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THE BULGARIAN ACADEMY OF SCIENCES

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## FOREWORD

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## THE BULGARIAN ACADEMY OF SCIENCES

Following are excerpts from the reference book Bulgarskata Akademiya na Naukite sled 9 Septemvri 1944 (The Bulgarian Academy of Sciences after 9 September 1944), Sofiya, 1958, pages 3-159; 279-280; 291-292; 295-296.

### THE DEVELOPMENT OF THE BULGARIAN ACADEMY OF SCIENCES

/Pages 3-18/

A. I. Khadzhilov,  
Editor

Science in Bulgaria has development in a close relationship with political-social and economic development on the part of the Bulgarian people. Conditions required for literacy, books, science and culture to thrive in Bulgaria grew out of the economic foundations of the feudal society in the first Bulgarian state (681-1018). The creation of the Slavic alphabet by Kiril and Metodi was a great achievement which filled the then extant need of the Bulgarian people and other Slavs. At that time the first scientific books were written in the Slavic and Old Bulgarian languages. In the ninth, tenth and eleventh centuries, Bulgaria was the country with the oldest and best developed Slavic science and culture.

When the economic conditions again permitted a national and cultural renaissance in the eighteenth and nineteenth centuries, within the framework of the Ottoman Empire, scientific and cultural life moved forward rapidly. Bulgarian cultural workers relied upon their centuries of historical background and the close traditional ties Bulgaria and the great and brotherly Russian people.

Bulgarian societies dealing with and resolving political-social and scientific-cultural problems were established in Odessa (1854) and in Moscow (1860). They assisted young Bulgarians in obtaining degrees from universities and in mastering the various branches of science. Thus many Bulgarians became well known scientific workers and professors in Russian, Rumanian and other universities. One of the best known of these was Marin Drinov, the first chairman of the Bulgarian Literary Society, and noted historian and philologist, and professor of Slavistics at the University of Kharkov. Bulgarian science, cultural and revolutionary struggle at that time was principally inspired by the science, culture and revolutionary struggle of the Russian people.

The idea of a national literary-scientific society which would coordinate efforts toward the more systematic and speedy development of science and culture and their use in the service of the national struggle of the Bulgarian people for liberation was bound to appear in the epoch of the upsurge of the national Bulgarian liberation movement.

Several attempts at founding such scientific societies had been made by patriotic Bulgarians scattered at various points outside enslaved Bulgaria. Among the many we will mention here only the efforts made to create the Bulgarska Matitsa in Petersburg in 1852 and the Bulgarian Literary Council founded in Constantinople at the end of 1857. This latter society existed for four or five years. It had its own statutes and a printed organ, "Bulgarski Knizhitsi". After the Bulgarian Literary Council was dissolved, correspondence was carried on until 1867 between Bulgarians in Bucharest and Odessa. After lively discussion and argument about the founding of a literary society, the protocol for the establishment of the Bulgarian Literary Society was signed on 30 September 1869. It began its activities on 1 October of that year. Its chairman was M. Drinov and its secretary was Vasil Stoyanov, an alumnus of the University of Prague. The Bulgarian revolutionaries Khristo Botev, Vasil Levski and Lyuben Karavelov took active part in the founding of the society and remained participating members.

The bylaws of the society published that same year stated the aims and purposes it had: the broadening of the education of the Bulgarian people by the publication of historical, linguistic and folklore materials; and the presentation of the Bulgarian people, their virtues, their glorious historical past, etc. to other peoples. The society's bylaws provided for the publication of two organs: a "compilation" and a "periodical magazine of the Bulgarian Literary Society." The article in the periodical magazine establishing its program speaks clearly of the society's task of "becoming a true Bulgarian academy of sciences and one of the Bulgarian people's greatest repositories of science, as provided in its bylaws." Despite great organizational and material difficulties, the society managed to publish twelve issues of the periodical prior to 1876. These issues included much valuable scientific material on Bulgarian history, language and literature written by Marin Drinov, Nesho Bonchev, Ivan Vazov, and others.

After the liberation of Bulgaria (1877-78), the annual meeting of the Bulgarian Literary Society held on 28 November 1878 decided to move its headquarters to Sofia. Its activities were reactivated there in 1882. In 1884 the general meeting approved new bylaws providing that members should be divided into the following categories: honorary (P. R. Slaveykov, M. Mikhaylovski, and others); regular (M. Drinov, V. Stoyanov, V. Drunev, and T. Peev); and contributing (about 56 persons). The organization of the society was also changed: three branches were established. They were the historical-philological, the natural sciences-medicine, and state-scientific branches. In 1890 the society built its own premises. Members of the society included the founders of various branches of science in Bulgaria, including geologists Georgi Zlatarski

and Georgi Bonchev; theologists A. Teodorov-Balan, Lyubomir Miletich, Boyan Ponev; geographer Anastas Ishirkov; botanists A. Yavashov, Stefan Petkov, Stefan Georgiev; chemist Pencho Raykov; historians Gavril Katsarov, Yordan Trifonov; philosophers Krustyu Krustev, Ivan Georgov; physician D. Mollov; and others.

During this period, the society published a periodical magazine, beginning in 1882, which was a continuation of the periodical published in Braila (the issues were renumbered, however). This publication was continued until 1911. It was known as the "Bulgarian Library" (1884-1885) and by the same name in 1902 and successive years. The "Annals of the Bulgarian Literary Society" were published beginning in 1901, and were later known as the "Annals of the BAN" [Bulgarska Akademiya na Naukite, Bulgarian Academy of Sciences]. In 1903, the society took over the publication of the "Compilation of Proverbs, Scientific Articles and Literature" (beginning with Volume XVIII), which is still being published.

Thus, in 1911 the Bulgarian Literary Society considerably expanded its scientific activities and became Bulgaria's scientific center. It adopted a decision at its general meeting in January and February to rename itself the Bulgarian Academy of Sciences. On 27 January 1912 this was legally approved. A new and important stage in the life of the academy began as of that date.

The new bylaws stated the tasks facing all three branches of the academy: the historical-philological, the philosophical-social, and the natural science-mathematical. It set forth the rights and obligations of the members and established what printed material was to be issued. In addition to continuing the publication of the journals previously published by the Bulgarian Literary Society, the official publications, as follows, were issued by the academy: "Magazine of the BAN"; "Compilation of BAN", which was published beginning in 1913; "Bulgarian Antiques", published as of 1914, having been taken over from the Ministry of Public Education, and "Documents on Bulgarian History", published as of 1931. In 1912 the number of academy members was as follows: 10 honorary, 36 active and 24 contributing members. The latter included the then young Bulgarian scientists such as philologists Stoyan Romanski, Stefan Mladenov; historians Petur Nikov, and Nikiyor Milev; literary historian Boyan Penev; ethnographer Stefan Kostov; archaeologists Dimitur Dechev and Rafail Popov; philosophers Dimitur Mikhalechev and Spiridon Kazandzhiev; zoologist Ivan Buresh; botanist Nikolay Stoyanov; chemist Z. Karaoglanov; mathematicians L. Chakalov and P. I. Tsenov; agronomers I. Stranski and G. Khlebarov; physicians T. Petrov and V. Mollov, and others.

Economically speaking, this period was characterized by the tremendous development of capitalism. The number of larger industrial enterprises in Bulgaria increased from 33 in 1887 to about 200 in 1901. Bulgaria became the ever increasingly attractive target for the competing western European capitalist states. They, importing capital into Bulgaria, began to manage its policies and economy, directly or indirectly.

Bourgeois scientific theories found increasingly receptive ground in Bulgarian science and philosophy, particularly after 1910. Berkleyism, Wundt's voluntarism, neoKantism, Remkeism and later Weissman-Morganism, fascist and racist concepts, etc. found their way into the country.

The Bulgarian Academy of Sciences was not immune to these influences. On the contrary, many of its members became exponents of reactionary theories and directly served the anti-people policies of the monarcho-fascist governments between the two wars.

Naturally, progressive Bulgarian scientists and Marxists put up a consistent fight against the reactionary bourgeois ideology. The Bulgarian Workers' Social Democratic Party -- the present day Bulgarian Communist Party -- which was founded in 1891 by the father of Bulgarian Marxism, Dimitur Blagoev, strengthened increasingly, especially after 1903, and following the victory of the Great October Socialist Revolution. After the September rebellion of 1923, the BCP, under the guidance of G. Dimitrov and V. Kolarov, was reorganized and took an even firmer Marxist-Leninist stand. A nucleus of Marxist-Leninist ideological and philosophical workers, including T. Pavlov, T. Samodunov, S. Genovski and others, was formed during the struggle against fascism. Of course, we cannot find full details on the ideological struggle between idealism and materialism in philosophy and the various branches of science within and outside of the academy during the period prior to Bulgaria's liberation from the monarcho-fascist and capitalistic enslavement. We can only point out that apart from the purely practical contributions made in the fields of the natural sciences, agriculture, technology and medicine, many of which were of great significance in the development of Bulgarian science and science in general, most of the natural sciences and almost all the social sciences were affected more or less ideologically or methodologically by reactionary and fascist theories. This hindered the development of science, which was placed in the service of the anti-people policy of the monarcho-fascist cabinets. An attempt was made to challenge the independence of the academy. A law proclaimed on 30 June 1940 renamed the academy the Bulgarian Academy of Sciences and Arts, and on the pretext of expanding the activities of the academy, an effort was made to guide its work toward "clearly defined tasks", i.e., to place it in the service of the monarcho-fascist state.

Only after 9 September 1944, when the Bulgarian people, under the leadership of the BCP and with the decisive support of the Soviet Union, took power into their own hands, that science in Bulgaria was based on the social-political and economic conditions required for its reconstruction on Marxist-Leninist foundations and for its organized and planned usefulness to the people and the construction of socialism. After Bulgaria's liberation from enslavement to Turkey, the Bulgarian Literary Society became the Bulgarian Academy of Sciences. However, it was not until Bulgaria's liberation from capitalist enslavement, when the conditions provided by a socialist people's republic existed,

that the second dream of the Bulgarian founders of the literary society began to come true. That was that the Bulgarian Academy of Sciences would become one of the great national temples of Bulgarian science and would devotedly serve the people and their rapid progress toward the establishment of a socialist and communist society in Bulgaria.

The reconstruction of the old academy and its rebirth as a new, higher Bulgarian scientific establishment, an academy of science of the socialist type based on the example of the Academy of Sciences of the USSR, began at the general annual meeting held in 1945. At that meeting, progressive and Marxist-Leninist trained scientists headed by the well known Bulgarian Marxist philosopher Todor Pavlov, who was elected chairman of the BAN in 1947, were elected to academy membership. Under Pavlov's immediate guidance, the academy has been developing properly. Its current status, in the main, is described in this book.

In 1946, under Party leadership and on the basis of the instructions of the leader and teacher of the Bulgarian people, Georgi Dimitrov, a committee headed by academician Todor Pavlov developed a projected draft for a "Law on the BAN", which was adopted by the great People's Assembly and approved by a decree dated 19 February 1947. This law marked the first stage of the reconstruction of the BAN. According to Article 1 of the law, the Bulgarian Academy of Sciences was to become a state establishment with an independent, creative organizational and administrative life. The academy was to carry out planned scientific and research work and to set up scientific institutes for that purpose.

The new administrative council undertook to implement the provisions of the law and the measures approved by the general meeting held on 2 March 1947 on the bylaws of the academy. Various departments and branches were established, and their leadership decided upon by election. In addition, the requisite number of scientific and research institutes, laboratories, stations, experimental centers, museums, collections, libraries, archives, etc. were set up, not only in Sofia, but in other cities as well. The administrative council, with the full collaboration of the Party and the government, undertook the creation of scientific and research institutes which became the basic organs for the scientific and research projects of the academy.

In 1947 and 1948 the efforts of the administrative council and the managements of the sections, branches and institutes were aimed at making first efforts toward the ideological reconstruction of science on dialectical-materialistic foundations, planned scientific and research work in the institutes, and linking this work with the state's Two-Year People's Economic Plan. To this end, BAN organized several scientific, and scientific-organizational, meetings, conferences and sessions with the purpose of speeding up the ideological and methodological reconstruction of Bulgarian science on a Marxist-Leninist foundation. A "Plan for the Scientific Activities of the BAN for 1948" was drafted and adopted. It is an excellent reflection of the efforts of the leading organs of BAN, the academicians, the corresponding

members and scientific collaborators to reconstruct the BAN in accordance with the law. Naturally, in connection with this, the material foundations, including premises, equipment and books, began to grow. The academy acquired its own printing press. For the first time in history, the BAN budget as determined by the state amounted to a considerable sum, unthought of for an academy prior to 9 September 1944. The number of regular and corresponding academy members doubled. The first regular scientific collaborators at the academy were appointed. By 1947 they totaled 75.

The Fifth Congress of the BCP held in 1948 set forth the general line to be followed by the Party in the interests of the simultaneous establishment of the economic and cultural foundations for socialism in Bulgaria. Particular attention was devoted to Marxist-Leninist education and the struggle on the ideological front, which involved the reconstruction of education and science and the developments which would benefit the working people.

The Party tasks set forth for fulfillment by the BAN in the field of science in point of fact outlined the role which the BAN and Bulgarian scientists must play in order to contribute to the socialist revolution in Bulgaria. The problems set forth in 1948, which for the most part are still current, were the following: 1) the need for an adamant struggle to overcome reactionary theories in science and eventually eliminate the rotten bourgeois heritage; 2) the need for achieving the closest possible link between science and socialist construction in Bulgaria; and 3) the need to relate all branches of science truly and faithfully to the requirements of the people; 4) the gradual reconstruction of all the sciences on the basis and foundation of dialectical materialism; 5) the completion of reconstruction work on the part of the Bulgarian Academy of Sciences and the Bulgarian scientific-research network, with the academy taking care that the problems of each individual science are developed, and linking as closely as possible the sciences and the problems of socialist reconstruction; 5) the intensification of the activities of scientific and research institutes, with work on problems related to current Bulgarian life, particularly involving a study of the natural resources of the country, with a view to maximum development of Bulgaria's production forces; 6) a contribution to the discovery of the best possible application of scientific achievements to the general implementation of the state economic plan, etc.

In order for these historical tasks to be implemented -- the struggle to eliminate reactionary scientific theories, the achievement of the closest possible link between science and socialist construction, etc. -- the new administrative council, headed again by Academician T. Pavlov, at the general meeting held between 27 and 30 March 1949, decided that the structure, scientific-organizational and scientific-research work of the BAN must develop to an even higher level of achievement by emulating more closely, in structure and work, the Academy of Sciences of the USSR and those in its various republics.



This decision was in part made on the basis of the rich Soviet experience noted, and it led to the drafting of a new law on the BAN which was enforced as of 11 October 1949. The 1949 law provides that the BAN should cease to be an administrative establishment under the supervision of a ministry. Instead it was made the highest scientific establishment in Bulgaria of state and national importance, responsible directly to the Council of Ministers. In place of the individual branches, the scientific personnel and establishments of the BAN were broken down into seven divisions, as follows: physics-mathematics and technological sciences; geological-geographic and chemical sciences; biological and medical sciences; agricultural sciences (established in 1954), history, archaeology and philosophy; law and economic sciences; linguistics, ethnography and literature; and finally, graphic arts and culture. All these were to be headed by academy members, regular or corresponding. As the academy developed, the departments and their managements acquired increasing importance in directing the institutes under their jurisdiction.

The new law made clear the road toward development and the work to be done by the BAN during the First and Second Five-Year Plans between 1949 and 1957. During the second stage, the foundations were laid for a new academy of the socialist type based on the example of the Academy of Sciences of the USSR.

The new scientific-organizational work covered with increasing scope all the activities which a socialist academy of sciences should engage in. Operative planning, supervision, and reports on scientific and research work, as well as the growing efforts toward solving scientific problems arising in the construction of socialism or from decisions adopted by the Party and the government led not only to a planning department, but also those others typical of Bulgarian ministries, and a scientific secretariat typical of any socialist academy at the administrative council of the BAN. The tasks of this secretariat were made even clearer as the problems necessitating an intermediary scientific-operative organ to coordinate the administrative council and its bureau, on the one hand, and the various departments and scientific-research institutes of the academy on the other.

The strengthening of the scientific organization of the administrative council was paralleled by the strengthening of scientific organizational work in the departments, the publication and editing council, the scientific and research institutes, the library and its branches, and other services. Regulations for the work of the departments, the publication and editing council, and the scientific and research institutes were drafted. Thanks to the constant efforts of the Party and the government, the material-technological foundation for fruitful production on the part of scientific institutes of the academy made it possible for the number of institutes to be increased, and for various institute departments and laboratories to be improved.

The BAN has institutes and laboratories which deal with almost all the important and basic branches of science, from physics and mathematics and all their principal attributes through linguistics, literature and the arts and their various aspects.

The rapid development of economic and cultural life in Bulgaria led to the speedy improvement in the BAN, and also of the scientific and research institutes of various government departments, clinics and scientific research departments in universities and plants. At the end of the First Five-Year Plan (1949-1953), which was fulfilled in four years' time, there were thirty-one scientific and research institutes with a total of 351 scientific workers established by BAN, and those connected with the various ministries and state administrations totaled 118 by the end of 1952, with a total of 1,196 scientific workers. This development made necessary the unification of the work of all these institutions through coordination with the work of the BAN. A decision adopted by the Council of Ministers resulted in the regrouping and enlargement of the government administrative, scientific and research institutes which reduced the number of individual institutes to 55. Forty-five scientific and research teams were assigned to these institutes, although many of the latter remained administratively independent scientific establishments. A set of regulations was approved after drafting by the Council of Ministers (27 June 1953) in regard to the scientific-research institutes of the various administrations. It provided that a scientific coordination council be established in the BAN, which was successfully accomplished. It comprises representatives of the academy and of various administrations having scientific-research institutes, and delegates from various universities. The scientific coordination council is administered by a bureau whose head is the chairman of the BAN, and by an especially appointed secretary who is a member of the academy and who is also a member of the BAN administrative council. Coordination is effected by composite commissions from the institutes and the BAN department. Thus, through its scientific organs, principally the scientific secretariat and the scientific coordination council, the BAN has effected the general management and unified planning of and reporting on the total of scientific research work being done in Bulgaria.

Planning, supervision of and reporting on scientific work in these institutes of the academy has become more specific. (These methods have also been applied to the scientific and research institutes at the various administrations and universities). Cooperation between the academy and the State Planning Commission and the ministerial, administrative and production enterprises has improved. An ever larger number of problems arising from the construction of socialism are being included in the working plans, and the results obtained have been utilized by the ministries and enterprises in their practical work. The institutes, their scientific councils and the publication and editing council are improving work on the preparation, reviewing and printing of scientific works in bulletins, magazines and monographs put out by the academy (see list of BAN publications at the end of this book).

The scientific publishing activities of the academy are growing constantly in scope and significance. Scientific conferences, sessions, expeditions, etc. are promoted by the various institutes and departments, and by the academy itself in general. Apart from scientific workers from

the academy and other establishments, papers have also been read at such sessions by scientific workers from the Soviet Union, the people's democracies, and other countries.

The attention needed for the improvement of cadres and the training of new personnel by means of a regular, on-the-job training program in graduate studies was established on the proper basis. A special department for the training of post-graduate workers in dialectical and historical materialism as well as Russian and western languages was set up. The table of organization for paid scientific positions was drafted and approved by the Council of Ministers, including the details and scope of activities for personnel.

The material-technological foundations for the institutes has improved and continues to do so through purchases from the USSR and other countries. BAN's budget has been increased greatly as compared to 1944. In 1957 it was 40,000,000 leva. The number of academicians was forty-five, corresponding members forty-three, and paid scientific collaborators 570.

The number of books in the central library and those of the various institutes is increasing. Two three-story buildings were built in the Geo Milev section. They have convenient laboratories and other facilities to accommodate most of the natural science institutes. Another electronic microscope has been purchased for the central laboratory of the BAN, etc.

Along with the proper development of organizational and creative life, relationships between the BAN and the Academy of Sciences of the USSR and those of the soviets and the people's democracies have been expanded and are becoming more and more productive. Noted scientists have been elected as honorary and foreign members of the BAN. These include Nesmeyanov, Go-Mo-Zho, Lisenko, Muskhelishvili, Joliot Curie, Rusnyak, and others. Bulgarian scientists have been elected members of foreign academies, as this volume indicates. Bulgarian scientists are participating with increasing frequency in international congresses on the various sciences, and are regularly invited to all the scientific congresses in the USSR, the other people's democracies, and all peaceloving countries.

The exchange program for scientific workers evolved to better their knowledge and to impart information by lectures covers, according to agreements signed between Bulgaria and the USSR and Bulgaria and the other people's democracies, thirty to fifty persons annually. The plans drafted for scientific and technical collaboration include the dispatch of an annually increasing number of Bulgarian scientific workers abroad, and the reception of workers from the USSR and the other socialist countries for work in and the sharing of their experience with the BAN. The BAN's participation in international scientific conferences organized by the other socialist countries with a view to improvement in economic collaboration among them, as well as in scientific and other conferences held by the United Nations and its subsidiaries, including the Economic and Social Council, UNESCO, etc. are also of great importance. The building of the experimental atomic center by the Institute of Physics, with the help of

the Soviet Union, will lead to a tremendous new development in all sciences in Bulgaria through the use of isotopes, the ionization of radiation, and new methods in the various branches of science, technology, agriculture and medicine.

The rapid development and strengthening of the BAN referred to, the expansion of its activities and the establishment of new tasks by the Party and the government made it necessary for the administrative council to clarify the law, and a new set of bylaws for BAN were required. The bylaws were the subject of extensive discussions by the various administrations of the BAN, and a new version was adopted by the general assembly of the BAN and was approved by Decree Number 141-50 March 1947. It was then put into effect. This book gives excerpts from the main provisions of the new bylaws, which set forth the possibilities of new development and strengthening in the Bulgarian socialist academy in the course of the Third and Fourth Five-Year Plans.

The reconstruction of science in Bulgaria and of Bulgarian scientific personnel, both ideologically and methodologically, was possible due to the adamant and systematic critical-analytical summarization work done in the past ten years at the BAN under the leadership of the Party, making extensive use of the rich Soviet experience, especially after the Twentieth Congress of the CPSU. The BAN alone has held about 150 scientific sessions, discussions and conferences. It suffices to mention the sessions on the status of the biological sciences, animal husbandry, archaeology, history, architecture and urban planning, cytology, psychology, etc.

In addition to these discussion sessions held for the purpose of evaluating a given science and its reconstruction on a dialectical-materialistic basis, the BAN and its departments and institutes have held a large number of scientific meetings and conferences and organized expeditions for the purpose of determining scientific and research results achieved, and clarifying given problems important in the light of science and socialist construction. We will note here the sessions held by the Department of Biological and Medical Sciences; the first conference of Bulgarian mathematicians, which involved a large number of scientists from the USSR, the people's democracies and other countries (1956); the complex scientific expedition (1952) to Dobrudzha in which more than 40 scientific workers from the institutes of the academy and those of certain administrations participated; and the expeditions made by members of the geological, geographic, architectural, music and other institutes.

The achievements in the BAN's scientific and research work, based upon and stemming from its ideological-methodological work, vary in nature. Principally, academies in any socialist country are engaged in the planned and purposeful unification of the creative efforts of all scientific workers with the intent of resolving all the basic scientific problems which are of importance to the development of science in general and its usefulness in the construction of socialism. Secondly, Bulgarian scientists, following the example of their Soviet colleagues, are mastering increasingly the collective and complex method of scientific and

research work. With increasing success, they are attracting production workers to collaboration in their research work. Thirdly, Bulgarian scientific workers grounded in dialectical materialism are rapidly increasing their ability to delineate their tasks on the basis of the scientific work being done and understanding its importance in terms of practical and theoretical problems. For this reason, as a result of the ideological and scientific-organizational work they are doing, the scientific workers of the BAN are concentrating their efforts on basic scientific problems whose solution will contribute greatly to scientific development, and will more or less directly aid in the construction of socialism. A study of the experience garnered in the construction of socialism in its turn helps to resolve problems whose solution promotes practical work and provides general science with new principles and laws. These principles and laws are then implemented in practical work, thus benefiting technological and production to a new level of quality, and are used in creating new methods of practical work. Thus the flexible guidance of scientific work in the socialist academies helps researchers in their varying searches, on the basis of a given period of time and a desired level of accomplishment. Problems are being worked out which are directly related to practical or technological aspects, or theoretical problems.

The problems which were and are being worked on, and the achievements of the scientific institutes at the BAN following 9 September are too numerous to be detailed here. The majority are briefly mentioned, although not in order, in the section dealing with the institutes, as well as in the scientific biographies of Bulgarian academicians and corresponding members, in a section included herein. As an example, we will cite here certain of the more important methodological, theoretical and practical achievements of the BAN.

From the methodological point of view, many of the natural science institutes at the BAN have standardized or modified important modern scientific research methods. New research methods were established, for example the mathematical-statistical method used in technical and biological problems, the construction of new electronic tubes, luminescent defectoscopy, tables for the computation of Gauss coordinates, for the study of mineral ores, the obtention of tannates from coniferous and other local raw materials, the casting of modified pig iron, the extraction of vegetable oils, the obtention of organic-magnesium compounds, the stimulation of seeds and regeneration processes, a method for increasing the percentage in seed penetration, a method for improving tomato breeds, a method for the hybridization of potatoes, for the growing of greenbelts, for research on the vasomotor nerves, a method for histo-chemical proof of lipins in cells, a method for the microscopic tracing of sedimentation in erythrocytes, a method of bismuth impregnation of the nervous system, a method of growing tissue and tubercular bacilli on fresh egg yokes, a method filtering fruit juices, etc.

Almost all of the natural science institutes at the BAN have contributed considerably to the development of the various branches of science in which they have worked. These contributions include those made to the thermodynamics of irreversible processes, Diophantine approximations, photovoltaic effects in insulators and semi-conductors, the problem of electro-crystal isolation phenomena, the spectral analysis of metals, Stefan's problem of thermoconductivity, the observations of meteorites and variable stars, hydro-, machine and mining technology and electrotechnics, stratigraphy and the tectonics of coal deposit basins in Bulgaria, the nature of Bulgarian ore deposits, the concentration of Bulgarian coal with a view to obtaining coke, the geography, flora and fauna of the country, brucellosis in domestic animals, aromatic antibiotics, the physiology of the higher nervous system, the pharmacodynamics of Bulgarian medicinal plants and the manufacture of drugs from them, the individual luminescence of cells and tissues, the placement of nerves in the capillaries of the brain, changes in the liver and kidneys under the influence of gamma and X-rays, experimentation in epilepsy, inflammatory and neoplastic diseases of the eye, and bacterial proteases, genetics and selectivity in crops, improvement of livestock, the pathomorphology of the plague, and many other problems.

Several of the abovementioned and many other contributions have been put into practical service, or work is proceeding toward their implementation, as explained in various parts of this book.

Theoretical achievements and the treatment of theoretical problems in the various branches of the natural sciences have also been a part of the work of the institutes of the BAN. As an example of these theoretical contributions we will note here those which involve the principles of growth in crystals, certain summarizations of the theory of relativity, and the theory of latent images, as well as the propositions on the approximation of linear forms, the theory of ballistics, that of analytical functions, cosmogonic theories, the theory of condensation processes in the atmosphere, that of organomagnesia compounds, that of virus genesis of cancer, the theories of cell stimulation, hydrotropic theories on the movement of lipidae in the body, that on blood and sex tissues, the theory of exogenesis in psychiatry, that of polyploids and mutations, that on vegetative hybridization, etc.

Significant studies have been made in the field of the social sciences on a dialectical and historical materialistic basis. Most of these are mentioned elsewhere in this book. It will suffice to mention here only a few of the most significant publications and contributions in the fields of philosophy, history and the others, such as to the history of Bulgaria (Volumes I-II, 1954-55), "The Theory of Reflection" (in Bulgarian, Russian, Serbian and Slovak, 1936-51), "Toward Marxist Aesthetics, Literary Science and Criticism" (Volumes I-II, 1954-55, "The Marxist-Leninist Theory of Reflection and the Teachings of I. P. Pavlov on the Higher Nervous Activities" (1954), "The September Rebellion of 1923" (1954), "Relations Between Bulgarian and Russian Arts" (1955), "Cultural and Political Ties Between Bulgaria and Russia During the XVI-XVIII Centuries"

(1953), "Civil Law in the Bulgarian People's Republic" (1956), "The Economic Aid of the Soviet Union - A Decisive Factor in the Building of Socialism in Bulgaria" (1955), "Labor Productivity Under Socialism and People's Economic Planning" (1956), "Problems in the Minoan Language" (1953), "Characteristics of the Thracian Language" (1952), "A Dictionary of the Modern Bulgarian Language" (Part I, 1953).

Bulgarian science and the Bulgarian Academy of Sciences Are Developing in a close relationship with the construction of socialism. They are products of the Bulgarian socialist motherland. There is no doubt that in the years to come, the BAN will reach a new and even more important stage in its development. On a Marxist-Leninist basis, and rallying around the government and the Party, BAN scientific workers as well as others in Bulgaria will further and more decisively promote Bulgarian science. The Bulgarian Academy of Sciences and Bulgarian scientists in general will in this way make a contribution to the construction of socialism in Bulgaria and the strengthening of the forces which favor peace, democracy and socialism, headed by the Soviet Union.

#### EXPLANATORY NOTES

[Pages 19-21]

O. Raleva

The reference book "The Bulgarian Academy of Sciences Since 1944" was first planned for publication in connection with the Academy's celebration of "85 Years of the BAN", and would have covered the period from 1869 to 1954. Due to the postponement of the celebration, the title of the book was altered, and material pertaining to the activities of the Academy and its structure prior to 9 September 1944 was dropped. The section "BAN Prior To 9 September 1944" is to be published later, as it involves a basic reevaluation of the Bulgarian cultural heritage, which has yet to be carried out.

There is no doubt that in the years to come, the BAN will reach a new and even more important stage in its development. On a Marxist-Leninist basis, and rallying around the government and the Party, the BAN scientific workers as well as others in Bulgaria will further and more decisively promote Bulgarian science. The Bulgarian Academy of Sciences and Bulgarian scientists in general will in this way make a contribution to the construction of socialism in Bulgaria and the strengthening of the forces which favor peace, democracy and socialism.

The reference book "The Bulgarian Academy of Sciences Since 9 September 1944" has been compiled on the basis of materials from the archives, information about academy personnel, questionnaires sent out to academy members and members of foreign academies, scientific and research plans, the reports submitted by the institutes in the past two years, and especially, on the basis of research in the BAN publications prior to and since 9 September 1944. Also the "Sofia University Almanac", Bulgarian

and foreign general and specialized reference books, works and articles in magazines and newspapers both domestic and foreign on the lives and activities of various academy members or institutes, etc. have been of use.

Apart from the academy members who are secretaries of the various sections, and who personally reviewed all material pertaining to their branches, valuable aid has been rendered in the compilation of this book by corresponding members Ivan Lekov, Professor D. Baylov, academy members L. Chakalov, P. St. Staynov, D. Orakhovats, Ivan Buresh, corresponding member Zh. Gulubov, and others, who have kindly edited material in their particular fields.

The book includes concise data on the various institutes and on academy personnel, whether honorary or regular members, Bulgarian or foreign, or corresponding members, elected since 9 September 1944, as well as old academy members who either continued or are still continuing their work since 1944, both living and deceased. The material, divided by sections, is preceded by excerpts from the bylaws of the academy. At the end of the reference book, information on general academic establishments, several tables showing the personnel structure and literary exchange program of the academy, an index of the names of academy members, and a bibliography on the periodical and regular other publications of the BAN during this period of time is given. The information -- articles on the institutes, listed chronologically by sections -- contains data as to their foundation, scientific work, structure, link with practical work, periodical publications of the institute, paid scientific collaborators including junior scientific collaborators, in alphabetical order.

Information on the members of the academy has also been broken down by section, as follows: foreign honorary members, academicians, corresponding members and regular foreign members. This information is given alphabetically and contains the following: brief biographical data, specialty, year of election, and the field of scientific activity in which the members is engaged. Chronological data is given on a few (five, six or more) of the authors' most important works, and the sources from which these works can be obtained are given at the end of each biography. Sources for the works of foreign members are not included. Information is also given on the publicational activity of the academicians, their services in training scientific personnel, the part they have taken in international congresses and membership in foreign scientific academies and societies. This data also specifies the positions they hold, for the most part in the academy, and the more important awards and distinctions bestowed upon them. The political and state activity of certain of the members who have become well known as statesmen and public figures has also been noted. The information about foreign members is comparatively scanty, fewer of their works have been noted, and the sources from which they can be obtained, as well as their participation in congresses, have not been included. Despite the research done, certain biographical data was unobtainable -- year of birth or death, etc. Indications of the deaths of such foreign members are only to be found in the lists in each section. Deceased members are indicated by black boxes around the names.



The material in the reference book contains data through 1956 inclusive. The excerpts from the bylaws published in 1957, as well as data on the awards and distinctions bestowed upon members of the academy, however, cover that year as well.

With such materials, the work "The Bulgarian Academy of Sciences Since 9 September 1944" has the purpose of familiarizing scientists in Bulgaria and abroad with the activities of the academy and its members.

#### EXCERPTS FROM THE BYLAWS OF THE BULGARIAN ACADEMY OF SCIENCES

[Pages 23-26]

Unsigned

Article 1. The Bulgarian Academy of Sciences is the highest scientific establishment in the Bulgarian People's Republic, and includes the most noted scientists in the country.

The Academy is directly under the jurisdiction of the Council of Ministers, to which it presents its plans and annual reports of its scientific activities.

Article 2. The basic task of the Bulgarian Academy of Sciences (BAN) is to promote science and technology with a view to enriching the people's economy, the state organization and culture with new scientific achievements, discoveries and inventions which will contribute to the building up of a socialist society in Bulgaria and the strengthening of the might of the republic.

Article 4. The basic and scientific research work of the Bulgarian Academy of Sciences is concentrated in its scientific and research institutes, laboratories, observatories, experimental stations and field, museums, libraries, etc.

Article 5. The scientific and research institutes, the individual laboratories, observatories, museums, etc. are parts of various departments or branches of the Academy.

The Academy comprises the following departments:

- Department of Mathematical, Physical and Technological Sciences;
- Department of Geological, Geographic and Chemical Sciences;
- Department of Biological and Medical Sciences;
- Department of Agricultural Sciences;
- Department of Philosophy, History, Pedagogy and Archaeology;
- Department of Economic and Legal Sciences;
- Department of Linguistics, Literature and Ethnography; and
- Department of Graphic Arts, Music and Architecture.

Departments may be established or discontinued in accordance with a decision by the Council of Ministers on the basis of proposals submitted by the Presidium of the Academy.

Article 6. The Academy network also includes:

- a) A Scientific Coordination Council (NSK) and a Publishing and Editing Council (RIS);
- b) A Central Library, which enjoys the status of a scientific and research institute;
- c) An Encyclopedia and Laboratory Service for the BAN, and a Central Service for Scientific Documentation and Information; and
- d) A Department of Dialectical and Historical Materialism.

The departments of the Bulgarian Academy of Sciences carry on scientific-research, scientific-organizational, and administrative-managerial activities in order to implement the management, supervision and reporting of the work of the scientific and research institutes, central laboratories, museums, field areas, etc. included in the departments. By this means as well aid is rendered to administrative institutes in the government in their scientific and research work (Article 43).

\*

Article 8. Members of the Bulgarian Academy of Sciences include honorary members of the BAN, regular academicians and corresponding members.

Also included in Academy membership are honorary foreign members and regular foreign members.

The number of Academy members, whether honorary, regular or corresponding, is established on the basis of a decision of Presidium of the Academy and approval by the Council of Ministers.

Regular and corresponding members are those who have been voted upon by secret ballot and who have received a two-thirds majority vote of all the regular, honorary and corresponding members attending the general meeting (Article 27).

If after the voting one of the candidates for regular or corresponding membership fails to receive sufficient votes to fill a given available membership, it will remain vacant until the next elections.

Available and unoccupied regular and corresponding Academy memberships are so declared by the Presidium of the BAN, and are filled at the general meetings by elections based upon the established procedure (Article 28).

The election of honorary and regular foreign members of the Academy is effected by an open vote requiring a two-thirds majority vote on the part of the regular, honorary and corresponding members attending the meeting (Article 22).

Article 9. The basic duty of regular and corresponding members of the Academy is to participate actively in its planned scientific, research, practical and propaganda work, and to train highly qualified scientific personnel.

Apart from the regular and corresponding members, the Bulgarian Academy of Sciences and its various establishments employ professors, senior and junior scientific collaborators, departmental teachers, technical scientific collaborators and aides (laboratory assistants), technical, administrative, financial-accounting, economic and other employees (Article 64).

\*

Article 30. The general meeting is the highest management organ of the Bulgarian Academy of Sciences. It is comprised of Academy members and the corresponding members.

Bulgarian and foreign honorary members and regular foreign members of the Academy may take part in the general meetings with equal votes.

Article 31. The general meeting of the Academy establishes the principal program, sums up and evaluates all of the scientific work of the Academy, analyzes problems basic to the development of science, receives and debates reports on the work of the Academy, and elects honorary, regular and corresponding members.

By secret ballot, the general meeting elects a chairman, deputy chairmen and members of the Presidium of the Academy from the Academy members, and approves the Academy secretaries elected at general meetings of the various departments of the Academy as Presidium members. The following are appointed by the Presidium of the Academy: a chief scientific secretary, an Academy member to serve as secretary to the Scientific Coordination Council, and one to serve as secretary to the Publishing and Editing Council.

Article 33. The sessions of the general meeting require a quorum of at least half of all the regular and corresponding Academy members, except when elections for new regular and corresponding Academy members are being held. All problems are resolved at the general meeting by an open vote by a majority approval on the part of the regular, honorary and corresponding members present, except when the bylaws call for a larger majority and secret vote on certain matters.

The sessions of the general meeting of the Academy at which elections for regular, honorary and corresponding members are held require a quorum of no less than two-thirds of the total number of regular, honorary and corresponding members (Article 23).

Article 37. The Presidium of the Bulgarian Academy of Sciences implements the decisions adopted by the general meeting of the Academy and reports to it on its activities.

Article 38. In the periods between Presidium meeting the routine work is carried on by the Bureau of the Presidium. It consists of a chairman, deputy chairmen, and the chief scientific secretary.

PRESIDIUM OF THE BULGARIAN ACADEMY OF SCIENCES

[Pages 27-159]

Chairman: Todor Dimitrov Pavlov, Academy Member.

Deputy Chairmen: Georgi Stefanov Nadzhakov, Academy Member  
Sava Tsolov Ganovski, Academy Member.

Chief Scientific Secretary: Nikolay Andreev Stoyanov, Academy Member.

Secretaries of Departments: Lyubomir Nikolov Chakalov, Strashimir Dimitrov Georgiev, Academy Members; Corresponding Member Ignat Emanuilov Igov; Khristo Stefanov Daskalov, Academy Member; Corresponding Member Dimitur Konstantinov Kosev; Petko Stoyanov Staynov, Vladimir Ivanov Georgiev and Petko Gruev Staynov, Academy Members.

Secretary of the Scientific Coordination Council: Dimitur Petrov Orakhovats, Academy Member.

Secretary of the Publication and Editing Council: Ksenofon Andreev Ivanov, Academy Member.

Department of Mathematical, Physical and Technological Sciences

Institute of Physics, Institute of Mathematics, Institute of Technology,  
Central Geodetic Laboratory, Physics-Chemistry Section  
Bureau of the Department

Academic Secretary -- Academy Member Lyubomir Nikolov Chakalov

Deputy Academic Secretary -- Corresponding Member Asen Borisov Datsev

Member -- Corresponding Member Angel Tonchev Balevski

### Department Personnel

Honorary Foreign Members: Sergey Ivanovich Vasilov, Frederic Joliot-Curie.

Academy Members: Georgi Stefanov Nadzhakov, Nikola Dimitrov Obreshkov, Kiril Atanasov Popov, Ivan Angelov Tsenov, Lyubomir Nikolov Chakalov.

Corresponding Members: Angel Tonchev Balevski, Nikola Ivanov Bonev, Asen Borisov Datsev, Dimo Velez Silev, Emil Stefanov Dzhakov, Rostislav Atanasov Kaishev, Lyubomir Krustanov Krustanov, Bogomil Minkov Radoslavov, Aleksandur Parlov Khristov, Vladimir kirilov Khristov, Khristo Yankov Khristov.

Active Foreign Members: Karol Borsuk, Nikolay Ivanovich Muskhelishvili, Vatslav Syerpinski, Romuald Tsebertovich.

Institute of Physics  
No 1, 7 Noemvri Street

Director: Academy Member G. S. Nadzhakov

The task of this institute, which was founded in 1946, is to carry on scientific and research work in the science of physics in Bulgaria, and to aid the people's economy in resolving problems in connection with the physical sciences.

The basic problems under study in the scientific and research departments of the institute are as follows:

General physics section and its laboratories: photoelectric phenomena and semi-conductors. Research in this section is for the most part concentrated on photovoltaic effects in insulators and semi-conductors, photoconductivity in crystal phosphorus, and the rectifying properties of semi-conductors. In the electronic microscopy laboratory research is being done in connection with the scientific work of the Institute of Physics and for other institutes and industrial enterprises. There is a laboratory for scientific apparatus engaged in work on the construction and theory of physics apparatus; a spectroscopy laboratory working on problems in molecular and atomic spectroscopes.

Technological physics section and its laboratories: an electro-vacuum laboratory is doing research on problems in physical electronics and on some new types of electronic lights; an applied electronics laboratory where work is being done on certain possibilities of new uses for electronic lights.

Atomic physics section and its laboratories, as follows: a laboratory for radioactivity engaged in the measurement of radioactivity in springs, rocks, etc; a cosmic radiation laboratory; and one for nuclear physics.

Theoretical physics section: engaged in work on Stefan's theory of thermic conductivity, the kinetic equations for snow slides (avalanches), the systematization of elementary particles, certain summarizations of the theory of relativity, etc.

Atmospheric physics and geophysics section: dealing with problems in connection with the physical processes involved in cloud formation and precipitation -- condensation phenomena, the formation of precipitation, research on special phenomena (drought, etc.) and on peculiarities on the annual development of weather.

Astronomy section: engaged in research on problems in the field of cosmogony and lunar formations, observation of meteors, meteorites and variable stars. This section issues an astronomic calendar every year.

The Institute of Physics has all the basic apparatus needed for its various fields of research, including an electronic microscope. It has the following workshops for scientific instruments: machine, optical, electrotechnical, electronic and glass-making.

The institute publishes the "Bulletin of the BAN -- Physics Series". In addition, the scientific collaborators of the institute publish their works in the "Reports of the Bulgarian Academy of Sciences," (in Russian). The institute has also published astronomic calendars (for 1954, 1955 and 1956).

The following are collaborators of the institute: Academy Member G. Nadzhakov; Corresponding Members N. Bonev, A. Datsev, E. Dzhakov, L. Krustanov and Khr. Khristov; Senior Scientific Collaborators R. Andreychin, R. Zaykov, N. Kalitsin, E. Karamikhaylova and P. Simova; Junior Scientific Collaborators M. Ivanov, Yordan Kasabov, N. Kashukeev, V. Kunev, L. Mitrani, N. Pashov, M. Popova, D. Samardzhiev, V. Stefanov and other occasional contributors.

Institute of Mathematics  
"Geo Milev" Sector

Director: Academy Member N. D. Obreshkov

This institute was founded in 1948. Its task is to carry on work on various problems in the field of mathematics in connection with socialist construction in Bulgaria.

Scientific and research work is being done at this institute on the following problems: polynomial zeros; entire and rational functions; summarization of divergent sequences; Diophantine approximations; problems in moments; analytical [Bulgarian: neprodulzhimost]; square formulae; cones in abstract space and their simple elements, etc. In addition, problems in connection with the following matters are also being worked upon: dynamic equations; the kinematics of solid bodies; differential geometry of a series of straight lines on various planes; minor oscillations; the thermodynamics of irreversible processes; resistance and stability in eddy currents; etc.

The institute comprises four committees on applied problems: on the study of mortality rates in Bulgaria; on future planning of the Bulgarian population; on the application of methods in mathematical statistics to agroecotechnology, biology and other sciences; and on the use of mathematical statistics in quality control.

The institute publishes the "Bulletin of the Mathematical Institute". In addition, its collaborators publish their works in the "Reports of the Bulgarian Academy of Sciences" (in Russian).

The following are collaborators of the institute: Academy Members N. Obreshkov, K. Popov, I. Tsenov, and L. Chakalov; Junior Scientific Collaborators R. Denchev and B. Penkov; and other occasional contributors.

Technological Institute  
No 6. Dragan Tsankov Boulevard

Director: Corresponding Member D. V. Filev

This institute was established in 1950. Its purpose is to contribute to the development of the technological sciences and technology in general in Bulgaria and to carry out research on certain basic problems in this field which are directly linked with the people's economic plans.

The scientific and research work of the institute is being conducted along the following lines: the study of problems of a theoretical and practical nature in the field of water economy and hydroconstruction; the study of problems in the fields of knowledge of materials and technology, construction mechanics, machine technology, energetics, electrotechnology and mining.

The institute has the following sections: water economy and hydroconstruction; energetics and electrotechnology; knowledge of materials and machine building; applied mechanics; building structures; and mining technology.

Committees have been set up within the institute to aid in hydroamelioration construction in the rural economy and the electrification of railroads. The institute's experimental grounds are in the "Maritsa" Agricultural Research Institute area near the city of Plovdiv. There experiments in the irrigation of rice crops are carried out.

The institute publishes the "Bulletin of the Technological Institute" and the "Works of the Technological Institute." Its collaborators also publish their works in the "Reports of the Bulgarian Academy of Sciences," (in Russian).

Collaborators of the institute include: Corresponding Members D. Filev and A. Balevski; Senior Scientific Collaborators St. Velchev, D. Georgiev, T. Dimchev, and Yordan Enev; Junior Scientific Collaborators Khristo Bakurov, Z. Dyankov, B. Kostov, G. Markov, E. Mitev, M. Mishonov, I. Nikolov, R. Papazov and Yordan Simeonov; and other occasional contributors.

Central Geodetics Laboratory  
No. 6 Dragan Tsankov Boulevard

In Charge: Corresponding Member Vl. K. Khristov

The laboratory was established in 1956 as a continuation of the work of the geodetics section at the Technological Institute.

Its basic tasks are for the most part concentrated in the field of higher geodesy: coordinates on an ellipsoid, relations between ellipsoids, ties between triangulations, equalizing triangulations, variations in the sea, relations between systems of coordinates, etc. The laboratory is engaged in the particularly important project of introducing the use of the F. N. Krasovski ellipsoid in general in Bulgaria. To this end tables on Bulgaria, the other people's democracy and for the rest of the world are being prepared.

The scientific activities of the laboratory are carried out in the section dealing with higher and theoretical geodetics and photogrammetry and with applied geodesy.

The laboratory's collaborators include: Corresponding Member Vl. K. Khristov, Junior Scientific Collaborator B. Rogev, and other occasional contributors.



Physical Chemistry Section  
No 1, 7 Noemvri Street

In Charge: Corresponding Member R. A. Kaishev

This section was established in 1956 as a continuation of the section on physics and chemistry at the Institute of Physics.

The basic tasks of this section are mainly concentrated in the field of physical chemistry. Its scientific activities are carried out in its laboratories. These include laboratories for the following: crystal growth. This involves research on problems of crystallization, electrocrystallization and the formation of crystal embryos. Photo-sensitive emulsions: this laboratory is engaged in research on these emulsions and the processes of obtaining them. Spectral analysis: here research in the field of molecular spectroscopy and on methods of applying spectral analysis in research on metals, ores and minerals is being done.

Collaborators of this section include Corresponding Member R. Kaishev, Junior Scientific Collaborator Yordan Malinovski, and other occasional contributors.

HONORARY FOREIGN MEMBERS

Vavilov, Sergey Ivanovich

Born 24 March 1891 in Moscow. Elected in 1947. Died 21 January 1951. Field - physics.

Noted Soviet physicist, statesman and public figure. Worked in the field of optical physics, particularly on luminescence and luminescent solutions.

Author of many scientific works, the most important of which include the following: "Experimental Foundations of the Theory of Relativity" (1928), "Luminescent Sources of Light" (1948), "Luminescence and Its Duration" (1947), "Microstructure of Light" (1950), and others.

He edited many magazines on theoretical and experimental physics. He was Editor-in-Chief of the second issue of the "Unabridged Soviet Encyclopedia" and headed a committee at the Academy of Sciences of the USSR for the publication of popular scientific literature. He is credited with work on and publication and dissemination of the scientific legacy left by M. V. Lomonosov and V. V. Petrov, as well as research on the scientific work of L. Euler.

He was Chairman of the Academy of Sciences of the USSR and of its Publication and Editorial Council (until 1951). He was Director of the Institute of Physics at the Academy of Sciences of the USSR as well (until 1951).

He served as Deputy from the Leningrad and Moscow People's Soviets, and as Deputy of the Supreme Soviet of the RSFSR (1938) and the USSR (1946-1950).

He was three times elected Laureate of the Stalin Prize, and was awarded the "Lenin" and "Red Labor Banner" medals.

### Joliot-Curie, Frederic

Born 19 March 1900, in Paris. Elected in 1952. Field - physics.

World-renowned French physicist. One of the greatest of all scientists in the field of atomic physics, noted public personality, and chairman of the World Council for the Defense of Peace. Currently working on physics problems in connection with atomic nuclei and radioactivity. Discoverer of artificial radioactivity, in collaboration with Irene Joliot-Curie, for which he was awarded the Nobel Prize in 1935. Author of a large number of scientific works, the most important of which include: "Atomic Nuclei" (1933), "The Radiation of Atoms Under the Action of Alpha Rays" (in co-authorship with Irene Joliot-Curie, 1933), "A New Type of Radioactivity" (1934), "The Neutron, the Positron and Artificial Radioactivity" (1937), etc.

Joliot-Curie has placed his achievements in the field of atomic physics in service for world peace. His papers, which have been read at international scientific conferences dealing with the field of atomic energy, and his services in the training of an entire scientific French school of physicists, are widely known.

Member of the French Academy of Sciences (1943), member of the French Academy of Medicine (1943), member of the Academy of Sciences of the USSR (1947), and member of many other foreign academies. Honorary Doctorate from five universities. Chairman of the French Society of Scientific Workers and of the World Federation of Scientific Workers. Member of many French and other scientific societies.

Laureate of the International Lenin Prize "For strengthening peace among the people."

### MEMBERS OF THE ACADEMY

#### Nadzhakov, Georgi Stefanov

Born 26 December 1896 in Stanke Dimitrov. Elected in 1945.

Field - physics.

Known for his extensive scientific works in the fields of experimental physics, electrometry, photoelectric effects and others, which have been printed in Bulgarian, French and German journals. The most important of these include: "Photoelectric Conductivity in Solid Dielectrics and External Photoelectric Effects" (I, II, 1925-1927) (God. Fiz.-Mat. Fak. /Annual Publication of the Physics and Mathematics Department/, 1925/1926, Issue Number 1, pages 61-100), "A Contribution to Methods of Determining Constancy and Capacity of a Torsion Electrometer" (1932) (Annual Publication of the Physics and Mathematics Department, 1930/1931, Issue Number 1, pages 235-288), "On the Theory of the Latent Image" (1937) (Annual Publication of the Physics and Mathematics Department, 1926/1927, Issue Number 1, pages 49-79), "A New Method of Permanent

Polarization in Dielectrics" (1937) (Annual Publication of the Physics and Mathematics Department, 1930/1931, Issue Number 1, pages 235-288), "An Electrometric Method for the Measurement of the Volta Effect" (1951) (Izvestiya na BAN /Bulletin of the BAN/, Physics Series, 1951, Volume II, pages 341-352), "Photovoltaic Effects in Crystal Cadmium Sulfide" (in co-authorship with R. Andreychin, 1955) (Bulletin of the BAN, 1955, Volume IV, pages 7-8), and others.

Editor-in-Chief of the "Notices of the Institute of Physics" and the "Reports of the Bulgarian Academy of Sciences" (in Russian).

Has made a great contribution to the organization and development of the Institute of Physics at the BAN and to the training of young cadres in the field of experimental physics.

Deputy Chairman of the BAN. Director of the Institute of Physics at the BAN. Dean of Sofia University (1947-1951). Corresponding Member of the Göttingen Academy of Sciences. Member of the Scientific Council of the United Institute for Nuclear Research in the USSR. Chairman of the Awards Committee for the Dimitrov Prizes in science, discoveries, and rationalization. Member of the Presidium of the People's Assembly. An active worker in the movement toward peace, chairman of the National Committee for the Defense of Peace, and a member of the World Council for the Defense of Peace.

Has taken part in many scientific conferences and congresses. These include: Moscow (1955); Berlin, London, Cambridge and Geneva (1955); Paris and New York (1956); the peace congresses and sessions in Bratislava, Paris, Moscow, Warsaw, Prague, Berlin, Stockholm, Helsinki and Vienna; and others.

Laureate of the Dimitrov Prize and bearer of the "Order of the Bulgarian People's Republic."

Obreshkov, Nikola Dimitrov

Born 6 March 1896, in Varna. Elected in 1945. Field - mathematics.

Well-known for his scientific and research work in the field of mathematics, and especially for his original contribution in the field of roots of algebraic equations and zeros of whole functions. Author of many scientific works published in Bulgaria and in the publications of the Academy of Sciences of the USSR, the Paris, Berlin and Rome academies, and in many foreign mathematical journals. Among his most important works are the following: "The Roots of Algebraic Equations" (1923) (Annual Publication of the Physics and Mathematics Department, 1922/1923, XIX, pages 45-76), "The Summarization of Divergent Series" (1934) (Acta Mathematica, 1934, Volume LXIII, pages 1-75), "Diophantine Approximations of Linear Forms for Positive Values of Variables" (1950), (Reports of the Academy of Sciences of the USSR, new series, 1950, Volume LXVIII, Number 1, pages 21-24), "Some Orthogonal Polynomials in a Complex Field" (1956), (Bulletin of the Mathematical Institute of the BAN, 1956, Number 1, pages 45-66, "Two Theorems on the Approximation of Linear Forms" (1956), (ibid, pages 35-42), etc.

Editor-in-Chief of the "Notices of the Mathematical Institute" and staff reviewer for the magazine "Zentralblatt für Mathematik und ihre Grenzgebiete". Director of the Institute of Mathematics of the BAN. Professor in the Department of Physics and Mathematics at Sofia University. Member of various scientific societies both in Bulgaria and abroad. Member of the World Council for the Defense of Peace.

Has read papers at international conferences on mathematics in Bologna (1928), Warsaw (1929), Athens (1934), Bucharest and Oslo (1936), Budapest (1950), Berlin (1951), Dresden (1954), Bucharest and Moscow (1956). Has participated in the Conference on the Theory of Probabilities at Geneva (1937) and the Raman Conference in Berlin (1954), and attended the Congress on Soviet Mathematics, Machine Building and Equipment Construction (1956), etc.

Laureate of the Dimitrov Prize and recipient of the following orders: "Bulgarian People's Republic", "Kiril i Metodiy", and "Civic Merit".

Popov, Kiril Atanasov

Born 3 May 1880 in Kolarovgrad. Elected in 1947. Fields - mathematics and physics.

Well-known as author of many scientific works in the fields of mathematical analysis, celestial mechanics, ballistics, thermo-dynamics and geophysics which have been published in book form and in the publications of the Academy of Sciences of the USSR and in the Bulletins of the Paris, Rome and other Academies of Sciences, as well as in many Bulgarian and foreign scientific magazines. The most important of his works include: "The Movement of 108 Hecuba" (1912), "Magnetic Measurement of Bulgaria, Macedonia, Thrace and Dobrudzha" (1931) (Annual Publication of the Department of Physics and Mathematics, 1930/1931, Number 1, pages 45-100), "Das Hauptproblem der äusseren Ballistik im Lichte der modernen Mathematik" (1932, 1954), "The Rotation of the Earth Around Its Center of Gravity" (1949) (Reports of the Academy of Sciences of the USSR, new series, 1949, LXIX, Number 6, pages 755-758), "The Movement of a Projectile Around Its Center of Gravity" (1951), "The Thermodynamics of Irreversible Processes" (1956) (Notices of the Institute of Mathematics of the BAN, 1956, Number 2, pages 13-20), etc.

Professor Emeritus of the Department of Physics and Mathematics of Sofia University. Professeur Agrégé of the University of Paris. Member of the Warsaw Scientific Society, the Royal Czech Scientific Society, the Academy of Sciences of Peru, and the International Committee on Applied Mechanics.

Has given scientific reports at international congresses in Paris, Bologna, Zurich, Warsaw, Prague, Bucharest, New York, Rome, etc.

Laureate of the Dimitrov Prize. Bearer of the "Order of the Red Banner of Labor" and recipient of the "Montillon" and "Henri de Parville" Prizes awarded by the Paris Academy of Sciences.

Tsenov, Ivan Angelov

Born 2 January 1884 in Vratsa. Elected in 1930. Field - mathematics.

Known for his scientific works in the fields of analytical mechanics, differential geometry and relative mechanics which have been published in the journals of the Academy of Sciences of the USSR and in Bulgarian and foreign magazines. His most important publications include: "General Equations on the Movement of Non-holonomic Material Systems" (1924) (Mathematische Annalen, 1924, Issue Number 91, pages 161-168), "Some New Forms of General Equations for the Movement of Material Systems" (1949) (Reports of the Bulgarian Academy of Sciences [in French], 1949, Volume 2, Number 1, pages 15-16), "Gauss's Principle of Least Coercion" (1933) (Reports of the Academy of Sciences of the USSR, new series, 1953, LXXXIX, Number 2, pages 225-228), "A New Form of Equations in Analytical Dynamics" (1953), (ibid, Number 1, pages 21-24), "Integral Variational Principles in Analytical Dynamics" (1955) (ibid, Number 4, pages 623-626), etc.

Chairman of the Department of Natural Sciences and Mathematics of the BAN (1944-1946). Professor in the Department of Physics and Mathematics at Sofia University. Member of the French Mathematical Society.

Has attended international congresses on applied mechanics in Delft, Amsterdam, Stockholm, Zurich, Prague, etc.

Laureate of the Dimitrov Prize and bearer of the "Kiril i Metodiy" and "Civic Merit" Orders.

Chakalov, Lyubomir Nikolov

Born 6 February 1886 in Samokov. Elected in 1931. Field - mathematics.

Well-known for his scientific and research work in the field of mathematics, and in particular for his original contributions in the fields of differential equations, the theory of numbers, the theory of analytical functions, theorems of mean values, etc., which have been published in Soviet, Roman, Parisian and other Academy of Science journals, as well as in many Bulgarian and foreign magazines. He is the author of the following important works: "Le equazioni di Riemann" (1925) (Giornale di Matematiche, 1945, Volume LVIII, pages 139-179), "Beitrag zum Problem der quadrierbaren Kreisbogenzweiecke" (1929) (Mathematische Zeitschrift, 1929, Volume 30, pages 552-559), "Sur la structure des ensembles lineaires definis par une certaine propriete minimale" (1934) (Acta Mathematica, 1934, Volume 63, pages 77-97), "A Representation of Newton's Quotient in the Theory of Interpolation and Its Applications" (1938) (Annual Publication of the Department of Physics and Mathematics, 1937/1938, XXXIV, Issue Number 1, pages 353-405), "A Representation of Whole Functions of the Zero Power" (1947) (Reports of the Acad-

emy of Sciences of the USSR, new series, 1947, LVIII, Number 4, pages 535-538), "Some Borderline Properties of Oiler's Gamma Function" (1956) (Notices of the Department of Mathematics of the BAN, 1956, Issue Number 1, pages 27-33), etc.

Secretary of the Department of Mathematical, Physical and Technological Sciences of the BAN. Dean of Sofia University (1943-1944). Member of the Royal Czech and the Warsaw Scientific Societies, the French Mathematical Society and the Geographical Society of Lima (Peru).

Attended international congresses on mathematics in Bologna (1928), Warsaw (1929), Bucharest (1932 and 1937), Zurich (1932), Prague (1934 and 1955), Oslo (1936), Budapest (1950), Amsterdam (1954), and others.

Laureate of the Dimitrov Prize and bearer of the Order of the Bulgarian People's Republic.

#### CORRESPONDING MEMBERS

Balevski, Angel Tonchev

Born 15 April 1910 in Troyan. Elected in 1952. Field - machine engineering.

Worked in the fields of machine building and metallurgy, and especially on mechanical technology and metal processing.

Author of the following important works: "Über die zusammenge-setzte Beanspruchung zylindrischer Stähle auf Biegung und Verdrehung", "High Quality Unalloyed Pig Iron" (in co-authorship with L. Kalev, 1954), "Machine for Testing Material Fatigue in Combined Loading -- Bending and Torque" (1956) (Notices of the Institute of Technology of the BAN, 1956, Issue Number 4, pages 75-90), "Combined Loading of Bending and Torque" (in co-authorship with S. Konstantinov and N. Vulev, 1956) (ibid, pages 91-106), and others.

One of the founders of the only Bulgarian enterprise in this field -- the "Tsvetmetprom", and a pioneer in the field of steel casting in Bulgaria. A mechanical engineer and technical administrator of many industrial enterprises, and inventor of many types of machines. Instructor of specialists in the fields of machine building and metallurgy.

Professor at the Institute of Machines and Electrotechnology in Sofia. Chairman of the Committee on Dimitrov Prize Awards for scientific achievement, discoveries and rationalization. Member of the Presidium of the Union of Scientific Workers and Chairman of its Technological Section.

Laureate of the Dimitrov Prize and bearer of the Kiril i Metodiy Order.

Bonev, Nikola Ivanov

Born 11 July 1898 in Stara Zagora. Elected in 1948. Field - astronomy.

Engaged in work in the field of astronomic science, specializing in cosmogony. Author of many works published in Bulgarian and foreign magazines. The most important of these include: "Über das sogenannte Punctum Aequantis und den wahrscheinlichen Ursprung der Trojaner" (1932) (Astronomische Nachrichten, 1932, Volume 1, pages 101-124), "The Probability of Causes and Origin of Lunar Craters" (1936) (Annual Publication of the Department of Physics and Mathematics, 1936/1937, Issue Number 1, pages 1-8), "The Distribution of Formations on the Lunar Surface" (1948) (ibid., 1947/1948, Issue Number 1, pages 67-90), "The Rotation of Venus" (1954), etc.

Director of the Astronomic Observatory of Bulgaria. Professor in the Department of Physics and Mathematics at Sofia University. Member of the "Movement and Shape of the Moon" Committee of the International Astronomic Union (1952) and of the International Geodetic Association. Doctorate from Berlin University, and an honorary member of the English Scientific Society Research Center Group (1950). Attended the International Congress of Astronomers in Moscow (1954).

Bearer of the Kiril i Metodiy Order and the Greek "Phoenix" Order of Science.

Velev, Dimo Filer

(Velev is his father's name, by which he is known.)

Born 4 June 1903 in Dolno Pelevo village in Kharmanli Okoliya. Elected in 1947. Field - crop engineering.

Has worked in the field of water economy, especially in hydro-technology and melioration. Author of many important scientific works, including: "The Concrete Coating of the Rila-Sofia Aqueduct" (1934) (Biaa magazine, 1934, Issue Number 16/17, pages 215-218), "Selecting Concrete for the Building of Dams" (1945), "Deformations in the Beli Iskur Dam" (in co-authorship with others, 1955), "Deformacie na jednom prihradovom mure u Bulharsku" (1956) (Vodohospodarsky časopis, 1956, Volume III, pages 3-4), and others.

Manager of and collaborator in the drafting of the general future plan for the electrification of the country and the study, planning and construction of numerous water economy projects on a national scale (the Rila-Sofia aqueduct, the Beli Iskur Dam, the Koyunars VETs, the V. Kolarov Dam, and others).

Editor of the "Notices of the Institute of Technology" and of the magazine "Hydrotechnics and Melioration".

Director of the Institute of Technology of the BAN (since 1950). Dean of the Construction (1947/1948) and Hydrotechnics (1950/1952) Departments. Member of the Presidium of the Union of Scientific Workers and of the Executive Bureau of the Scientific-Technological Union. Member of the National Committee on Irrigation and Drainage in Switzerland.

Laureate of the Dimitrov Prize and bearer of the People's Order of Labor (gold medal).

Born 14 February 1911 in Kamenar village in Razgrad Okoliya. Elected in 1952. Field - theoretical physics.

Author of many scientific works printed in Russian and French on theoretical physics, and, more specifically, on problems in connection with heat conductivity of solid matter. The most important of these include: "The Problem of Potential Limits and Solutions to the Schrodinger Equation" (1958), "The Propagation of Heat in a Medium of Several Strata" (1949) (Annual Publication of the Department of Physics and Mathematics, 1948/1949, Issue Number 1, pages 63-90), "Stefan's Linear Problem -- In the Case of a Two-phase End Gauge" (1950) (Reports of the Academy of Sciences of the USSR, new series, 1950, LXXIV, 5, pages 444-448), "Stefan's Linear Problem in Alternating Phases" (1950) (ibid, 1950, LXXV, Number 5, pages 631-634), "The Propagation of Heat in A Non-homogenous Rod" (1952) (Annual Publication of the Physics and Mathematics Department, 1951/1952, Issue Number 1, page 1-32), "The Stefan Problem in Connection With Two or Three Dimensions", (1954) (ibid, 1953/1954, XXXVIII, Issue Number 2, pages 321-351), etc.

Deputy Secretary of the Department for Mathematical, Physical and Technological Sciences. Professor in the Physics and Mathematics Department at Sofia University. Doctorate in Science from the University of Paris (Sorbonne).

Laureate of the Dimitrov Prize and bearer of the "9 September" and "For Science" Awards granted by the KNIK.

Dzhakov, Emil Stefanov

Born 2 March 1908 in Svishtov. Elected in 1948. Field - physics.

Author of many works in the field of technological physics, especially in applied electronics, published in Bulgarian and foreign scientific magazines. His principal works include: "Messung komplexer elektrischen Widerstande bei ultrahohen Frequenzen" (1937) (Hochfrequenztechnik, 1937, Bd. 50, S. 41), "Elektronenschwingungen hoherer Ordnung bei Schlitzanodenmagnetronen" (1943) (ibid, 1943, Bd. 61, S. 140), "Theorie der Bruckenschaltungen mit einer gesattigten Diode als Steuerelement" (1950) (Reports of the Bulgarian Academy of Sciences, 1950, Volume 3, Number 3, pages 23-26), "Approximation Formulae for Current Saturation in Diodes With Wolfram Cathodes" (1952) (Journal of Technological Physics, 1952, Volume 22, pages 602-605), "Influence of Feeding Tension Upon Electronic Relays in Time" (1954) (Notices of the BAN, Physics Series, 1954, Volume IV, pages 203-225), "An Electronic Integrator of Values Nonlinearly Dependent Upon the Fluctuations of Feeding Tension" (1955) (ibid, 1955, Volume V, pages 107-118), etc.



Deputy Director of the Physics Institute at the BAN, professor in the Department of Physics and Mathematics at Sofia University, a member of the Scientific Council of the United Institute for Nuclear Research of the USSR.

Laureat of the Dimitrov Prize and recipient of the "Civic Merit" Order.

Kaishev, Rostislav Atanasov

Born 16 February 1908 in Leningrad. Elected in 1947. Field - physics-chemistry.

Has worked on problems in connection with the growth of crystals, electrocrystallization and thermodynamics. Author of many scientific works published in Bulgarian and foreign scientific magazines. The most important of these include: "Über den Mechanismus des Gleichgewichts kleiner Kriställchen (1934) (Zeitschrift für physikalische Chemie, 1934, Bd. 26, S. 100-113, 114-116 and 312-316), "Zur Theorie des Kristallwachstums" (1936) (Zeitschrift für Physik, 1936, Bd. 102, S. 684-690), "Form of Balance and Work on the Formation of Crystal Embryos on Supports" (1951) (Notices of the BAN, Physics Series, 1951, Volume I, pages 100-136), "The Thermodynamics of Crystal Embryos" (1955) (ibid, 1955, Volume IV, pages 85-91), "The Electrolytic Formation of Mercury Embryos of Spherical Monocrystal Platinum Electrodes" (in co-authorship with V. Mutafovskiy, 1955) (ibid, pages 105-115), and others.

Head of the Physics-Chemistry Section of the Department of Mathematical, Physical and Technological Sciences. Dean of the Department of Physics and Mathematics at Sofia University. Corresponding Member of the German Academy of Sciences.

Participated in the International Conference of the Physics Society in the German Democratic Republic (1954).

Laureat of the Dimitrov Prize and bearer of the "For Science" Award granted by the KNIK.

Krustanov, Lyubomir Krustanov

Born 15 November 1908 in Pleven. Elected in 1947. Field - geophysics.

Has worked on and published scientific articles in the field of physics-chemistry, both on general methodology and in particular in the field of physical processes in the atmosphere. His writings have been published both in Bulgarian and in foreign magazines. The most important of these include: "Über die Rolle der Kondensationskerne bei den Kondensationsvorgängen in der Atmosphäre" (1936) (Meteorologische Zeitschrift, 1936, Bd. 53, H. 4, S. 121-125), "Über die Bildung der unterkulten Wassertropfen und der Eiskristalle in der freien Atmosphäre" (1940) (ibid, 1940, Bd. 57, H. 10, S. 357-371), "Bemerkungen zur Klärung des

Problems der atmosphärischen Eisteilchenbildungen" (1944) (ibid, 1944, Bd. 61, H. 1, S. 19-26), "A Case of Enlargement of the Size of Drops by Merging" (1951) (Reports of the Academy of Sciences of the USSR, new series, 1951, LXXVI, Number 1, pages 53-56), "The Evaporation of Free-falling Drops of Water in the Atmosphere" (1951) (Notices of the BAN, Physics Series, 1951, Volume I, pages 204-210), etc.

Professor in the Department of Physics and Mathematics at Sofia University. Director of the Central Meteorological Institute of Bulgaria (1950), and head of the Hydrometeorological Service of the Council of Ministers (1951). Corresponding Member of the Academy of Air Navigational Research in Berlin (1941).

Participated in the International Congress of Meteorologists in Budapest (1954).

Laureate of the Dimitrov Prize.

#### Radoslavov, Bogomil Minkov

Born 4 July 1881 in Turnovo. Elected in 1929. Died 8 November 1953. Field - mining engineering.

Did scientific research on coal basins and ore deposits in Bulgaria. Well-known for his activities in the study of Bulgaria's mineral springs and other resources, and for organizing Bulgarian mines and mineral water baths.

Author of many articles published in Bulgarian and foreign journals. The most important of these include: "Mining in Bulgaria -- Past and Present -- and Needed Measures for its Improvement" (1913), "Minerals in Bulgaria" (1922), "A Bibliography on Mines, Quarries, and Mineral Water Sources in Bulgaria" (1922), "Geological and Hydrological Research on Mineral Springs at Beden Village in Devin Okoliya" (1940), "Views on the Healing Properties of Mineral Springs Over the Centuries" (1946), and others.

A contributor to many Bulgarian and foreign magazines.

#### Khristov, Aleksandur Pavlov

Born 20 March 1872 in Sofia. Elected in 1921. Died 18 October 1951. Field - physics.

Did work in the fields of industrial and experimental physics, and physical chemistry, especially in connection with the absorption of gases. Author of many scientific works published in Bulgarian and foreign journals. The most important of these include: "Untersuchungen über die Absorption des  $\text{CO}_2$  in wässrigen Salzlosungen und binären Flüsskeitsgemengen" (1905) (Zeitschrift für physikalische Chemie, 1905, Bd. 53, S. 20), "Nichtelektrolische Auflösung von Quecksilber in Wasser und anderen Flüssigkeiten" (1908) (ibid, 1908, Bd. 63, S. 19), "Absorption Capacity and Surface Tension in Ethyl Ether" (1912) (Magazine of

the BAN, 1912, Volume V, pages 157-177), "Expansion of Liquids As A Result of the Absorption of Gases" (Magazine of the BAN, 1917, Issue XV, pages 67-82), "Contraction and Dilation of Mixtures of Liquids" (1918) (Annual Publication of the Department of Physics and Mathematics for 1916-1918, Volumes XIII-XIX, pages 13-14 and 1-28), etc.

Professor in the Department of Physics and Mathematics Department at Sofia University (1920-1937). Doctorate from the University of Leipzig (1896).

**Khristov, Vladimir Kirilov**

Born 5 December 1902 in Sofia. Elected in 1948. Fields - astronomy and geodesy.

Has worked on problems in the field of Gauss coordinates in geodesy, and more recently, on the unification of geodetic computations in the field of higher geodesics for the globe as a whole, taking as a basis the Soviet earth ellipsoid of Krasovskii and the Gauss coordinates. Author of many scientific works in this field, the most important of which include: "Die Gauss-Kruger'schen Koordinaten auf dem Ellipsoid" (1943), "The Gauss-Kruger Coordinates on Rotational Ellipsoids" (1946), "Transformation of Stereographic Coordinates Into Gauss Coordinates" (1953) (Notices of the Institute of Technology of the BAN, 1953, Issue Number 2, pages 45-81), "Relation Between Two Separate Equations and Computed Triangulations" (1953) (ibid, pages 83-89), etc. Regular contributor to the German magazine "Zeitschrift für Vermessungswesen".

In charge of the Central Geodesics Laboratory of the BAN. Professor at the Construction Engineering Institute in Sofia. Doctorate from Leipzig University.

Participated in the International Geodesy Congress in Budapest (1956).

Laureate of the Dimitrov Prize. Bearer of the "Civic Merit" Order.

**Khristov, Khristo Yankov**

Born 14 June 1915, in Varna. Elected in 1952. Field - physics.

Has worked in the field of theoretical physics and has published articles on the physics of crystals, quantum mechanics and meteorology. Has also done research on the specification of terms and laws in physics. His most important articles include: "Basic Ideas of Quantum Mechanics" (1943), "The Problem of the Solid Body and the Single Equation of Electrodynamics and Gravitation" (1947) (Annual Publication of the Department of Physics and Mathematics, 1946/1947, Volume XLII, pages 43-106), "The Passage of Magnetic Waves Through A Flat-Parallel Crystal Plate" (1951) (Reports of the USSR Academy of Sciences, new series, 1951, LXXXI, Number 4, pages 553-556), "The Passage of X-rays Through A Flat-

Parallel Crystal Plate" (1951) (ibid, Number 5, pages 799-802), "Finding Certain Probabilities and Mean Values Related to the Impact and Free Passage of Gas Molecules" (in coauthorship with M. Nikolov, 1955) (Notices of the BAN, Physics Series, 1955, Volume V, pages 27-36), and others.

Professor in the Department of Physics and Mathematics at Sofia University.

Laureate of the Dimitrov Prize and bearer of the "For Science" Award granted by the KNIK.

#### FOREIGN MEMBERS

Borsuk, Karol

Born 8 May 1905 in Warsaw. Elected in 1952. Field - mathematics.

Well-known Polish mathematician and author of many scientific works in the fields of mathematics and topology, the most important of which include: "A Contribution to the Study of Essential Transformations" (1938), "Cwiczenia z analizy matematycznej" (1938), "Co to jest topologia" (1953), "Concerning the Homological Structure of the Functional Space" (1953), and others.

Editor of the well-known Polish mathematical journal "Rozprawy matematyczne" and "Fundamenta Mathematicae".

Corresponding Member of the Polish Academy of Sciences (1952) and of the Krakow Academy of Science (1945). Member of the Warsaw Scientific Society (since 1937).

Recipient of the State Award of the Polish People's Republic.

Muskhelishvili, Nikolay Ivanovich

Born 16 February 1891 in Tbilisi. Elected in 1952. Fields - mathematics and mechanics.

Noted Soviet mathematician and expert on mechanics. Author of many scientific works in the various fields of applied mathematics, mechanics and mathematical physics. Famous for his research on the theory of elasticity, which is of great significance in the resolution of important practical problems in the field of reinforced concrete construction. His principal works include: "Singular Integral Equations" (1946), "A Course in Analytical Geometry" (1947), "Some Basic Problems in the Mathematical Theory of Elasticity" (1949), and others.

Chairman of the Academy of Sciences of the Georgian SSR. Organizer and head of the Institute of Mathematics of the Georgian Academy of Sciences and founder of the great scientific center for mathematics and mechanics in Tbilisi. Deputy in the Supreme Soviet of the USSR.

Twice Laureate of the Stalin Prize. Hero of socialist labor, and bearer of the "Lenin", "Red Labor Banner", "Hammer and Sickle" (golden), and other awards.

Sierpinski, Watslav

Born 14 March 1882 in Warsaw. Elected in 1936. Field - mathematics.

Noted Polish mathematician. Has worked in the fields of the analytical theory of numbers, the theory of plurals, and topology. Heads the Polish school of thought supporting the magazine he publishes, "Fundamenta Mathematicae" to which mathematicians the world over contribute.

Author of many scientific works in Polish and other languages, among which the most important are: "Sur une propriete des operations de M. Hausdorff", "Sur les anneaux de fonction", "Sur une certaine suite infinie des fonctions d'une variable reelle", "Hypothese du continu" (1934), and others.

Deputy Chairman of the Polish Academy of Sciences (since 1952), member of the Belgrade Academy of Sciences, member of the Royal Czechoslovak Academy of Sciences, the Academy of the Rumanian People's Republic, and the Paris, German and Rome academies. Professor of mathematics at Warsaw University. Honorary doctorate from Sofia University and many other foreign universities.

Laureate of the State Award of the Polish People's Republic. Bearer of the "Banner of Labor" and other Polish awards and prizes.

Tsebertovich, Romuald

Born 7 February 1897. Elected in 1952. Field - engineering.

Noted Polish engineer, public worker and fighter for peace. Author of important scientific works in the field of hydraulic construction, of which the principal ones include: "Richtlinien fur die bodenphysikalischen Versuche", "Reibungsversuche", "Setzungstafeln berechnet auf Grund der graphischen Setzungsanalyse", etc.

He is particularly well-known for his systems of strengthening earth masses, draining large water deposits, strengthening river banks, etc.

Corresponding Member of the Polish Academy of Sciences (since 1952), and Director of the Institute of Water Construction in Gdansk (since 1954).

Recipient of the State Award of the Polish People's Republic.

**DEPARTMENT OF GEOLOGICAL, GEOGRAPHIC AND  
CHEMICAL SCIENCES**

**Geological Institute, Chemical Institute, Geographic  
Institute**

**Bureau of the Department**

**Academy Member Secretary - Strashimir Dimitrov Georgiev**

**Deputy Academy Member Secretary - Corresponding Member Zhivko Spasov  
Gulubov**

**Member - Corresponding Member Dimitur Ivanov Popov**

**Members of the Department**

**Foreign Honorary Members**

**Aleksandur Nikolaevich Nesmeyanov**

**Academy Members**

**Georgi Nikolov Bonchev, Strashimir Dimitrov Georgiev**

**Corresponding Members**

**Atanas Stoyanov Beshkov, Ekim Stefanov Bonchev, Zhivko Spasov Gulubov,  
Yordan Kharizanov Zakhariev, Yovcho Smilov Yovchev, Boyan Ganchev Kame-  
nov, Dimitur Ivanov Popov, Georgi Khristov Rankov.**

**Foreign Members**

**Rezhyo Bognar**

**Institute of Geology**

**6 Moskovska Street**

**Director - Academy Member Str. D. Georgiev**

**The Institute of Geology of the BAN was established in 1947 on  
the foundation of the Geological Department which formed a part of the  
Museum of Natural History.**

**Its basic purpose is to do research in all fields of geological  
sciences in close coordination with the needs and requirements arising  
from socialist construction in the country.**

The principal problems being worked upon at the institute are as follows: the dissemination and geochemical characteristics of ore deposits in connection with volcanic activity on Bulgarian territory; the Paleogeographic indications in seeking minerals of sedimentary origin (phosphorites, iron ores, potassium ores, bauxite, etc.); stratigraphy and tectonics of coal basins in Bulgaria; structural peculiarities of the north Bulgarian plateau and the preBalkan areas making likely the finding of new oil and gas fields; engineering and geological conditions in the principal construction regions in Bulgaria; fresh and thermomineral underground waters; the drafting of a hydrogeological map of the country; basic problems in Bulgarian geology in connection with the publication of the new geological map of Bulgaria on a scale of 1:200,000.

The scientific research work of the institute is closely linked with the major production tasks being accomplished by the various geological services in the country. These include the General Administration for Geological and Mining Studies, the Office of Geological Studies at the Ministry of Electrification, etc.

The institute has five sections: geochemical, geological, paleontological, geological engineering and hydrogeological, and one for petroleum geology.

The institute publishes the "Notices of the Geological Institute". In addition, articles by institute members appear in the "Reports of the Bulgarian Academy of Sciences" (in Russian).

The staff of the institute includes the following: Academy Member Str. Dimitrov, Corresponding Member E. Bonchev, Corresponding Member Yov. Yovchev, Corresponding Member B. Kamenov, Senior Scientific Collaborator E. Belmustakov, Senior Scientific Collaborators M. Ganey, E. Ivanov, I. Ivanov, R. Ivanov, M. Minchev, P. Petrov, I. Sapunov, Khr. Spasov, Yord, Stefanova, M. Stancheva, and other unofficial collaborators.

Institute of Chemistry  
"Geo. Milev" Sector

Director: Corresponding Member G. Kh. Rankov

The Institute of Chemistry was founded in 1947. Its basic task is the development of the chemical sciences in Bulgaria and their application to the people's economy.

To this end the institute is doing scientific research work on practical and theoretical problems including the production of synthetic materials, the obtention of raw materials from organic and mineral sources in Bulgaria with a view to their adaptation to domestic industry, the study of new chemical products, the current status of the Bulgarian chemical industry, in connection with establishing it on a more scientific basis, etc.

The institute comprises the following sections: inorganic and analytical chemistry, which deals with the field of polarographic analysis and the theory of certain polarographic phenomena; organic chemistry, which is studying the synthesis and structure of certain organic compounds and the structure and technology of volatile oils found in Bulgaria; inorganic chemical technology, studying the concentration of certain Bulgarian coals in terms of their best use and coke production, and research on Bulgarian ores; organic chemical technology, dealing with the chemistry and technology of fats and food products, the synthesis of artificial resins, and chemical and technological control and analysis; fuels, which is working on the obtention of a metallurgical fuel, the production of pig iron and steel other than in blast furnaces, the theory of reducing iron oxide with hard carbon, and the perfecting of methods of chemical and technological control.

Some of the discoveries of the institute have already been put to use or have been proposed for use in industry.

The institute publishes the "Notices of the Institute of Chemistry of the BAN". Also, the staff publishes articles in the "Reports of the Bulgarian Academy of Sciences" (in Russian).

The staff of the institute includes: Corresponding Member G. Rantkov, Corresponding Member D. Popov, Senior Scientific Collaborators M. Kurchatov, D. Mirev, A. Popov, A. Trifonov, Junior Scientific Collaborators I. Zlateva, A. Yovchev, L. Kristanova, I. Panayotov, D. Chobanov, D. Shopov, and other unofficial collaborators.

Institute of Geography  
6 Moskovska Street

Director - Corresponding Member Zh. S. Gulubov

This institute was founded in 1950. It studies problems in the fields of the physical and economic geography. The major ones of these are geomorphological studies for the purpose of drafting a geomorphological map of the country and serving the requirements of practical problems, the study of modern physical and geographic processes in order to forecast their development and make clinical observation of them, research on the physical, geographical and economic zoning of the country, the study of industry and agriculture in connection with future planning and zoning, and the study of transportation problems in connection with socialist construction.

The institute is also working on the drafting of a large scientific atlas of Bulgaria.

There are two sections: one on physical and one on economic geography.

The institute publishes the "Notices of the Institute of Geography".

The staff includes Corresponding Member Zh. Gulubov, Corresponding Member An. Beshkov, Junior Scientific Collaborators V. Velev, D. Dimitrov, K. Mishev, V. Popov, and other unofficial collaborators.



## Honorary Foreign Members

Nesmeyanov, Aleksandur Nikolayevich

Born 9 September 1899 in Moscow. Elected in 1952. Field - chemistry.

Noted Soviet scientist famous for his work in the field of organic chemistry. Discoverer of the diasomethod of obtaining metallo-organic compounds, and the author of many works on this subject. The most important of these include: "The Reaction of Metallic Derivatives of Oxocompounds and Phenomena of Dynamic Allotropy" (1928), "A New Method of Synthesizing Aromatic Mercury-Organic Salts" (1929), "Organic Mercury Compounds" (1934), "Formyl Fluoride" (1934), "Organic Compounds in Elements and the Periodic System of Elements" (1945), "The Quasi-complex Compounds Overconjugates and Dynamic Allotropy" (in co-authorship with V. A. Sazonov, 1949), "Conjugation of Simple Bonds" (1950), "The Problem of the Stereochemistry of Electrophilic Substitutions in Tetra-edric Carbon" (in co-authorship with O. A. Reutov and S. S. Boddubin, 1953), and others.

Leader of the Soviet metallo-organic school of thought, of which he was the founder.

Chairman of the Academy of Sciences of the USSR (since 1951). Secretary of the Department of Chemical Science of the Academy of Sciences of the USSR and Director of the Institute of Organic Chemistry. Chairman of the Lenin Awards Committee for science and inventions (since 1947). President of Moscow University (1948-1951).

Active state and public worker -- Deputy Chairman of the Supreme Soviet of the RSFSR and Deputy of the Moscow City Soviet. Member of the World Council for the Defense of Peace.

Laureate of the Stalin Prize and recipient of the "Lenin" and "Red Labor Banner" awards.

## Academy Members

Bonchev, Georgi Nikolov

(Bonchev is the patronymic by which he goes).

Born 6 August 1866 in the village of Zheravna in Kotel Okoliya. Elected in 1900. Died 7 March 1955. Field - petrography.

Well-known as one of the founders of the study of the geological sciences in Bulgaria. Has done much research and published many original scientific works in the fields of the geology, mineralogy and petrography of Bulgaria. The most important of these include: "Basalt in Bulgaria" (1904) (Periodical Magazine of the BAN, 1904, Volume LXV, pages 161-190), "Eruptive Rocks in Bulgaria" (1908) (Symposium of Bulgarian Sayings, 1908, Volume XXIV, pages 1-170) [sic], "Sedimentary Rocks in

Bulgaria" (1917) (Symposium of the BAN, 1917, Volume VII, pages 1-162), "Petrographic-Mineral Research in Macedonia" (1920) (ibid, 1920, Volume XIII, pages 1-295), "Minerals in Bulgaria" (1923) (Annual Publication of the Department of Physics and Mathematics, 1922/23, Issue Number 1, pages 1-207), "Geological Age of Massive Rocks in Bulgaria" (1928) (Works of the Bulgarian Nature Research Society, 1928, Volume XXXVIII, pages 1-45), etc. He was one of the scientists who drafted the geological map of Bulgaria showing crystalline schists and massive rocks in southern and southeastern Bulgaria.

He was the first professor of mineralogy and petrography at the university (beginning in 1893). An active worker in the Bulgarian Nature Research Society and many other Bulgarian and foreign scientific societies.

Director of the Institute of Geology at the BAN (1944-1948) and President of Sofia University (1914-1915).

Laureate of the Dimitrov Prize and recipient of the "Civic Merit" Order.

Dimitrov, Strashimir Georgiev  
(Dimitrov is his patronymic, which he uses.)

Born 10 August 1892 in Sofia. Elected in 1947. Field - geology.

Noted for his scientific research work in the fields of geology, petrography and mineralogy, and especially on magmatic and metamorphic complexes and minerals related to them. Author of many scientific works, of which the most important are: "Diabase Rocks in the Iskur Pass Between Bov and Lakatnik" (1929) (Annual Publication of the Department of Physics and Mathematics, 1928/1929, Issue Number 3, pages 175-236), "Contact Zones Around Intrusive Rocks Between Berkovitsa and Pchana Mountain" (1930) (Magazine of the Bulgarian Geological Society, 1930, Issue Number 2, pages 1-100), "A Contribution to the Study of Bulgarian Potassium-Alkali Rocks" (1937) (Annual Publication of the Physics and Mathematics Department, 1936/1937, Issue Number 3, pages 291-344), "The Vitosha Plutonium" (1942) (ibid, 1941/1942, Issue Number 3, pages 89-173), "Magmatic and Metamorphic Rocks in Bulgaria" (1946) (Annual Publication of the Office of Geological and Mining Studies, 1946, Issue IV, pages 64-93), etc.

Editor-in-Chief of the "Notices of the Geological Institute".

Noted for his geological studies of the Rhodope Hydrocombine, the Stalin Dam, and certain Bulgarian ore-bearing regions.

Secretary of the Department of Geological, Geographic and Chemical Studies of the BAN, and Director of the Institute of Geology at the BAN. Professor in the Department of Biology, Geology and Geography at Sofia University.

Participated in the Twentieth International Geological Congress in Mexico (1956).

Laureate of the Dimitrov Prize and recipient of the "Civic Merit" Order.

## Corresponding Members

Beshkov, Anastas Stoyanov

Born 23 July 1896 in Varna. Elected in 1948. Field - economic geography.

Is working in the field of economic geography, in particular on problems in connection with transportation, industry, and the economic-geographical zoning of Bulgaria. Noted for his studies on the economy of northeastern Bulgaria, especially that of Dobrudzha. Author of numerous scientific works, of which the most important are: "The Economic-Geographical Subdivision of Bulgaria" (1934), "The Economic Influence of the Sofia-Varna Railroad in Changing the General Aspect of Certain Settlements" (1940) (Annual Publication of the Higher Commercial School in Svishtov, 1939/1940, Volume III, pages 1-112), "The Economic History of Recent Years" (1946), "A General Economic Geography" (1948), "The Transportation Problem in Dobrudzha" (1951), etc. Member of the editorial committee of the "Notices of the Institute of Geography".

Professor in the Department of Biology, Geology and Geography at Sofia University. Chairman of the Bulgarian Geographic Society (since 1948).

Participated in the Congress of the Geographic Society of the USSR (1955).

Laureate of the Dimitrov Prize and recipient of the "Kiril i Metodiy" and "Civic Merit" Awards.

Bonchev, Ekim Stefanov

Born 29 April 1907 in Sofia. Elected in 1927. Field - geology.

Has done research on and published many scientific works in the field of the stratigraphy and tectonics of Bulgaria. The most important of these are: "An Effort At Tectonic Synthesis of Western Bulgaria" (1936) (Geology of the Balkans, 1936, Issue Number 1, pages 5-48), "Tectonic Alpine Indications in Bulgaria" (1940) (Magazine of the Bulgarian Geological Society, 1940, Issue Number 3, pages 155-244), "Foundations of Tectonics in Bulgaria" (1946) (Annual Publication of the Office of Geological and Mining Studies, 1946, Issue Number IV, pages 336-374), "Tektonische Probleme im Schwarzenmeergebiet" (1950) (Reports of the Bulgarian Academy of Sciences, 1950, Volume 3, Number 1, pages 25-28), "A Peculiarity in the Tectonics of Tyurdishka Stara Planina" (in collaboration with E. Belmustakov and others, 1955) (Notices of the Institute of Geology of the BAN, 1955, Issue Number 3, pages 101-112), and others.

Noted for his geological studies on Bulgarian dams, hydrocombines, coal basins, oil fields, etc. Editor of the "Notices of the Geological Institute".

Deputy Director of the Institute of Geology of the BAN, and professor in the Department of Biology, Geology and Geography at Sofia University.

Laureate of the Dimitrov Prize and recipient of the "Red Banner of Labor", "Kiril i Metodiy" and "Civic Merit" Awards.

Gulubov, Zhivko Spasov

Born 22 June 1908 in Plovdiv. Elected in 1948. Field - physical geography.

Has done research and published many scientific works in the fields of physical geography and geomorphology. The most important are: "The Tectonics and Morphology of the Rhodope-Karabalkan Sector" (1940) (Notices of the Bulgarian Geographic Society, 1940, Issue VIII, pages 61-116), "General Climatology" (1953), "Measurement of the Intensity of Denudation by the Solids Carried by Rivers" (1954) (Notices of the Geographic Institute of the BAN, 1954, Issue Number 2, pages 147-153), "An Attempt At A Marxist Evaluation of Modern Bourgeois Geomorphology" (1954) (ibid, pages 153-159), etc.

Editor-in-Chief of the "Notices of the Institute of Geography" and of the "Notices of the Bulgarian Geographic Society".

Deputy Secretary of the Department of Geological, Geographic and Chemical Sciences. Director of the Institute of Geography of the BAN. Professor in the Department of Biology, Geology and Geography at Sofia University. Member of the Bureau of the Bulgarian Geographic Society (since 1932).

Attended the Congress of the Geographic Society of the USSR (1955). Recipient of the "Kiril i Metodiy" and "Civic Merit" Awards.

Zakhariev, Yordan Kharizanov

Born 20 February 1878 in Bosilegrad. Elected in 1937. Fields - geography and ethnography.

Has worked in the fields of regional geography and ethnography. Author of many works based on his geographic and ethnographic studies of various areas in Bulgaria. The most important are: "The Kyustendil Area" (1918), "A Guide for Anthropeogeographic Studies in Bulgaria" (1928) (School Review, 1928, Issue Number 6), "Kamenitsa" (1935), "Kyustendil -- A Contribution to the Geographic Study of Bulgarian Cities" (1933), "Chiprovtsi -- A Geographic Study of a City, With Historical Notes" (1938), "Piyanez, Land and Population -- A Geographic and Ethnographic Study" (1949), and others.

Yovchev, Yovcho Smilov

Born 15 July 1902 in Muglish village in Kazanluk Okoliya. Elected in 1951. Field - geological engineering.

Has done work in the prospecting and study of minerals. After his return from the Soviet Union, where he graduated from the Moscow Mining Academy (1928-1931), he actively participated in and contributed much to the General Administration for Geological and Mining Studies in Bulgaria. His most important works in the field of mineral ores include: "The Bayts-Kundayskoye /Khloponit -- Russian/ Deposits" (1937), "Method for the Study of Hard Minerals" (1950), "Minerals" (I-III, 1953-1954), and others.

Director of the Central Administration for Geological and Mining Research.

Recipient of the "Georgi Dimitrov" and "Red Banner of Labor" Orders.

Ivanov, Dimitur Popov

(Ivanov is the patronymic, by which he is known.)

Born 13 October 1894 in Makotsevo village in Elin Pelin Okoliya. Elected in 1948. Field - chemistry.

He is doing work in the field of organic chemistry. Known for his research on organomagnesium compounds, polyfunctional organomagnesium and organolithium compounds, the dypnopinacol and indone groups, volatile oils (mainly rose oil), etc. He is the author of many scientific works published in Bulgaria and abroad. The principal ones are: "A Method of Preparing Phenyl-1 (Dialcyl, Diaryl, or Alcoylaryl)-2, 2-Oxy-2-Propanoic Acids" (in collaboration with A. Spasov, 1951) (Annual Publication of the Department of Physics and Mathematics, 1930/1931, XXVII, Issue Number 2, pages 7-12), "Retropinacolic Transposition by Dehydrogenation" (in collaboration with Ch. Ivanov and B. St. Ivanova, 1948), "A Method of Dosing the Volatile Oil of the Flower Rosa Damascena Mill for Purposes of Selection" (in collaboration with Khr. Ivanov, N. Marekov, Il. Ognyanov, 1955) (Reports of the Bulgarian Academy of Sciences, 1955, Volume 8, Number 2, pages 57-60), "Bulgarian Zdravets Oil - Sesquiterpenic Hydrocarbons from Oil" (in collaboration with Il. Ognyanov, 1955) (ibid, pages 45-48), "Synthesen mit Organolithiumverbindungen durch Substitution eines labilen Wasserstoffatoms erhalten" (in collaboration with T. Vasilev, 1956) (ibid, 1956, Volume 9, Number 3, pages 29-32), and others.

Editor-in-Chief of the "Notices of the Institute of Chemistry". Professor in the Department of Physics and Mathematics at Sofia University.

Participated in the Fourteenth International Congress on Pure and Applied Chemistry in Zurich (1955).

Kamenov, Boyan Ganchev

Born 27 October 1907 in Sofia. Elected in 1951. Field - geology.

Is doing work in the fields of regional geology, stratigraphy and has done some research in the fields of paleontology and some studies of minerals. Has recently been working in the field of geological engineering. Author of many scientific works in those fields. The most important are: "Advance Notice of the First Discovery of the Albian Stage in Bulgaria" (in collaboration with E. Bonchev, 1934), "Several Ammonites from the Kimmeridgian Stage At Komshtitsa Village (Godech Okoliya)" (1934) (Geology of the Balkans, 1934/1935, Issue Number 1, pages 34-40), "The Senonian Stage Between the Iskur and Ogosta Rivers" (in collaboration with E. Bonchev, 1934) (Magazine of the Bulgarian Geological Society, 1934, Volume VII, pages 69-99), "The Geology of the Northwestern Part of the Kyustendil Area" (1942) (Annual Publication of the Natural Resources Office, 1942, Issue Number II, 35 pages, with illustrations), and others. Drafted the "Geological Map of Bulgaria" on a scale of 1:500,000. Member of the editorial committee of the "Notices of the Institute of Geology".

President of the Mining and Geological Institute. Member of the Higher Attestation Committee of the Ministry of Culture.

Rankov, Georgi Khristov

Born 4 February 1896 in Gulubnik village in Radomir Okoliya. Elected in 1947. Field - chemistry.

Has done research in the fields of the chemistry and the technology of fats, the chemistry and technology of artificial resins, the chemistry and technology of foods, and other chemical and technological analyses. Author of many works in these fields. The most important are: "Methods of Simultaneous Hydrolysis of Fats and Increasing Solid Fatty Acids" (1935), "The Behavior of Nonsaturated Compounds, Nonsaturated Fat, Hydro-aromatic and Aromatic Carbohydrates, and Chlorine Derivatives of Methane Toward Phosphorus and Oxygen" (1936), "Untersuchungen an bulgarischen Talloil" (in collaboration with A. Popov and D. Chobanov, 1954) (Reports of the Bulgarian Academy of Sciences, 1954, Volume 7, Issue Number 3, pages 45-48), "Über die Ausbeute, den Vitamin A-Gehalt und die Kennzahlen von Ölen, die bei verschiedenen Schmelzbedingungen aus dem Unterhauspeck von Delphinus Delphis L. gewonnen wurden" (in collaboration with A. Yovchev, 1955) (ibid, 1955, Volume 8, Number 1, pages 41-45), "Alkyd Resins On A Base of 1-Phenylphthalic-2, 3-Dicarboxylic Oxide" (1955) (Notices of the Institute of Chemistry of the BAN, 1955, Issue Number 3, pages 91-121), "Research on the Fruit of the Pirus Aucuparia Gartn" (1955) (ibid, pages 183-192), "Alkyd Resins Modified With Semidrying and Drying Oils, or With Bulgarian Talloil" (1956), and others.

Has done extensive research on increasing production. Discovered a substitute for linseed oil in the manufacture of matrices for casting radiators, improved production technology for the manufacture of dolphin and rose oils, developed a technique for producing activated bleaching earth from local clays, etc.

Director of the Institute of Chemistry of the BAN. Professor in the Department of Physics and Mathematics at Sofia University. Participated in the Congress of the Chemical Society of the German Democratic Republic (1955).

Recipient of the "Kiril i Metodiy" and "Civic Merit" Awards.

#### Foreign Members

##### Bognar, Rezhyo

Born 7 March 1913. Elected in 1952. Field - chemistry.

Noted Hungarian chemist known for his work in the field of organic chemistry. Author of many works on organic synthesis, of which the most notable are those on glycosides. Among his most significant works are the following: "Synthese des natuerlichen Phlorrizzins" (1942), "Konstitutionsermittlung des Sophoricosids" (1943, 1954), "Cukoralkoholok kloros oxidalasa" (1951), "Darstellung und einige Verwandlungen der Mohnalkaloide" (1953), "Harnstoffderivate" (1954), "Das Bromieren von Flavanon" (1955), and others.

Editor of the academic journal "Hungarica Chemica".

An active member of the Hungarian Academy of Sciences and Secretary of the Department of Chemical Science Department (until 1956). President of the "Lyosh Koshut" University in Debrecen (until 1955), and head of the Department of Organic Chemistry at that university. Director of the Scientific Research Institute of the Pharmaceutical Industry in Budapest. Chief Scientific Secretary of the Hungarian Academy of Sciences 1955/1956.

Active public worker in the Hungarian People's Republic.

Recipient of the Koshut Award, an honorary medal from the Hungarian People's Republic, and the "Labor Merit" Order.

#### Department of Biological and Medical Sciences

Zoological Institute, Natural Science Museum, Zoological Garden, Botanical Institute and Botanical Gardens, Institute of Biology, Institute of Microbiology, Institute of Experimental Medicine, Institute of Clinical and Public Medicine, Institute of Morphology, Central Helminthological Laboratory.

Bureau of the Department

Academy Member Secretary - Corresponding Member Ignat Emanuilov Igov

Deputy Academy Member Secretary - Corresponding Member Georgi Vasilev Paspalev

Member - Academy Member Nikolay Andreev Stoyanov

Personnel of the Department

Honorary Foreign  
Members

Yozef Velencovski, Vladimir Leontiyevich Komarov

Academy Members

Stefan Angelov Dobrev, Ivan Yosifov Buresh, Daki Vichev Yordanov, Tsvetan Angelov Kristanov, Vladimir Nestorov Markov, Dimitur Petrov Orakhovats, Konstantin Mikhaylov Pashev, Metodi Atanasov Popov, Nikolay Andreev Stoyanov, Asen Ivanov Khadzhiolov.

Corresponding Members

Ignat Emanuilov Igov, Georgi Vasilev Paspalev, Georgi Stoyanov Uzunov, and Konstantin Nikolov Chilov.

Foreign Members

Konstantin Mikhaylov Pikov, Valter Mevius, Aleksandur Ivanovich Oparin, Ishtvan Rusnyak, Trayan Savulescu, Mustafa Agabek Oglu Topchibashev.

Institute of Zoology  
1 Ruski Boulevard

Director - Academy Member I. Y. Buresh

The Institute of Zoology is continuing the work of the former Natural History Museum in Sofia, founded in 1889. It had three departments: zoological, botanical, and geological. After it was taken over by the BAN in 1947, these departments became independent research institutes.



The Institute of Zoology has as its principal task the thorough study of the fauna (the animal species) found in Bulgaria with a view to providing theoretical and general biological foundations such that the natural scientific animal resources of Bulgaria may be established. The institute is also concerned with the development of the study of zoology in general, and its widespread and systematic application in the construction of socialism in the Bulgarian People's Republic.

The basic problems in which the institute is engaged in studying are a study of the fauna of Bulgaria and related questions in the field of phylogenetic classifications, regional fauna studies, zoogeographic characteristics, the origins of animal life, etc.; research on the natural animal resources of Bulgaria, i.e. those creatures of direct importance to the people's economy as raw materials; a study of the biology of animals harmful to the people's economy, and parasites affecting domestic and wild animals; hydrobiological research on Bulgarian dams, for the purpose of stocking the retained waters; etc.

The institute publishes the "Notices of the Zoological Institute", "Works of the Institute of Geology", "Fauna of Bulgaria", and "Scientific Popular Series". During the past forty years the institute has engaged in more than 1,200 scientific projects on fauna.

Its vast specialized library, containing about 30,000 works, and files of many zoological and natural scientific magazines, renders valuable aid to the personnel in their work.

The institute is particularly well-known for its zoological museum. It is one of the best in southeastern Europe. It contains collections made by almost all the Bulgarian zoologists who have studied Bulgarian fauna.

The staff of the institute includes: Academy Member I. Buresh, Corresponding Member G. Paspalev, Senior Scientific Collaborators Dr. N. Atanasov, K. Bulgurkov, P. Drenski, and G. Markov, Junior Scientific Collaborators M. Yosifov, S. Minkova, G. Peshev, B. Stailova, L. Tsvetkov, and other unofficial collaborators.

Museum of Natural Science  
1 Ruski Boulevard

Director - Dr. N. N. Atanasov

The museum was established in 1889 as the Historical Museum of Natural Sciences. After it became a part of the BAN in 1947 it was renamed.

Its basic purpose is to acquaint the working people with nature in Bulgaria, with emphasis on its above- and underground wealth. It shows by specimens the structure of Bulgaria's fauna and demonstrates the biology and ecology of the various types of animals.

In order to effect this the museum is engaged in the following activities: collecting, preserving, storing and classifying natural scientific materials from Bulgaria and other countries for use in scientific, seminar, research and other work. It arranges collections, biological and ecological groups, specimens with descriptive labels, etc., to show the evolution of organisms and the active role played by man in the reconstruction of nature.

Work on the various projects and specimens of the museum is done in its zoological, geological and soil departments.

The zoological department of the museum has a dermoplastic, entomological and alcohol-formalin laboratories.

Today the Museum of Natural Sciences has one of the richest collections in southeastern Europe. Its natural scientific collections include more than a million specimens of 12,000 varieties on display in 25 rooms.

The staff of the museum includes the following: Senior Scientific Collaborators DR. N. Atanasov, K. Bulgurkov, P. Drenski, and G. Markov, Junior Scientific Collaborators S. Minkova, G. Peshev, B. Stoilova, L. Tsvetkov, and other unofficial collaborators.

Zoological Gardens  
15 Tolbukhin Boulevard

Director - Dr. Kr. N. Tuleshkov

The Zoological Gardens were established in 1888. The present location dates from 1890. In 1947 the gardens became a part of the BAN.

These gardens constitute a scientific research institution under the general supervision of the Institute of Zoology of the BAN. The purpose of this institution is to popularize the science of zoology among the broad masses of the people by displaying specimens of Bulgarian and other animals in conditions simulating their natural habitats.

The gardens have two sections: the ornithological station in Sofia, where the habits and flight of domestic birds and those in transit over the country are studied during the various seasons of the year; and a preserve known as "Sreburnensko Swamp" near the city of Silistra, where the biology of fauna indigenous to Bulgarian fresh water basins and the Danube are studied.

Contact is currently maintained with zoological gardens and companies trading in wild animals in the USSR, Hungary, Poland, Czechoslovakia, the German Democratic Republic and the German Federal Republic, Belgium, Holland, France, Italy, Switzerland, Egypt, Israel, India, Brazil, etc. The results of the scientific research are put to use in the daily operation of the Zoological Gardens and the people's economy.

The staff of the gardens publish scientific articles in the "Notices of the Zoological Institute."

The staff includes: Dr. Kr. Duleshkov, Junior Scientific Collaborators N. Boev, Iv. Vasilev, Zh. Georgiev, Ya. Yanchev, and other unofficial collaborators.

Botanical Institute and Botanical Gardens  
"Geo. Miler" Sector

Director - Academy Member N. A. Stoyanov

The institute was established in 1947, and took over the botanical section of the former Historical Museum of Natural Sciences.

The basic task of the institute is collaboration in the general development of the science of botany as studied in Bulgaria. To this end the institute is working on the following problems: a study of modern flora in Bulgaria, to lead to the publication of a complete work on Bulgarian plants modeled after the "Flora of the USSR"; a study of vegetable communities (geobotanical research - meadows, pastures and forests); phytogeographic research and zoning of Bulgaria in connection with economic tasks; the establishment of and research on useful plants in the country; paleobotanical research in collaboration with geological and mining studies in Bulgaria, etc.

The following departments are working on these problems: plant classification, vegetable geography, paleobotanics, experimental and comparative physiology, and morphology. The institute also has an alpinium at the Vitosha Mountain Station, and the Botanical Gardens, created in 1892, the only one in Bulgaria, is under its supervision. The institute has a collection of plant specimens, some of which are already almost extinct.

The institute publishes "Notices of the Botanical Institute" and "Works of the Vitosha Mountain Scientific Nature Station".

The staff of the institute includes: Academy Member D. Yordanov, Academy Member N. Stoyanov, Senior Scientific Collaborators B. Akhtarov, B. Kitanov, Iv. Kunehev, Junior Scientific Collaborators V. Velchev, Iv. Ivanov, Sl. Petrov, P. Khadzhiev, Tsv. Khinkova, and other unofficial collaborators.

"Metodiy Popov" Institute of Biology  
"Stalin" Sector

Interim Director - Prof. P. Y. Iliev

The institute was founded in 1948 by Academy Member M. Popov as the General Biological Institute. In 1950, in accordance with a decree of the Administrative Council of the BAN, it was merged with the Institute of Applied Biology and was given the name Institute of Biology.

After the death of Academy Member Popov in 1954, the institute was re-named by decree of the Council of Ministers the "Metodiy Popov Biological Institute".

The principal task of the institute is carrying out work on the problem of stimulation of vital processes in connection with practical application in agriculture and medicine, as well as research on certain important problems in the fields of general and experimental biology.

The theoretical foundation for the stimulation of organisms and the methods of such treatment were established by Popov when he was Director of the Institute. They are set forth in detail in his work on general cellular stimulation on which he began work in 1914. However, the development of the original systems of seed stimulation which he devised for the purpose of increasing agricultural crop yields, the healing of atonic injuries, the stimulation of general immunity, etc., has only been extensive since 9 September 1944.

The scientific research work of the institute is carried out by the following sections:

One working on the stimulation of vegetable organisms, in which biological and physiological studies are being made on agricultural crops, and methods of stimulation are being worked out, using laboratory, chemical, and field methods.

One dealing in biochemistry, in which the biochemical nature of stimulation is being studied.

One specializing in cytology, where research is being done on the biological role of nucleic acids in the various physiological and pathological processes, especially the healing of injuries, and immunization and biological defense in organisms (phagocytosis, and the reticular-endothelium system). The possibilities for improving the latter are being studied.

The institute has an experimental field station at Gorni Lozen village in Sofia Okoliya, and one at Pordim village in Pleven Okoliya.

The results of the institute's experiments are being put to ever wider uses in stimulation methods used in Bulgarian agriculture.

The methods developed by Popov have led to further experimentation in the Soviet Union, Poland, Rumania, Czechoslovakia, Hungary and China.

In the field of medicine, research on stimulation and its practical applications are being developed by the "Iv. Pirogov" First Aid Institute, the General Army Hospital, the surgical clinics of the Higher Medical Institute in Sofia, etc.

The institute publishes the "Notices of the Institute of Biology."

The staff of the institute includes: Senior Scientific Collaborators P. Iliev, Iv. Popov, M. Popov, R. Tsanev, Junior Scientific Collaborators L. Velkov, V. Vulchanov, L. Gradinarov, G. Dechev, D. Ilchev, G. Kalupchiev, R. Madzharova, P. Mazhdrakov, G. Markov, Evg. Popov, and other unofficial collaborators.

Institute of Microbiology

"Geo. Milev" Sector

Director - Academy Member St. A. Dobrev

This institute was established in 1947. Its purpose is the study of micro-organisms and microbe processes and to develop means and methods of aiding in the elimination of contagious diseases in man, animals and crops.

In order so to do, the institute is working on the basis of Michurin's theories on problems of classification, morphology physiology, biochemistry, ecology, the mutation of bacteria, moulds, actinomycoetae, yeast, spirchetes, protazoa and viruses, as well as the basic theoretical questions of infection and immunity. It is also studying the use of micro-organisms in public health, industry and agriculture.

The general work on these problems is done by sections classified as follows: study of pathogenic bacteria and protazoa, study of useful bacteria and the biochemistry of micro-organisms, mycology, viruses, and immunology.

A large part of the research done by the institute is being put to use in the canning industry and in the production of vaccines, serums, etc.

The institute publishes "Notices of the Institute of Microbiology", "Works of the Institute of Microbiology" and "Popular Scientific Series."

The staff of the institute includes: Academy Member St. Angelov, Academy Member Vl. Markov, Corresponding Member Ignat Emanuilov, Senior Scientific Collaborators Ivan Grigorov, S. Gulubov, Il. Kuyumdzhiev, L. Nachev, P. Panayotov, Junior Scientific Collaborators N. Manolova, Kl. Obretenova, and other unofficial collaborators.

Institute of Experimental Medicine

6 Patriarkh Evtimi Boulevard

Director - Academy Member D. P. Orakhovats

This institute was founded in 1947. Its fundamental purpose, based on the teachings of I. P. Pavlov, is to make experimental studies of the laws governing healthy and diseased organisms with a view to developing theoretical and practical solutions to medical problems in connection with the advance of science and the betterment of health in Bulgaria.

The institute is working on problems in connection with the higher nervous activities, the circulatory and digestive systems (from the viewpoint of Pavlov's theories), the biochemistry of albumin and its fermentation properties, the pharmacology of the higher nervous activities, and related research on Bulgarian drugs, mineral waters, etc.

The institute has sections dealing with physiology (with laboratories for work on the higher nervous activities), the circulatory system, the digestive system, pharmacology, and biochemistry.

Between 1950 and 1952 the institute acquired three new buildings for the study of conditioned reflexes. One is a soundproof edifice based on a design by Podkopayev, a student of Pavlov, for the study of dogs. The second was based on a model provided by the Soviet physiologist Frolov, for the study of small animals, and a third is used for the study of conditioned reflexes in man. All three are equipped with modern signaling and recording apparatus.

The institute has achieved successful results in the field of physiology (the significance of the hydrostatic factor in blood structure in various parts of the vascular system, the volitional movement mechanism, the exudence of albumin through the mucous membrane of the stomach, the analysis of tests to determine the condition of the vegetative nervous system, etc.), in the field of biochemistry (the study of the fermentation properties of albumins from the point of view of the synergetics and thermodynamics of enzyme processes), in the field of pharmacology (study of the pharmacodynamic action of many Bulgarian medical plants and domestic synthetic organic compounds), of which the results are being put to practical use.

The institute publishes the "Notices of the Medical Institutes."

The staff of the institute includes: Academy Member D. Orakhovats, Senior Scientific Collaborators A. Kalaydzhiyev, D. Paskov, L. Tomov, Junior Scientific Collaborators V. Bakalska, L. Glavcheva, D. Daskalov, M. Markov, V. Pavlov, M. Papazova, K. Rusinov, A. Khranova and other unofficial collaborators.

Institute of Clinical and Public Medicine  
4 Serdika Street

Director - Academy Member K. M. Pashev

This institute was established at the beginning of 1949. Its main aim is to carry out work on scientific practical and theoretical problems in connection with clinical and public medicine, the history of medicine and the organization of public health measures.

Within this scope, the research personnel is engaged in work in the following sections: internal diseases, dealing with problems of the cardiovascular system, rheumatism, ulcers, etc.; ophthalmology, working on ocular traumas, blindness, trachoma, ocular hygiene in the schools; dermatology and venereal diseases, studying the prevention and cure of skin and social diseases, prophylaxis in skin diseases, professional dermatosis, etc; neurology and psychiatry, where work is being done on epilepsy, schizophrenia, and neuroses; professional and occupational diseases and hazards, dealing mainly with the problem of combating silicosis in miners, the organization of public health measures, and medical history.

Until its own clinics or hospital premises can be obtained, the institute is using the First Internal Clinic, those for eye, ear, nose and throat treatment and neuropsychiatric diseases and the skin and venereal disease treatment centers in Sofia; the medical-sanitary sections at the Dimitrovo Mines and the "G. Dimitrov" Locomotive and Freight Car Plant; the psychoneurological hospital in Kurilo; and facilities at various factories, plants, and Farm Workers' Cooperatives for its operations.

The institute publishes the "Notices of the Medical Institutes".

The staff includes Academy Member Tsv. Kristanov, Academy Member K. Pashev, Corresponding Member G. Uzunov, Senior Scientific Collaborators Ivan Ivanov, V. Makedonski, St. Mitev, Junior Scientific Collaborators A. Atanasov, St. Bezhanova, D. Dimitrova, I. Nikolaev, Sl. Strezov, and other unofficial collaborators.

Institute of Morphology  
"Geo. Milev" Sector

Director - Academy Member A. I. Khadzhiolov

This institute was created in 1953 and took over the morphology section of the Institute of Experimental Medicine (1947). Its basic task is the study of laws governing the development and structure of animal and human organisms, both healthy, under experimental conditions, and diseased, such as to contribute to the construction of socialism, particularly in the fields of public health and agriculture.

The institute comprises the following sections:

Cytology, histology, embryology, and experimental morphology, in which the following basic problems are being studied: histochemistry and the morphological metabolism of matter, for the most part concerning lipoids; the cultivation of tissues; luminescence in cells and tissues; cell and tissue mutations under the influence of ionizing and other rays; research on the nervous system through metal impregnation; comparative histology of the ovaries and other genital tissues; the laws governing histo- and organogenesis; theoretical histology, etc.

Hematology and blood transfusion, where work is being done on the histobiology of blood and blood-producing tissues; the extension of the life of blood cells in transfusions; reticular and endotheloid tissue system, etc.

Anthropology and anatomy, where research is being done on Neolithic man in Bulgaria, and on modern anthropology, with a viewpoint of establishing the ethnogenesis of the Bulgarian people.

Experimental oncology and pathology, where the histology and experimental histogenesis of cancer is being done; studies are being made also on degeneration and regeneration processes; experiments on glomerulonephritis is being studied, etc.

The institute also has a documentary laboratory where methods of standard and luminescent microphotography, microcolorimetry, histospectography, etc. are being developed.

The institute has achieved notable results in connection with the hydrotrophy of lipoids, the establishment of luminescence in animal skin cells, bismuth impregnation of the nervous system, the discovery of nerves along the capillaries in the human brain, topography and histochemistry of the yolk of egg cells, tissue culture in artificial and natural membranes and on whole egg yolk, the establishment of seasonal variations in the Res [colloidopery], hemopoiesis in human embryo lungs, obtaining experimental oliopneumonia, the establishment of cell and tissue mutations in the liver and kidneys under the influence of X- and gamma rays, and the disproval of the theory of the radioresistance of these organs, etc.

The institute publishes the "Notices of the Institute of Morphology" and a series of monographs in that field.

The staff of the institute includes: Academy Member A. Khadzhiov, Docent Zh. Yordanov, Senior Scientific Collaborator G. Boyadzhiev, Junior Scientific Collaborators Sv. Atsev, P. Boev, V. Dokov, N. Ilkov, E. Chakurov, and other unofficial collaborators.

Central Helmintological Laboratory  
"Geo. Milev" Sector

Administrator - Prof. K. Matov

The laboratory was established in 1954 and is an independent central laboratory under the direct supervision of the Department of Biological and Medical Sciences of the BAN.

Its basic tasks are the study of helminthofauna, the classification and study of the biology of helminths in man, domestic and wild animals, research on immunity to helminthosis and prophylaxis in this connection, with a view to the development of a scientific basis for combatting this problem in Bulgaria.

In this field the laboratory is studying the geographic distribution of the more important helminths in domestic and wild animals, the influence of external environment on the penetration capacity of certain helminth eggs and embryos, the mechanism of immunity to trichinosis, the seroprophylaxis and serotherapy of trichinosis, the epidemiology of trichocephalosis in man in certain areas of the country, etc.

To date the laboratory is not divided into sections.

The staff at the laboratory includes: Professor K. Matov, Senior Scientific Collaborators P. Daskalov, El. Dimitrova, Junior Scientific Collaborators D. Zhivkov, D. Kakacheva-Avramova, and other unofficial collaborators.



### Honorary Foreign Members

#### Velenovski, Yozef

Born 25 April 1858 in Chekantsi village in Czechoslovakia. Elected in 1904. Died 7 May 1949. Field - botany.

Noted Czech botanist who worked and published many articles in the fields of plant classification, morphology, and paleobotany in Czech and German. Famous for his aid in the development of the study of botany in Bulgaria, and especially for his contribution to the study of Bulgarian flora, with which he became familiar during his three visits to the country in 1885, 1887 and 1889. Author of many scientific works in Bulgarian flora, among which the most important are his major work "Flora Bulgarica" (1901-1908) and the large "Supplementum" later added, as well as ten shorter works.

For many years Director of the Botanical Institute and Gardens at Karlovo-Prague University (1902-1937), Professor of paleobotany at Prague University (beginning in 1898), member of the Bulgarian Botanical Society (from 1929).

#### Komarov, Vladimir Leontievich

Born 13 October 1869 in Leningrad. Elected in 1945. Died 5 December 1945. Field - botany.

Well-known Russian scientist, botanist and traveler. Worked in the field of plant classification, geography, evolution and ecology. One of the greatest experts on Asiatic flora, the Far East in particular. Author of many scientific works in the field of botany, as well as many classic monographs and expositions of theoretical geographical problems, type formation in plants, etc. His most important works include: "Manchurian Flora" (I-III, 1901-1907), "The Flora of the Kamchatka Peninsula" (I-III, 1900-1930), "Introduction to the Flora of China and Mongolia" (1908), and his twenty-four volume work "Flora of the USSR". He was the founder and chief editor of the many volumes of "Scientific Heritage".

Chairman of the Academy of Sciences of the USSR (1936-1945). Noted for his establishment of many centers and stations which have since become individual national academies of science. Organizer and scientific leader of the Botanical Institute of the Academy of Sciences of the USSR, which has been named after him, and which is one of the best in Europe.

Active state and public worker. Deputy of the Supreme Soviet of the USSR (1937). Honorary Chairman of the All-Russian Geographic Society, and Chairman of the All-Russian Botanical Society. Honorary Member of the Academies of the Georgian, Armenian and Azerbaijan SSRs. Member of the National Geographic Society of the USA, Corresponding Member of the French Geographic Society, and member of the Academy of Polytechnical and Social Sciences of America.

Twice Laureate of the Stalin Prize and recipient of the "Lenin", "Red Labor Banner", "Hammer and Sickle" (golden), and other awards. Also bearer of the honorary title "Hero of Socialist Labor".

#### Academy Members

Angelov, Stefan Dobrev

(Angelov is the patronymic by which he is known.)

Born 28 February 1878 in Kotel. Elected in 1947. Field - microbiology.

Noted for his years of scientific research in the fields of microbiology, bacteriology, serology and virus studies, and as a founder of the fields of epizootology and zooprophyllaxis. Author of many scientific works in Bulgarian and other languages, among the most important of which are: "Die grauen durchscheinenden Knotchen in den Pferde-lungen und ihre Beziehung zu der Rotzkrankheit" (1907) (Archiv fur wissenschaftliche und praktische Tierheilkunde, 1907, Bd. 34, S. 41-72), "Uber den biologischen Nachweis der Herkunft in blutsaugenden Insekten" (in collaboration with Ulenkhut and Vaydants, 1908) (Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1909, H. 3, S. 595-599), "Auftreten und Bekampfung der Rinderpest im Konigreich Bulgarien wahrend des Balkan-krieges 1912-1913" (1917) (Archiv fur wissenschaftliche und praktische Tierheilkunde, 1917, Bd. 43, S. 39), "Brucellosis in Domestic Animals and Its Connection With Undulant Fever in Man, and Measures for Combatting Bang Enzootic Abortion in Bulgaria" (1934) (Annual Publication of the Veterinary and Medical Department, 1933/1934, Issue Number 3, pages 355-392), "Cases of Erysipeloid in Bulgaria" (in co-authorship with L. Popov, 1949) (Notices of the Institutes of Experimental and Public Medicine of the BAN, 1949, Issue Number 1, pages 157-172), etc.

Editor-in-Chief of the "Notices of the Institute of Microbiology" and a contributor to many scientific journals both in Bulgaria and abroad.

Has done valuable work in the production of serums, vaccines and bacterial products. Organized veterinary studies in Bulgaria, and serves as scientific advisor of many young specialists, both in microbiology and veterinary medicine.

Director of the Institute of Microbiology of the BAN. President of Sofia University (1941-1942). Director of the Central Veterinary-Bacteriological Institute (1909-1935). Corresponding Member of the German Agricultural Academy (1955), member of the German Academy of Natural Scientists in Halle, Honorary Member of the Union of Veterinarians in Hungary, member of the International Bureau on Epizootes in Paris (1929-1933), etc.

Contributed papers to many international veterinary congresses, including those in London (1930 and 1936), Zurich (1938), Budapest (1952), Rome (1953), the Congress of Parasitologists in Berlin (1954), the Congress of Microbiologists in Prague (1956), etc.

Twice Laureate of the Dimitrov Prize, and recipient of the "Bulgarian People's Republic" and "Civic Merit" Awards.

**Buresh, Ivan Yosifov**

Born 27 December 1885 in Sofia. Elected in 1921. Field - zoology.

Noted for his scientific research in various natural scientific fields, especially in zoology and entomology. Author of scientific works on the fauna of Bulgaria, and many others on applied entomology, cave fauna, herpetology, and the history of the natural sciences. His most important works include: "A Contribution to the Study of Butterflies in Bulgaria" (1910), "A History of the Entomological Studies of Bulgaria" (1924), "Research on the Cave Fauna of Bulgaria" (1926-1931), "The Distribution of Poisonous Snakes in Bulgaria and on the Balkan Peninsula" (in collaboration with P. Tsonkov) (1932) (Works of the Bulgarian Natural Science Society, 1932, Issue 15-16, pages 189-206), "A Contribution to the Study of Neureptoid Fauna in Bulgaria" (1936) (Notices of the Bulgarian Entomological Society, 1936, Issue Number 9, pages 135-150), etc. He is the author of several bibliographies in his field, and is well-known for these in Bulgaria and abroad.

He is particularly noted for his activity in establishing and developing the Institutes of Natural Sciences of the BAN, especially the Museum of Natural Sciences. He is the founder and long-time editor of the "Notices of the Institute of Natural Sciences", the "Notices of the Bulgarian Entomological Society", the Bulgarian Speleological Society, the "Works of the Bulgarian Natural Science Society", and is Editor-in-Chief of the "Notices of the Institute of Zoology". The scientific advisor of many specialists in the study of fauna, and in the field of entomology in particular.

Director of the Institute of Zoology of the BAN. Honorary Member of the Zoological and Botanical Society of Vienna, the Czechoslovak Entomological Society, the German Speleological Society and the Hungarian Ornithological Society. A contributing member of the Hungarian and Yugoslav Entomological Societies. Member of the All-Union Entomological Society of Leningrad, the Czechoslovak Society of Zoologists, etc. Has participated in international congresses on zoology at Budapest (1927) and Padua (1930).

Recipient of the "Kiril i Metodiy" Award and the "Science and Arts" Medal.

Yordanov, Daki Vichev

Born 14 September 1893 in Omurtag. Elected in 1947. Field - botany.

Noted for his scientific research on floristics, pelecobotany, plant geography, and especially in the classification of plants, as well as for research on the distribution of steppe and swamp vegetation in Bulgaria. Author of many scientific works, the most important of which include: "The Phytogeography of the Western Stara Planina Mountains" (1924) (Annual Publication of the Department of Physics and Mathematics, 1923-1924, Issue Number 1, pages 1-104), "Phytogeographic Studies of Swamps in Bulgaria from the Point of View of Their Higher Vegetation" (1931) (ibid, 1930/1931, Issue Number 3, pages 75-156), "Topographische Flora von Bulgarien" (in co-authorship with B. Stefanov, 1932) (Engler's Botanische Jahrbucher, 1931/1932, Bd. LXIV, S. 383-536), "The Distribution of Steppe Vegetation in Bulgaria" (1936) (Symposium of the BAN, 1936, Issue Number XXXII, page 1-105), "Plant Relationships on the Bulgarian Sections of Mount Strandzha" (I-II, 1937-1939) (Annual Publication of the Department of Physics and Mathematics, 1937/1938, Issue Number 3, pages 409-476; 1938/1939, Issue Number 3, pages 1-90), "Plant Relationships on Mount Sakar, the Manastirski Heights, the Sv. Iliyski Heights and Mount Bakadzhitsi" (1944) (ibid, 1943/1944, Issue Number 3, pages 267-399), etc.

Deputy Director of the Botanical Institute of the BAN. President of Sofia University (since 1956). Chairman of the Bulgarian Natural Science Society (since 1944).

Attended the International Congress of Botanists in Paris (1954), etc.

Laureate of the Dimitrov Prize and recipient of the "9 September", "Kiril i Metodiy" and "Civic Merit" Awards.

Kristanov, Tsvetan Angelov

Born 21 October 1898 in Pirdop. Elected in 1947. Field - medicine.

Noted for his research in the field of general medicine, and especially on dermatology and venereal diseases. Author of many scientific works in these fields, most important of which are: "Reactivity of the Skin Depending on Kidney Functioning" (1936), "Medicine and Dialectical Materialism" (1948), "Contagious Skin Diseases" (1950), "Toxic Salvarzan Encephalitis" (1950) (Notices of the Institutes of Experimental and Social Medicine of the BAN, 1950, Issue Number 2, pages 44-65), "The Sili-cosis Problem in Bulgaria" (1955) (Notices of the Medical Institutes of the BAN, 1955, Issue Number 11-12, pages 11-19), etc.

Editor-in-Chief of the magazine "Priroda" (1950-1956) and the "Notices of the Medical Institutes" (until 1956).

Specialized and worked for many years (1926-1945) in medicine in the USSR. Chairman of the Uzbek Republican Dermatological and Venereal Disease Society (1940-1945).

Secretary of the Editorial and Publishing Council of the BAN (until 1956). Director of the Institute of Clinical and Public Medicine of the BAN (until 1956). President of the Medical Institute in Plovdiv (until 1945).

Participated in the Fifteenth Congress of Polish Dermatologists in Warsaw (1955), etc.

Markov, Vladimir Nestorov

Born 4 November 1883 in Turnovo. Elected in 1952. Field - microbiology.

Noted as one of the founders of the study of microbiology in Bulgaria. Worked in the fields of serology, immunology and bacteriology. Author of many scientific works and discoverer of instruments in all fields of microbiology, industrial microbiology and biochemistry. Familiar with practical applications, and well-known through foreign specialized publications. The most important of his writings include: "Experimentelle Studien uber das Wesen der Paraglutination" (1916) (Zentralblatt fur Bakteriologie, 1916, Bd. 78, H. 3, S. 372-384), "Observations and Conclusions on Experiments With Active and Passive Immunization Against Rabies in Man" (1920) (Veterinary Collection, 1920, Issue Number 7-8, pages 101-111), "Enzymes and Processes of Fermentation in Dough" (1938) (Annual Publication of the Department of Medicine, 1937/1938, Issue XVII, pages 147-183), "Virus Origin of Tumors" (1951), "Initial Infection Processes and Infection" (1954) (Notices of the Medical Institutes of the BAN, 1954, Issue 9-10, pages 415-423), "The Importance of the Nervous System in Immunity" (1954) (ibid, pages 405-411), etc. Editor of the magazine "Veterinarno delo" (1912-1915).

Has done considerable work on epidemiology and the study of toxic infections in Bulgaria, especially research on typhoid and dysentery epidemics and food poisoning. Scientific advisor of a large group of specialists in technology in industry (breweries, alcohol, bread, etc.).

Professor at the Higher Medical Institute in Sofia. Chairman of the Bulgarian Microbiological Society since its founding in 1923. Chairman of the Committee on Serums, Vaccines and Other Biological Products, and the Committee on Soil Microbiology. Corresponding Member of the German Academy of Natural Scientists in Halle. Member of the International Society of Microbiologists and the International Terminology Committee in Microbiology.

Laureate of the Dimitrov Prize and recipient of the "Red Labor Banner" Award.

Orakhovats, Dimitur Petrov

Born 10 October 1892 in Lovech. Elected in 1945. Field - medicine.

Noted for research in the fields of physiology of the central nervous system, the circulatory system, and the study of the spleen. Has studied the storage function of the spleen, blood pressure and the factors determining it, adrenalin and its influence on the expansion of blood vessels. Also has done research on the role of the power centers of blood vessels in the medulla oblongata and in maintaining a constant tonicity in the vascular system. Author of numerous scientific works in English, German, and Bulgaria. The best-known of these include: "The Physiology of the Spleen" (in cooperation with Barcroft, Naris and Weiss, 1925), "A Contribution on the Problem of Regulating Blood Reaction" (1931) (Annual Publication of the Medical Department, 1930/1931, Issue X, pages 75-108), "The Action of Adrenalin Upon Blood Vessels" (in co-authorship with T. Gotsev, 1933) (ibid, 1932/1933, Issue XII, pages 181-218), "Blood Vessels, Blood Pressure and Heart Action (in collaboration with P. Gotsev, 1939) (ibid, 1938/1939, Issue XVIII, pages 191-211), "Über die Bedeutung der vasomotorische Zentren für den Blutdruck und die Koordination einzelner Gefasgebiete" (1939) (ibid, pages 213-237), "The Importance of the Hydrostatic Factor in the Distribution and Structure of Blood in Various Parts of the Vascular System" (1956), etc.

Scientific Secretary of the BAN (1949-1953), Director of the Institute of Experimental Medicine of the BAN, Deputy Chairman of the Scientific Coordination Council of the BAN (since 1954), Director of the Institute of Physiology of the Higher Medical Institute (since 1929), President of Sofia University (1945-1947), member of the Society of Physiologists of Great Britain, Honorary Member of the German Medical Society.

Has contributed papers at the Twentieth International Physiological Congress in Brussels (1956), and at the sessions of the English Physiological Society in London (1925), the German Medical Society in Berlin (1941), the Academy of the Rumanian People's Republic in Bucharest (1954), the Medical Department of the University of Kluzh and Temeshvar (1954), etc.

Laureate of the Dimitrov Prize and recipient of the "Civic Merit" Award.

Pashev, Konstantin Mikhaylov

Born 3 March 1873 in Sliven. Elected in 1937. Field - medicine.

Noted for his scientific research on trachoma, eye tumors and tuberculosis of the eye, and for many writings on ophthalmology (cytology of the eye, microbiology and parasitology of the eye, ocular heredity, biochemistry and endocrinology of the eye, neuro-ophthalmology, traumatology of the eye, oncology, surgical techniques, etc.) published in Bulgarian and foreign magazines. The most important of these include:

"Research on the Nature and Etiology of Trachoma Verum" (1910) (Archives of Ophthalmology, 1910, pages 1-25), "Trachoma Verum Coreae" (1914) (Graefe's Archiv fur Ophthalmologie, 1914, pages 474-493), "Untersuchungen uber die Tumoren der Glandula Lacrymalis" (1919) (Klinisches Monatsblatt fur Augenheilkunde, 1919, S. 1-22), "Research on Tuberculosis of the Eye in Bulgaria" (1934) (Magazine of the BAN, 1934, Issue XLVI, pages 63-130), "Rare Eye Tumors and Cancer of the Eye in Bulgaria" (1954), "Research On Occipital Quadranopsy" (1955) (Notices of the Institute of Medicine of the BAN, 1955, Issue 11-12, pages 345-358), etc.

Editor of the magazine "Bulgarska klinika" and a contributor to many other Bulgarian and foreign medical journals.

Director of the Institute of Clinical and Public Medicine of the BAN (since 1956). Founder of the first eye clinic at a university in Bulgaria. Honorary Member of the Italian Academy of Physical Chemistry in Palermo. Corresponding Member of the German Academy of Sciences in Munich, Charter Member of the International Academy of Medical Specialists in Berlin, Honorary Member of the Hungarian Medical and Dermatological Society, and a member of the Ophthalmological Societies of France, Germany, Poland, British and Oxford. Chairman for many years of the Bulgarian Society for the Protection of the Blind (1922) and of the Bulgarian Ophthalmological Society (1927).

Has read papers at many international ophthalmological congresses (Paris, London, Naples, Berlin, Vienna, Budapest, Jena, Heidelberg, Amsterdam, Oxford, Madrid, Copenhagen, Athens, Cairo, and others).

Laureate of the Dimitrov Prize and recipient of the "Bulgarian People's Republic" and "Civic Merit" Awards and the "Science and Arts" Medal.

#### Popov, Metodiy Atanasov

Born 29 April 1881 in Kolarovgrad. Elected in 1947. Died 19 April 1954. Field - biology.

Noted Bulgarian biologist, famous both at home and abroad. Did work and contributed valuable information in the fields of biology, microbiology, protistology, biochemistry and comparative anatomy. Founder of the theory of general cellular stimulation and discoverer of the methods of application which are being extensively used in agriculture and medicine. Author of many scientific works published in Bulgarian and foreign journals, especially on the theoretical foundations of stimulation. The most important of these include: "Uber das Vorhandensein von Tetradenchromosomen in den Leberzellen von Paludina vivipara" (1908) (Biologisches Zentralblatt, 1908, Bd. 28, S. 556-567), "Experimentelle Zellstudien" (I-VI, 1908-1925) (Archiv fur Zellforschung, 1908, Bd. I, S. 245-380; 1909, Bd. III, S. 124-180; 1909, Bd. IV, S. 1-33; 1915, Bd. XIV, S. 220-254; Biologisches Zentralblatt, 1923, S. 224-268; Zellstimulationsforschungen, 1925, Bd. I, S. 39-56, 129-148, 391-412), "Beschleunigung der Wundregenerationsvorgange durch Anwendung von Zellstimulations-

mitteln" (1926) (Zellstimulationsforschungen, 1926, Bd. II, H. 1, S. 59-62), "Die Zellstimulation. Ihre Anwendung in der Pflanzenzucht und Medizin" (1931), "Hereditary, Race, and Nationality: The Bulgarian Race" (1938), etc.

Director of the Institute of Biology of the BAN (until 1954). President of Sofia University (1920-1921). Doctorate from the University of Munich. Member of the Czechoslovak Academy of Agriculture in Brno and the German Academy of Natural Scientists in Halle. Chairman of the Higher Scientific Medical Council (1950-1954). Chairman of the Bulgarian Slavic Society (1945). An active worker for peace - member of the World Council for Peace.

Has read papers at the International Congress on Heredity in Berlin (1929), that at Frankfurt-on-Main (1937), the Conference of the Peoples for Peace in Vienna (1952), etc.

Laureate of the Dimitrov Prize and recipient of the "Science and Arts" Medal awarded by the KNIK as well as the "Kotenius" Award granted by the Berlin Academy of Sciences.

Stoyanov, Nikolay Andreev

Born 21 November 1883 in Grodno, in Belorussia. Elected in 1938. Field - botany.

Noted for his many years of scientific research in botany, in geobotany, plant geography and classification, and Bulgarian floristics in particular. Author of many works especially on Bulgarian vegetation and that of neighboring countries. The most important of these include: "Floristic Material from Belasitsa" (1921) (Annual Publication of the Department of Physics and Mathematics, 1921, Volume XV-XVI, pages 1-133), "The Longoz Forest on the Kamchiya River" (1928) (Forestry Review, 1928, Issue 8-9, pages 341-354; Issue 10, pages 423-435), "A Contribution to the Study of Pliocene Flora in the Sofia Plain" (in collaboration with B. Stefanov, 1929), "Acclimatization Problems in Bulgaria" (1933) (Annual Publication of the Department of Agriculture and Forests, 1929/1930, Issue VIII, pages 143-184; 1930/1931, Issue IX, pages 525-566; 1932/1933, Issue XI, pages 87-138), "The Origin of the Arctic Element in the Flora of the Balkan Peninsula" (1940), "The Flora of Tasos Island" (in co-authorship with B. Kitanov, 1946) (Annual Publication of the Department of Physics and Mathematics, 1944/1945, Issue III, pages 233-320; 1945/1946, Issue III, pages 1-106), the general work "Bulgarian Flora" (in collaboration with B. Stefanov, third printing 1948), etc.

One of the founders of paleobotanic research in Bulgaria, and long-time scientific advisor of young workers in the natural sciences, agronomy and forestry. Popularizer of the study of botany and its most recent discoveries.

Chief Scientific Secretary of the BAN (since 1956) and Secretary of the Department of Biological and Medical Science of the BAN (until 1956). Director of the Botanical Institute of the BAN. Professor in



the Department of Natural Science and Mathematics at Sofia University (until 1950/1951). Chairman of the Bulgarian Botanical Society and for many years Scientific Director of the herbarium of the Museum of Natural Science in Sofia (1922-1944). Member of the Czechoslovak Botanical Society, the Zoological-Botanical Society in Vienna, and the International Institute of Agriculture in Rome.

Has attended and read papers at international botanic congresses in Cambridge (1930), Amsterdam (1935), etc.

Laureate of the Dimitrov Prize and the recipient of the "Bulgarian People's Republic" and "Kiril i Metodiy" Awards.

**Khadzhislov, Asen Ivanov**

Born 19 January 1903 in the village of Shirckovo in Belene Okoliya. Elected in 1952. Field - histology and embryology.

Noted for his research in cytology, histology, hematology and embryology in connection with problems in physical chemistry; hydrotropy; histochemistry and the morphological metabolism of lipoids; luminescence in tissues and cells in the bodies of animals and man; the histophysiology of skin pigmentation in lower vertebrates; blood tissues and embryonic hemopoiesis; histology of the lungs, the nervous system, and fatty tissues; the action of ionizing rays upon the body; the theoretical histology and classification of tissues, etc.

Author of many scientific works in Bulgarian and foreign languages, of which the most important are: "Histophysiology of Adipose Tissues and the Morphological Metabolism of Fats" (1929), "Actinoluminescent Properties of Tissues" (1930) (Annual Publication of the Department of Medicine, 1929/1930, Volume IX, pages 1-138), "Beiträge zur qualitativen und quantitativen Mikroanalyse der Lipide in den Zellen und Geweben" (1937) (Zeitschr. f. Zellf. und mikr. Anat., 1937, Bd. 27, S. 509-533), "Foundations of Hematology. Biology and Pathology of Blood Tissues and the Circulatory System" (1950), "Actinoluminescent Analysis in Histology" (1956) (Modern Biological Achievements, 1956, Volume 61, Issue Number 2, pages 216-227), etc.

Founder and Editor of the magazine "Premedikus" (1925) and of the journal "Chovekut" (with V. Markov and N. Boev, 1930-1937). Member of the Editorial Board of "Acta Anatomica - Archives Internationales d'Anatomie, d'Histologie, d'Embryologie et de Cytologie" (since 1945) and of "Excerpta Medica - Section I" (since 1947). Editor-in-Chief of the "Notices of the Institute of Morphology" (since 1953), and of the magazine "Priroda" (since 1957).

Deputy Scientific Secretary (1950-1953) and Chief Scientific Secretary (1953-1956) of the BAN. Participated in the reorganization of the BAN. Director of the Institute of Morphology of the BAN. Professor at the Higher Medical Institute in Sofia (since 1930). Member of the Hungarian Academy of Sciences. Member of the International Society of Cellular Biology (since 1956) and the French Society of Anatomists

(since 1929). One of the founders and first chairmen of the Union of Scientific Workers of Bulgaria (1944-1945). Doctorate in Natural Science from Lyons University (1929).

Has contributed papers at international congresses on anatomy in Bordeaux (1929), Paris (1955); international conferences on experimental cytology in Copenhagen (1936), in Zurich (1938), the International Congress on Cellular Biology in Stockholm (1947), the Sixteenth International Congress on Physiology in Zurich (1938), the First Congress of Polish Science (1951); and the Annual Meetings of the Hungarian Academy of Sciences (1948, 1951, 1955), the German Academy of Natural Scientists in Hahle (1953), the German Academy of Sciences in Berlin (1956).

Laureate of the Dimitrov Prize and bearer of the "Civic Merit" Award.

#### Corresponding Members

Emanuilov, Ignat Igov

(Emanuil is the patronymic, by which he is known.)

Born 18 September 1908 in Komshtitsa village, in Godesh Okoliya. Elected in 1948. Field - veterinary medicine.

Engaged in work on hygiene and the technology of foods, especially of animal origins, and the use of exchange matter (enzymes, vitamins and antibiotics) in production. Author of many scientific works, the most important of which are: "The Vitality of Salmonella Bacteria in Foods" (1941) (Annual Publication of the Veterinary and Medical Department, 1940/1941, Volume XVII, pages 591-606), "Microbiological Studies of Cow's Milk in Sofia" (1942) (ibid, 1941/1942, Volume XVIII, pages 331-378), "A Contribution to the Pathological-Anatomical Picture of the Pathogenesis of Tuberculosis in Cattle for the Purpose of Sanitary Evaluation of the Meat of Tubercular Animals" (1944) (ibid, 1943/1944, Volume XX, pages 1-10), "Bacterial Proteases and Their Use in Cheese Making" (1951), "The Antibiotic Properties of Cheese" (1954) (Notices of the Institute of Microbiology of the BAN, 1954, Issue Number 4, pages 33-38), etc.

Secretary of the Department of Biological and Medical Sciences. Deputy Director of the Institute of Microbiology of the BAN. Professor at the Higher Veterinary Medical Institute in Sofia.

Laureate of the Dimitrov Prize and bearer of the "Civic Merit" Award.

#### Paspalev, Georgi Vasilev

Born 6 October 1895 in Kyustendil. Elected in 1947. Field - zoology.

Engaged in work in zoology and general biology, and on hydrobiological problems in the study of waters and the fauna of the Black Sea.

Also working on psychological, ichthyological and theriological problems. Author of many scientific works on comparative anatomy and especially maritime fauna. The best known of these are: "Über Protoplasmareifung bei Seeigeleiern" (1927) (Publ. della stazione zoologica di Napoli, 1927, Volume VIII, pages 1-70), "Stimulationsstudien a reifen Seeigeleiern" (I-III, in co-authorship with M. Popov and M. Dobrev, 1926-1927) (Zellstimulationsforschungen, 1926/1927, Bd. I, II, III), "Hydrobiological Research in Varna Bay" (I-III, 1933-1937) (Works of the Black Sea Biological Station, 1933, Issue Number 2; 1935, Issue Number 4; 1937, Issue Number 6), "A Contribution on the Morphology and Biology of *Bothus Macrotis*" (1934) (ibid, 1934, Issue Number 3, pages 17-54), "The Influence of Certain Factors Upon Heredity in Birds" (I-III, in co-authorship with K. Bratanov, 1950-1952) (Notices of the Institute of Biology of the BAN, 1951, Issue Number 2, pages 291-294), "Research on the Morphology, Biology and Ecology of Wild Rabbits in Bulgaria" (in collaboration with Vl. Martino and N. Atanasov, 1954) (Notices of the Institute of Zoology of the BAN, 1954, Issue Number 3, pages 59-123), etc.

Deputy Secretary of the Department of Biological and Medical Sciences. Dean of the Department of Biology, Geology and Geography at Sofia University. For many years Director of the Black Sea Biological Station in the city of Varna (1930-1938). Director of the Zoological Gardens (1948).

Bearer of the "Kiril i Metodiy" Award.

#### Uzunov, Georgi Stoyanov

Born 28 September 1904 in the village of Iskret's in Sofia Okoliya. Elected in 1951. Field - psychiatry.

Is working in the fields of histology and embryology (problems of intravital coloring and the morphological metabolism of fats), neurology and psychiatry (especially on problems of exogenesis in psychiatry, epilepsy, and intoxicational psychoses).

Author of many scientific works in these fields in Bulgarian and other languages. The most important are: "Experiments in the Morphological Metabolism of Fats in the Lungs" (I-II, in collaboration with As. Khadzhilov, 1934-1938) (Annual Publication of the Department of Medicine, 1933/1934, Issue XII, pages 535-576; 1937/1938, Issue XVII, pages 425-449), "Iatrogenous Neuroses in Bulgaria" (1941), "Über einen Fall von Schizophrenie mit hamorrhagischen Erscheinungen" (1941), "Atebrin Psychosis - A Contribution to the Study of Exogenous Psychoses" (1946) (ibid, 1945/1946, Issue XXV, pages 467-477), "Psychasthenia and Epilepsy" (in collaboration with M. Yotsov, 1947), etc.

Editor of "Medical Records". Member of the Editorial Board of "Bulgarian Clinic", "Modern Medicine", "Annual Publication of the Academy of Medicine" in Sofia, "Notices of the Medical Institutes" and Editor-in-Chief of "Published Proceedings of the Bulgarian Academy of Sciences" (in Russian) for 1944-1950, 1951-1952, 1953-1955, 1956-1957 (published in French as well).

Chairman of the Pavlov Committee in Bulgaria, and member of the National Committee for the Defense of Peace. Professor at the Higher Medical Institute in Sofia.

Attended the International Congress on Mental Health in London (1948), the World Congress of Physicians on the Study of Modern Living Conditions, in Vienna (1953), etc.

Recipient of the "9 September" and "Kiril i Metodiy" Awards.

#### Chilov, Konstantin Nikolov

Born 17 May 1898 in the village of Slaveyno in Smolyan Okoliya. Elected in 1948. Died 28 January 1955. Field - medicine.

Noted Bulgarian scientist - physician, teacher, and clinical specialist. Worked for the most part in the field of internal medicine - hematology, endocrinology, gastro-enterology, cardiology, on the exchange of matter, kidney diseases, laboratory - clinical research, avitaminoses, infectious diseases, etc. Author of many scientific works (monographs, texts, scientific manuals, etc.) in a wide variety of medical fields. These works are well-known internationally. Author of a voluminous text on internal diseases, a valuable manual for clinical and laboratory research, a three volume work entitled "Clinical Observations" (1939), and the following other works: "Cooking Salt - A Poison and A Medicine" (1935), "Hypochlorosis and Chlorine-Induced Diseases" (1935) (Annual Publication of the Department of Medicine, 1934/1935, Issue XIV, pages 217-335), "The Importance of Serum Iron in Hepatitis" (in collaboration with V. Gospodinova, 1955) (Notices of the Medical Institutes of the BAN, 1955, Issue 11-12, pages 89-99), "The Balkan Type of Influenza in Bulgaria" (in co-authorship with B. Zografski, 1955) (ibid, pages 19-60), etc. Editor of the magazine "Bulgarian Clinic" (1941-1950).

Noted for his valuable work in training many classes of young doctors and a large number of prominent Bulgarian specialists in internal medicine.

Deputy Director of the Institute of Clinical and Public Medicine of the BAN (until 1950). Member of the Society of Specialists in Internal Medicine in Germany.

#### Foreign Members

#### Bikov, Konstantin Mikhaylovich

Born in 1886. Elected in 1952. Field - physiology.

Noted Soviet physiologist, student and follower of Academy Member I. P. Pavlov. Works in the field of functional interrelations between the cortex of the brain and the internal organs, on the physiology of food digestion, on the chemical transmission of stimulation, on experimental balneology, etc.

Author of many scientific works, of which the most important are: "The Cortex of the Brain and the Internal Organs" (second printing, 1947), "The Development of Ideas in Soviet Theoretical Medicine" (1947), "The Cortex-Visceral Theory of Pathogenesis of Ulcers" (in collaboration with I. T. Kurtzin, 1949), "The Teachings of I. P. Pavlov in the Light of Dialectical Materialism" (1949), "Signalization in the Cortex of the Brain With Internal and External Receptors" (1950), etc.

Director of the Institute of Physiology of the Central Nervous System of the Academy of Medical Sciences of the USSR (1948). Director of the Institute of Physiology of the Academy of Sciences of the USSR (1950). Deputy to the Supreme Soviet of the RSFSR.

Laureate of the Stalin Prize and recipient of the "Red Labor Banner" Award.

#### Mevius, Valter

Born 3 May 1893 in Westphalia. Elected in 1942.

A German scientist working in the field of plant physiology. Author of numerous valuable scientific works dealing with foods, the multiplication and microchemistry of plants, the relationship between soil structure and natural plant communities, calciphilous and silicophilous plants, etc.

Director of the Institute of Applied Botany at the University of Berlin (1954). Director of the Botanical Institute and Botanical Gardens at the University of Westphalia in Munster (1935). President of Munster University (1937).

#### Oparin, Aleksandr Ivanovich

Born 2 March 1894 in Uglich, Yaroslav Oblast'. Elected in 1952. Field - biology.

Widely known Soviet biologist. Is working on the biochemistry of plants, and vegetable fermentation in particular. Author of many works on the biochemical bases for processing raw plant materials, the action of ferments in living plant organisms, and the problem of the emergence of life on earth. The titles of his works include "The Appearance of Life on Earth" (second printing, 1941), "Changes in the Actions of Enzymes in Plant Cells Under the Influence of External Factors" (1952), etc. Noted for his work on the technology of sugar, bread, tea, wine and tobacco production.

Secretary of the Department of Biological Science of the Academy of Sciences of the USSR (since 1949). Director of the Institute of Biochemistry of the Academy of Sciences of the USSR (since 1946). Professor at Moscow University (since 1949). Vice President of the International Federation of Scientists (since 1952). Member of the Moscow Society of Natural Scientists. Member of the All-Union Chemical Society

"D. I. Mendeleev". Member of the Soviet Committee for the Defense of Peace (since 1950) and of the World Peace Council.

Recipient of the "Lenin" Order.

Rusnyak, Ishtvan

Born 28 January 1889 in Budapest. Elected in 1948. Field - medicine.

Widely-known Hungarian physician. A therapist and public worker in the Hungarian People's Republic. Author of many works in the field of medicine, especially on lymph circulation. The most important are: "Gefahren und Schädigungen durch Entfettungsmachen" (1934), "Inadequacies in the Circulation of Lymphatic Fluids" (1953), "New Research in the Field of Physiology and Pathology of the Circulation of Lymphatic Fluids" (1954).

Chairman of the Hungarian Academy of Sciences. Director of the First Internal Clinic at the University of Medicine in Budapest. Member of the Presidium of the Hungarian People's Republic and of the Presidium of the Hungarian Council for Peace.

Recipient of the Koshut Award.

Savulesku, Traian

Born in 1889. Elected in 1952. Fields - botany, mycology and phytopathology.

Noted Rumanian botanist. Is working in the field of phytopathology, on floristics and plant classification. Has recently become especially well-known for his original contributions on problems in phytopathology. Founder of the study of this science in Rumania, and advisor to researchers in this field.

Author of many botanical, mycological, phytopathological and general biological works, many of which have been published abroad. The most important are: "Putrezirea uscata a stiuletilor de porumb in Romania, produsa de Nigrospora Oryzae" (1933), "Monografia Uredinalelor din Republica Populara Romina" (I-II, 1953), "Dezvoltarea stiintei si practicii agricole in RPR" (1954), "Herbarium Mycologicum Romanicum" (I-XXXII, 1929-1955), etc.

Editor of the well-known "Flora Republicii Populare Romine" (I-II, 1952-1953).

Chairman of the Academy of the Rumanian People's Republic (since 1948). Director of the Cytopathological Section of the Agronomic Research Institute (1948). Honorary Member of the Hungarian Academy of Sciences and member of the Czechoslovak Academy of Agricultural Science. Member of the Society of Natural Scientists in Moscow, the Society on Mycology in Austria, and the Botany and Mycology Society of France.

Laureate of the State Award.

**Topchibashev, Mustafa Agabek Oglu**

Born 5 August 1895 in Erivan. Elected in 1952. Field - medicine.

Noted for his scientific research and published works on the surgical treatment of diseases of the spleen, the treatment of the effects of shellshock, ulcer surgery, treatment of gall-stones, etc.

Author of many scientific works, the most important of which are: "Certain Problems in Connection With Infectious Volatile Oil Anesthetization" (1947), "A Method of Discovering and Removing Alien Bodies" (1948), "An Apparatus for Removing Foreign Bodies and Its Use" (1949), "Wax-Paraffin Tubing in Traumatic Damage of Peripheral Nerves" (1951), and others. The symposium "Infectious Volatile Oil Narcosis" published under his supervision in 1942 and dealing with a method he developed in this connection is well-known.

Director of the Institute of Experimental Medicine of the Azerbaijan SSR. Corresponding Member of the Academy of Medicine of the USSR (since 1947). Deputy Chairman of the Academy of Sciences of the Azerbaijan SSR (since 1950).

Active public and political worker -- Chairman of the Supreme Soviet of the Azerbaijan SSR.

Laureate of the Stalin Prize and recipient of the "Meritorious Worker in Science" Award from the Azerbaijan SSR.

**DEPARTMENT OF AGRICULTURAL SCIENCE**

Institute of Crop Raising, Soil Institute, Livestock  
Breeding Institute, Institute of Experimental Veterin-  
ary Medicine, Forestry Institute

**Department Bureau**

Academy Member Secretary - Academy Member Khristo Stefanov Daskalov

Deputy Academy Member Secretary - Corresponding Member Atanas Trifonov  
Popov

Member - Academy Member Ksenofont Andreev Ivanov

**Department Members**

**Foreign Honorary Members**

Trofim Denisovich Lisenko

#### Academy Members

Khristo Stefanov Daskalov, Doncho Kostov Kostov, Ksenofont Andreev Ivanov, Boris Stefanov Popov, Ivan Todorov Stranski, Georgi Stefanov Khlebarov.

#### Corresponding Members

Rayna Angelova Georgieva, Atanas Trifonov Popov, Toncho Petrov Radev, Vasil Stoyanov Bolgradov.

#### Crop Raising Institute "Geo. Milev" Sector

Director - Academy Member Kh. S. Daskalov

This institute began as a part of the Institute of Applied Biology established by the BAN in 1947 and headed by Academy Member D. Kostov.

In 1950, after it was merged with the Institute of General Biology, it became the Institute of Biology, headed by Academy Member M. Popov. The agrobiological section of the institute became an independent unit in 1952 under the name Crop Raising Institute.

The principal task of the institute is the development of agrobiological science in Bulgaria on the basis on Michurin's theories, guiding and coordinating research work in the field of crop raising all over the country.

Within this framework, the institute is working upon the following major problems:

Promotion of Michurin's agrobiological theories, especially his methodological and theoretical interpretation of problems of selection, genetics and plant physiology, both close and distant sexual and vegetative hybridization, methods for the control of hereditary, etc., under the conditions provided by socialism in Bulgaria.

Work on the improvement of the major Bulgarian crops, including wheat, corn, tobacco, beets, sunflowers, potatoes and other vegetables, and other industrial, fodder and medical plants, with a view to providing the socialist agricultural economy with sufficient high yield and high quality varieties.

Collecting, maintaining and studying a wide variety of domestic and wild plants, species and forms, both Bulgarian and foreign, with a view to acclimatizing certain new varieties to Bulgaria and providing various government selection institutes with basic stock.

Study of the technological and biochemical characteristics of vegetable raw materials used in Bulgarian industry, as well as the dynamics of biochemical processes in plants of importance in the creation of new high quality species and the application of suitable agriculture techniques in the raising of various crops.



Establishment and maintenance of close relations with workers engaged in practical tasks in connection with Bulgaria's socialist agriculture, such as to help them apply scientific advances. The institute carries on part of its work on the state farms and the Farm Workers' Cooperatives.

The institute has the following sections: genetics, selectivity, agrotechnical, physiology and biochemistry of crops, and vegetable resources.

The institute publishes the following: "Notices of the Crop Raising Institute" and "Popular Scientific Series."

The staff of the institute includes the following: Academy Member Khr. Daskalov, Corresponding Member R. Georgieva, Corresponding Member At. Popov, Professors D. Baylov, K. Pavlov, and K. Popov, Senior Scientific Collaborators Khr. Avramova, T. Breahkov, O. Vasileva, M. Gerdzhikova, K. Zarev, G. Ivan, Yord, Kunev, and D. Tsikov, Junior Scientific Collaborators E. Andreeva, A. Atanasov, G. Atanasova, Iv. Atanasova, R. Baeva, Yord, Georgieva, Kr. Dzharkova, E. Dimitrova, Khr. Dilov, N. Igrachev, D. Kiskinova, R. Kostova, T. Kudrev, D. Mitev, N. Mitreva, E. Molkhova, I. Nedyalkov, M. Noveva, P. Pavlov, St. Peychev, D. Ionov, Iv. Rusinova, E. Staykova, M. Stoilov, G. Todorov, St. Toshev, A. Khristova, E. Shturbanova, and other unofficial collaborators.

Soil Institute  
"Geo. Milev" Sector

Director - Academy Member I. T. Stranski

The institute was founded in 1947. Its principal task is to study Bulgarian cultivated soils, and to establish means of maintaining soil fertility in order that harvests will be constant and continuous. The institute is also working on theoretical and methodological problems in connection with the science of Bulgarian soils.

The work of the institute includes research on the origins, geomorphology and cartography of Bulgarian soils, their chemical and agrochemical characteristics, their physical properties, their biology and fertility, and soil erosion.

The institute has studied and mapped on a scale of 1:50,000 the soils in the Thracian lowlands, between Belovo and Svilengrad, totaling about 10,000,000 decares. A more thorough study was made in this region of areas under irrigation or to be irrigated, covering the most intensive area of Bulgarian agriculture in the Plovdiv sector; the area between the Vuchka, Maritsa, and Chaya Rivers; and the Rhodope Mountains in the Pervomay and Khaskovo areas. The irrigation and physical properties of these areas are being intensively studied. Research is being done on soil changes under the influence of irrigation. Soil types being examined in greater detail include resin, cinnamon forest, brown forest, black earth, humus-carbonate, and salt-type soils, as well as those on

the banks of certain southern Bulgarian Rivers where irrigation is done. Studies are being made of the crust forming on Bulgarian soils with a view to eliminating it, as it is a great hindrance to proper tilling of the earth. Research is being done on changes in the humus in certain Bulgarian soils caused by various crop raising techniques. Most excellent microbiological studies of Bulgarian soils have been made, especially in connection with the distribution and conditions necessary for the development of nitrobacteria, and the reaction of crops, the various soil types, irrigation networks, agrotechnical undertakings, etc. under the influence of bacteria.

Research is being done on the food required by the main Bulgarian soil types. Work is also being carried out on the problem of fertilizing the areas where the most valuable Bulgarian tobaccos grow with a view to increasing yields and retaining high quality.

Structurally, the institute is composed of a section on the origin and cartography of soils, one on soil chemistry, one on soil physics, one on soil biology, and one on soil fertility and erosion.

The institute publishes the "Notices of the Soil Institute" and "Works of the Institute of Soil Studies".

The staff of the institute includes: Academy Member Iv. Stranski, Professor As. Biolchev, Senior Scientific Collaborators I. Vodenicharov, Zh. Voynova, V. Koynov, E. Kolarova, M. Milchev, Junior Scientific Collaborators A. Bekhar, D. Bratanova, M. Karaivanova, A. Kitipov, L. Raykov and other unofficial contributors.

Soil Museum  
"Geo. Milev" Sector

In charge - E. Kolarova

The Soil Museum was established in 1947. Its purpose was to collect soil materials from various parts of the country and to classify them.

Currently the museum is working on the task of encouraging scientific research in the field of soil science in accordance with the requirements arising from Bulgarian agricultural activities. By displaying various soil types and explaining their evolutionary and genetic development, the museum relates scientific problems to the practical needs of socialist agriculture.

The museum has an exhibit department which collect samples of all soils, and a department on the history of soil science, which collects document and records materials on the history of soil science in Bulgaria.

Livestock Breeding Institute  
"Geo. Milev" Sector

Director - Academy Member G. S. Khlebarov

This institute was established in 1947 for the purpose of developing the science of livestock breeding in Bulgaria on the basis of creative Soviet Darwinism, and applying its discoveries, as well as the advances in livestock breeding elsewhere, in livestock breeding in Bulgaria such as to contribute to the fulfillment of the people's economic plans.

The basic scientific problems on which the institute is engaged in research include livestock breeding and the application of Michurin's teachings (improvement of valuable local breeds and creation of new breeds suitable for various areas, breeding of young animals for the purpose of determining the laws governing growth and development in various breeds as well as the best breeding methods); the purchase of foreign species and their adaptation (selection of the most suitable breeds from the point of view of the ecological and economic conditions in various regions of Bulgaria); methods of determining the production capacity of livestock; improvement of feed and fattening of livestock; the structure, digestibility and food value of various fodders, with a view to drafting tables showing the chemical structure, digestibility and food value of Bulgarian fodders by type of animal; development of methods for determining these food values; fodder technology (ensilaging, biological improvement, formulae for combining fodders); economy and organization of livestock breeding in Farm Workers' Cooperatives, State Farms, etc.

The work of the institute is done by the following sections: livestock breeding (biology) and animal genetics, livestock feeding and fodder research; morphology of livestock, constitutional research and acclimatization; and economy and organization of livestock breeding.

The institute publishes the "Notices of the Livestock Breeding Institute" and the "Works of the Livestock Breeding Institute". In 1953 the institute also put out three scientific maps of breed distribution and the density of the cattle, sheep and hog population in the country. The maps were in color.

The staff of the institute includes: Academy Member G. Khlebarov, Professor N. Platikanov, Senior Scientific Collaborators Iv. Dyankov, Iv. Zakhariyev, T. Savov, B. Cheshmedzhiev, Junior Scientific Collaborators R. Draganov, G. Zdravkov, N. Naychev, N. Nenkov, Z. Peteva, S. Sandev, St. Totev, A. Shabalina and other unofficial collaborators.

Institute of Experimental Veterinary Medicine  
"Geo. Milev" Sector

Director - Academy Member K. A. Ivanov

This institute was founded in 1948, and was intended as a center for the development of certain scientific branches of veterinary medicine. In this connection, its basic task is the researching of general and specific problems in the fields of pathomorphology and pathophysiology of livestock diseases, directly or indirectly aiding in combatting the same, and contributing to the methodological improvement of veterinary science in Bulgaria.

To this end the institute has studied or is working on the following basic problems: the pathomorphology of cholera in hogs (spontaneous and experimental), the pathomorphology and pathophysiology of infectious anemia in horses, the morphophysiology of animal blood and the formation of blood in birds under normal conditions and under the influence of leucoses, pathomorphological research on hypo- and avitaminosis "A" in poultry and hogs, the pathophysiology of certain types of fodder poisoning, the pathophysiology of toxic intestinal infections in sheep, the morphology of certain gumma defense reactions in the body, etc.

The institute makes efforts to spread the use of scientific discoveries in veterinary medicine in general, as well as the advances made by its own personnel, in livestock breeding, and it drafts specific plans for the betterment of livestock hygiene in the Farm Workers' Cooperatives and the State Farms. It organizes scientific research teams including workers from livestock farms, and aids in the theoretical instruction of livestock breeders through regional conferences. It publishes special popular scientific literature, etc.

The work of the institute is done by four sections: experimental pathology, normal and pathological physiology and biochemistry, zoo-hygiene and zooprophylaxis, and parasitology.

The institute publishes the "Notices of the Institute of Experimental Veterinary Medicine", as well as various monographs and popular scientific works.

The staff of the institute includes the following: Academy Member Ks. Ivanov, Corresponding Member T. Radev, Senior Scientific Collaborators Iv. Vasilev, Vl. Zhivkov, Z. Mladenov, St. Nedyalkov, P. Prodanov, Junior Scientific Collaborators A. Konstantinov, E. Osikovski, Iv. Stoyanov, T. Todorov, St. Trifonov, and other unofficial collaborators.

Forestry Institute  
"Stalin" Sector

Director - Academy Member B. P. Stefanov

This institute was established in 1954 by the merger of the former forest biology section of the Institute of Biology and the agricultural technology section of the Institute of Technology of the BAN.

Its tasks are to effect a thorough study of the biological peculiarities of forest vegetation and Bulgarian forests in terms of their native location; to aid in practical improvement of growing conditions and increasing forest productivity, forest preservation and strengthening; to do research on forest products, the techniques in their utilization, transportation and processing.

The work of the institute is done by the following sections:

Forest biology, which works on problems in connection with the water regime and the drought resistance of plants; the biology of the seed development process, and the adventive formation of roots; grass and fodder resources, new types of grass, the introduction and adaptation of new, imported species of foreign trees and shrubs.

Forestry and conservation planting, which deals with problems in connection with afforestation and the establishment of greenbelts.

Forest technology, which studies the mechanization of timber producing processes, transportation of a chain-reaction type for deciduous and coniferous forests, the condition and extent of oak timber resources in the country, the production of rosin, etc.

Forestry preservation, which is developing biological methods of combatting tree damage by insects.

The research work of the institute is closely linked with the practical needs of the country. In its concrete tasks, Bulgaria is applying the results of the studies of tannates, vegetative multiplication, and the increase and improvement of growing processes, grass and fodder types, the cultivation of bamboo in Bulgaria, etc.

The institute publishes the "Notices of the Forestry Institute".

The staff of the institute includes the following: Academy Member B. Stefanov, Senior Scientific Collaborator Zh. Stoyanov, Junior Scientific Collaborators P. Atanasov, R. Grigorova, D. Koev, K. Rangelov, B. Serafimov, Iv. Shipchanov, and other nonofficial collaborators.

Honorary Foreign Members

Lisenko, Trofim Denisovich

Born 29 December 1898 in the village of Karlovka, USSR. Elected in 1952. Field - agrobiologist.

Widely known Soviet scientist noted for his research on the interrelations between organisms and external environment, the stages of development, heredity and its mutations, individual development of

plants, etc., on the basis of which he has developed numerous agrotechnical methods for the guided change of the nature of organisms and agricultural plants, the creation of new types of agricultural crops, the increasing of yields, etc.

Author of works in the field of biology which have greatly contributed to the advance of agriculture in the USSR. The principal one of these are: "Report on the Status of Biological Science" (1948), "Agrobiology - Work on the Problems of Genetics, Selectivity and Seeds" (fifth printing, 1952), etc.

Member of the Academy of Sciences of the USSR and of the Academy of Sciences of Ukrainian SSR. Former Chairman of the "V. I. Lenin" All-Union Academy of Agricultural Science. Director of the Institute of Genetics of the Academy of Sciences of the USSR. Hero of Socialist Labor, and Deputy to the Supreme Soviet of the USSR.

Three times Laureate of the Stalin Prize. Recipient of six "Lenin" Awards, the "Red Labor Banner" Award, and many other medals, including a golden "N. I. Mechnikov" Medal.

#### Academy Members

Daskalov, Khristo Stefanov

Born 18 February 1903 in the village of Vuglevtsi in Turnovo Okoliya. Elected in 1952. Field - agronomy.

Noted for his scientific research in the fields of crop raising and truck gardening. Creator of more than twenty new varieties of vegetable crops which are widely grown and are of great economic value to Bulgaria. Author of many scientific and popular scientific works on heterosis in vegetables, interbreed hybridization, methods of grafting, etc. The most important of his works include: "Research on Heterosis in Tomatoes, and the Possibilities for Applying It Practically in Bulgaria" (1935), "Foundations of Hothouse and Coldframe Vegetable Growing in Bulgaria" (1941), "Heterosis and Its Application in Truck Gardening" (1947), "Foundations of Vegetable Raising in Bulgaria" (in collaboration with P. Popov, 1949), "Grafting Solanacea and Cucurbitaceae" (1950) (Notices of the Institute of Biology of the BAN, 1950, Issue Number 1, pages 281-289), "New Results in Crossbreeding with Sol. Racemigerum" (1953) (Notices of the Crop Raising Institute of the BAN, 1953, Issue Number 1, pages 35-45), etc.

Editor-in-Chief of the "Notices of the Crop Raising Institute".

Secretary of the Department of Agricultural Sciences of the BAN. Director of the Crop Raising Institute of the BAN. President of Plovdiv University (1947), and a great contributor to its development and strengthening. President of the "V. Kolarov" Higher Shricultural Institute in Plovdiv (1949-1951). For many years Director of the "Maritsa" Agricultural Scientific Research Institute in Plovdiv (1932-1946). Corresponding Member of the German Academy of Agricultural Sciences in Berlin (1955).

Doctor Honoris Causa from Humboldt University in Berlin. People's Representative to the Second People's Assembly.

Attended the Fourteenth International Congress on Truck Gardening in Holland (1955), etc.

Laureate of the Dimitrov Prize, and recipient of the "Red Labor Banner" Award.

Kostov, Doncho Kostov

Born 18 June 1897 in the village of Lokorsko in Sofia Okoliya. Elected in 1946. Died 9 August 1949. Field - agronomy.

Noted represented of biological science in Bulgaria. Worked and published a large number of papers on applied biology, experimental genetics, cytogenetics, and immunity in the vegetable world in particular, published both in Bulgarian and foreign languages. Author of a long monograph entitled "Cytogenetics of the Nicotiana Family" (1943), for which he received an award in 1948 from the Czechoslovak Republic. Author of the following other important works: "Biology of the Callus" (1930), "The Current Status of the Problem of Interspecies Hybridization in Plants" (1938), "The Polyploid and Its Role in the Evolution and Selectivity of Plants" (1941), "The Resistance of the Mosaic Virus" (1944), etc.

Promoted the application of Soviet scientific advances in Bulgaria after a long-term stay in the USSR. Worked on the reorganization of Bulgarian agricultural technology and the development of Bulgarian agricultural production under socialist conditions.

Professor in the Department of Agronomy at Sofia University (until 1949). Longtime Director of the Central Agricultural Testing Institute in Sofia (1939-1943). Founder of the Institute of Applied Biology of the Bulgarian Academy of Sciences and the Institute of Darwinism, Genetics, and Selectivity in the agronomy department at the "Georgi Dimitrov" Higher Agricultural Institute.

Ivanov, Ksenofont Andreev

Born 6 September 1898 in Ruse. Elected in 1952. Field - veterinary and comparative pathology.

Noted for his scientific research on the pathological morphology of livestock. Author of many works on the pathomorphology of changes caused in the bodies of domesticated ruminants by linguatulida, and on the frequency of incidence of parasites in their best carrier, the dog. His most important work in this field is "Research on Linguatulosus of the Mesenteric Ganglions in Oxen and Water Buffalo in Bulgaria of the So-called Pentastomatic and Trematodic Centers" (1933) (Annual Publication of the Veterinary Department, 1932/1933, pages 203-264), also published in German. Also author of the following important works: "Über

das Wesen der filtrierbaren Vira" (1941) (ibid, 1940/1941, pages 423-465), "Research on the So-called Asterogenesis in Nematodic Larvae and Plant Spore in Domestic Animals" (1954) (Notices of the Institute of Experimental Veterinary Medicine of the BAN, 1954, Issue Number 3, pages 7-29), "The Morphology of Measles in Sheep" (1956), etc.

Editor-in-Chief of the "Notices of the Institute of Experimental Veterinary Medicine" and editor of the magazine "Veterinary Collection" both before and since 9 September 1944.

Secretary of the Editorial and Publications Council (since 1956). Director of the Institute of Experimental Veterinary Medicine of the BAN. President of the former "G. Dimitrov" Academy of Agriculture (1948-1953). Member of the National Council for the Defense of Peace.

Took part in the National Congress of Veterinary Workers in Budapest (1954), the Conference on Coordinating Scientific Work in the Field of Agriculture in Berlin (1956), the Congress of Cultural Workers for the Defense of Peace in Vrotslav (1948), etc.

Laureate of the Dimitrov Prize.

Stefanov, Boris Popov

(Stefanof is the patronymic, by which he is known.)

Born 21 June 1894 in Sofia. Elected in 1943. Fields - botany and forestry.

Noted for research work and study of Bulgarian forests. Author of many works and scientific reports on the morphology and classification of plants, phytocenology, plant ecology, plant geography, dendrology, and forestry which have contributed to scientific advancement and to practical work. The most important of these are: "A Monograph on the Species *Colchicum L. C.*" (1926) (Symposium of the BAN, 1926, Issue Number XXIV, pages 1-100), "Origin and Development of Vegetational Types in the Rhodope Mountains" (1927), "An Effort to Establish A Parallel Classification of Climates and Vegetational Types" (1930) (ibid, 1930, Volume XXVI, pages 1-122), "Phytogeographic Elements in Bulgaria" (1943), "A Contribution to the Study and Classification of Oak Forests in Bulgaria" (1942-1944), "Bulgarian Flora" (in collaboration with N. Stoyanov, third printing, 1948), "Results of A Study of Some Perennial Wheat Grasses With An Evaluation of Their Role in Crop Rotation, Fodder Production and of Their Strengthening" (1955) (Notices of the Forestry Institute of the BAN, 1955, Issue Number 1, pages 233-280), etc.

Editor-in-Chief of the "Notices of the Forestry Institute". Scientific advisor to many workers engaged in the development of the science of forestry and its application to practical work.

Director of the Forestry Institute of the BAN. Chairman of the Higher Technological Forestry Institute (1953).

Laureate of the Dimitrov Prize. Recipient of the "Red Labor Banner" Award and the "Science and Arts" Medal.



Stranski, Ivan Todorov

Born 18 April 1886 in Sliven. Elected in 1943. Fields - natural and agronomical sciences.

Noted for his research on soil science, the cultivation and fertilization of soils in Bulgaria, which he established on a scientific basis. Author of many scientific works, the most important of which are: "Weeds in Agriculture from A Biological Point of View" (1920), "Sofia Black Earth" (1933) (Annual Publication of the Department of Agriculture and Forestry, 1932/1933, Issue Number XI, pages 565-646), "Field Experiments With Fertilizer in Bulgaria" (in collaboration with V. Vulkanov, 1940), "Soil Cultivation" (1940), "Fertilizers and Fertilizing" (1947), "Resin Soils in the Chirpan Area" (in collaboration with V. Koynov, 1948), etc.

Editor-in-Chief of the "Notices of the Soil Institute". Editor of the magazine "Agriculture", the organ of the Bulgarian Agricultural Society (1921-1930).

Has done work on the history of crops in Bulgaria, and participated in many experiments with fertilizers in the country. Scientific advisor of many years standing to young specialists in soil science, fertilization and soil cultivation.

Director of the Soil Institute of the BAN. Director of the Central Agricultural Research Institute in Sofia (1935-1939). In charge of the Department of General Agriculture in the Agronomy Department of Sofia University (1921-1952). Member of the International Association on Soil Science; member of the International Tobacco Center, etc.

Has attended international congresses on wheat in Warsaw (1931) and Rome (1932); on irrigation in Rome (1943); in honor of Professor E. Mitcherlikh in Berlin (1954), etc.

Recipient of the "Kiril i Metodiy" and "Civic Merit" Awards.

Kulebarov, Georgi Stefanov

Born 19 December 1886 in Stara Zagora. Elected in 1952. Fields - agronomy and zootechnics.

Noted for his work in agricultural sciences, particularly livestock breeding. Most of his writings deal with the origin, morphology and physiological and economic characteristics of breeds developed in Bulgaria -- cattle, hogs, sheep, and chickens -- and the suitability of various types of fodder for the feeding and fattening of the various breeds. His most important works include: "The Eastern Balkan Hog" (1921), "The Size, Fattening Potential and Breeding Cost of Hogs Bred in Bulgaria" (1926-1927), "The Brachycera Cattle in the Rhodope Mountains" (1930), "The Karnobat Sheep" (1933), "The Bulgarian Grey Iskur Cattle and Their Origin" (1934), "Studies of Local Bulgarian Breeds of Sheep" (1940), "Interbreed Crossings in Hogs -- Heredity of Type and Economic Qualities in Breeds of Hogs Raised in Bulgaria" (1951), etc.

Editor of the agricultural magazines "Agricultural Livestock Breeding" (1915-1933), "Agricultural Practice" (1920-1922), "Profitable Poultry Breeding" (1930), "Agricultural Upsurge" (1925-1926), "Agricultural Culture" (1945-1948), and the popular agricultural series "Rural Economy", one of the first series for the mass popularization of agricultural science in Bulgaria. One of the founders of the first publishing house for agricultural literature in Bulgaria, the "Agrariya" (1919), of the Department of Agronomy and its Institute of Private Livestock Breeding, of the Central Poultry Breeding Experimental Station near Sofia (1927-1932), and of the Central Livestock Breeding Research Institute of the Ministry of Agriculture in Sofia (1937-1942). Editor-in-Chief of the "Notices of the Livestock Breeding Institute" and the "Works of the Livestock Breeding Institute" series.

Director of the Livestock Breeding Institute of the BAN, Professor of Livestock Breeding in the Department of Agronomy of Sofia University (1922-1944). Former member of the Central Committee of the International Federation of Agronomical Engineers in Rome and of the World Scientific Poultry Breeding Society. Doctor Honoris Causa from the Higher School of Agricultural Sciences in Vienna.

Attended international conferences and congresses on livestock breeding, poultry breeding, etc. in London (1929 and 1930), Rome (1933), Milan (1936), Zurich (1939), Warsaw (1939), Tripoli (1939), and Berlin (1956).

Recipient of the "Kiril i Metodiy" Award.

#### Corresponding Members

Georgieva, Rayna Angelova

Born 26 July 1902 in Turnovo. Elected in 1952. Field - agronomy.

Is working in the fields of Darwinism, selectivity and genetics, and in particular on problems in connection with vegetative and remote hybridization -- intertype and interspecies, on the possibility of cross-breeding various plants and species, the sterility of removed hybrids, the influence of removed species' pollen upon the quality of hybrids, selectivity in intermediate flax, hereditary mutations in the regeneration of plants, etc. Is working on methods of reducing the process of selectivity in interspecies hybridization in tomatoes and potatoes.

Author of many works, the most important of which are: "Interrélationships Between the Foundation and the Graft in Certain Species of the Families Solanum, Capsicum and Datura" (1945), "Hybrid Mutation in Transplanting Certain Solanaceae" (1947) (Notices of the Central Agricultural Research Institute, 1947, Volume I, Number 1, page 41), "Necrotic Reaction in Potato Crops When Grafted With the Wild *S. Caldasii*" (1948), "Interspecies Hybridization in Potatoes" (1953) (Notices of the Crop Raising Institute of the BAN, 1953, Issue Number 1, pages 51-86), "The Influence of Removed Families' Pollen Upon the Qualities of Interspecies Hybrids in Tomatoes" (1955) (ibid, 1955, Issue Number 3, pages 55-74), etc.

Professor at the "G. Dimitrov" Higher Agricultural Institute in Sofia.

Recipient of the "People's Order of Labor" (silver).

Popov, Atanas Trifonov

Born 13 January 1906 in Gorna Lipnitsa village in Turnovo Okoliya. Elected in 1952. Field - agriculture.

Engaged in work in the field of crop raising, particularly on classification of varieties of the most important agricultural crops in Bulgaria. His writings on wheat varieties in Bulgaria, tobacco, beet and potato cultivation, are well-known. These works describe the many biological peculiarities of these crops from the point of view of variety of kinds as well as selectivity and agrotechnics.

Author of the following important works, many of which have been published in foreign scientific magazines: "Untersuchungen über den Formenreichtum und die Schartigkeit des Roggens" (1929) (Angewandte Botanik, 1939 Bd. XXI), "Domestic Rye Compared With the Western European Variety" (1939) (Annual Publication of the Department of Agriculture and Forestry, 1938/1939, Issue XVII, pages 523-555), "Über den Auswuchs beim Getreide" (1942) (Angewandte Botanik, 1942, Bd. XXIII), "A New Type of Wheat" (1952), "The Vernalization of Wheat in the Rest Period During Growth" (1953), "A Study of Acute Fasciolosis" (1955) (Notices of the Central Helminthological Laboratory of the BAN, 1955, Issue Number 1, pages 143-156), etc.

Deputy Secretary of the Department of Agricultural Sciences. Vice President of the "G. Dimitrov" Agricultural Academy (1949-1951).

Recipient of the "Kiril i Metodiy" and "Civic Merit" Awards.

Radev, Toncho Petrov

Born 27 September 1898 in Kolarovgrad. Elected in 1952. Field - veterinary medicine.

Working in the fields of physiology, physiological chemistry and veterinary medicine. Author of many scientific works published in Bulgarian and other languages in the fields of biochemistry, physiology, veterinary medicine and livestock breeding. The most important include: "Über die Rohfaserverdauung beim Huhn" (1928) (Biochemische Zeitschrift, 1928, Bd. 193), "Wirkung von Luftverdunnung verschiedenen Grades" (1930) (Pflügers Archiv für gesamte Physiologie, 1930, Bd. 226), "Über Calcium-, Phosphor- u. Stickstoffansatz junger Tiere in der Saugezeit" (1930) (Archiv für Tierernährung u. Tierzucht, 1930, Bd. 3), "The Exchange of Iron" (1931) (Annual Publication of the Department of Veterinary Medicine, 1930/1931, Issue Number VII, pages 139-159), "A Contribution On the Problem of Catalase of the Blood Organs" (1950) (ibid, 1950, Issue XXVI, pages 371-389), "Über die Bewegungen des Pansens und der Mechanismus des Wiederkauens" (1955) (Archiv für Tierernährung, 1955, Bd. 5), etc.

Professor at the Higher Institute of Veterinary Medicine in Sofia.

Recipient of the "Kiril i Metodiy" and "Civic Merit" Awards.

Stoyanov, Vasil Bolgradov

(Stoyanov is his patronymic, by which he is known.)

Born 6 January 1887 in Sliven. Elected in 1947. Field - forestry.

Is working on problems in sylviculture, in connection with the timber industry and tree technology. Noted for his method of producing resin from Bulgarian pine forests. Author of many scientific works, a large part of which deal with tree knowledge and the technology of tanning materials of vegetable origin. The most important of these include: "Efforts At Obtaining Resin from Bulgarian Coniferous Forests" (I-III, 1934-1937) (Annual Publication of the Department of Agronomy and Forestry, 1934/1935, Issue Number 2, pages 135-166; 1935/1936, Issue Number 2, pages 204-220; 1936/1937, Issue Number 2, pages 138-162), "A Contribution To the Study of Conditions Necessary for the Obtention of Resin from Bulgarian Coniferous Forests" (1938) (ibid, 1937/1938, Issue Number 2, pages 39-80), "A Study of the Qualities of Ash Timber" (1943) (ibid, 1942/1943, Volume XXI, pages 229-266), "A Comparative Study of the Technological Properties of Beech Timber from the Standard and Eastern Beech Trees" (in collaboration with E. Enchev, 1949), "A Study of the Mechanization of Timber Production Processes and the Transport of Timber by the Chain Method in Beech Forests" (1955) (Notices of the Institute of Forestry of the BAN, 1955, Issue Number 1, pages 35-115), "Tanning Raw Materials of Vegetable Origin" (1956), etc.

Editor of the magazines "Forestry Review" (1925-1929) and "Forestry Thought" (1932-1936). Member of the Editorial Board of the magazine "Priroda".

Professor at the Higher Institute of Forestry Technology in Sofia.

Laureate of the Dimitrov Prize and recipient of the "Kiril i Metodiy" Award.

#### INSTITUTE OF CITY PLANNING AND ARCHITECTURE

108 Rakovski Street

[Pages 27-280]

Director - Corresponding Member L. N. Tonev

This institute was founded in 1947 as a scientific committee on civic planning and architectural problems in the Department of Mathematical, Physical and Technological Sciences. In 1949 this committee was expanded to become the institute.

Its basic task is to contribute to the development of these fields in Bulgaria, to study and research all problems in them in Bulgarian history as well as the present in connection with the construction of socialism in Bulgaria.

The research work of the institute is done by five sections: city planning, working on basic principles of municipal layout under socialist conditions as a prerequisite to the general construction and reconstruction of inhabited settlements in Bulgaria; housing construction, studying the principles, condition, distribution, architecture and furnishing of mass living quarters in connection with type planning and prefabricated buildings as an aspect of the basic task of creating a socialist life for the Bulgarian people; public, industrial and agricultural premises, which does work on the principles and architecture of the basic types of public buildings needed to serve the health, cultural, communal and productional needs of the working people under socialist conditions in Bulgaria; construction technology, which studies the development of building techniques in Bulgaria with a view to devising new construction materials and plans, and developing industrialization, standardization, mechanization and organization, particularly in mass construction and prefabricated building, with a view to increasing the volume of building and reducing its cost; history and theory of architecture, which does research on the Bulgarian people's architectural heritage to the end that it can be creatively incorporated in modern architecture, and also for the purpose of compiling a history of Bulgarian architecture.

As of 1949, an architectural research workshop was added to the other sections. It does experimental work on the problems being studied by the other sections.

The institute publishes the "Notices of the Institute of City Planning and Architecture", "Works of the Institute of City Planning and Architecture", and a series entitled "Material on the Bulgarian Architectural Heritage".

The staff of the institute includes: Corresponding Member L. Tonev, Senior Scientific Collaborators G. Daskalov, K. Dzhangozov, Kh. Zhilov, Y. Yordanov, G. Kozhukharov, A. Popov, S. Stanov, G. Stoykov, B. Stoyanov, and Sht. Shterev, Junior Scientific Collaborators Kh. Anastasov, Y. Yosifov, P. Nikolova, R. Rodev, N. Kharlakov and other unofficial collaborators.

Tonev, Lyuben Nikolov

[Pages 291-292]

Born 30 March 1908 in Kyustendil. Elected in 1947. Field - architecture.

Is working in the field of civic planning and architecture. Noted for his activities in the drafting of the plans for many cities (Sofia, Pleven, Burgas, Lovech, Kyustendil, Peshtera, Teteven, Khisarya, and others). Author of the following works: "The Square" (1949), "Towers and Belfries in Bulgaria Prior to the Liberation" (1952), "The Planting of Greenery in Inhabited Settlements in Bulgaria" (in collaboration with his staff, 1953), "Territorial Planning of Economic Zones in Bulgaria" (1955), "Planning of Bulgarian Villages" (in collaboration with his staff, 1956), etc.

Editor-in-Chief of the "Notices of the Institute of City Planning and Architecture".

Deputy Secretary of the Department of Graphic Art, Music and Architecture of the BAN. Director of the Institute of City Planning and Architecture of the BAN. Professor at the Institute of Construction Engineering.

Attended the Scientific Congress of the Hungarian Academy of Sciences in Budapest (1952) and the meetings of the Executive Committee of the International Union of Architects in Stockholm (1949) and in Warsaw (1956).

Recipient of the "9 September" Award.

#### Scientific Coordination Council

Number 1, 7 Noemvri

Boulevard

[Pages 295-296]

Chairman - Academy Member T. Pavlov

Academic Secretary - Academy Member D. Orakhova

The Scientific Coordination Council was established in 1954 as an organ of the Presidium of the BAN. Through it, the BAN exercises its general supervision of all the scientific activities of the many scientific institutes and establishments in the country, and coordinates their activities with those of the BAN.

Within this framework, the Scientific Coordination Council issues opinions and submits proposals as to the creation, approval, organization and scientific personnel of the research institutes of the various administrations, and on plans for the structure and activities of these institutes. It develops measures for coordinating the scientific work of the institutes in the various sections of the BAN, and to promote the rational utilization of experimental and material-technological centers at the institutes in the various administrations. It makes recommendations in connection with the distribution of scientific and research projects ordered by the Party, the government, the State Planning Commission, and other administrations and organizations among the institutes of the various administrations and the BAN. It reviews and issues opinions on the drafts of projects of scientific research to be done by the institutes of the various administrations. It reviews the reports of each administration, and prepares a general accounting report of the scientific research done by the administrations, scientific and research institutes.

The organizational work of the Scientific Coordination Council is done by the following committees: physical, mathematical and technological sciences, under the chairmanship of Academy Member L. Chakalov; geological, geographical and chemical sciences, under the chairmanship of Academy Member Str. Dimitrov; agricultural sciences, under the chairmanship of Professor K. Pavlov; biological and medical sciences, under the chairmanship of Academy Member N. Stoyanov; social sciences and culture,

under the chairmanship of Academy Member P. St. Staynov; and production forces, under the chairmanship of Professor T. Polyakov. Each committee establishes as many subcommittees as it needs to assist it in its work.

Together with the various departments of the BAN, the committees of the Scientific Coordination Council determine what the basic scientific problems in the various fields of science will be dealt with. Their subcommittees then work out the detailed programs for the projects.

The work of the Scientific Coordination Council is guided by a bureau with the aid of the secretaries of the BAN departments, the chairmen of its committees, and a representative -- a deputy minister or under-secretary -- from the State Planning Commission, the Ministry of Education and Culture, the Ministry of Finance, the State Personnel Commission, and the other ministries and administrations which have institutes for scientific research under their supervision.

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Mathematische Zeitschrift

Spisanie "Khidrotehnika i melioratsii" - "Hydrotechnology and Ameliorations" Magazine

Astronomische Nachrichten

Sp. Blad - Blad Magazine

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Zhurnal tekhn. fiziki - Journal of Technological Physics.

Hochfrequenztechnik



Zeitschrift fur physikalische Chemie

Zeitschrift fur Physik

Meteorologische Zeitschrift

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Izvestiya na Khimicheskaya institut pri BAN - Notices of the Institute of Chemistry of the BAN.

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