Student Hostel Councils and other students' societies and clubs. The Students' research society sets out to encourage active student participation in research work by organizing student circles on a departmental basis. Student conferences are arranged, and public discussions of the students' work are held regularly.

The Student Amateur Theatrical Society plays a large part in the wider education of the students and in the organization of their leisure. This society includes various specialized circles; there is also a students' sports' club.

Since its foundation, and more particularly in recent times, Leningrad University has continued to develop and expand. The existing facilities, however, no longer meet the present requirements, and tend to prevent further development. Taking this into account, the Central Committee of the C P S U and the Soviet Government have sanctioned the building of a new university. In the next ten years a large university town will be built in the suburbs of Leningrad, at Old Peterhof, to include scientific research centres, teaching blocks, flats for the teaching staff, student hostels, sports grounds and gymnasiums, cultural and recreational centres, and various service establishments. Building has already commenced, and much

work has been done on the construction of the Physics Faculty and the Faculty of Mathematics and Mechanics. In the next five years all the buildings comprising the Faculties of Natural Science will be completed.

The removal of the University to its new site with spacious buildings, the latest news in equipment and other facilities is certain to give a new impetus to its further work.

The University of Leningrad 1819—1969

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