

Newsletter



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Editorial team:

Editor: Yannis Karas

Alternate editor: Efth. Nicolaidis

Editorial secretary: G.N. Vlahakis

Members:

Miladin Apostolov (Bulgaria)

Radu Iftimovici (Romania)

Ekmeleddin Ihsanoglu (Turkey)

Miloje Saric and

Aleksandar Petrovic (Yugoslavia)

Address: National Hellenic
Research Foundation

48, Vas. Constantinou Av.,

Athens 116 35, Greece

Tel. (+30) 210 7273 557-9

Fax. (+30) 210 7246 212

e-mail: gvlahakis@eie.gr

<http://www.eie.gr/institutes/kne/ife/>

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MULTICULTURAL SCIENCE IN THE OTTOMAN EMPIRE

Ekmeleddin Ihsanoglu, Kostas Chatzis, Efthymios Nicolaidis (eds), *Multicultural science in the Ottoman Empire*, De Diversis Atribus, Collection de Travaux de l'Académie Internationale d'Histoire des Sciences, T. 69, Brepols, Turnhout-Belgium, 2003, 248 p.

ISBN 2-503-51446-4

This book contains research papers related to the scientific activities in the Ottoman world which comprise various scientific traditions, including the Islamic tradition inherited by the Ottoman Turks and carried on by the Arabs, who were part of the Ottoman Empire; and then joined by European peoples, such as the Bosnians and Albanians newly converted to Islam; as well as the tradition of different Christian peoples living in Anatolia and the Balkans, (e.g. the Greek Colleges where "new" science was taught), and the contributions of native Jewish scholars as well as those who emigrated from Andalusia. The Ottoman world had the necessary grounds for the interaction of all these different traditions. The Ottoman Empire held vast lands in Europe and, as a result of the contact with European science from the very early ages, the new scientific European tradition spread in the Ottoman lands for the first time outside its own cultural environment where it originated.

The Ottoman Empire gave rise to 29 national states in Europe, the Middle East and North Africa. The most significant aspect of the scholarly activities in the Ottoman Empire is that the Ottomans both depended on the previously established Turkish-Islamic scientific tradition and at the same time they engaged in attempts to transfer the new technologies and sciences that developed in the Western world. Generally speaking, during the classical period Ottoman science developed within the cultural and intellectual circles that flourished in institutions related to science, education, health, justice, religion and the military. These institutions, the prototypes of which were found in pre-Ottoman Islamic states such as the Timurids, the Ilkhanids and the Seljukids, developed and gained a more definite structure during the Ottoman period. Besides these institutions, which existed until the end of the empire, new western type educational institu-

tions were founded particularly from the 18th century onwards. Thus, the Ottoman institutions acquired a western character. At first this development was limited to military and technical educational institutions. From the 19th century onwards, however, western influences were felt in civil education. Thus, before long the attempt to establish the first Ottoman university took place in 1846. During the same period new institutions of higher education were founded in order to teach modern medicine, military science, engineering and law. Thus, institutions, which fulfilled similar functions within the eastern and the western traditions, coexisted side by side. A vivid cultural milieu developed in the empire thanks to this diversity and particularly to the religious and secular schools founded by non-Muslims within their communities as well as the secondary schools established by the state and foreign missionaries.

The Orthodox Christian subjects of the Sultan were under the authority of the Patriarch as far as their education was concerned. Indeed, the Sultan did not interfere in educational or scientific matters of the Christian community. As a consequence, in the Empire were installed parallel educational systems, those of the Muslim subjects and those of Orthodox Christian subjects. For the latter, education was provided in Greek language (the language of Byzantium) by individual teachers or, mainly after the beginning of the 17th century, in the Colleges organized and sponsored by the Orthodox Christian communities of the Empire. These Colleges provided secondary level education and provided the way through which science was taught to these communities. Indeed, due to the traditional relations with Italy (an important Greek community was established in Venice after the conquest of Constantinople by the Ottomans, many Byzantine scholars fled to Italy after this conquest), the Christian subjects who wished and had the possibility to continue their studies at a university level, went, during the 17th and 18th centuries, to the University of Padova (a Venetian town). Except a few scat-

tered texts, the new science was then introduced to the Christian communities of the Empire, following the reform of the University of Padova in 1738, when Giovanni Poleni founded the “Teatro di filosofia sperimentale”.

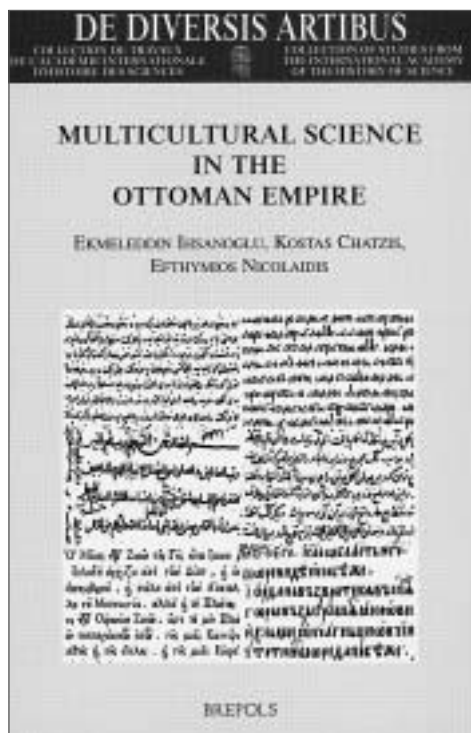
The introduction of the new science went together with the ideology of modernization of the society put forward by the followers of the Enlightenment and later by those of Nationalism. The Greek revolution against the Ottoman Empire had as an ideal the constitution of a European National State. That means, among other things, implementation of educational reforms in order to strengthen the teaching of science on

all levels and to introduce modern technology. One of the first acts of the independent Greek State was to found State secondary education, a University, a Military School and shortly afterwards a School of Arts which would later become a Technical University. But, although this had not anymore to do with the structures of the Ottoman Empire, a complex network of relations persisted until at least the beginning of the 20th century, as a great number of Greeks lived in regions which belonged to this Empire.

All these facts about the nature of Ottoman science and the complex network of scientific and educational relations of the various

populations in the Ottoman Empire, as well as the relations between the science of this Empire and Europe, have drawn the attention of historians of science in recent years, especially those of the countries that originated from the Empire. Technology transfer from Europe to the Ottoman world has a long history that has not been elaborately studied yet. This is also valid for the scientific relations between the different religions of the Ottoman Empire.

The papers of the book were presented at the symposium on “Science and Technology and Cultural Diversity: From Ottoman Empire to the National States” which was held within the framework of the international congress organized by IUHPS in Mexico City on 8-14 July 2001.



2nd HELLENIC CONFERENCE ON “THE ROLE OF HISTORY AND PHILOSOPHY OF SCIENCE IN SCIENCE TEACHING”

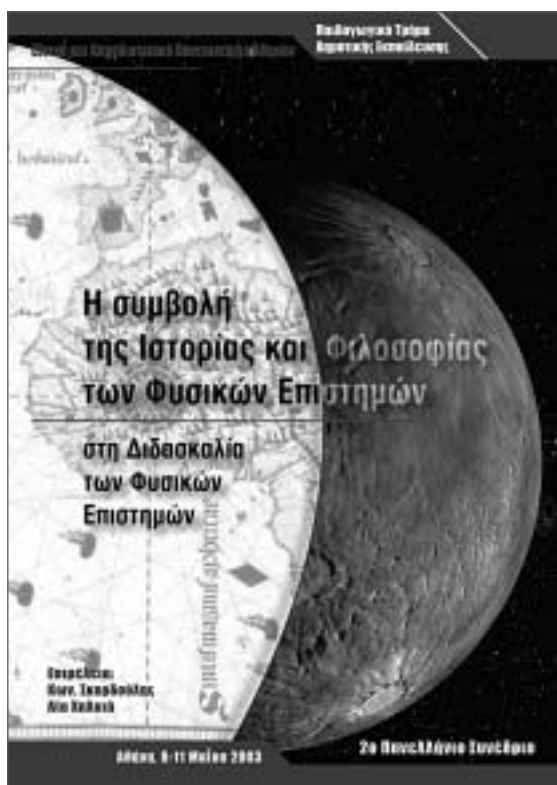
Athens, 8th –11th May 2003

The 2nd Hellenic Conference on “The Role of History and Philosophy of Science in Science Teaching” took place in the central conference Hall in the Propylea building of the University of Athens between 8th –11th May 2003.

More than 280 Scientists, Science Educators, Historians and Philosophers of Science participated in the Conference and 80 papers were presented in three parallel sessions.

The Conference has been endorsed by the Hellenic Physical Society and by the Hellenic Society for the History of Science and Technology.

Among the invited speakers were Fabio



Bevilaqua, Michael Matthews, Henri Atlan, Efthymios Nicolaidis, Yiannis Karas, Eftychis Bitsakis and Vasso Kindi who succeeded in bringing the Conference in tune with the latest developments in their corresponding fields of research.

The Hellenic Society for the History of Science and Technology organized a Symposium within the premises of the Conference where 10 papers were presented.

Other Topics of Research highlighted at the Conference were:

- The Contribution of Philosophy to the Educational Theory and Methodology of Physical Sciences (10 papers).
- Educational Theory and Practice in Physical Sciences (11 papers)
- History, Philosophy of Science and Environmental Sciences (6 papers)
- Socio-Cultural Approaches to Science (9 papers)
- Science Education in a Socio-Cultural Context (7 papers)

In a special session about 20 short oral presentations were communicated.

The last day of the Conference was dedicated to T. S. Kuhn’s ideas about the role of History of Science in Physics Teaching and an interesting exchange of ideas took place between the speakers (M. R. Matthews and Vasso Kindi) while the audience was lively participating.

The last session of the Conference was engaged with “Physics on Stage” a European Initiative for popularizing Physics and bringing Physics closer to the general public and especially to young students of secondary education in order to encourage them to acquire a positive attitude towards science.

The Proceedings of the Conference were published in an aesthetic volume, with the Editorial Supervision of Constantine Skordoulis and Lia Halkia and were distributed in the conference site.

The 3rd Conference is scheduled to take place in May 2005 in Ioannina, Epirus.

THEMES in EDUCATION

Special Issue:

“Hellenic Studies in History, Philosophy of Science and Science Teaching”

This Special Issue of “Themes” contains selected papers from the 1st Hellenic Symposium on “The Contribution of History and Philosophy of Science in Science Teaching” organised by the Department of Education, University of Thessaloniki on 6-8th April 2001.

In the Symposium, well over thirty research papers were presented signifying the maturation in Greece of this interdisciplinary field bringing together Scientists, Historians and Philosophers of Science, Science Educators, Cognitive Scientists etc.

We have decided to proceed with the publication of this Special Issue of “Themes” in or-

der to express our willingness to integrate the development of the emerging community of “History, Philosophy and Science Teaching - HPSST” in Greece with corresponding developments in other countries. Although the Greek HPSST community possesses and, in our opinion, should maintain its own distinct historical and cultural features, this by no means should result in an isolation which in any case is encouraged by the language specificities.

The papers in this Special Issue are not mirroring in full the ongoing research activities of the Greek HPSST community but we believe are representative of the dominant research trends so the no greek speaking reader could be informed on the current questions and problems that this community has set out to tackle.

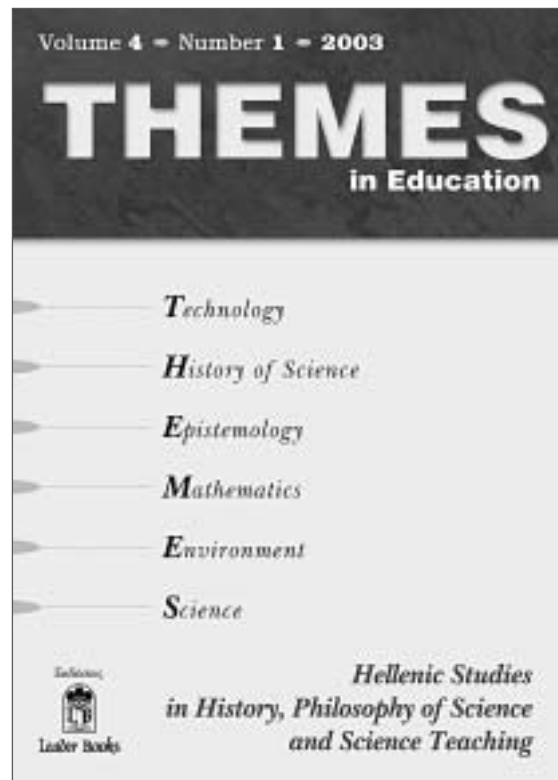
This collection comprises of seven papers.

In the first paper of this Special Issue “*An Example of School Use of the History of Physics: Reference to Thales of Miletus in several Modern Greek Textbooks of Physics (1834 - 1939)*”, Dimitris Patsopoulos examines the reasons why European and Greek writers use historical references in modern textbooks of Physics. His answer to this question comes through the study of the references to Thales of Miletus in Greek Physics textbooks in the period 1834-1939. Historical references can be found in the first European Physics textbooks, about the end of 18th century. Through translations, versions and compilations, these references are passing into modern Greek textbooks. Patsopoulos has found that even though all references to Thales in Greek Physics textbooks is a mere translation of the European school textbooks, it is significant to underline which references are selected for translation in the Greek textbooks and what tradition they create. Another important aspect of this work is that the references in the Greek textbooks constitute a very good picture for the European reference to Thales.

In the second paper of this collection “*Using History in the Teaching of Optics*”, Pavlos Mihas draws a balance sheet presenting reasons for and against the use of History in Physics Teaching. In the second part of the paper, two methods for utilizing the History of Optics in Physics Education and their implementation in the Department of Elementary Education of Thrace University by the author are presented. Among the natural philosophers of the past, mainly Ancient Greeks and Medieval Arabs, the author concentrates on Al Haytham and his achievements in Optics. The author in his prac-

tical classes uses experimental methods developed by Al Haytham and other natural scientists so that students can be familiar with the way ancient and medieval scientists studied optical phenomena.

In the third paper, Fanny Seroglou and Panagiotis Koumaras present “*A Critical Comparison of the Approaches to the Contribution of History of Physics to the Cognitive, Metacognitive and Emotional Dimension of Teaching and Learning Physics: A Feasibility Study Regarding the Cognitive Dimension Using the SHINE Model*”. In the first part of this paper, a review of proposals concerning the contribution of the History of Physics to the cognitive, metacognitive or the emotional dimension of teaching and learning physics is presented. In order to test the validity, evaluate the feasibility, and identify the limits of these proposals,



the authors developed a research model called SHINE. The model attempts to evaluate proposals concerning the contribution of the History of Physics to research on learners’ ideas and to the teaching and learning of the content of Physics. In the second part of the paper, a comparative analysis of two case studies of the application of the SHINE model in Electromagnetism and Mechanics is carried out.

The next paper "*History and Philosophy of Science: an Instructional Base for Attaining a Qualitative Approach to Quantum Mechanics Worldview*" by Pandora Hadzidaki considers that the development of Quantum Mechanics' scientific content not only caused fundamental changes in the scientific view of the physical world but also raised the requirement for a deeper insight into the epistemological aspects of scientific knowledge. The author states that the historical formation of the Quantum Mechanical worldview has been accompanied by essential interrogations about: the defining features, the substantive conditions or sources, and the limits of scientific knowledge and justification. In this paper, Hatzidaki shows that these particular characteristics of the content of Quantum Mechanics can be effectively exploited towards reaching a twofold instructional goal: (i) the adequate reconstruction of material related to the History and Philosophy of Science can form a stable base that supports learners' conceptual change towards a qualitative approach of Quantum Mechanics and (ii) the teaching of Quantum Mechanics can effectively promote the understanding of the processes that characterize scientific progress.

The last three papers fall within the discipline of Cultural Studies of Scientific Knowledge. In the first of these papers "*Cultural Obstacles in the Science Learning Process: The Case of Greek Elementary Education*", Vasilis Tselfes and Meni Kanatsouli attempt to discern those obstacles which may be attributed to the cultural features of Modern Greek society and which are likely to appear in the learning of Science in the Greek elementary school. The authors' methodological approach was to locate these cultural features through the analysis of the contents of a series of literary texts drawn from a collection of modern Greek children's books. Their analysis focuses on the ontological and meta-cognitive images, which concern the world as an entity and on the knowledge pertaining to it.

The results of their analysis allowed them to locate a set of cultural obstacles whose images may impede the learning science process. At the same time some images display certain features acting as a connecting bridge between modern scientific tradition and the tradition permeating the community of children in which they are interested. These findings, according to the authors' view, support teaching approaches in accordance with the theoretical trends of construc-

tionism.

The next paper by Krystallia Halkia, Rea Paleopoulou and Georgia Koukopoulou titled: "*A comic strip version of Galileo's life: Attempts to popularize the History of Science*" investigates the comic strip's potential to function as a medium which may present "episodes" from the History of Science in a popularized way. The paper is based on the example of a comic strip presenting Galileo's life, which is directed at primary and secondary school students. The content analysis of the specific comic strip reveals that, despite the attractive communication code it uses, it fails to succeed in a thorough presentation of the personality of Galileo. Instead, it presents Galileo as an oversimplified caricature, as an empirical inventor rather than a scientist. Relevant research, conducted to lower secondary school students, supports the above findings. The authors' conclusion is that a comic strip can function as an effective educational tool, only if it is based on careful educational design and on meticulous historical research.

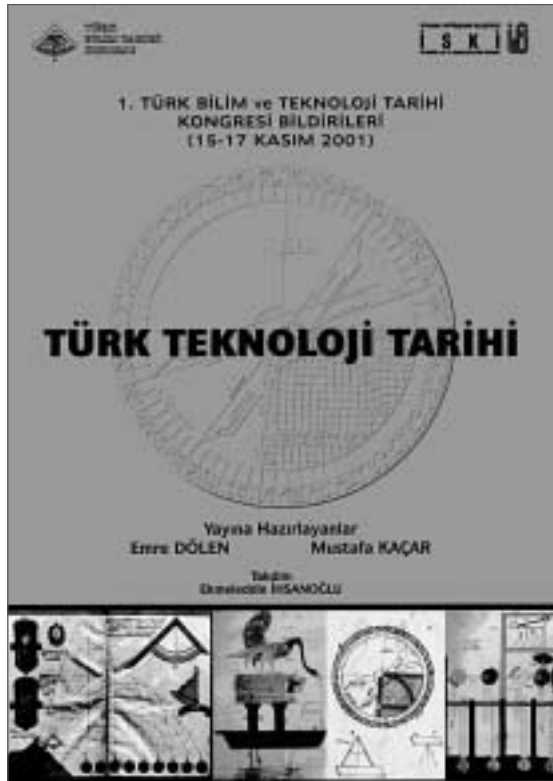
In the last paper of this issue "*Space Conceptualisation in the Context of Postmodernity: in Search of a Cultural Logic*", Constantine Skordoulis has set out to develop a materialist critique of the 'postmodern condition' along the lines of F. Jameson's work and show how such a critique can reveal new trends in conceptualising space. The author believes that a dialectical understanding of spatiality can enable us to move beyond the limits of postmodern thinking which is characterized by the dominance of spatial logic. The examination of the postmodern notions of the fragmented subject and the antinomy between space and time can contribute, according to the author, towards an alternative framework within which to position spatial learning. In his analysis, it is shown that the schema of cognitive mapping and the use of the History of Cartography shift the focus of research from the effort to resolve the ontological dilemma between substantial and relational space, to the study of how we can achieve true forms of space representation, a matter of paramount importance in education.

THEMES is continuing its publication in its fourth year with other special issues being scheduled in the near future.

Constantine Skordoulis (Editor)

**PROCEEDINGS
OF THE FIRST CONGRESS ON THE
HISTORY OF TURKISH SCIENCE
AND TECHNOLOGY**

Türk Teknoloji Tarihi (History of Turkish Technology). Proceedings of the First Congress on the History of Turkish Science and Technology (15-17 November 2001). Prepared for publication by Emre Dölen and Mustafa Kaçar. Introduction by Ekmeleddin Ihsanoglu. Istanbul 2003. (315 pp.)



This book comprises the proceedings of the First Congress on the History of Turkish Science and Technology held between 15-17 November 2001. This congress was organized with the contributions of the Turkish Society for History of Science, International Union of Philosophy and History of Science, Istanbul Technical University, TÜBİTAK, Turkish Historical Society, ISAR Waqf, ISKI, Su Vakfi (Water Foundation), and Turkish Society for Chemistry. 18 papers are included in the book. The summaries of the papers whose complete texts were unavailable were included at the end of the book. In the introduction Prof. Dr. Ihsanoglu underlines the fact that technology surrounds the world in which we live. In fact, the history of technology can be described as the history of the objects constructed by the creative human being, i.e.

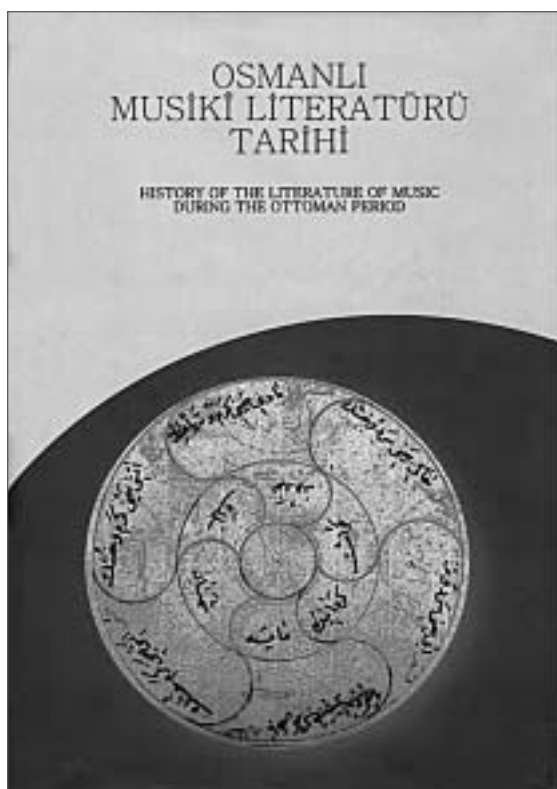
homo faber throughout the history of mankind. He also focuses on the relationship between science and technology which gains more importance every day. The papers in this book deal with a variety of subjects such as natural and artificial dyes used in textile production among the Ottomans, the Ottoman techniques of casting cannonry, ship construction technology in VIIIth century Sinop, an example of water-mills, the works of Cezeri and Takiyüddin, a brief history of power technology in Anatolia and the industrialization of the Ottomans at the end of the XVIIIth century, the foundation of electro-mechanics department of Istanbul Darülfünun (University), the first translated book on submarine torpidos in the Ottomans, a skillful sheikh: Hezarfen Edhem Efendi, history of studies on geophysics, geomagnetics and sismology in Turkey, agricultural activities in the Yemen under the sultanate of the Turkish dynasty Resulogullari, the bridges and aqueducts built by Architect Sinan, the history of water meter in Istanbul, the sugar production technologies in Turkey, and traditional buffer mechanisms in the use of new agricultural machines.

The present book aims to shed light upon the history of Turkish technology which is one of the rarely studied fields of Turkish history. This scholarly contribution to the subject attempts to encourage future studies on this subject.

**HISTORY
OF THE LITERATURE OF MUSIC
DURING THE OTTOMAN PERIOD**

Osmanlı müziği literatürü tarihi / History of the literature of music during the Ottoman period, prepared by Ekmeleddin Ihsanoglu, Ramazan Sesen, Gülcan Gündüz, M. Serdar Bekar, edited by Ekmeleddin Ihsanoglu, Series of Studies and Sources on History of Science no. 10, History of Ottoman Literature of Science Series no. 4, Istanbul, 2003

This is the fourth bio-bibliographic compendia in the series on *History of Ottoman Literature of Science*. The previous titles in this series, published in two volumes each, were devoted to astronomy literature (1997), mathematical literature (1999), and geography literature (2000). The series entitled *History of Ottoman Literature of Science* comes under the *Series of Studies and Sources on History of Science* as a result of IRCICA's research and publication program on the history of science in Islamic



civilisation. The first book which was published in this series, entitled *History of Ottoman Astronomy Literature*, cites the astronomical works produced by Muslim scientists throughout the Ottoman period (1299-1923): in the first part are the works whose authors are known, accompanied by biographies of 582 authors; the second part contains the works whose authors are not known. The total number of works on astronomy cited in the book is 2438. The second book in the series, entitled *History of Ottoman Mathematical Literature*, gives information about 963 works authored by 491 scientists and 153 works whose authors are not known, i.e. 1114 works in total. Third in the series, the *History of Ottoman Geographical Literature* contains entries for 1629 printed and manuscript works produced on Ottoman lands, during the Ottoman period, on scientific subjects relating to geography, cosmography and cartography. The authors of 727 of these works are known, whereas those of 901 are not. The number of authors whose identity is not known is 441.

The latest work, which is a study of the history of musical literature over the period 1299-1922, has sections on the authors of musical works, their publications, and the works whose authors are not known. The total number of works mentioned in this survey is 713. The au-

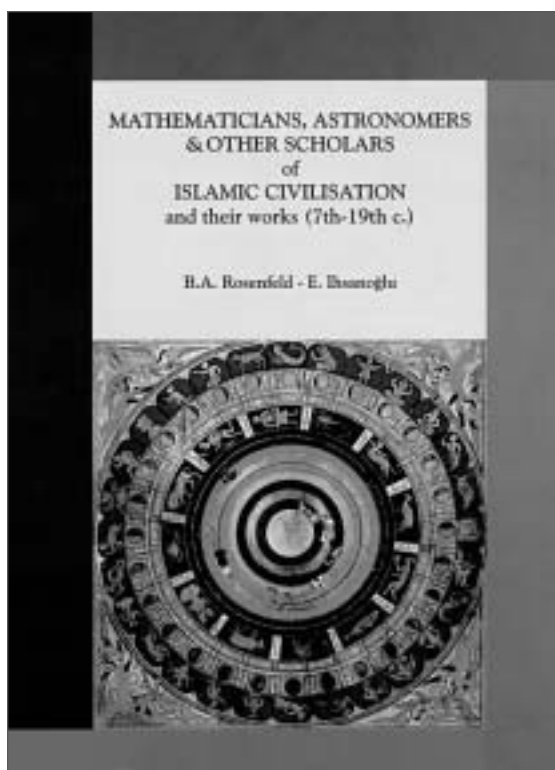
thors presented are in the number of 223, with 440 works on music which they produced. The life periods of 205 are known, and the places of origin of 132 authors are known. Among them 39 originated from Anatolia, 38 from Istanbul, 12 from the Balkans, 10 from Egypt, 9 from Syria, 4 from Morocco, 3 each from Palestine, Iran and Europe, 2 each from the Aegean and the Mediterranean islands, Yemen and Azerbaijan, 1 each from the Hejaz, Iraq, Crimea, Central Asia and America. To give an idea on the subjects of the books surveyed, it can be observed that out of the total of 713 books covered, 22 % deal with general subjects of music, mostly the theory and practice of music; 35 % are collections of compositions and lyrics, 12 % are collections of musical scores, 13 % are on the history of music, 10 % on whether or not the whirling of the Sufis is permitted in the practice of religion, 4 % on musical education, and the remaining few on tunes (*maqams*), and other subjects.

MATHEMATICIANS, ASTRONOMERS, AND OTHER SCHOLARS OF ISLAMIC CIVILIZATION AND THEIR WORKS

Mathematicians, Astronomers, and Other Scholars of Islamic Civilization and Their Works (7th-19th c.), by Boris A. Rosenfeld and Ekmeleddin Ihsanoğlu, Editor: Ekmeleddin Ihsanoglu, IRCICA, 2003, Series of Studies and Sources on History of Science: 11 (833 p.)

The present publication by IRCICA is part of the Series of Studies and Sources on History of Science. This series resulted from IRCICA's research and publication program on the History of Science in Islamic Civilisation. The present study is mainly based on earlier publications such as reference books and catalogues. One of them, published in 1900, is by the Swiss scholar Heinrich Suter, who published his bibliographical survey *Mathematicians and Astronomers of Arabs and Their Works (Mathematiker und Astronomen der Araber und ihre Werke-MAA)*.

The present book contains the names of 1423 authors whose life periods are known and 288 scholars whose life periods are unknown. It benefits from the scientific literature surveys edited by E. Ihsanoğlu under the series of "History of Ottoman Scientific Literature" published by IRCICA each in two volumes on astronomy literature (HOAL, 1997), mathematical literature



(HOML, 1999), geography literature (HOGL, 2000) and music literature (HOMUL, 2003). The four books in these series contain the names of 1588 authors from the 15th until the 20th centuries.

The book aims to give bio-bibliographic information on mathematicians, astronomers, geographers and other scholars who flourished in Asia, Africa and Europe from the 7th century until the 19th century. It mainly contains items on scholars whose periods of life are known. These items are arranged according to the years of their death and they are numbered accordingly. Each item comprises a short biography of the author, a list of his works and manuscripts, the library call numbers, translations, researches and different editions of each work. In regard to non-extant manuscripts, the reader is referred to the source that contains information on the works. The items contain information on the works about mathematics, astronomy, mechanics, physics, music, mathematical geography, meteorology, encyclopedias and works on history of science. This voluminous book also introduces the works on philosophy and theology, medicine, descriptive geography, chemistry and alchemy, mineralogy and geology, zoology, botany, literature and linguistics and mysticism. It informs the readers on works written in various languages. In addition to those in Arabic, Persian and Turkish, there is information on

works written in Tajik, Tatar, Uzbek, and other Turkic languages, Syriac, Sanskrit, and Urdu.

At the end of the book there are two supplements that are arranged alphabetically. The first comprises the list and information on scholars whose life periods are unknown. The second supplement contains the list of anonymous manuscripts located in various libraries all over the world. There are two indexes: the first contains the names of authors and the second the titles of works.

This book, just as MAA, HOAL, HOML, HOGL and HOMUL, will serve as a valuable guide for researchers in dealing with the mass of manuscripts and reference works in the field.

THE PROJECT ON THE FIRST INDUSTRIAL ARCHAEOLOGICAL EXCAVATION AREA IN TURKEY DATING FROM THE OTTOMAN PERIOD

The present project on research, excavation and restoration is related to the remains of the Demirköy Foundry located in the province of Kırklareli in northeastern Turkey and its administration buildings dating back to the 15th century. It is the first extensive archaeological project on Ottoman industrial history which will be a major contribution in the areas of military architecture, casting cannons, power technology and high industrial and metal technology.

Prof. Dr. Ekmeleddin Ihsanoglu, Chairman of Turkish Society for History of Science (TBTK) and the Secretary General Assoc. Prof. Dr. Mustafa Kaçar organized this project in collaboration with Prof. Dr. Günhan Danisman and



Prof. Dr. Hadi Özbal (Bosphorus University), Prof. Dr. Gülsün Tanyeli and Prof. Dr. Atilla Bir from Istanbul Technical University, Prof. Dr. Emre Dölen (Marmara University), Prof. Dr. Ali Osman Uysal (Canakkale 18 March University) and Archaeologist Mr. Zülküf Yılmaz (Director of Kırklareli Museum).

The excavations, archival research and chemical analysis of the remains that began with the support of the Ministry of Culture, TÜBİTAK, and Governorship of Kırklareli is progressing. A major aim of this project is to establish an open technological museum in Kırklareli.

STUDIES IN OTTOMAN SCIENCE

Vol.IV, Nr.1, 2002, includes the following articles:

Professor Turhan Baytop (1920-2002) Obituary (*Feza Günergun*), Yahya Naci Efendi and his work on the motion of projectiles (*Ebru Ademoglu*), The Imperial Medical School's activity report (1850-51) and the graduation ceremony (*Yesim Isil Ulman*), Suleymaniye Medical Medresse-II (*Tuncay Zorlu*), A research essay on the Halkali Ziraat Mekteb-I Alisi Mecmuasi (Journal of Halkali School of Agriculture) (*Sevtap Kadioglu*).



Vol.IV, Nr.2, 2003, includes the following articles:

The treatises on trisecting an angle and dividing a circle into seven equal parts by Bedreddin Muhammed el-Istanbulî (*Mustafa Kaçar & Atilla Bir*), The formative years of Mehmed Ali Kâğıtçı, industrial chemist and paper engineer (*Seref Etker*), Introducing Einstein's relativity to Turkey (I): Mehmed Refik Fenmen and Kerim Erim (*Meltem Akbas*), Raymon Hovasse's scientific activities in Turkey (1926-1931) and the foundation of the Baltalimani Zoological Station (*Sevtap Kadioglu*), The last regulation on pharmacy issued by the Ottoman State: Eczacılar ve Eczaneler Hakkında Kararname – 1922 (*Nuran Yildirim*)

STUDIES ON THE HISTORY OF BOTANY IN TURKEY

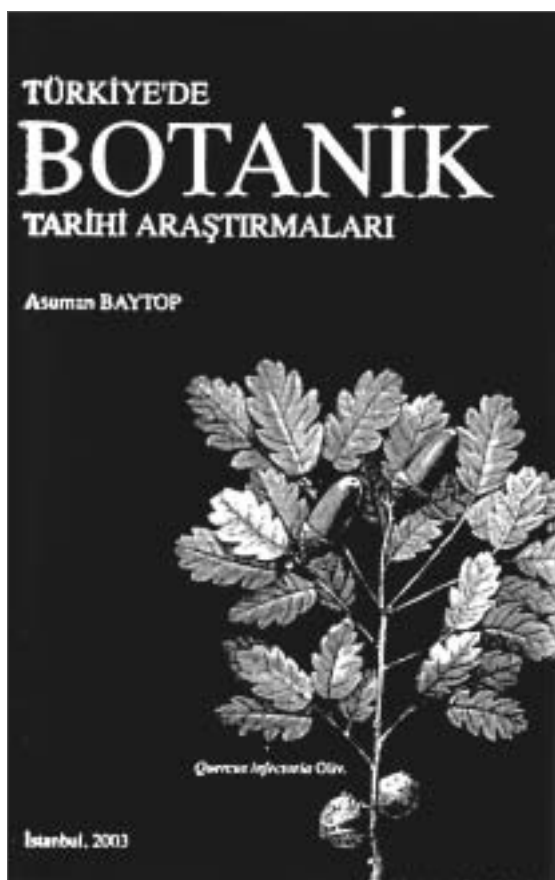
Asuman Baytop, *Türkiye'de Botanik Tarihi Araştırmaları (Studies on the History of Botany in Turkey)*, ed. Feza Günergun, Istanbul: Eren Kitabevi 2003, 510 pp. ISBN 975-288-447-4.

The present book gathers together the 42 articles of A. Baytop, emeritus professor of botany, Faculty of Pharmacy, Istanbul University. These articles focus the history of researches on Turkish flora as well as the history of botanical education in Turkey.

In the first chapter, books of travels of the following authors who visited the eastern Mediterranean region during 16th -18th centuries are analysed from the botanical point of view: P.Belon (1517-1564), O.G. de Busbecq (1522-1592), D.Dernschwam (1494-1568), L.Rauwolff (1535-1596), G.Wheeler (1650-1724), J.P. de Tournefort (1656-1708), and G.A. Olivier (1756-1814) and Evliya Celebi, the renowned Turkish traveller and adventurer of 17th century.

Chapter II examines the contributions of three researchers to the Turkish flora, namely Edmond Boissier (1810-1885), Dr. Arthur Huber-Morath (1901-1990), and Prof. P.H. Davis (1918-1992).

Articles in Chapter III, survey the teaching of botany in Turkey starting with the opening of the Military School of Medicine in 1839 in Istanbul. The first lecturer of botany was Dr. C.A. Bernard (1808-1844), the Austrian director of the School. The others were successively Salih Efendi (1816-1895), Mehmet Ali Pasha (1837-1914), Esad Serefeddin (1866-1942) and Serafettin Tevfik (1879-1957). All were physicians. They lectured to students in medicine and



in pharmacy about plant morphology, systematics and medicinal plants. Chapter IV focuses the scientific research in botany undertaken from 1933 onwards, when botanical education passed to two biologist professors who came to the Istanbul University from Germany: Prof. Dr. A. Heilbronn (1885-1961) and Prof. Dr. L. Brauner (1898-1974). Under their guidance, young Turkish botanists undertook investigations in plant morphology, anatomy, physiology, genetics and floristics. While Chapter V reviews the textbooks of pharmaceutical botany published from 1839 up to the present day, Chapter VI and VII outline the teaching and research activities in the Department of Pharmaceutical Botany (Faculty of Pharmacy, Istanbul University) and its Herbarium. The book ends with articles studying the contributions of G.V. Aznavour (1861-1920) and F.A. Shepard (1856-1921) to the Turkish flora, and a survey on the essential oils used by the Ottomans.



INSOLATION AND CLIMATE

Aleksandar Petrovic, *Insolation and Climate. Milutin Milankovic and the Mathematical Theory of Climate Changes*, Serbian Society of History of Science, 2002.

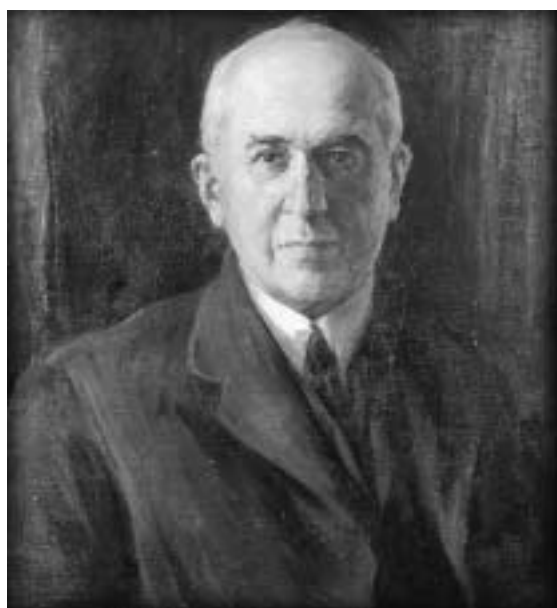
This publication (written in English and in Serbian) is a brief, yet a first complete survey of the work of Milutin Milankovic, composed as a tribute to a giant of 20th century geosciences, as well as an attempt to re-evaluate the significance and achievements of the astronomical theory of climate changes he propounded almost a century ago. This theory, which provided the mathematical and physical basis of the cyclical nature of climatic variations, is the most significant work of the Belgrade School of Climatology and Meteorology, which was founded in 1848, with the work of Vladimir Jakčić, and continues to be internationally recognized today on weather modeling and forecasting (ETA model).

Milutin Milankovic was born in 1879, in Dalj, then part of Austria-Hungary. After finishing secondary school in Osijek, where his mathematics teacher was a young Serbian mathematician, Vladimir Varicak, later a university professor and academician, he enrolled in the Technical School in Vienna, majoring in civil engineering. In 1904, he was awarded his PhD in technical sciences. He worked successfully for five years as an expert in a constructing company, in Vienna, making various theoretical contributions and inventing several important patents in concrete construction.

In 1909, on invitation of the Ministry of Education of Serbia, Milankovic took the position of the professor of applied mathematics in the College of Philosophy in Belgrade. In this new activity he found, as he later wrote, "all the conditions required to develop his abilities and to repay the debt to his nation."

In Belgrade, Milankovic was looking for an important, interesting, and yet unexplored scientific field, where he could 'built his incontestable spiritual estate.' On suggestion of Pavle Vujevic, a former student in Vienna and professor of climatology at Belgrade University, he finally defined his area of scientific interest, which lay between spherical astronomy, celestial mechanics and theoretical physics. His first paper dedicated to mathematical climatology was published in 1912, in Belgrade. Although his research activity was interrupted by a series of wars in which Serbia was involved from 1912

to 1918, he progressed in dealing with the problems of a field, which could be referred to as cosmic climatology. In 1920, his study "Mathematical Theory of Heat Phenomena Produced by Solar Radiation" was published in Paris. In this work, the very essence of the later famous theory about the influence of a planet's orbit fluctuations on its climate conditions was exposed. This paper drew the attention of German climatologist Wladimir Köppen and of his son-in-law, geophysicist Alfred Wegener. They invited Milankovic to take part in their project of reconstructing climate changes in geological history. This collaboration was fruitful in many aspects: together, they were able to solve many unanswered questions and, helping each other, they explained different aspects of common problems, making many valuable suggestions. For Milankovic's work, this was building a bridge between theoretical and applied sciences. In the period before the World War II and the publishing of his major work "Canon of Insola-



Milutin Milankovic 1879 - 1958 (portrayed by Paja Jovanovic in 1943)

tion," Milankovic was continuously working on details, improving his theory. In the second half of the 20th century, the theory followed an interesting course, from falling into disrepute into reaching an absolute triumph, after the famous international geophysical projects CLIMAP, SPECMAP and COHMAP were held. In 1982, at Columbia University, New York, the symposium on "Milankovic and Climate" was held, with the participation of the most important figures of the Geosciences from all over the world.

Apart from the above, Milankovic should be mentioned as a brilliant construction engineer, a talented geophysicist, the father of cosmic climatology, the reformer of the Eastern Orthodox calendar, the founder of the history of sciences in Serbia, a honoured professor, a member of many European scientific academies and an inspired and talented writer.

On the occasion of the 125th anniversary of the birth of Milanovic, an international symposium is scheduled in 2004, in Belgrade. It aims at reviewing the most recent developments of climate science, as they relate to the work of Milanovic. The International Program Committee comprises, among others, Ray Bates, Andre Berger, Valentin Dimnikov, Marko Ercegovac, James Fleming, Fillippo Giorgi, Vladimir Jankovic, Fedor Mesinger and Antonio Divino Moura.

Ranko Rajkovic

**NIKOLA TESLA:
TAGEBUCH AUS STRASSBURG
MUSEUM NIKOLA TESLA,
BELGRADE, 2002**

The inventions Nikola Tesla made at the end of the 19th century, changed significantly, and in a very short time, everyday life. Tesla inventor died in New York, in 1943, on the Eastern Orthodox Christmas night. In 1949, Sava Kosanovic, his nephew, brought Tesla's documentation and personal effects to Belgrade, obeying his uncle's will. Ever since, the Nikola Tesla Museum, founded later in Belgrade, has collected more than 156,000 documents; many of them are still not researched. Among them, there is the so-called Tesla's Strasbourg Diary, which was published, for the first time, in 2002, in two languages, in German (in which it was originally written) and in Serbian.

In fact, it is not an actual personal diary, but a collection of written reports, which Tesla had to send to the board of directors of the Edison Continental Company where he was employed at the time. It consists of 14 financial reports, 7 lists of inventory and some other related documents. Tesla wrote this "diary" from October 1883 to February 1884.

It is known that during his stay in Strasbourg, Tesla made the first prototype of his inductive motor, in the hope to find someone willing to invest in the development of the system for the production, transport and exploiting of the alternate current. Several years before he arrived

to Strasbourg, Tesla started what later became known as the “war of currents”. As a student of the High Technical School in Gratz, he suggested to his professor of physics a solution for the problem of spark discharging of Gram’s direct current machine (generator and motor): it should be adapted for the alternate current and the conductive brushes should be removed. The professor rejected this idea as impossible, sharing the opinion of practically all the contemporary giants of electrotechnics: Edison, Siemens, Thompson, Lord Kelvin, Houston. However, one afternoon in 1882, in Budapest’s city park, Tesla

times he improved Edison’s dynamos and automatic regulators, so his abilities were soon noticed. In the beginning of 1883, in the power station built in the new railway station in Strasbourg, then in Germany, occurred a short circuit, followed by an explosion, just during the opening ceremony attended by Kaiser Wilhelm I. The German government rejected, naturally, to make any payment for the station. Tesla was therefore sent to Strasbourg, not only as an excellent engineer, but also because he spoke German perfectly and was familiar with German culture.



During his stay in Strasbourg, he wrote the so-called “diary”. When one reads it, it becomes obvious that Tesla was not a daydreamer - on the contrary, he was an efficient expert, able to solve technical problems with much competence, coping daily with obstacles arising from German red tape. Tesla mentions such obstacles with patience and even understanding (the Germans wanted to avoid similar defects in the future).

had a flash in his mind about a moving inductive motor. Soon after, he moved to Paris, with the dream of realizing his project in the “Compagnie Continentale Edison de Paris”.

In 1882, Edison, already a famous as inventor, was by no doubt the leader of electrification, owning a profitable business in building systems for electrical illumination in Europe and America. As direct electrical current could not be transported to great distances, he had already built many power stations in France and Germany. In his company, Tesla’s job was to take care of them and repair them when necessary, which meant pretty often. As a highly skilled and inventive engineer, he did even more: many

Unfortunately, in the diary there is not even a word about the construction of the inductive motor prototype. We can be sure that he was thinking much more about it than about the Edison’s power stations. There, in Strasbourg, he successfully made his motor and experienced a great joy seeing the first rotations induced by the alternate current. He was trying hard to convince the

wealthy citizens of the town to invest in the building alternate current systems and the production and usage of his motor, but in vain. At that time, it seemed to them that Edison’s system, based on direct current motors, was the only possible.

The time Tesla spent in Strasbourg was also very important for his thinking about many basic problems of electrotechnics. Following ideas he conceived there, in years that followed, Tesla made amazing innovations and paved the way to many gifted scientists and inventors to continue research and development of practical electro and machine techniques.

Mirjana Petrovic

THE ACTIVITY OF THE ROMANIAN TEAM

The object of one of the Romanian team's (Radu Iftimovici, Sebastiana Grama, Claudia Larion) current concerns is the activity of some South-European scientists. More specifically, we studied the presence in Romania, and, consequently, the scientific activity, of the famous Greek neurologist Constantin von Economou and of the Romanian virologist and chemotherapist Constantin Levaditi.

Constantin von Economo (1876-1931) was born in Romania, in the important Danubian port of Braila. He descended from an old Greek family, established in that city. His childhood was spent in Braila but later his family moved to Trieste, then part of the Austro-Hungarian Empire. He studied medicine in Vienna, where he started his medical and scientific career, specializing in neuropsychiatry, under Prof. Wagner von Jauregg, who was awarded the Nobel prize in 1927. Von Economo married Princess Caroline von Schönlarly-Hartenstein and after the end of World War I, he returned to Trieste. In 1920, when the city became part of Italy, he became an Italian citizen. In spite of systematically refusing university chairs in Frankfurt, Marburg, Zurich, Cluj (Romania), and Athens, C. von Economo was a visiting professor to many European universities. Although he died prematurely at the age of 55, his scientific work had a worldwide impact.

Without any doubt, his most important work was in the field of infectious encephalitis: in 1922, he described for the first time the so-called Economo's lethargic encephalitis, a new disease, which made many victims in the period 1917-1922. Systematic research on cyto-architectonics of the brain, represents another major field of his scientific activity. Numerous discoveries on the physiology of the nervous system bear his name and von Economo is, along with another Greek, Dr Koskinas, the author of a famous atlas, published in Berlin, in 1925, and later translated and published in Paris (1927) and Oxford (1929).

In the archive of the well-known Romanian neurologist Gheorghe Marinescu, a disciple of Charcot, our team discovered three letters by von Economo. These letters, which are accompanied by comments, are to be published. Since most of von Economo's family members have remained in Romania, we could easily draw his family tree.

Constantin Levaditi (1874-1953) died 50 years ago. He was born in the Danubian port of Galati. His father, a customs officer, came from a Vlach family in the mountains of Pindos. His mother, née Ștefanescu, was a Romanian from Focsani. Being orphan since his infancy, he was raised by a sister of his mother, nurse at the Brancovenesc Hospital, in Bucharest. One can explain his medical career to the fact that he lived in the basement of the hospital, among the sick.

Graduated from the Faculty of Medicine in Bucharest, in 1898, Levaditi was one of the favourite disciples of Prof. Victor Babes (a Romanian bacteriologist who discovered in 1888 the parasite *babesia*). Between 1900 and 1902, young Levaditi worked in Frankfurt with the famous immunologist Paul Ehrlich, who was awarded the Nobel prize in 1908. In 1902, he went to Paris, where he was a researcher at the Institut Pasteur and became a luminary of the French experimental medicine. Among his remarkable scientific achievements, we have to mention the discovery, in collaboration with the Viennese pathologist Karl Landsteiner, of the poliomyelitis virus (1909); the organization of several medical campaigns against poliomyelitis in Scandinavia (1911-1912), on the occasion of which he developed the serological diagnosis of this disease; the discovery, in cooperation of Stefan I. Nicolau, of several basic characters of viruses, as well of ultrafiltrability, of viral oncolysis, of cell-mediated immunity in viral diseases, etc. At the same time, Constantin Levaditi is the author of the first virology treatise published ever, *Les ultravirus des maladies humaines* (Ultraviruses of human diseases), (Paris, 1937), followed by *Les ultravirus des maladies animales* (Ultraviruses of animal diseases), (Paris, 1943), in collaboration with P. Lépine, etc.

Another field where Levaditi made a significant contribution was chemotherapy. He discovered the syphilis treatment with bismuth (1926) and he is the second author of the first penicillin application in syphilis. In 1920, he became professor at the Faculty of Medicine in Cluj (Romania) and from 1927, at the Faculty of Medicine in Paris. He was also visiting professor at the Columbia University, the Rockefeller University in New York, at the Faculties of Medicine in Madrid, Glasgow, Vienna, Munich, Turin, and other. He obtained numerous academic titles in different countries and he was awarded major international prizes as a reward for his scientific research. Concerning our re-

search, we presently study Levaditi's relations with important scientists of the first half of the 20th century, i.e., Simon Flexner (director of the Rockefeller Institute), Charles Nicolle (Nobel laureate, 1928), Gheorghe Marinescu (neurologist, disciple of Charcot and Ramon y Cajal), Emile Roux (Pasteur's closest collaborator), etc.

We are in possession of a vast scientific correspondence, which we are still studying in order to discern the origin of the ideas that lead to Levaditi's significant discoveries.

*Prof. Dr Radu Iftimovici
Dr Ing. Sebastiana Grama*

SCIENCE, TECHNOLOGY AND THE 19th CENTURY STATE : THE ROLE OF THE ARMY

Science, technology and the 19th century State : the role of the army, Konstantinos Chatzis and Efthymios Nicolaidis (eds), National Hellenic Research Foundation – Laboratoire Techniques, Territoires et Sociétés / CNRS, Athens, 2003, 170 p.

ISBN 960-7916-28-X

The present volume is the second book resulting from the collaboration between the Institute for Neohellenic Research (INR) of the National Hellenic Research Foundation and the Laboratoire Techniques, Territoires et Sociétés (LATTs), an entity common to many French education and research institutions.

Within the framework of this collaboration, another volume has preceded the present one three years ago, entitled *Science, Technology and the 19th century State*, bringing together a number of contributions, which attempted to explore the relationship during the 19th century between a state (Greece, France, Britain and Portugal, in this case), which thinks of itself as rational, on one hand, and on the other, sciences and technologies, instruments of a studied 'rationalization' on the other. This volume holds to the general theme of the previous volume since it focuses on a particular agent, the army. If the association of the army to the state comes naturally and without any surprise –war between states is endemic throughout the history of humanity and, from this point of view, the 19th century is no exception– the relationship between the military and 'sciences and technologies' is worth a commentary. The present volume consists of papers presented in a conference organized jointly by the INR and the LATTs in

Hermoupolis (Syros), in July 2000. Although most of the papers relate to the two countries to which the above-mentioned institutions belong, namely, Greece and France, other regions and countries are concerned, such as Egypt, Romania or Japan, in particular through the action of French technical missions.

The volume comprises eight texts.

Nathalie Montel deals with the creation of the Alexandria arsenal, in the beginning of the 1830's, which was decided by Muhammad Ali in his general effort to modernize Egypt and assigned to a French naval engineer, Charles Lefébure de Cerisy. The originality of the author's approach consists in seeing the Alex-

SCIENCE, TECHNOLOGY AND THE 19th CENTURY STATE: THE ROLE OF THE ARMY

Conference Proceedings

Edited by

KONSTANTINOS CHATZIS and EFTHYMIOS NICOLAÏDIS



NATIONAL HELLENIC RESEARCH FOUNDATION
LABORATOIRE TECHNIQUES, TERRITOIRES ET SOCIÉTÉS / C.N.R.S.

ATHENS 2003

andria arsenal as a mirror, reflecting not Egypt but the French reality of the time concerning military shipbuilding.

Anousheh Karvar describes how France helped Romania and Japan to reorganize their armies in the second half of the 19th century, a period rich in reforms for both countries, which were involved in the construction of a national and centralized state.

Patrice Bret deals with the question of the organization of the French military research between 1760 and 1830, showing that, through the creation of numerous military institutions, it is the origin of French public research.

Konstantinos Chatzis studies the organization of Engineer Corps and the multiple roles it held in 19th century Greece. An ‘army of scholars’ created in 1829, the Engineer Corps fills, until the 1880’s, functions and tasks that in reality belong to the civil engineers’ domain, while its members excel in transmitting in Greece Western knowledge and know-how.

Yannis Antoniou and Michalis Assimakopoulos describe the lengthy process of the advent and ‘acclimatization’ of the modern engineer in Greece, a process that spans from the country’s independence (1830) to the beginning of the 20th century.

Dimitris Vogiatzis’ contribution concerns the military technology used by the Greek army during the 19th century, when regular ‘western’ military formations and ‘old fashioned’ troops coexisted.

Andreas Kastanis deals with the introduction and teaching of descriptive geometry in Greece during the 19th century. Of French inspiration, this subject was taught in the Military Academy and the University of Athens since the 1830’s.

Finally, the role and place held by Greek marine officers in the Greek scientific scene of the 19th century are dealt by George Vlahakis.

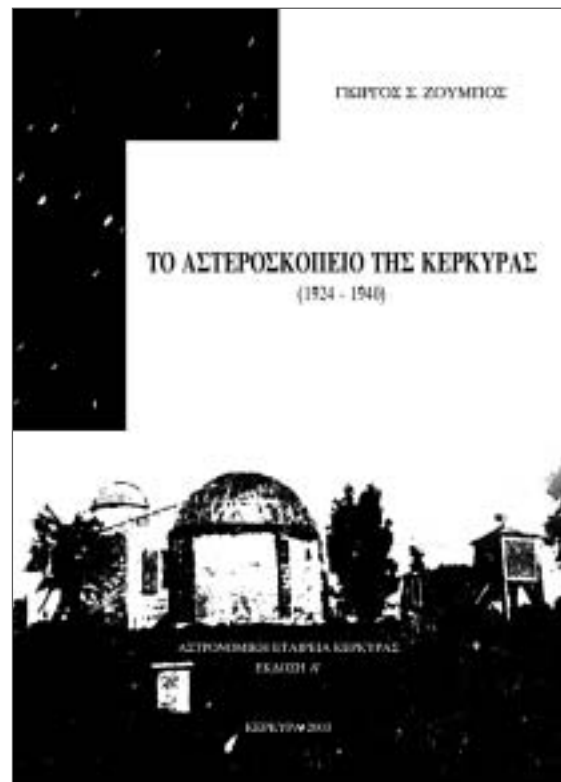
THE OBSERVATORY OF CORFU

Γιώργος Ζούμπος, Το Αστεροσκοπείο της Κέρκυρας (1924-1940), Αστρονομική Εταιρεία Κέρκυρας, Κέρκυρα, 2003 [George Zoumbos, The Observatory of Corfu (1924-1940), Astronomical Society of Corfu, Corfu, 2003, 107 p.] ISBN 960-87864-0-1

The existence and activity of an observatory in Corfu from 1924 until 1940, as well as that of an Astronomical Society (the first in Greece) since 1927 came forth in April 1989, when com-

plaints were lodged about the demolition of the remaining dome of the installations. The demolition was unfortunately not avoided, but a long search began, in order to gather information, so that the history of this important scientific movement of the Middlewar could be recorded. As the library and astronomical instruments of the ‘Astronomical Society’ were lost, the main source of information is the magazine *Urania* and newspapers issues of the time.

It is difficult to estimate the work and impact of the ‘Astronomical Society of Greece’. Beating the difficulties in communication it managed to create an extended network of mem-



bers and correspondents in Greece, as well as abroad. Even though it was but an amateur society, it gathered a great part of the Greek scientific community, and ensured the collaboration of many foreign scientists. Through the pages of *Urania* much knowledge concerning astronomical phenomena spread down to the public, and many scientific problems of the time were presented.

A series of photos kept in the Public Library of Corfu which are most likely to have come from the Reading Room and Library of the ‘Astronomical Society’ are presented in this edition.

CONFERENCE
“CURRENT TRENDS IN SCIENCE
TECHNOLOGY STUDIES”

Ermoupolis, Syros, 12-13 July 2003

Organizers:

- Sector of Humanities, National Technical University of Athens, M. Assimakopoulos,
massim@central.ntua.gr
- Laboratoire Techniques, Territoires et Sociétés, Ecole Nationale des Ponts et Chaussées (Paris), K. Chatzis,
chatzis@mail.enpc.fr

Session 1: Sat 12 July, 9:30 –12:30

Chair: M. Assimakopoulos.

Dominique Pestre (Centre Alexandre Koyré, École des Hautes Études en Sciences Sociales), “Thirty years of Social Studies of Science. A personal view.”

Session 2: Sat 12 July, 17:30-20:30

Chair: Amy Dahan (Centre Alexandre Koyré)

Wiebe E. Bijker (Department of Technology and Society Studies, University of Maastricht, President of the Society for Social Studies of Science), “The Social Construction of Technology and Issues of Democratization”

Steve Woolgar (Said Business School, University of Oxford), “Why the Internet Needs Science and Technology Studies”

Session 3: Sun 13 July, 9:30 –12:30

Chair: K. Chatzis

Garry L. Downey (Science Technology Studies Program, Virginia Tech.), “Knowledge and Professional Identity in Engineering”

Antoine Picon (Harvard School of Design, Harvard University), “The Engineering Profession and its Changing Ideals, from the Industrial Revolution to Present”.

The proceedings of the conference will be published in a future issue of the journal *History and Technology*.

ESF PROJECT
CULTURAL EXCHANGE IN EUROPE,
1400-1700,
MEETING ON TRANSLATION

organised by Team 3 on “Information and Communication”

with the local support of the
National Hellenic Research Foundation
Athens, 30-31 May 2003

The meeting was attended by Robert Muchembled (project leader, Université de Paris XIII), Francisco Bethencourt (Team leader, Gulbenkian Foundation/New University of Lisbon), Efthymios Nicolaidis (NHRF), Feza Günergün (University of Istanbul), Serguei Demidov (Institute for the history of science and technology, Moscow), Isabelle Pantin (Université de Paris X), Eva Kowalska (University of Bratislava), Peter Burke (Cambridge University), Maris Lucia Pallares-Burke (Cambridge University), Ronnie Hsia (Pennsylvania State University) and Christina Fili (National Technical University of Athens)

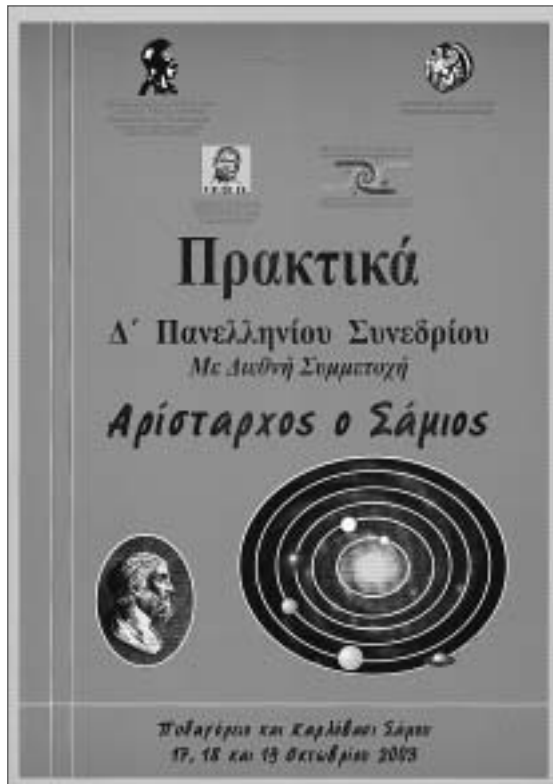
The meeting had the purpose to discuss the papers concerning the book on “Cultural exchange in Europe: the Translations”. In the meeting were presented new papers, by Isabelle Pantin on “The Role of Translations in European Scientific Exchanges in the 16th and 17th Centuries”, Feza Günergün on “The 17th Century translations in Turkish from European Scientific Literature” and Serguei Demidov on “The 16th and 17th Centuries translation in Russian from European Scientific Literature”. The participants discussed also the new versions of papers presented in previous meetings in Amsterdam and Leibniz. by Maria Lucia Pallares-Burke on “The metamorphosis of the periodical” and by Eva Kowalska on “Language as a Means of Transfer of Cultural Values”.

The participants discussed also the future shape of the volume. The general problems of authenticity (and deception) of the translation, the different meanings of translation in different regions of Europe, how vernacular were used along Greek and Latin, were some of the issues that shall be considered in the introduction.

The meeting was financed by the European Science Foundation (local organiser Efthymios Nicolaidis / National Hellenic Research Foundation).

CONFERENCE “ARISTARCHUS OF SAMOS”

The 4th Hellenic Conference with topic “Aristarchus of Samos” took place on the 17th, 18th and the 19th of October on the island of Samos. It was organised by two university departments in Greece, the Pedagogic Department of Primary Education and the Department of Mathematics of the University of the Aegean, as well as by the Cultural Foundation “Nikolaos Dimitriou” in Samos and the Centre for Research on Science and Education. The conference took place in two cities of Samos, Pythagorion and Karlovassi. The areas covered by the conference included the astronomy before Aristarchus (Babylon and Egyptian periods), the work of Aristarchus (in both mathematics and astronomy), the astronomy after Aristarchus (Hellenistic and Arabic periods, as well as the pe-



riod starting from the middle ages until Copernicus) and, finally, the interactions between the astronomical work of the Babylonians, ancient Egyptians, ancient Greeks, Indians and Chinese.

We mention indicatively some of the questions discussed and some of the problems posed during the conference:

- Investigation of the history of the emergence of non-geocentric and non-geostatic

conceptions during the whole period of the ancient Greek astronomy, from the Pythagoreans to Aristarchus of Samos;

- Whether the heliocentric hypothesis of Aristarchus is a “singular point” – in the sense of Kuhn – within the field of the existing perceptions in the science of that time or not;
- Which were the obstructions towards a general acceptance and predominance of Aristarchus’ hypothesis;
- How the passage from the geocentric model of Ptolomeus to the heliocentric model of Copernicus was made, whether Copernicus’ model is a continuation of Aristarchus’ theory or an extension of Ptolomeus’ system;
- What is the relation between astronomy and astrology;
- Which were the conceptions of Christian scholars during the first Christian centuries concerning the geocentric, geostatic and heliocentric theories of the ancient times as well as the cosmological views they formulated.

Finally, a desire was expressed to hold a scientific meeting with topic “Pythagoras of Samos” in the future.

The Proceedings of the Conference have been published.

SEARCH FOR FERDINAND VERBIEST’S DOCUMENTS IN SOUTHEASTERN EUROPE

Since many years, Dr Noel Golvers is editing the corpus of Ferdinand Verbiest, SJ, head of the Jesuit mission in China and Director of the Imperial mathematical Bureau. His last book, sponsored by the Ferdinand Verbiest Foundation titled *Ferdinand Verbiest, SJ (1623-1688) and the Chinese Heaven. The composition of the Astronomical Corpus, its diffusion and reception in the European Republic of Letters* (Leuven University Press, Leuven, 2003, 676 p.) describes more than 220 copies, nearly all of European provenance, of various astronomical publications by Ferdinand Verbiest (1623-1688), either xylographical copies sent from Peking (reports, instrument drawings, eclipse maps, ephemerides, stellar maps), or copies of *Astronomia Europaea* (a Bencard edition from Dillingen, 1687). This multiplies the number of known copies by ten.

Moreover, by investigating handwritten dedi-

cations and owner's marks, material indications and external testimonia, Golvers sketches the history of the shipments of these documents to Europe, connecting them to the late 1670s, to Ph. Couplet's European 'tour' (1683-1692) and to the presence of A. Thomas, S.J. in Peking (late 1685-1709).

The abundantly illustrated publication (ca. 60 ill., 6 tables and 4 major maps) represents not only a substantial advancement to the history of the Jesuit mission in China and the methods applied, but also a substantial advancement in our knowledge of the history of western astronomy in East Asia, and of the Sino-Jesuit printed materials preserved in European collections.

Dr Noel Golvers continuing his research on Verbiests' documents, is notably interested in investigating documents probably existing in Southeastern Europe.

E-mail: Noel.Golvers@arts.kuleuven.ac.be

**THE GREEK BIOLOGIST AND HISTORIAN OF SCIENCE
COSTAS KRIMBAS
MEMBER OF THE ACADEMY OF ATHENS**



Professor Costas Krimbas has been elected in 2002 member of the Academy of Athens.

Professor Krimbas (born in 1932) started his scientific career as biologist. He was a member of the team of Dobzhansky in USA and became at the age of 29 (in 1961) Professor at the Agriculture University of Athens, where he continued his forefront research on genetics. His career as genetisist was extremely successful and his work was soon recognised by the international scientific community.

Besides his scientific career as biologist, Costas Krimbas is an well known historian of science. He has published numerous articles and books on the history of the theory of evolution and especially on the reception of Darwinism in Greece. In 1993 he has been elected Professor of History of Science at the Department of Methodology, History and Theory of Sciences of the University of Athens (he retired in 2000).

Academician Costas Krimbas continues his fruitfull research on history of science. We present to him our best wishes for his election as member of the Academy.

**PROFESSOR CHRYSSA MALTEZOU
AWARDED BY THE PRESIDENT OF THE REPUBLIC**

Professor Chryssa Maltezou has received the medal of Golden Cross of the Legion of Honor by Konstantinos Stefanopoulos, President of the Hellenic Republic, for her work as Director of the Greek Institute of Byzantine and Post-byzantine Studies of Venice, the unique Greek research Institute outside Greece. The Institute possesses many documents of interest for historians of science, as the spread of new science to the Greek communities of the 17th and 18th centuries came manly from Greeks having studied in Venice and Padova. (The Institute co-organise with the History of Science Programme of the National Hellenic Research Foundation the Conference: Byzantium – Venice – Modern Hellenism: A travel in the world of modern-Greek scientific thought).



**International Union of the History and Philosophy of Science/
Division of History of Science (IUHPS/DHS)**

**2005 DHS PRIZE
FOR YOUNG SCHOLARS**

The International Union of the History and Philosophy of Science, Division of History of Science (IUHPS/DHS) invites submissions for the first DHS Prize for Young Scholars to be presented in 2005.

The DHS Prize is awarded by IUHPS/DHS every four years to four young historians of science for their successful doctoral dissertations, completed after July 2001, which represent significant contributions to the History of Science. It is distributed as one prize in each of the following fields of focus:

- Western civilization
- Islamic civilization
- Far Eastern civilization
- South Asian civilization
- Ancient civilizations (not included in the above categories)

Each prize consists of a certificate and coverage of travel and accommodation expenditures for participation in the IUHPS/DHS Congress. The prizes will be presented to their winners during the IUHPS/DHS Congress to be held in July 2005.

DHS PRIZE COMMITTEE

Examination and selection of the submissions will be performed by an international committee composed of the DHS President, the DHS Vice-President, the DHS Secretary General, and an international Jury of scholars and specialists.

COMPETITION CALENDAR

Submission deadline: 31 August 2004
Prize Committee meeting: January 2005
Award Ceremony: during the 2005 Congress

CONDITIONS

Eligibility. Applicants must have a doctorate degree on the subject of history of science, awarded in or after July 2001.

Scope. The entries must be on the history of science with a focus on one of the following fields: Western civilization, Islamic civilization, Far Eastern civilization, and South Asian civilization.

Language. Theses which are in any language other than English; a detailed summary in English, not longer than 20 pages, should be submitted.

Application procedure. Applications must be made in English and submitted to the Office of the DHS President at the address below by mail, to be received by 31 August 2004.

For complementary information, applications and submissions, please write to: IUHPS/DHS President's Office (Prof.Dr. E. Ihsanoglu)
P. O. Box 24, Besiktas, 80692 Istanbul, Turkey
Fax: 90-212-258 43 65/ Tel: 90-212-260 07 17/ E-mail: ircica@superonline.com

**BYZANTIUM – VENICE – MODERN HELLENISM:
A TRAVEL IN THE WORLD OF MODERN-GREEK SCIENTIFIC THOUGHT**

National Hellenic Research Foundation, 7-8 November 2003

The Conference is organised by the the History of Science Programme of the Institute of Neohellenic Research of the National Hellenic Research Foundation and the Greek Institute of Byzantine and Post-byzantine Studies of Venice and endorsed by the Institute of Byzantine Research, NHRF.

Friday 7 November

10.30-12.00

Opening of the Conference

Panagiotis Papagiannakopoulos (*Director of the NHRF*), Chrysa Maltezou (*Director of the Greek Institute of Byzantine and Post-byzantine Studies of Venice*), Evangelos Chrysos (*Director of the Institute of Byzantine Research, NHRF*).

Paper Session. President, Efthymios Nicolaidis

Marino Zorzi: “Bessarion’s scientific manuscripts now in the Marciana Library”.

Aikaterini Koumarianou and George Toliás: “The Renaissance scholar Nikolaos Sofianos”

Coffee break

12.30-14.00

Paper Session. President, Aikaterini Koumarianou

Yannis Karas: “Modern-Greek revival, the European conscience of Modern-Greek thought”

George Vlahakis: “Greek scientists and the search of lost knowledge in 18th c. Venice”

George Zoumbos: “Antonio Cagnoli: from Zante at the presidency of Societa Italiana (Accademia Nazionale delle Scienze)”

17.00-19.30

Paper Session. President, George Vlahakis

Christine Phili: “Euclide’s Elements, Archimedes opera and Apollonius’ Conics, the first translations in Venice”

Dimitra Loukou: “Two manuscripts of Persian astronomy of Bessarion’s collection”

Manolis Kartsonakis: “Symeon Seth and the diffusion of *Synopsis of Physics* in the West”

Gianna Katsiamboura: “From Constantinople to Venice, a Byzantine Quadrivium”

Saturday 8 November

10.30-12.00

Paper Session. President, Michalis Assimakopoulos

Konstantinos Petsios: “Middle-age Aristotelism as a frame of philosophical teaching in 17th c. Venice: Mathaios (Meletios) Typaldos”

Chariton Karanassios and Konstantinos Petsios: “The writer of an anonymous philosophical work: Gregorios (Georgios) Kontaris vel Georgios Sougdouris”

Manolis Patiniotis: “Pestiferae quaestiones of Cyril Lucar and the beginnings of Korydalean programme”

Coffee break

12.30-14.00

Paper Session. President, Constantine Skordoulis

Sofia Talas: “The University of Padova and Poleni’s reform”.

Yannis Vandoulakis: “On the character of scientific teaching of Leichoudis brothers at the Slavo-Greco-Latin Academy of Moscow”

17.00-19.30

Paper Session. President, Manolis Patiniotis

Dimitris Karamberopoulos: “Byzantine healing”

Kostas Nikolantonakis: “The works on cylinder and cone of Serinos Antinoeas from Byzantium to the West”

Efthymios Nicolaidis: “From East to West and from West to East: Ptolemy and Moderns in Byzantium”

Yannis Thomaidis and Nikos Kastanis: “The paths of sinus: from Venice to the Modern-Greek teaching and back to Byzantine tradition”