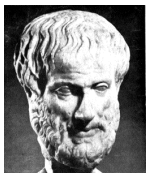

Newsletter

for the History of Science in Southeastern Europe

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INTERNATIONAL CONFERENCE ON THE HISTORY OF SCIENCE

The Unification of Scientific Europe 17th - 19th centuries

Athens, October 11-14, 2000
National Hellenic Research Foundation

The Conference is organised by the History of Science Programme, Institute for Neohellenic Research, National Hellenic Research Foundation.
The Proceedings will be published.

Organising Committee.
President: Ion Siotis, President of the NHRF
Vice President: Yannis Karas, Research Professor, INR/NHRF
General Secretary: Efthymios Nicolaïdis, Associate Research Professor, INR/NHRF
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Vassilis Kalfas, Professor, University of Crete
Representing the Ministry of Culture: Maria Michaelidou, Director of Cultural Events

PROGRAMME

Wesdesday, October 11, 18.00.
Afternoon session 19.00 - 20.30, President, Ion Siotis
Aristides Baltas, «Internal and external components of scientific thought: some questions of methodology».
Michel Blay: «La diffusion de la mathématisation de la physique».
Andreas Kleinert, «Diffusion and knowledge by migration. German speaking scientists in European Academies and Universities».

Thursday, Octobrer 12
morning session 10.00 - 14.00, President Vassilis Panagiotopoulos
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Yorgos Kontoyorgis, «Anthropocentrism and the evolution of science».
Costas Gavroglou, «The myth of the universality of scientific discourse in Europe'
Dimitris Dialetis, The multivariousness of scientific discourse in Europe (seventeenth - nineteenth centuries)».
Paraskevas Konortas, «The Greek East and the Latin West: Questions of identity»
Alexander Petrovich, «European science between Cartesian and alternative paradigms».
Christine Phili, «Defenders and opponents of non-Euclidean Geometry in nineteenth-century Europe. The case of Athanasios Karayannidi».

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Karl Siilivansk, «The unification of scientific life in Baltic Sea region 17th-19th c».
Anastasios Tsiantoulas, «The experiment as a factor in scientific unification: the cryogenic laboratory of Leyden»
Roman Duda, «On the origins of the Polish Mathematical School».
Sergei Demidov, «The birth of mathematical research in Russia 17th-19th centuries».
Michael Assimacopoulos, «The sciences in Russia in the seventeenth century. Greek Orthodox and Western influences»
Miladin Apostolov-Penka Ivanova, «National traditions and external influences on Bulgarian science, 18th -19th century».
Theodoros Christidis, «Conjectural causality. A revolution with prior notice»

Friday, October 13
morning session 10.00 - 14.00, President Paschalis Kitromilides
Yannis Karas, «The unification of the European and Greek scientific worlds in the eighteenth - nineteenth century. From one vessel into another, or keeping pace?»
Dimitrios Karamberopoulos, «Can we speak of a single world of medicine?»
Μαρία Maria Terdimou: «Against the current: the contribution of the periphery to the development of European science».
George N. Vlahakis, «Homogeneity and difference in scientific thought. The case of south-eastern Europe in the eighteenth - nineteenth century».
Costas Krimbas - Theodoros Kritikos, «The Ionian Academy - Athens University: Communicating vessels or parallel paths?».
Nikos Kastanis, «The development of analytical thought and its reverberations in modern Greek mathematical education».
Nikos Matsopoulos, «The reception of modern Astronomy in Greece in the eighteenth - nineteenth century».

Afternoon session 17.00 - 20.30, President Pantelis Nikolakopoulos
Savvas Agouridis, «The position of the Christian Churches when the Enlightenment put science before everything».
Vittorio Marchis «L'Italie, charnière scientifique entre Orient et Occident».
George Papagounos, «The philosophical physiology of the eighteenth century».
Vincent Jullien, «La diffusion des idées de Descartes dans le sud de l'Italie».
Noel Golvers, «The role of the Jesuits in the spread of European science».
Michalis Lambrou, «The Hodos Mathematikes of Methodios Anthrakitis - Balanos Vasilopoulos, an early mathematical text from a Western viewpoint».
Radu Iftimovici-Marina Ion, «La difusion des idées: un fils du compositeur Franz Liszt, le fondateur de l'enseignement médical en Roumanie».

Saturday, October 14
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Ekmelledin Ihsanoglu, «European science and the Ottoman Empire».
Efthymios Nikolaïdis, «From the Ottoman Empire to the Nation-State. The sciences as a European ideology».
Robert Halleux: «Science en Belgique: l'intégration scientifique d'un nouvel Etat».
Mustafa Kaçar, «The Hellenic Philosophical School in Istanbul at the beginning of the 19th century»
Vasilis Pappas, «Trends and influences in the establishment of Chemistry as an autonomous science in the Greek intellectual world».
Feza Günergun, «Mavrogéni Pasha and the difusion of science in the Ottoman Empire».
Konstantinos Chatzis, «L' influence d' une exception: la formation des ingénieurs en France, 18e-19e siècle».

Sponsors:
The Conference is sponsored by the General Secretariat for Research and Technology and by the Ministry of Culture.

NEWS FROM THE HISTORY OF SCIENCE IN TURKEY

IRCICA Director General Prof. Ihsanoglu elected member of the International Academy of the History of Science, Paris

Prof. Dr Ekmeleddin Ihsanoglu has been elected a member of the Paris-based International Academy of the History of Science. The Academy, a scholarly institution of world renown, brings together scholars who have produced important works in the field of the history of science. It was established in 1927-28 and has boasted such leading figures in this field as Aldo Mieli, its founder, and George Sarton. Among its distinguished members are Joseph Needham, Alexandre Koyne and René Taton. The Academy, which is currently presided over by Prof. William Shea, a world-renowned authority on the history of science, has Prof. Emmanuel Poulle as its Permanent Secretary. Prof. Ihsanoglu is the 290th member of the Academy and the second to have been elected from Turkey after Ord. Prof. Dr Aydin Sayili, who was elected in 1961.

The 16th General Assembly of the Turkish Society for the History of Science (TBTK)

The 16th General Assembly of the Turkish Society for the History of Science was held on 13 May 2000. After the election of the new Council members (Head: Prof. Ali Riza Berkem; Assistant Head: Dr Mustafa Kacar; Secretary: Dr Sevtap Kadioglu), the Board of Directors was elected, and is as follows:
President:Ekmeleddin Ihsanoglu (Istanbul University)
Vice-President: Atila Bir (Istanbul Technical University)
Secretary: Gaye Sahinbas (Istanbul University)
Treasurer: Emre Dolen (Marmara University, Istanbul)
Member: Mustafa Kaçar (Istanbul University)

History of the Ottoman State and Civilisation, prepared by a group of historians, edited and preface by Ekmeleddin Ihsanoglu, translated into Arabic by Salih Sadawi Salih, Istanbul 1999, two volumes, photographs, maps, diagrams and tables.

An English edition of the IRCICA's History of the Ottoman State and Civilisation will soon be available. The original Turkish edition of the first volume appeared in 1994, and that of the second volume in 1998. This book, a joint publication by eminent scholars in this field, is a comprehensive study of various aspects of the six hundred-year history of the

Ottoman state and civilisation from the formation of the Ottoman principality until the proclamation of the Republic of Turkey in 1923. It came out under a large-scale research project of the IRCICA entitled 'The History of the Muslim Nations'. It aims to give an objective account of the history of the Ottoman state and civilisation on the basis of the Ottoman archival sources, chronicles, and works published by contemporary scholars world-wide. The authors have tried to depict the analytical connections between historical facts and developments instead of presenting them with a purely descriptive approach.

The first volume, on State and Society, consists of the following parts and chapters: Part I: Ottoman Political History: I. 'From Establishment until the Treaty of Kucuk Kaynarca' by Feridun Emecen; II. 'From the Treaty of Kucuk Kaynarca until the Disintegration of the State' by Kemal Beydilli; Part II: 'Ottoman State Administration' by Mehmet Ipsirli; I. Palace Administration, II. Central Administration, III. Provincial Administration; IV. The Ilmiye Career iyildiz; Part VII: 'Ottoman Economic Structure' by Mubahat S. Kutukoglu: I. The Ottoman Financial System, II. Precious Metals, Monetary and Price Policy, II. Trade and Commerce, IV. Transport, Communication and the Postal Services, V. Industry.

The second volume, on Civilisation and Culture, is in four parts. Part I.: 'Language and Literature': I. 'Ottoman Turkish' by Nuri Yuce, II. 'Turkish Literature in Anatolia' by Gunay Kut, III. 'Turkish Literature during the Period of Westernisation' by Orhan Okay, IV. 'Literature of the Muslim Peoples in Europe during the Ottoman Period' by Nimetullah Hafız, V. 'Intellectual Life in the Arab Provinces during the Ottoman Period' by Leila Sabbagh; Part II: 'Religion and Thought': I. 'Religion' by Ahmet Yasar Ocak, II. 'Intellectual Life' by Ahmet Yasar Ocak, III. 'A Study of Intellectual Life during the Period of Westernisation' by Orhan Okay; Part III. 'Education and Science' by Ekmeleddin Ihsanoglu: I. 'Ottoman Educational and Scientific Institutions', II. 'Ottoman Scientific Literature'; Part IV: 'Art and Architecture': I. 'Ottoman Art and Architecture' by Esin Atil, II. 'The Art of Calligraphy among the Ottomans' by M. Ugur Derman, III. 'The Art of Illumination among the Ottomans' by Cicek Derman, IV. 'Ottoman Music' by Cinucen Tanrikorur.

The work includes photographs, a glossary, a chronology, a bibliography, and a detailed index. It is expected to serve as a source of reference both for historians and for general readers.

Science in Islamic Civilisation. Proceedings of the international symposia 'Science Institutions in Islamic Civilisation' and 'Science and Technology in the Turkish and Islamic World', edited by Ekmeleddin Ihsanoglu and Feza Günergun, No. 9 in the Studies and Sources on the History of Science series, Istanbul 2000.

IRCICA is pleased to present the proceedings of two symposia on the history of science, collected in a single volume. The first symposium, on Science Institutions in Islamic Civilisation, was organised with the collaboration of the Turkish Society for the History of Science (TBTK), UNESCO, and the Third World Academy of Science (TWAS), at IRICICA's headquarters in 1991. The second was the international symposium on 'Science and Technology in the Turkish and Islamic World', held in 1994 with the collaboration of the Turkish Society for the History of Science (TBTK), Bosporus and Marmara Universities (Istanbul), and the Uzbekistan Academy of Sciences, on the occasion of the 600th anniversary of the birth of Ulugh Bey and the 125th of the foundation

of the Kandilli Observatory (Istanbul). The book contains 23 papers reflecting valuable research findings and innovative assessments by leading scholars and researchers in the field. As explained by Prof. Ihsanoglu in the preface, the two symposia addressed inter-related topics, but examined them from different viewpoints; thus, the inclusion of the papers read at them in a single volume will help to meet a variety of research interests. The papers are grouped according to the subjects on which they focus: first, a group of six papers dealing with science institutions, then four on astronomy, followed by six papers on mathematics, three papers on engineering technology and cartography, and four papers on medical sciences. It is hoped that this book will contribute to the advancement of research into science in Islamic civilisation.

HISTORY OF SCIENCE PERIODICAL PUBLICATIONS IN SERBIA

Lives and works of Serbian scientists,
publication of the Serbian Academy of Science and Arts

The Committee for the Study of the Lives and Works of Serbian Scientists and Scientists of Serbian Origin of the Serbian Academy of Sciences and Arts was established in 1992. The Committee established its Lives and Works of Serbian Scientists publications in 1994. The first book in this series came out in 1996, and six more have been published since then.

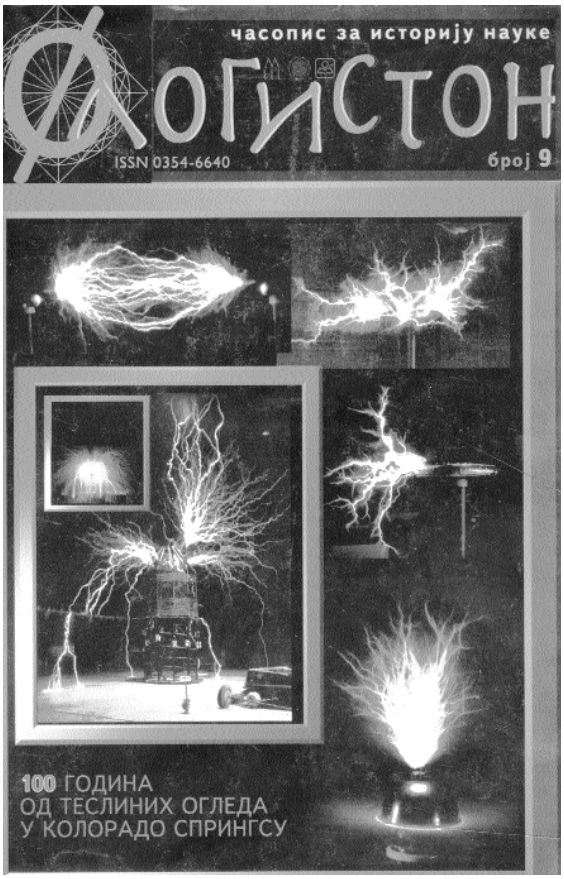
This publication covers the lives and works of Serbian scientists in the fields of natural sciences and mathematics. Up to now, it has included 72 scientists engaged in different basic sciences: 11 scientists in Mathematics, 9 scientists in Geology, 9 scientists in Biology, 9 scientists in Chemistry, 5 scientists in Mechanics, 4 scientists in Geography, 1 scientist in Physics, 1 scientist in Astronomy; from applied sciences: 10 scientists in Biotechnical Sciences, 9 scientists in Medical Sciences, and 4 scientists in Technical Sciences.

These sciences and scientific fields have been covered by 91 authors - members of the Serbian Academy of Sciences and Arts, university professors, and researchers from academic institutions. It is planned to cover 217 scientists of the XIX and XX centuries in this publication. The Committee has planned this publication to be of a lasting character and for it to appear as long as there are Serbian scientists.

In terms of social origin, the scientists described originated from a variety of social strata: 14 of them were from farmers' families, 12 from traders', 7 from teachers' families, 7 from families engaged in politics and government administration, 6 from military officers' families, 4 from those of craftsmen, 4 from the families of clergy, 3 from families with members with university degrees, and 1 from a family involved in different forms of art.

The importance of this publication lies in its complexity and its systematic approach to every single scientist included. The outstanding and distinguished scientists described in this publication have been considered not only from the scientific, but also from the philosophical, social and existential point of view. Each paper dealing with a single scientist is supplemented by a complete bibliography of his/her works, as well as by a bibliography of papers published on him/her. Each text is followed by an abstract in English.

Miloje R. Sari, Member of the Serbian Academy of Science and Arts



Phlogiston, journal for the History of Science

Phlogiston is the first journal in south-eastern Europe to specialise in the general history of the natural sciences. The periodical was first published in Belgrade in early 1995. The nine issues published contain about 3,000 pages dedicated to an examination of various topics from the history of science in Serbia and Europe. All the studies in the journal are published in Serbian and English, with a summary in one of those languages. In this way, almost all the relevant information is made available to the widest circle of readership.

The international editorial staff consisting of historians of science from Serbia and the United Kingdom edits the periodical, and it is published by the Museum of Science and Technology, the Serbian Society for the History of Science and Agency for Textbooks. Each issue has a primary topic which is explored extensively and in detail. In past issues some of the topics have been: Serbian Engineers in the Nineteenth Century; Serbian Astrophysics in the Nineteenth Century; Leonardo da Vinci and the History of Geology; Chemistry in Byzantium; Serbian Geography in the Nineteenth Century; Serbian Astronomy in the Nineteenth Century; Harmony and the History of Science; Nikola Tesla's Experiments in Colorado Springs. In addition, the journal has published special issues containing extensive studies by Ljerka Opra: 'History of Serbian Meteorology (1848 - 1998)', and Nenad Jankovic: 'History of Astronomy down to the Nineteenth Century'. A study by Dusan Jovanovic which investigates the history of prospecting for gold and copper in Eastern Serbia, and a study of Isaac Newton's alchemy are to be published by the end of the year.

In the last issue (No. 9) of Phlogiston, which appeared in June 2000, inter alia, there was a study by Veselka Trajkovic: 'Serbian Astronomy in the Nineteenth Century', a study by Bernar Carlson: 'Tesla, Motors and Myths', a paper by Vladimir Jankovic: 'The Meaning of Concepts - Operationalism or Not', a study by Aleksandar Petrovic: 'History of Science - Stupendous Possibility of Achievement or Picture of Dorian Grey', and a contribution by Ivan Gutman: 'The Obscure Chemist Mita Petrovic'. Apart from the above, special attention is given in the last issue to: exploring the history of the first Serbian 'Physics' by Atanasije Stojkovic (1773 - 1832), which was first published in 1801 in Budapest; works of the Russian architect Nikola Petrovich Krasnov (1864 - 1939) in Belgrade; the translation of Milutin Milankovic's Canon of Isolation into English, and other topics. Last but not least, readers could find a review of the first issue of this Newsletter.

In the next issue, besides other columns, Phlogiston plans to publish texts dedicated to the question of the scientific chronology of

the ancient Egyptian kingdoms, the history of the reception of the Theory of Relativity in Yugoslavia, questions of the scientific contribution of Mileva Maric-Einstein, and some critical remarks on Newton's gravitonal constant. Phlogiston's editorial staff will be very glad to achieve better collaboration with historians of science in south-eastern Europe.

Aleksandar Petrovic
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Pinus, a journal for research into XIXth century Serbian engineering

The book Engineers in the Principality / Kingdom of Serbia since 1934 was published in 1994. It contains basic data on more than a thousand engineers who built Serbia during a 75-year period, thus making it possible for a backward country to catch up with technical trends in Europe at the beginning of the XXth century.

V. Solaja, doyen and legendary figure in Yugoslav mechanical engineering, was himself surprised at discovering such a large number of engineers after carrying out, for 10 years, thorough and scientific research into XIXth century engineering. The book marks the beginning of a major project based on systematic research into the technical heritance of Serbia. The project is also being carried out through Pinus journal activities (Pinus - Tracing engineering in Serbia). The results of this pioneering research have been published in eight issues of Pinus magazine, a periodical unique of its kind in south-eastern Europe. The initiator and editor, Prof. Solaja, was the first to form a team of experts in different fields and to give a publication the form of a collection of scientific issues and monographs.

This publication includes different aspects of Serbian engineering in the period from the Middle Ages down to the present. About 40 original scientific research papers have been published for the first time, thus filling a gap in Serbian historiography, and familiarising the specialist and general readership with the results of research and numerous data (Pinus magazine Nos 1, 2, 4, and 7).

The authors of the articles, in studying the various fields of technological development in Serbia, have used the data acquired as the basis for their critical opinions in making a comparison of world and European development in this field, on the one hand, with the difficult technological development of the country, on the other. That these results were significant and how broad and important the research was is shown in Pinus Nos 3, 5, 6, and 8. Nos 6 and 8 present the economic development of the country, as well as the military industry and black metallurgy (the example is Koncerna Sartid). Pinus No. 3 began an analysis of achievements in engineering in those parts of Serbia where engineers were sent by the Ministry of Building during the XXth century. The example is the town of Krusevac and its environs. Pinus No. 5 is devoted to Serbian women architects - the 24 of them who graduated from Belgrade University between 1894 and 1940. The material was published posthumously after being collected by a persistent investigator and historian of Serbian architecture, Ms Divna Djuric-Zamolc, PhD.

In order to continue the mission of Prof. V. Solaja and to repay their debt to their professor, his students and colleagues wish to continue his efforts, in spite of difficulties, in exploring the history of Serbian engineering and supplying material for new issues of Pinus magazine.

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200 YEARS FROM THE BIRTH OF DR PETAR BERON

The Encyclopaedic Creative Work and the Medical Heritage of Dr Petar Beron (1799 - 1871)

In the year 2000, the scientists and the public of Bulgaria are celebrating the 200th anniversary of the birth of one of the most outstanding representatives of the Bulgarian National Revival who attempted to create for himself his own Cosmogonia and Anthropogonia, to embrace the entire visible and invisible world, and to rise to the level of the most prominent European scientists and become, as we have called him recently, the Bulgarian Lomonosov.

Today, the fact that the History of Science in Bulgaria probably is aware of the life and the entire encyclopaedic work of Dr Petar Beron is due chiefly to the fact that our contemporaries Neli and Michail (now dead) Batchvarov have established themselves in the history of Bulgarian science as Beron researchers who have studied the whole scientific heritage of Dr Petar Beron. It is they who have presented him in his entire development as a pedagogue, physician, public figure, patron and scientist, as the "bearer of a consistent love of enlightenment, science and homeland, of a mind we admire and of a working capacity which amazes us".[1]

In the first half of the nineteenth century in Bulgaria, a whole pleiad of scientists, men of letters Riben Bukvar ('Fish Textbook'). In 1825, he began his studies at Heidelberg University, where he stayed for two years. He then went on to Munich, where he studied and graduated in Medicine. At the end of his studies, he submitted his doctoral thesis on Obstetrics (in 1831), and became a "Doctor of Medicine, Surgery and Obstetric Skills". After practising for nine years as a physician in Krajova (Romania), Dr Beron devoted himself to scientific work and for this purpose he moved to Paris. It was here that, aRiben Bukvar ('Fish Textbook'). In 1825, he began his studies at Heidelberg University, where he stayed for two years. He then went on to Munich, where he studied and graduated in Medicine. At the end of his studies, he submitted his doctoral thesis on Obstetrics (in 1831), and became a "Doctor of Medicine, Surgery and Obstetric Skills". After practising for nine years as a physician in Krajova (Romania), Dr Beron devoted himself to scientific work and for this purpose he moved to Paris. It was here that, after 1841, he wrote and published works in many volumes in French, German, English, and Greek. After his System of Atmospherology and System of Geology, his outstanding Slavonic Philosophy appeared. He also published other books, culminating in his seven-volume Panepisteme (5,000 pages with many original illustrations, drawings and tables!). In 1870, he published Vol. I of his Physicochemistry.

In Panepisteme, Petar Beron makes an attempt to create a universal scientific system which will logically and without contradictions clarify everything connected with the origin, the nature, the laws of movement, and the development of the macro and microcosmos.

Beron was a member of several scientific societies, among them the Medical and Physiological Society in Athens. In 1853, he delivered a paper before this Society on the reasons for and the consequences of the world-wide flood. In Athens, he published three of his works in Greek.

Also of significance was his presentation of a paper at the Royal Academic Society in London on the topic 'The reasons for earth magnetism are proved'. This paper, together with other works by him, is to be found in the Society's library in London.

One of the major achievements of this great Bulgarian was the reform of the work of

the Enlightenment in his homeland, its modernisation, the free dissemination of his Riben Bukvar, financial support for Bulgarian schools, the demand that children should acquire a wide language culture and be treated equally regardless of their religious and ethnic origin, and the provision of financial support for young Bulgarians who were to be educated in Europe.

The ideas of Dr Petar Beron on medico-biology, anatomo-physiology, and on therapeutic, prophylactic, and traditional nature medicine are not collected and published in a separate volume - they are developed mainly in his doctoral thesis, in his Slavonic Philosophy, in his Riben Bukvar, and in many parts of his encyclopaedic work Panepisteme.

Two chapters stand out in the Riben Vukvar, 'Man' and 'How man should protect his health', which reflect his achievements in scientific anatomy and physiology, as well as the Hippocratic prophylactic ideas set out in the two chapters (these are the first scientific and popular texts of medical content from the time of the Bulgarian National Revival). Beron's contributions of major significance include the following: (a) he contributed to the dissemination of Western European scientific ideas throughout the Balkans - of the ideas on anatomy of Andreas Vesalius (1514 - 1564) and of the views on physiology of William Harvey (1578 - 1657); (b) he introduced the teaching of actual scientific medical knowledge in Bulgarian schools; he attracted the attention of large student audiences and rapidly enhanced their general and medical culture; (c) he had a high estimation of prophylactic medicine and advocated a positive attitude towards it.

Also to be found in the works of Dr Beron are unacceptable theses and interpretations (on digestion, the pulsations of the heart, the metabolism, etc.) which were unacceptable even at the time of their publication. However, this usually does not apply to his actual scientific hypotheses and explanations. In his Episteme, published in Paris in the middle of the nineteenth century, and especially in Volumes I and IV of this major work, there is a presentation of the author's concepts in the sphere of human physiology, parturition, electrophysiology, infectious diseases, and dangerous infections particularly, the formation of races, and a knowledge of medicine. In these directions, his most important conclusions and achievements can be summed up as:

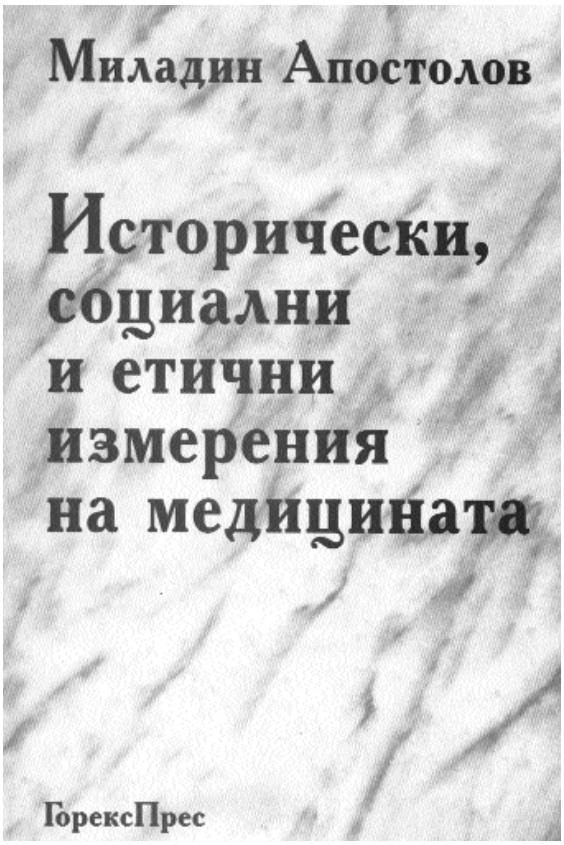
(a) his views on fluids coincide with the major concepts in contemporary electrophysiology and with today's ideas on biostreams and potentials within the human organism. Our studies have shown that Petar Beron was the forerunner of the Bulgarian scientific schools in the sphere of physiology - not so much and directly of the school of the academician Dimitar Orahovats (1892 - 1963) as of its branches, set up and established in the research institutes at the Bulgarian Academy of Science;[2]

(b) that the emergence of diseases is connected with an irregular nutritional regime and with the influence of the so-called risk factors;

(c) the great idea of timely therapy is expressed very successfully: "The more punctually the doctor has started the therapy", writes Dr Beron, "the more favourable will be the outcome for the patient";

(d) with the rejection of unscientific racial claims for the existence of inferior and superior races, in our view, Dr Beron was also the forerunner of the scientific biological school of academician Metodii Popov (1881 - 1954), and to be more exact, of his anti-racist and anthropological paradigm.[3]

Petar Beron's doctoral thesis went beyond the confines of the Munich Medical Faculty and attracted the attention of great scientists and specialists because of the fact



that it deals with one of the unsolved problems of that time: the correlation between the dimensions of the pelvis and the dimensions of the foetus during the process of parturition. Here he made at least two major contributions to science: (a) he devised a new pelvis measuring unit; (b) he drafted tables showing the results of measurements of the head of the new-born child by the help of which the head of the still unborn foetus is measured.

Dr Petar Beron made valuable contributions to science, ensuring a good start for Bulgarian medical science and helping it to get ahead of time by means of his studies, and directed the attention of researchers to the psychoprophylactics of parturition.[4]

The dissertation work of Dr Petar Beron, an important ingredient of his scientific medical heritage, makes him the equal of most important theoreticians of obstetrics and gynaecology of that time: Rjonak, Friid, Rjoderer, Stein, Bodelock, etc.

The unique characteristics of the contributions to science of Dr Petar Hadjiberov-Beron in the sphere of medicine make them comparable with the achievements of European scientists - doctors of medicine of the nineteenth century. These, together with his ideas in the sphere of physico-chemistry and his hypotheses on the origin and development of the cosmos and man, on race and earth magnetism, contributed to the development of science as a whole, to the enrichment of the pan-human fund of scientific knowledge.

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Prof. Dr Miladin Apostolov and Dr Penka Ivanova,
Bulgarian Inter-disciplinary Group on the History of Science, Sofia

FROM THE ACTIVITIES OF THE HISTORY OF SCIENCE PROGRAMME OF THE INSTITUTE OF NEOHELLENIC RESEARCH / N.H.R.F.

Microfiching of Scientific Works

One of the constant, permanent objectives of the History of Sciences programme of the Institute for Neohellenic Research of the National Hellenic Research Foundation is the preservation and utilisation, for research purposes, of works (in manuscript or printed) on the natural sciences which are today in various libraries of Europe.

Within the framework of these endeavours, and in collaboration with the ‘Archive of

Sources for the History of the Sciences and Technology' programme of the National Technical University of Athens and the Centre for History and Palaeography of the Cultural Foundation of the National Bank of Greece, missions have been carried out to Bulgaria and Romania.

In the course of these missions, undertaken by the historians Yannis Karas, Head of the History of Sciences programme of the INR/NHRF, and Agamenon Tselikas, Head of the C.H.P., 35 Greek scientific manuscripts were photographed in Romania and 27 in Bulgaria.

To this number, which will constantly be increased with new microfiches, should be added the relatively large number of microfiches - not only from Greece - of works of this category (approximately 500) which belong to the already rich microfiche library (approximately 7,000) of the CHP.

These microfiches, like the data base of the History of Sciences programme of the INR/NHRF, constitute an important, essential source for those wishing to study the History of Sciences in the more general region of the Balkans.

Science, Technology, and the Nineteenth-Century State: the Role of the Army
Syros, 7-8 July 2000

The Programme for the History of Science of the National Hellenic Research Foundation, in collaboration with the Laboratoire Territoires, Techniques et Sociétés of the École Nationale des Ponts et Chaussées held a symposium on the role of the Army in the development of science and technology in the nineteenth century. The symposium was connected with the joint project of these two institutions with the collaboration of the IRCICA on 'the role of France in the modernisation of the states of the Eastern Mediterranean during the nineteenth century' (Coordinators, Efthymios Nicolaïdis - NHRF and Konstantinos Chatzis - ENPC).

The programme of the symposium was as follows:

Robert Halleux (University of Liège): 'Les ingénieurs de l' École Royale: leur rôle en Belgique et Outre-mer'.

Ekmelledin Ihsanoglu (University of Istanbul and IRCICA): 'Army and technology in the Ottoman Empire'.

Efthymios Nicolaïdis (N.H.R.F.): 'Measuring the longitudes, the role of the army in the Greek area during the 19th century'.

Antoine Picon (École Nationale des Ponts et Chaussées): 'Fortification et politique en France au XIXe siècle'.

Konstantinos Chatzis (École Nationale des Ponts et Chaussées): 'Des ingénieurs militaires au service des civils: les officiers du Génie en Grèce au XIXe siècle'.

Anousheh Karvar (Bibliothèque Nationale de France): 'Les missions militaires et navales françaises à l' étranger (Roumanie, Japon, Perse) au XIXe siècle'.

Natalie Montel (École Nationale des Ponts et Chaussées): 'La création de l' arsenal d' Alexandrie dans les années 1830. La construction navale française au prisme de l' Egypte'.

Patrice Bret (Centre des Recherches en Histoire des Sciences et des Techniques): 'Les militaires et la recherche scientifique et technique en France au XIXe siècle'.

Mustafa Kaçar (University of Istanbul): 'The contributions of the Scholars of the Imperial Military Engineering Schools towards the development of Ottoman Science during the reign of Sultan Selim III'.

Michael Assimacopoulos (National Technical University of Athens): 'The influence of the Military School on the School of Arts (Polytechneion)'.

Andreas Kastanis (Greek Army): 'The

teaching of Mathematics at the Greek Military School during the nineteenth century'.

George Vlachakis (N.H.R.F.): 'The scientific activites of the Greek Navy officers during the 19th century'.

Dimitris Vogiatzis (Aviation Museum): 'Military technology in Greece during the nineteenth century'.

The proceedings of the symposium will be published.

NEW PUBLICATIONS OF THE HISTORY OF SCIENCE PROGRAMME OF THE INR/NHRF

Yannis Karas,
The Evolution of Modern Greek Science. From Traditional to Modern Scientific Thought, Athens 1999, 92 p. [in Greek].

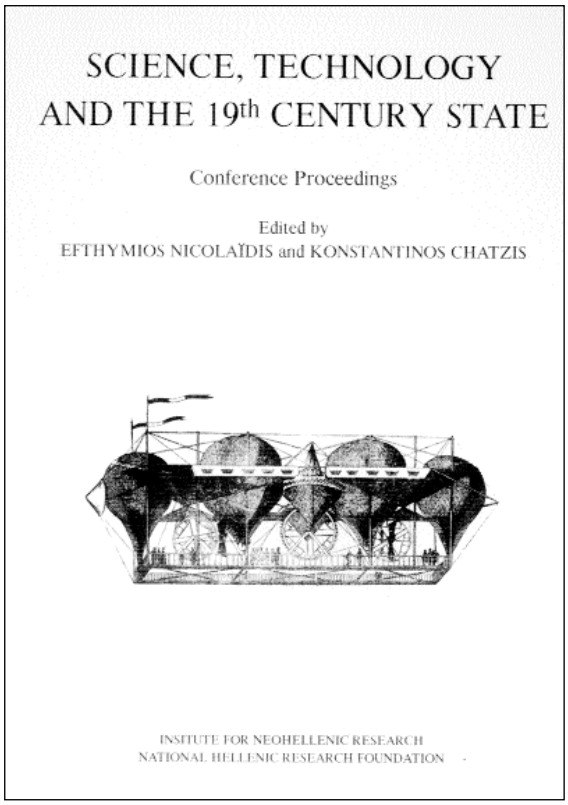
The author of this book starts out from the principle that the evolution of science cannot be understood as a simple cumulative process which is no more than an increase in the number of scientifically established facts, that for the dissemination of scientific and philosophical knowledge, intellectuals, scientists, are required, as is the existence and operation of a certain intellectual community, and that channels of communication (schools, books, periodicals) for the members of this community between themselves and with society are essential. It is in this spirit that the evolution of scientific thought in the period of the Modern Greek Renascence (Modern Greek Enlightenment), from the mid seventeenth century (Theophilos Korydaleus) to the Revolution (1821), a period in which the beginnings of modern Greek scientific thought can be identified, is examined.

The Modern Greek Renascence was enacted through a constant progression, which, though dialectically interwoven with the European Enlightenment - with which it sought to keep pace, to enter into partnership - belonged within the historical evolution of Hellenism, without sudden ruptures and lapses, and without interrupting its cultural and intellectual continuity.

Science, Technology and the 19th-century State, Athens 2000, 150 p.
Edited by
Efthymios Nicolaïdis and Konstantinos Chatzis

The articles presented in that volume do not form part of a general theory which seeks to illustrate the link between science, technologies and the construction of the State in the 19th century, which does not, of course, prevent them from drawing on theories developed in works of a more theoretical nature. However, their grouping together in this work is not, we hope, just a simple juxtaposition. Over and above their diverse themes, the contributions which make up the book are characterized by the same « deglobalizing » approach: without denying the importance of a general framework in the study of the relationships between science, technology and the State during the 19th century, they favor an approach which is based on groups or even individuals. It is through the action of actors in the fields of science and technology, such as engineers and instrument makers, producers of knowledge and popularizers of it, that the authors of this publication have attempted to deal with the triptych « Science, technology and the State in the 19th century ».

The publication is the result of collaboration between the Institute for Neohellenic Research / National Hellenic Research Foundation and the *Laboratoire Territoires, Techniques et Sociétés / Ecole Nationale des Ponts et Chaussées de Paris.* As its purpose was a study of the scientific



and technological contribution of France to the modernization of the new Greek State in the 19th century, this collaboration seeks to clearly illustrate the mechanisms by which this new State tried to become a full member of the family of rich and powerful European countries of the time: creation of educational and technological structures, importing of technologies which were supposed to enable this underdeveloped country, at the fringes of industrial Europe, to modernize. In order to conduct this research program, comparative studies on the reality of these structures in Western European countries and those in Greece, a country on the periphery, were also carried out.

Most of the articles in this volume were presented in the seminar of the same name which took place at Syros (Greece), within the framework of the Hermoupolis Seminars organized by the Institute for Neohellenic Research and the Cyclades Cultural and Scientific Foundation over the last fifteen years. The seminar was funded by the General Secretary for Research and Technology, the Hellenic Archives of Scientific Instruments (under the program « *Archives de la Création* » of the C.N.R.S. - France) and the National Technical University of Athens.

The volume is divided thematically into three units.

The century of Engineers, which presents a study of the characteristics of the French and the Greek engineer in the 19th century as well as studies of their organization into professional bodies in the two countries.

The century of Laboratories, which presents the policies for acquiring scientific instruments in England and Greece.

The century of Education, which presents a study of teaching and the dissemination of the sciences in 19th century Greece, but also Portugal, with emphasis on the influence of Western Europe.

THE BEGINNINGS OF ECONOMIC LITERATURE IN ROMANIAN:
Ioan Piuariu-Molnar,
Economia stupilor ('Beehive economy'),
Vienna 1785

In the general setting of the European Enlightenment, characteristic of the eighteenth century, a dominant idea was that of 'rousing', of 'enlightening' the people through culture.

At the same time, this step inscribed itself into the efforts required by the transition from medieval society to the renewing horizons of modern society, this objective being planned to be attained by the gradual means of reforms, so that the old establishment would not undergo violent upheavals.

In Transylvania, which at that period was under the domination of the Habsburg Empire, the policy of the court of Vienna was also aimed at introducing, in various fields of economic life, innovations which, in leading to an increase in productivity, could at the same time bring about a significant increase

in the taxable base. The Josephinist reform policy took into account all these factors. Moreover, the Romanian intelligentsia of Transylvania, in adhering to such objectives, endeavoured to contribute to the elimination - in this way - of misery, of the state of backwardness and lack of culture of the peasants, to impose upon the Romanians new social and economic conduct.

An important moment in the succession of these endeavours is represented by the publication of the work Economia stupilor ('Beehive economy'), printed in Vienna in 1785, the author of which was Ioan Piuariu-Molnar. It exceeded the horizon and extent of simple agricultural advice, disseminated at that time through calendars and/or ordinances issued by the imperial and Transylvanian authorities; it is the first Romanian book of concrete (branch) economy "which encompasses an area of the wide field of practical life, a specialised work" (N. Edroiu).

Its author, Ioan Piuariu-Molnar (1749 - 1815), was a personality with multiple concerns. Born in the village of Sadu (near Sibiu), he obtained in 1744 the degree of Master of Surgery in the Faculty of Medicine of the University of Vienna, after having practised medicine at Banat. In 1777, he received the title of "doctor of eye diseases of the Great Principality of Ardeal" (i.e., ophthalmologist of Transylvania). In 1784, during Horea's great peasant uprising, he took part in the pacification efforts. He was also the author of the first treatise on literary theory printed in Romanian and entitled 'Retorica adeca învatatura si întocmirea frumoasei cuvântari' ('Rhetoric, id est, teaching and drawing up of a fine speech'). Finally, during the early years of the nineteenth century, concomitantly with the practice of his profession of physician ophthalmologist, Ioan Piuariu-Molnar also involved himself in the practice of economic life, by succeeding in setting up a "wool factory" (actually a manufactory) in Sadu, his birthplace, after a hard fight against the cloth manufacturers' guilds in Cisnadie, Sibiu and Brasov, who wanted to keep their medieval-type privileges, which excluded competition.

The book Economis stupilor ('Beehive economy'), in spite of its character as an applied work, establishes Ioan Piuariu-Molnar as the first Romanian economist. In the introductory part, the author shows, inter alia, that he is addressing the public at large: "I have endeavoured with zeal to offer this to my people". It was aimed at the "abandonment of some practices of medieval beekeeping ... as well as at the extension of this economic occupation" (N. Edroiu).

The text is divided into two comprehensive sections: Invatatura teoreticeasca ('Theoretical teaching') (pp. 19-98) and Invatatura practiceasca ('Practical teaching') (pp. 99 - 188).

Each section, in turn, is divided into several parts and 'teachings'. Section I, made up of 13 parts and 40 'teachings', includes the elements of apicultural theory, from the anatomical description of the bee, the honeycombs, the beehive, the family, and the swarm, to the daily manifestations of the beehive. In Section II, made up of 16 parts and 44 'teachings', the manner of rational beehive exploitation, according to the natural calendar of the seasons, is explained. In this part of the work, innovations and personal appreciations of the author are presented, based on expoerience acquired, as well as on the reading of works dealing with apiculture at that time.

Among these works should be mentioned that of Anton Jancths (1771) and afterwards also those of Fr Hubner (1792) and Ludwig Mitterpacher, used for the second edition of 'Beehive economy', printed this time in Sibiu in 1808, under the title Povatuire cu praxis catre sporirea stupilor ('Advice and practical

guide to the well-being of beehives'). In the work, at the foot of the pages, are formulated questions, 241 in total, intended to consolidate more easily - by the debate-dialogue method - the knowledge set forth.

On the whole, the Economia stupilor ('Beehive economy') of Ioan Piuariu-Molnar synthesises, in the opinion of specialists, Romanian experience acquired in the field of beekeeping and at the same time popularises innovations in apiculture achieved in other countries.

Without being a school-book, it was nevertheless also used in Romanian education in Transylvania (and not only there). Moreover, by disseminating modern methods and providing new solutions in an important branch of agriculture, its author succeeded in initiating a new trend, the economic trend, in the Romanian cultural movement.

In addition, he contributed to the development and enrichment of the literary language and to the formation of Romanian scientific terminology.

Prof. Dr Vasile Bozga
Academy of Economic Studies
Bucharest, Romania

THE INSPIRATION OF ASTRONOMICAL PHENOMENA - THIRD CONFERENCE

Palermo (Sicily), Italy - 31 December 2000 - 6 January 2001

Call for applications and papers

We would like to inform you of the up-coming Third International Conference on The Inspiration of Astronomical Phenomena ('INSAP III'). This meeting will explore mankind's fascination with the sky by day and by night, which has been a strong and often dominant element in human life and culture. The conference will provide a meeting-place for artists and scholars from a variety of disciplines (including Archaeology and Anthropology, Art and Art History, Classics, History and Prehistory, the Natural and Social Sciences, Mythology and Folklore, Philosophy, and Religion) to present and discuss their studies of the influences which astronomical phenomena have had on mankind.

The first two meetings were held in Castel Gandolfo, 1994 and Malta, 1999.

The meeting will be held overlooking the Mediterranean, a few minutes from the centre of Palermo, and will start with a New Year's Eve (and Millennium Eve) banquet on 31 December 2000. The meeting rooms will include ample space for the display (and sale) of works of art by those attending.

Full information on INSAP III and on the earlier conferences, and an application form for the up-coming meeting, can be found on our Website:
(http://ethel.as.arizona.edu/~white/insap) or obtained from the undersigned. Attendance will be by invitation from among those applying. All presentations and discussions will be in English.

The Conference is sponsored by the Palermo Observatory, the Vatican Observatory, and the Steward Observatory, and is hosted by the Palermo Observatory as part of the bicentennial of the discovery there of the first asteroid, Ceres, on the nights of 1-3 January 1801.

Prof. Salvatore Serio, Palermo Observatory (Chair, Local Organising Committee) (insap3@oapa.astropa.unipa.it)

Dr Rolf M. Sinclair, Chevy Chase MD (International Organising Committee) (rolf@santafe.edu)

Prof. Raymond E. White, Steward Observatory (International Organising Committee) (REWhite1933@aol.com)

SCIENCE, TECHNOLOGY AND CULTURAL DIVERSITY: FROM THE OTTOMAN EMPIRE TO THE NATION-STATES
organised by
E. Ihsanoglu, E. Nicolaidis, A. Picon

The first symposium on "Science, Technology and Industry in the Ottoman World" held in 1997 within the XX. International Congress of History of Science attracted the attention of scholars and the proceedings book (Proceedings of the International Congress of History of Science, Liege, 20-26 July 1997), volume VI, Science, Technology and Industry in the Ottoman world, ed. E. Ihsanoglu, A. Djebbar and F. Günergun, Brepols Publishers, Belgium (2000) has been published recently. In the frame of the same Congress, a Symposium on the transfer of the scientific knowledge from Europe to the other countries has been organised by E. Nicolaidis and C. Lertora Mendoza (Proceedings of the XXth ICHS,Vols.V, Brepols Publishers, Belgium 2000). In the meantime, a common project between France, Greece and Turkey (co-organisers E. Ihsanoglu, K.Chatzis, E. Nicolaidis) has been established on the transfer of technology and science from Western Europe to the East Mediterranean during the 19th century. We are now considering organising a successive individual symposium on "Cultural Diversity; from the Ottoman Empire to the National States" within the XXI. International Congress of History of Science to be held in Mexico City, 2001.

Scientific activities in the Ottoman world comprise various scientific traditions, including mainly the Islamic tradition inherited by the Ottoman Turks and carried on by Arabs who were part of the Ottoman Empire and then joined by European people such as Bosnians and Albanians, newly converted to Islam; as well as the tradition of different Christian peoples living in Anatolia and the Balkans (for ex. the Greek Colleges where the "new" science was taught), and the contributions of native Jewish scholars as well as those emigrated from Andalusia. The Ottoman world had the necessary grounds for the interaction of all these different traditions. The Ottoman Empire having vast lands in Europe, and as a result of the Ottomans' contact with European science from the very early ages, this new scientific tradition spread in the Ottoman lands for the first time outside its own cultural environment where it was originated. All these facts about the nature of Ottoman science have drawn the attention of historians of science in recent years.

Technology transfer from Europe to the Ottoman world has a long history that has not been elaborately studied yet. The New Mexico symposium of 2001 will deal with these issues, and the contributions of scholars from various disciplines and backgrounds will enrich the field.

For those who wish to present a paper, please contact Dr Efthymios Nicolaïdis, efnicol@eie.gr