

Newsletter



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CONTENTS:

The Museum of the Observatory of Athens.....	1
3rd Conference on HPST teaching.....	2
Notions of Physics in Natural Philosophy.....	2
S&T in Ottoman Empire and National States...3	
Ottoman Natural and Applied Science.....	4
Studies in Ottoman Science.....	5
A Turkish Website on History of Science.....	5
Symposium on History of S&T.....	6
Mathematical Cultures in History.....	7
Science and Social Justice.....	7
Radical approaches in Science and Education..	8
Physics and Physicists in Greece.....	8
Ideology and Modern Greek Science.....	9
Greek Collections of Scientific Instruments.....	9
History of Greek Engineers.....	9
The World of the Byzantines.....	10
Frontiers of Physics Education.....	11
EPS History of Physics Group.....	11
Scientific Instruments in Rijeka.....	12
HPM Newsletter.....	13
IUHPS/DHST Young Scholars Prize.....	14
Critical Science and Education.....	15
IUHPS/DHST New Board and Website.....	16

THE MUSEUM OF THE OBSERVATORY OF ATHENS

A new Museum on Astronomy and Earth sciences

The National Observatory of Athens, founded in 1842, possesses an important collection of scientific instruments of Astronomy, Seismology and Meteorology of the 19th and 20th century. Its historical building at the hill of the Nymphs, just opposite the Acropolis, was built in a pure neoclassic style by the Danish Architect Theophil Hansen, thanks to the sponsorship of Baron George Sinas, a Greek of Diaspora. This beautiful and recently restored building will hold a permanent exhibition of the most historical instruments of the Observatory, such as the Ploesl refractor with which Johann Friedrich Julius Schmidt (1825–1884) performed his famous map of the Moon. The building will also hold the historical library of the Observatory, which possesses a valuable astronomical collection and in a special arranged room, old seismological instruments displaying in real time the current seismological activity.

The Museum of the Observatory will also comprise two small buildings of the end of the 19th century, holding two Gautier instruments of the same period: a 40cm refractor and a 162mm meridian circle, both in functioning condition. In the future, the current seismological building will also be transformed to a Museum, displaying in situ functioning seismological instruments from the beginning of the 20th century.

Website of the Observatory: www.noa.gr ; some information on its history and instruments: www.eie.gr/hasi



THIRD HELLENIC CONFERENCE ON HISTORY, PHILOSOPHY AND SCIENCE TEACHING

Athens, September 19-25, 2005

The Third Hellenic Conference on History, Philosophy and Science Teaching (HCHPST) was held in Athens, Greece, from September 19 to 25, 2005. Hosted at the National Hellenic Research Foundation facilities, the Conference was attended by more than a hundred science educators and researchers, currently active in the fields of history, philosophy and teaching of science. The Conference was jointly held with the European Physical Society Conference 'Notions of Physics in Natural Philosophy' which attracted its own participants from several countries across Europe.



The volume of Proceedings of the Conference

The 3rd H.C.H.P.S.T. hosted several invited speakers, covering a wide range of topics in the history and philosophy of science. Due to the fact that 2005 had been declared 'World Year of Physics' especially devoted to Albert Einstein, a special Round-Table was organized in order to discuss the importance and the impact of Einstein's work. This was followed by an open discussion.

The Conference was deemed a success because of the quality of the papers presented and the great number of attendees. As a final concluding act, it was decided for the subsequent Fourth H.C.H.P.S.T. to be hosted in Patras, in 2007.

The Proceedings have been published: K. Skordoulis and E. Nicolaidis (ed), *History, philosophy and teaching of physical sciences* [in Greek], Ellinika Grammata, Athens, 2005.



NOTIONS OF PHYSICS IN NATURAL PHILOSOPHY

*European Physical Society Conference
Athens, September 23-25, 2005*

In the frame of the international year of Physics, the History of Physics Group of the EPS, the History of Science Programme of the NHRF, the Laboratory of Science Education, Epistemology and Educational Technology of the Education Department of the University of Athens and the Greek Physicists Society organised a Symposium on the history of Physics.

The scope of the Symposium was to present the problematic concerning the emergence of Physics as scientific field from Philosophy and more precisely from Natural Philosophy

Some themes of the Symposium:

- The emergence of notions of Physics in Ancient Philosophy
- The concept of physical laws in the Philosophy of Nature during the Antiquity and Middle Ages
- Questions on the heritage of Greek Philosophy of Nature during the Middle Ages and Renaissance.
- The mathematization of Natural Philosophy and the emergence of classical physics.

Papers were given by M. Ducloy, Helge Kraigh, Fabio Bevilaqua, Eugenia Koleza, George Vlahakis, Zoe Bozenberg, E. Vamboulis-S. Sakopoulos-E. Vitoratos-Ch. Polydorou,

Michel Blay, E. Nicolaidis, M. Kartsonakis, Malcolm Cooper, Peter Maria Schuster and Kostas Skordoulis.

The Proceedings will be edited (editor G. Vlahakis).

DIFFUSION OF SCIENCE AND TECHNOLOGY IN THE OTTOMAN EMPIRE AND THE NATIONAL STATES

Symposium organized by Ekmeleddin Ihsanoglu and Efthymios Nicolaidis Beijing, China, 24-30 July 2005.

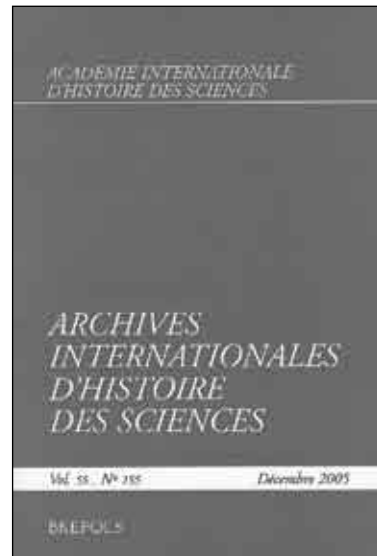


At the International Congress held in 2001 in Mexico, historians of science from various countries had gathered at a Symposium titled “Science and cultural diversity: from the Ottoman Empire to the National States”. The papers of this Symposium had studied the various scientific traditions of the Ottoman Empire which have been inherited by the National States coming out of this Empire. The proceedings of this Symposium have been edited in the volume E. Ihsanoglu, K. Chatzis and E. Nicolaidis, *Multicultural science in the Ottoman Empire*, De Diversis Atribus, Collection de Travaux de l’Académie Internationale d’Histoire des Sciences, Brepols, Turnhout, Belgium, 2003.

The Symposium organised in the frame of the XXII International Congress of History of Science held in July 2005 in Beijing, completes this of Mexico. In the Mexico Symposium we have studied the theme of diversity in the area of the Ottoman Empire. In the Beijing Symposium we have studied the diffusion and the interference of science in this area.

During the Ottoman era, in Europe born and developed new scientific ideas a real “scientific revolution” as this movement has been called. The diffusion of these ideas and of the technology developed based on them has been a long and complicated process, as the reception areas had already their own scientific culture: Ancient, Arab, Byzantine etc. The non-centralized educational system of the Ottoman Empire (based on the political system of the Millets) allowed various interactions between local cultures and European science. From the scientific point of view, the question was to accept or not to integrate into a unique scientific culture, this of

Europe and the reactions have been important until the middle of the 18th or even the middle of the 19th, depending on the various cultures of the Ottoman Empire. From the technological point of view, the question was this of modernization of the society and the State and some national revolutions against the central political power had, among others, this characteristic. After the dismantlement of the Empire, the National States which originated (and among the modern Turkey) integrated this science and technology as a sine qua non condition for their own existence. The following papers were given: Tofigh Heidarzadeh, “Patronage, networks and migration: Turco-Persian scholarly exchanges in the 15th, 16th and 17th c.”; Atilla BIR - Mustafa Kaçar - Şinasi Tekin, “Ottoman Distance Archery, Bows and Arrows”; Tuncay Zorlu, “The Ottoman Experience with Copper Sheathing of Warships”; Vehbi Baysan, “Restructuring Ottoman State and Society: Bureaucratic View of Science and Technology During the Reform Period”; Ioli Vigopoulou, “Botanistes, naturalistes, scientifiques ou voyageurs en Orient du XVIe-XIXe s.?”; Maria Terdimou,



“The introduction of European Mathematics in the Greek communities of the Ottoman Empire during the 18th c.”, Fotini-Assimacopoulou - Konstantinos Chatzis, “Diffusion et adaptation de la terminologie technique en Grèce du XIXe-XXe s. : le cas des revues”, Efthymios Nicolaidis, “European Science and technology in the Greek world during 17th-19th c.: diffusion or adaptation?”

A first part of the papers of the Symposium have been published in *Archives internationales d’histoire des sciences*, 55, Dec. 2005.

OTTOMAN NATURAL AND APPLIED SCIENCE LITERATURE

History of Natural and Applied Science Literature during the Ottoman Period

Editor: E. İhsanoğlu, prepared by E. İhsanoğlu, R. Şeşen, S. Bekar, G. Gündüz, V. Bulut, Series of Studies and Sources on History of Science No. 13, History of Ottoman Literature of Science Series No: 6, IRCICA, Istanbul, 2006, CXLVIII+1562 pp.



An illuminating record of six centuries of scientific activities in natural and applied sciences in the Islamic world: this book gives a full picture of the scope, volume and results of the scientific works that were produced in the Muslim lands throughout the Ottoman period (1299-1923). It is the sixth book in the series *History of Ottoman Scientific Literature* being published by IRCICA within the framework of a long-term research project conducted since 1984 under the Editorship of Prof. Ekmeleddin İhsanoğlu.

Innovative in their concept and arrangement, the books in the series give bibliographic information on the scientific works – books, treatises, articles, reports, legal documents, etc. – that were produced in the various fields together with the biographies of the scientists and authors. Previous titles in the series *History of Ottoman Scientific Literature* were: *History of Astronomy Literature during the Ottoman Period*, 2 volumes (1997), *History of Mathematical Literature during the Ottoman Period*, 2 volumes (1999), *History of Geographical Literature during the Ottoman Period*, 2 volumes (2000), *History of*

Musical Literature during the Ottoman Period (2003), *History of Military Arts and Science Literature during the Ottoman Period*, 2 volumes (2004). Each was met with appreciation in the history of science community.

The new volume covers the scientific literature relating to: physics, chemistry, meteorology, botanic, zoology, geology, engineering, agriculture, animal husbandry, forestry, construction, gastronomy, precious stones. A study of its contents allows new observations and conclusions on the nature, intensity and orientations of the scientific activities at various points over the period and the geographical area under review. The Editor, Prof. Ekmeleddin İhsanoğlu, currently Secretary General of the Organisation of Islamic Conference, formerly President of the International Union for the History and Philosophy of Science, Division of History of Science (IUHPS/DHS), defines the series' main objective to be the publication of reference books as comprehensive and as informative as possible that would inspire and guide researchers towards new avenues and new findings on the history of



science in the Muslim world. The present volume has already filled a gap and will certainly serve this objective in the best way.

STUDIES IN OTTOMAN SCIENCE

(Istanbul University, Turkey)

Vol.VI, Nr.1, 2005 of *Studies in Ottoman Science* is published as a **Festschrift for Professor Emre Dölen**, Turkish historian of science, to celebrate his 60th anniversary in appreciation of his oeuvre covering more than thirty years of research. The volume includes eighteen contributions besides a biography and the list of publications of E. Dölen.

Articles: A sinking type time-keeping vessel (tarjaha) of al-Jazari (*Atilla Bir, Mustafa Kaçar, Mahmut Kayral*); Prof. Aimé Mouchet and the decline of French cultural dominance in Turkish medical education (*Şeref Etker*); A plant collector in Anatolia in the first half of the XIXth century: Rémi Aucher-Éloy (1793-1838) (*Asuman Baytop*); Dr. Mehmed Ziya Ülken, the Turkish student of Sir William Ramsay (*Feza Günergun*), The autobiography of Fazlı Faik Yeğül, professor of veterinary medicine, chemistry and toxicology (*Ferruh Dinçer*); Architectural projects for a new observatory, Rasathane-i Amire in Istanbul (*Afife Batur*), The Ottoman press coverage of the 1865 cholera epidemic and Mirza Malkom Khan's argument in the Istanbul Sanitary Conference (*Orhan Koloğlu*); District health services through pharmacies in Istanbul (1845-1894) (*Nuran Yıldırım*); Santé et médicament dans la ville de Thessaloniki Byzantine et Ottomane (*Evangelia Varela*); Historiography of science in Greece (*Efthymios Nicolaidis*); Mycenaen chariots: a historical and technological re-evaluation (Gaye Şahinbaş-Erginöz, Atilla Bir); Istanbul's Women University: Inas Darülfünunu (1914-1921) (*Ali*

Arslan, Özlem Akpınar); Globalization and the predicament of the artisan/technologist (*Günhan Danışman*), *Çağdaş Fizik: A popular periodical of the Turkish Physics Society (Meltem Akbaş)*; Bursa Agricultural Society (1927) and its journal *Asri Çiftçi (Sevtap Kadioğlu)*; Narrow-gauged railway at Iskenderun (*Mert Sandalcı*); The materia medica (*müfredat*) and the use of simple drugs in Ottoman medicine (*Mükerrem Bedizel Zülfikar-Aydın*); An annotated bibliography on the history of physics and medical physics in Turkey during the XIXth and XXth centuries (*Aykut Kazancıgil*).

Book reviews: The History of the first Turkish Cement Factory by *E. Dölen* and *M.Koraltürk* (reviewed by *F. Günergun*), Proceedings of the First Congress of the History of "Science and Technology" edited by *E.Dölen* and *M.Kaçar* (reviewed by *F. Günergun*), The History of the Faculty of Letters of the Istanbul Darülfünun by *A.İ.Gençer* and *A.Arslan* (reviewed by *M. Ünver*).

Addenda: "Notes on Mavroyeni Pasha, Dr.John Kirk and Mehmet Ali Kâğıtçı" by *Şeref Etker*; "Notes on Muslihiddin Adil Taylan" by *Ali Baltacıoğlu*.

A TURKISH WEBSITE ON HISTORY OF SCIENCE

<http://www.bilimtarihi.org>

A new website has been launched in May 2005 in Istanbul to promote a wider dissemination of history of science studies in Turkey. The major aim is to create an exchange of information between researchers and interested readers in H&S. Updated monthly, the site introduces new publications on H&S, as well as exposing older Turkish books of the early 20th century. Biographies of Turkish scholars who contributed to Turkish scientific life, documents and photographs concerning their professional life are displayed. The past and present events (exhibitions, congresses, lectures, workshops) are announced regularly. The site includes a "H&S library" and a "H&S current bibliography" where one can have review the contents of several books as well as the references of newly published articles. A section on H&S in philately is also available. The visitor can access e-articles or link to several libraries or institutions relevant to H&S research. An English version of the website is under preparation. English abstracts of papers published in the journal *Studies in*



Ottoman Science, and a cumulative table of contents starting with the first issue (1995 -) are available on the same page. The website has been initiated by and published under the editorship of Feza Günergun (Head, Department of History of Science, Istanbul University) with the technical assistance of Mr. Kaan Ata, research assistant at the H&S department

INTERNATIONAL SYMPOSIUM ON THE HISTORY OF SCIENCE AND TECHNOLOGY

Istanbul, 10 -14 May 2006

Organised by the Department of Science (Istanbul University), in collaboration with TÜBİTAK, Sevinç and Erdal İnönü Foundation, Sabancı University, Kadir Has University and Institut Français d'Etudes Anatoliennes (IFEA), the symposium aimed to enlighten the processes of adoption and adaptation, the travel of methods, techniques and technologies between Asia and Europe and investigate the transformations of know-how. The keynote lecture was given by Professor İlber ORTAYLI, the Director of the Topkapi Palace Museum on "Europe and Ottoman Modernisation in Science." The papers were delivered are listed below:

Reflections on the transmission and transformation of technologies: printing and gunpowder between East and West? (C.CULLEN, Needham Reserach Institute); Transmission of salt production techniques between China and Europe, 18th-20th Centuries: Deep drilling, use of steam power, and brine graduation (H.U. VOGEL, Tübingen University); Southeast Balkans and Turkish Thrace as a bridge of diffusion for metallurgical technology between

Anatolia and Europe (G. DANISMAN & H. OZBAL, Bogaziçi University, Istanbul); Adoption and adaptation; a study of medical tools and techniques in colonial India (D. KUMAR, Nehru University, New Delhi), Greek sciences and the development of Islamic medicine (H. EBRAHIMNEJAD, Oxford); The taming of scientific revolutions : medical knowledge and political power in 19th century Egypt (A-M. MOULIN, CEDEJ, Cairo); Dissection, Islam and nationalism in nineteenth-century Egypt (K. FAHMY, New York University); Christianity, natural philosophy and history of chinese medicine: Wang Honghan and His Gujinyishi (PING-YI CHU, Academia Sinica, Taipei), UK Asian remedies and recipes (V. LO & D. DEAR, Wellcome Centre, University College London); Brush and beads: the cultural and social stakes of the adoption of written calculation in China, 1600-1800 (C.JAMI, CNRS and Needham Research Institute); The adaptation and modification of the mechanical clock in pre-modern Japan" (T.HASHIMOTO, Tokio University); The clockmaker family Meyer in Istanbul and the modified mechanical clock presented to the Ottoman Sultan (A. BİR, Istanbul Technical University & S.ACAR, Anadolu University); The Ottoman Empire and the technological dialogue between Europe and Asia: The case of military technology and know-how in the gunpowder age (G.AGOSTON,



Georgetown University); The transfer of know-how and the contributions of Sébastien Le Roy to Ottoman shipbuilding (1784-1789) (M. KACAR, Istanbul University); General observations on the Ottoman military industry, 1774-1839: Problems of organization and standardization in arms production (K.SAKUL, Georgetown University); Strategies of localizing disciplines:

On scientific textbooks and cultural practices (D.RAINA, Nehru University, New Delhi); Notes on the Turkish translation of Ganot's Physics (M.AKBAS, Istanbul University); Comments on the historiography of science concerning the transmission of the sciences from the European Centers to parts of the Ottoman Empire: The case of the books written in Greek during the 18th century (K. GAVROGLU, University of Athens); Cultural attitudes and horse technologies: Notes on chariots and stirrups from the Chinese end (Nanny KIM, Heidelberg University); Reason, science and technology in eighteenth-century South Asia (P.PARTHASARATHI, Boston College); European understanding of Chinese methods of taking the pulse in the 17th Century (H. COOK, Wellcome Center, University College London); The transmission of medicine and the archaeology of the body (S.KURIYAMA, Harvard University); Comparison of the image of the body viewed through electrotherapy (A. ITO, University of Minnesota); Mustafa Sidki Efendi's (d.1769) translation introducing N.Bion's mechanical device for predicting eclipses (F.GUNERGUN, Istanbul University); "Patchwork (or: Syncretism) - the norm of mapmaking practices in Western and Ottoman circles of map production on Western Asia between 1550 and 1750" (S. BRENTJES, Aga Khan University, London).

DIVERSITY OF MATHEMATICAL CULTURES IN HISTORY

September 1-3, 2005, University of the Aegean, Rhodes, Greece

A Special Session on *Diversity of mathematical cultures in history* was organized by I.M. Vandoulakis (University of the Aegean, Mytilene) as part of the Meeting "Mathematical Education and Mathematical Cultures" organized by E. Avgerinos (University of the Aegean, Rhodes), Rhodes, September 1-3, 2005.

The Session was opened by two plenary lectures by Prof. Roshdi Rashed *The Transmission of Greek Mathematics into Arabic* (Centre National de la Recherche Scientifique, Paris) and Prof. Chikara Sasaki *New Horizon of the History of Mathematics in East Asia* (University of Tokyo).

Among the other speakers were:

Demidov, Sergey (Russian Academy of Science, Moscow) *The confrontation*

between Moscow and Petersburg in history of mathematics.

Morelon, Régis (CNRS, Paris) *La transmission des textes de Ptolémée du grec à l'arabe.*

Phili, Christina (National Technical University of Athens) *L.B. Alberti and Theodore Gazis: "Elementi di pittura"*.

Papadopetrakis, Eftychios (University of Patras) *L'évolution d' « ecthèse » et son rôle, sur la structure logico-linguistique du langage mathématique des Grecs.*

Bellosta Hélène (CNRS, Paris) *La tradition arabe des « Données » d'Euclide.*

Crozet, Pascal (CNRS, Paris) *Al-Sijzi and the tradition of Euclid's "Elements"*.

Nicolantonakis, Konstantinos (University of W. Macedonia) *On the method of extraction of square root in ancient Greek and Chinese traditions.*

Vandoulakis, Ioannis (University of the Aegean) *Concepts of constructivity: Markov vs. Brouwer.*

Abgrall, Philippe (CNRS, Paris) *Les «Éléments» d'Euclide dans la géométrie d'al-Quhi.*

SCIENCE AND SOCIAL JUSTICE

Syros, 28-30 June 2005

K. Skordoulis (University of Athens) and E. Nicolaidis (INR/NHRF) organised a Conference in the frame of the Seminars of Hermoupolis (Syros) in June 2005. The theme was "Science and Social Justice". The participants presented aspects and results of their current research. During the Conference, fourteen presentations were given, while the overall sessions were attended by about thirty post-graduate students, PhD candidates and researchers.

During the first day of the Conference, the organizers presented the aims of the Conference. Georgia Petraki presented a paper on social class as political and theoretical argument while Gianna Katsiamboura presented the role of science during the period of the Greek Enlightenment.

On the second day, Eugenia Koleza discussed the hidden charm of the social messages in Mathematic education reforms, while Eftymios Nicolaidis presented a paper on the hierarchy in scientific institutions of post-revolutionary Russia. Laocratia Lakka gave a paper on Jacques Monod's views on determinism, Fotini Assimacopoulou spoke on the Aryan Myth in

Marx and Giannis Papadatos discussed issues of scientific objectivity and social justice.

On the third day, issues concerning psychology were presented (P. Pantazis) and issues on the class dimension of distance learning (P. Politis). Crystallia Halkia discussed the social function of aesthetics in Science-Teaching, while Kostas Skordoulis spoke on issues of Environmental Justice.

The success of the Conference was reflected on the interesting proposals which inspired probing discussions after each session. An important component that contributed to the success of the Conference was the fact that the chance was given to young researchers (D. Polikarpou, K. Papageorgiou, S. Kollas, D. Stefanis, A. Giolmas and B. Grigoriou) to present their work concerning the “Large-Scale Science” and its social effects.

In the Conference a new proposal was discussed concerning the way in which issues of social inequalities could be addressed through education.

RADICAL APPROACHES IN SCIENCE AND EDUCATION

Syros, 10-12 July 2006

The Conference “Radical Approaches in Science and Education” organised by K. Skordoulis (University of Athens) and E. Nicolaidis (INR/NHRF) was a multidisciplinary event, presenting various scientific, social and educational themes.

Twenty presentations were given at the Conference and the sessions were attended by about eighty people, a number surprisingly high, although actually causing minor inconveniences.

A number of participants focused their presentations on aspects of the work of specific theorists. M. Pournari presented Gettier’s antiparadigms. P. Sotiris spoke on the contradictions in late Althusser. G. Fourtounis presented George Canguilleme’s contribution to science. D. Athanasakis referred to aspects of the philosophical and scientific thinking of the 17th century. M. Zondou presented Lewis Feuer’s thoughts on the social origin of the Theory of Relativity.

A number of participants focused more on social and political aspects. G. Petraki presented her research concerning working class in Modern Greek society and G. Milios analysed the Marxist concept of Asian labor production.

Finally, K. Skordoulis presented the relations between Dialectics and Science.

The presence of seemingly different but radical presentations gave the Conference a multidisciplinary quality.

Issues concerning Mathematics were presented by A. Hronaki “Texts on Euclid”, by M. Terdimou “Geometry and Algebra during the age of Hellenic Enlightenment” and by D. Hasapis “Between Knowledge and Information”.

Issues concerning Biology were expounded by M. Morange and L. Laka “Is life still a mystery?”

Environmental issues were presented by G. Papademetriou “Ethical issues in Science and Education” and by A. Giolmas “Issues of Social and Environmental Justice in Education”.

E. Nicolaidis presented the “Historiography of Ottoman Science” while E. Gianakopoulou spoke on “Learning for Life through Bills on Education in Greece”.

In this Conference there were also certain non conformist presentations as far as it concerns their theme and their form. I. Stavrou spoke on the Alterity / Otherness in Science Fiction texts. G. Katsiamboura referred to the lame and obsolete aspects on Greek historiography still existing on web-sites of Greek State Services. A. Kassetas presented the relation between Literature and Physics through an audio-visual event.

The success of the Conference was reflected by the large audience, the variety of radical approaches presented, as well as the long discussions after each session.

The informal ambiance of Syros Conference promoted exchange of knowledge and ideas between the participants and it allowed many young scholars to be involved.

PHYSICS AND PHYSICISTS IN GREECE

George N. Vlahakis, Physics and physicists in Greece (18th-20th centuries), Greek Physicists Society, Athens, 2006 (in Greek)

The book *Physics and physicists in Greece* is an illustrated volume dedicated to the most important persons and moments of the history of Physics in Greece. The volume is compiled by George Vlahakis and presented to the 11th National Congress of Physic (Larissa, 2006) on the occasion of the celebration of the contribution of Academician Caesar



Alexopoulos. Alexopoulos was one of the most famous professors of Physics in the University of Athens. The volume is also dedicated to Prof. Yannis Karas, one of the pioneers for the study of history of science in Greece.

The book includes photos of instruments and laboratories, portraits and extracts from Greek books of Physics, some of them unpublished until now. It presents also an overview of the history of Physics in Greece during the last three centuries.

The volume aims to be a source book, not only for historians of physics but also for physicists.

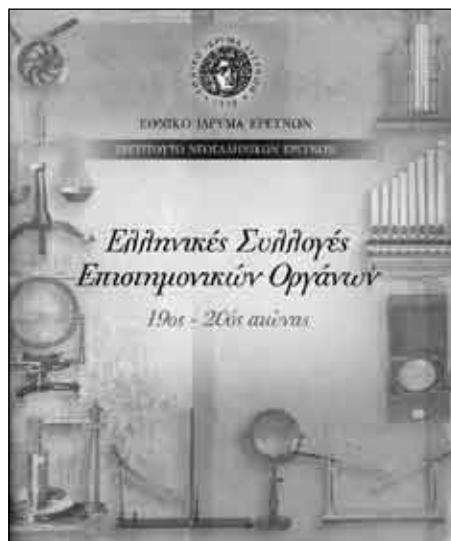
IDEOLOGY AND MODERN GREEK SCIENCE

Yannis Karas, Greek cultural traditions. A new approach of the Modern Greek scientific thought, Center for Neohellenic Research, NHRF and Greek Physicists Society. Athens, 2005



The book presents an overview of the relations of the Greeks and science, during the Ottoman period. It discusses the role of the “modernists”, the Patriarchate and various components of the Greek societies of that period. Instead of the notion “Modern Greek Enlightenment” Yannis Karas promotes the notion of “Modern Greek Revival” in order to better explain the spirit of the scientific renewal of the 18th century.

THE GREEK COLLECTIONS OF SCIENTIFIC INSTRUMENTS



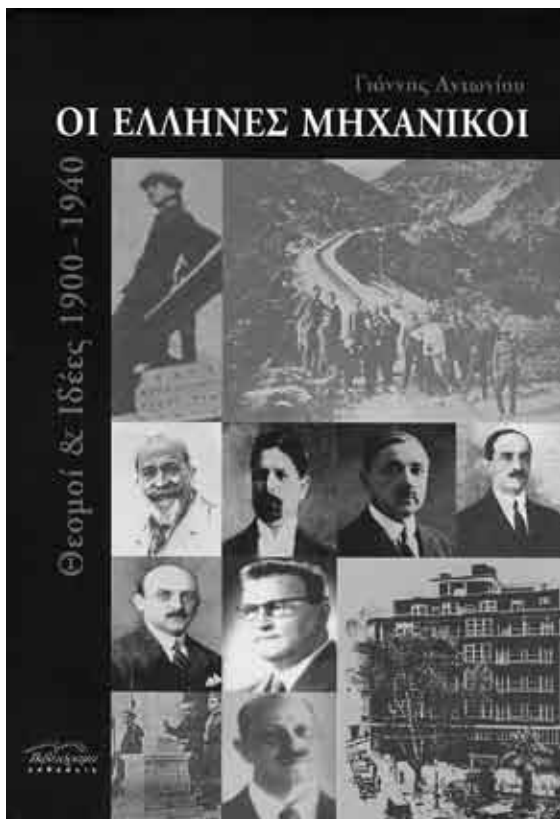
During 2005, an exhibition of scientific instruments has been organized by the Programme *Hellenic Archives of Scientific Instruments (HASI)* in the frame of an exhibition about Greek technology, organized at the Zapeion (Athens) by the Greek Ministry of Development. The exhibition of instruments was also presented at the exhibition room of the Ministry.

An illustrated catalogue has been edited.

A HISTORY OF THE GREEK ENGINEERS

Yiannis Antoniou, The Greek Engineers. Institutions and Ideas, 1900-1940, Vivliorama, Athens, 2006

The book deals with the education and the profession of the Greek engineers, in regard to the Inter War ideologies about technology and society. In this context it refers to the formation of “Polytechnio” (National Technical University of Athens) as the sovereign institution of technical education of the country, the emergence of the



engineering sciences in Greece, the formation of the faculty, the social profile of students and their carrier trajectories. In the same framework it focuses on the formation of the Technical Chamber of Greece, the official professional organization of the Greek engineers, their relationship with the state administrative authorities, their role to the public or private constructions and commerce, their involvement in the Greek industrial development and their social identity. In regard to these it also presents the circumstances of intellectual appropriation of modern technology and its ideological expressions voiced by the Greek engineers. More specifically it focuses on: the modernization spirit, the corporatist inclinations, the various options of the ideology of technocracy, the oscillations between the hegemony of traditional culture and the challenges of modern civilization, the dilemmas between parliamentary system and dictatorship, between capitalism and socialism and the relevant models of the economical development and the industrialization of the country.

THE WORLD OF THE BYZANTINES

Nikolaos Katsiavrias, The world-conception of st. Gregory Palamas (1296-1359). Secular and theological approaches in the 14th century, [in Greek], PhD thesis, Department of Methodology, History and Theory of Science, Athens 2004, p. 338.

What was the conception for the World, the Man and the Knowledge during the Empire of New Rome – Constantinople? How people saw the relations of the various parts of the World? The above questions are fundamental in order to approach the history of Byzantine culture. Though this statement seems obvious, there are not many scientific works on that theme.

N. Katsiavrias, studied Physics and Theology at the University of Athens. He also followed post graduate studies in history of science (MSc theses on the history of the Greek teachers during the Ottoman Empire). In his PhD theses he tries to examine the above mentioned questions.

N. Katsiavrias considers that the texts of St Gregory Palamas, archbishop of Thessaloniki during the fourteenth century, are crucial in order than these questions be answered. Palamas' texts came out from a crisis – the Hesychasm quarrel. During this crisis, lots of questions about God, Man and World were again debated and the main points of Palamas' taught prevailed.

The PhD theses tries to approach all the parts of the world's conception of that period (God, heaven, matter, fire, animals, souls, angels, etc) and to describe their relations trying to understand, as much as possible, the context. The work is based on primary sources.

After the preface and an introduction on the period, follow four chapters:

1. The tangible universe.
2. The «non visible» world.
3. Control and confirmation of Palamas' conception of the world.
4. Other approaches during the 14th century.

The result is an analytical description of what we understand to be the general world conception during the 14th century. The description extends from the basic and fundamental elements to the whole image. In this context, the work presents how scholars of the 14th c. read the ancient philosophers, using as criteria their orthodox Christian faith, and also their concept of Man and Knowledge.

With this PhD theses, we have an interesting approach on the Byzantine secular and theological

views about Man, God and the Cosmos, and also on the combination of secular and biblical elements with the tradition of the orthodox faith.

FRONTIERS OF PHYSICS EDUCATION

GIREP-EPEC 2007 Conference

GIREP-EPEC 2007 Conference is to be held for the first time in Opatija, Croatia, August 26th - 31st, 2007. The Conference is organized by GIREP, European Physical Society and local organizers: Physics Department of Faculty of Arts and Sciences University of Rijeka and Golden Section Society, an NGO for development of science and mathematics education.

This time, as an advantageous novelty, the GIREP Seminar is organized as a joined event with the European Physics Education Conference. While GIREP traditionally, for many years, gathers experts and practitioners of educational physics, the EPEC is a young Conference organized as a European Physical Society initiative, which attracts the top physicists in Europe. By joining of the Conferences we aim to bring together physics school teachers and university professors and to encourage the dialogue and the exchange of practice in physics education.

Some important and valuable issues are raised by having those two meetings in one place and under the topic "Frontiers in Physics Education". On one hand, all the Physics education practitioners have to constantly refresh the content and the teaching methods to keep up with the large and ever-growing scientific knowledge. On the other hand, recent trends in science communication require that the results of scientific research should be qualitatively elaborated and rapidly communicated to the public. In this respect, the Physics education research identifies the problems of conceptual understanding and brings forward strategies of active learning and effective knowledge.

Highlighted Conference topics are nanoscience, particle physics, biophysics and biomaterials, astronomy and astrophysics, quantum physics, physics and system Earth (geophysics, oceanography, climate, environment), physics education research, new fields in physics education, new ways of learning and history of physics. More details on the Conference web page: <http://www.ffri.hr/GE2/>

GIREP- EPEC Conference is to be held on a beautiful Opatija Riviera, the jewel in the crown of the Croatian tourism with the Croatian longest tradition in providing the tourist services. We are glad to host these events just in the 2007 year, the one that celebrates the 150th birth anniversary of Andrija Mohorovicic, one of the most famous Croatian physicists generally known as the seismologist who discovered the Moho discontinuity in the Earth's crust.

Some social events: visit to the birth place of Andrija Mohorovičić, activities of the conference participants with children from local elementary schools titled *Physics on the beach* and visit to the *First Croatian High School of Sušak* (Collection of old scientific and didactic instruments used in the Physics Cabinet of the School since its origin).

Website: <http://www.ffri.hr/GE2/>

Contact: ge2@ffri.hr

Rajka Jurdana-Šepić,
GIREP-EPEC 2007 LOC Chair

NEWS FROM THE EPS HISTORY OF PHYSICS (HOP) GROUP

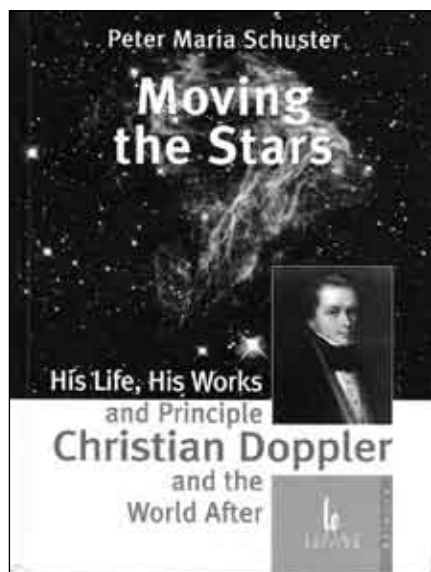
On the occasion of the 56th annual meeting of the Austrian Physical Society ÖPG (September 18-20, 2006), a joint conference of the EPS HoP Group and the HoP Section of the ÖPG was organized at the Technical University in Graz. The Austrian HoP section was founded upon Peter Schuster's incitation in 2005, and he was elected the first president of the section. Attendants from eight European countries (Kostas Tampakis from Greece) presented 27 lectures covering a wide spectrum of history of physics. Denis Weaire and Peter Schuster will edit the contributions of the conference in a first proceedings volume of the EPS HoP Group, together with the Austrian HoP section of ÖPG.



On September 18, 2006, the participants had visited the Ludwig Boltzmann exhibition (100th anniversary of Boltzmann's death) and seen a demonstration of antique Boltzmann's "Bicykel" apparatus. In the evening of the same day, two actors gave a reading out of my epic poems about the two physicists Joseph Loschmidt and Josef Stefan, who were the teachers, best friends and co-workers of Ludwig Boltzmann. In the evening of September 20, 2006, the governor of the federal province Styria gave to the participants a reception at the castle of Eggenberg.

After a very successful term, the HoP Chairman, Prof. Denis Weaire, has retired and Prof. Peter Schuster has been elected new chair. The Secretary of HoP is Dr George Vlahakis.

Dr. Peter Maria Schuster, President-elect of the History of Physics Committee of the European Physical Society has written recently a quite interesting book on the life and work of the famous physicist Christian Doppler. The book brings into light unknown information of Doppler's scientific career and it is the result of archival research. The result is a book of reference for the researcher of the history of physics but also a fascinating reading for the wider public.



Peter Maria Schuster (transl. Lilly Wilmes), *Moving the stars. Christian Doppler. His life, His Works and Principle and the World After*, Living edition, 2005.

THE COLLECTION OF PHYSICS EXPERIMENTAL SETUPS AND DEVICES USED AT THE FIRST CROATIAN HIGH SCHOOL OF SUŠAK IN RIJEKA

Physical principles and laws are eternal, therefore physical devices never become old-fashioned. So called «new» demonstration devices are mostly poor copies of older, in which expensive materials are substituted with cheaper, for example plastic is used instead of wood, aluminium instead of brass, plexiglass instead of glass etc.



Model of phonograph from 1880 year

The First Croatian High School of Sušak in Rijeka, which sprang from the Jesuit High School dating back to 1627, has one of the oldest collection of historical physics teaching experiments in Croatia, with a number of old, rare and well kept physics teaching devices. The beginning of physics teaching in Rijeka reaches back to the beginning of 19th century. Physics, as a separate subject, was first taught at High School in Rijeka in 1855 as "Naturgeschichte Physik". The first professors of physics organised experiments and purchased apparatus which they kept expanding and upgrading. Two years ago, an interesting project was started and it involved teachers and pupils. Its aim was to list all the old devices, restore them if necessary and present them to the public by publishing a catalogue.

Unfortunately, the collection contains less devices than the ones listed in the old inventories which recorded the time of their acquisition. Thus, the oldest devices were acquired in 1854, a year before physics was introduced to the curriculum. After that, the collection was completed with new devices. Most of them were purchased in the end of the 19th and in the beginning of the 20th centuries. The instruments were ordered in well known foreign firms such as Max Kohl, Koenig and Leyabold. The sales catalogues from this period are still preserved. The intense development of the city of Rijeka reflected in the field of education. A high educational standard is confirmed with a well



Collection of physics: teaching apparatus in Physics Cabinet

equipped physical laboratory. However, some of the devices were lost while moving to a new building in Sušak and the rest was destroyed during the war. After the World War II, some devices were lent or donated to other schools in Rijeka. In spite of this, most devices are still preserved in the physical laboratories of the school, moreover, some of those are still in use for demonstrations.

Among the valuable instruments, it is very difficult to sort the most interesting ones. The acquisition of devices and instruments followed the discoveries in physics. Thus, only three years after Thomas Edison discovered the phonograph (1877), the school acquired the model shown in the picture. Seventeen years after the Foucault's demonstration of the experiment which confirmed that the Earth turns on its axis, a massive leaden ball was purchased to

demonstrate this experiment.

X rays became very popular after their discovery in 1895. Only two months after the presentation of the Röntgen's invention, a lecture on X rays was held in Rijeka. On 20th February 1896 the lecture was held by profesor Peter Salcher, and during the lecture an X ray of the hand of baroness Vranyczany was done. It was the first X ray in Croatia. This lecture held in the Club of natural sciences stimulated the municipium of Rijeka to purchase the X ray device for the hospital. The secondary school purchased two X ray tubes for the classes of physics. Today, this collection contains two X ray tubes, dating from 1909 and from 1936.

Besides its practical value, this collection of physical devices has a significant museum-value because it witness the history of physics in Rijeka and Croatia.

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HPM NEWSLETTER

Prof. Nikos Kastanis (Department of Mathematics, University of Thessaloniki) is the new editor of the Newsletter of the International Study Group on the Relations Between the History and Pedagogy of Mathematics. The Newsletter has published 63 issues. In issue 62, one can find an interesting interview of Professor Ubiratan D'Ambrosio, wellknown to the International Union of the History and Philosophy of Science / Division of the History of Science and Technology members for his involvement in the life of the Division.

The Newsletter is available only on-line.



International Study Group on the Relations Between
the HISTORY and PEDAGOGY of MATHEMATICS
An Affiliate of the International Commission on
Mathematical Instruction

No. 62 July 2006

This and earlier issues of the Newsletter can be downloaded from our website
<http://www.ub.edu/~icahp/>

D'Ambrosio on ethnomathematics

In Newsletter 61 we published part of an interview with Ubiratan D'Ambrosio. He told us of his early involvement with HPM and his view of the importance of HPM's work. As part of Ub's developing work on pedagogy of mathematics, he came to the view that the cultural context was vital in encouraging the development of a mathematics, and mathematical learning, among young people. He employed the term "ethnomathematics" for this idea and we give here his early ideas about the ethnomathematics program that he explained in his interview with Maria Luiza Magalhães Gomes.

Professor D'Ambrosio, would you like to say something more specifically about how you became interested in the idea of ethnomathematics and how it developed?

Ub: It began as a consequence of the Karlsruhe ICME 3. That conference was decisive in the evolution of my ideas. In the late 70s and early 80s, my involvement with the history and sociology of mathematics, both of "mathematicians" and of "non-mathematicians", was intense. My work in Africa, particularly thanks to the UNESCO project in the Republic of Mali, and among Latin American traditional indigenous cultures, through projects of the Organization of American States, reinforced my interest in

the history of mathematics 'not in the main stream', with special attention to the development of mathematical ideas in cultures where Mediterranean influences were not present. These were the main ideas which were later developed into what I defined as a new historiographical approach to a world history of mathematics, based on the concept of the cycle of knowledge and the basin metaphor. These ideas were synthesized in my talk in the First European Summer University on 'History and Epistemology in Mathematics Education', Université de Montpellier, France, July 1993.



In 1978, the International Congress of Mathematicians, in Helsinki, gave me an opportunity to further develop the importance

HPM Newsletter No. 62 July 2006, page 1
HPM website: <http://www.ub.edu/~icahp/>

**INTERNATIONAL UNION OF THE HISTORY AND
PHILOSOPHY OF SCIENCE/
DIVISION OF HISTORY OF SCIENCE AND TECHNOLOGY
(IUHPS/DHST)**

***2009 DHS PRIZE
FOR YOUNG SCHOLARS***

The International Union of the History and Philosophy of Science, Division of History of Science and Technology (IUHPS/DHST) invites submissions for the first DHST Prize for Young Scholars, to be presented in 2009. The DHST Prize is awarded by IUHPS/DHST every four years to five young historians of science and technology for outstanding doctoral dissertations, completed after July 2004. One prize is awarded in each of the following fields:

- Western civilization
 - Islamic civilization
 - East Asian 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 to the IUHPS/DHST Congress in Budapest in July 2009.

DHST PRIZE COMMITTEE

The selection committee comprises the DHST President, the DHST Vice-President, the DHST Secretary General, and distinguished specialists in the specific fields.

COMPETITION CALENDAR

Submission deadline: 31 August 2008
Prize Committee meeting: January 2009
Award Ceremony: July 2009.

CONDITIONS

Eligibility: Applicants must have a doctoral degree in the history of science or technology awarded no earlier than July 2004.

Scope: The entries must be on the history of science or technology in Western civilization, Islamic civilization, East Asian civilization, South Asian civilization, or antiquity.

Language: Any dissertation in a language other than English must be accompanied by a detailed summary in English of no more than 20 pages.

Application procedure: Applications must be made in English and received at the Office of the DHST President no later than 31 August 2008:

Prof. Ronald L. Numbers (rnumbers@wisc.edu)
Department of Medical History and Bioethics
1300 University Avenue
Madison, WI 53706-1532, USA

CRITICAL / SCIENCE & EDUCATION

A new Journal on history and philosophy of science and science education

The journal *Critical / Science & Education* is the product of the work of a network of researchers. This network is formed having as its basic unifying element the intention to theoretically reconstruct the radical perspective about science and education.

It is a belief of most of the members of this network, that the radical perspective cannot be developed if it disregards the theoretical contributions and heritages of the various trends.



These approaches are integrated into Studies on Science, Cultural Studies, Gender Studies, Environmental Studies, as well as the modern approaches in the History of Science.

It is widely known that in the field of Education, at least within the Anglo-Saxon world, wherefrom comes most of the bibliographical production, there is a certain amount of mistrust or even a tendency of excessive rigorousness, on behalf of Critical Pedagogy, towards the aforementioned trends. Nevertheless, it is accepted that various issues related to diversity, to the weak representation of specific parts of the population in the fields of knowledge of science and mathematics, to the moral aspects of science, etc, cannot be fully analyzed solely within the framework of Critical Pedagogy. Consequently, there is a need for further theoretical contributions to such analyses.

In the interdisciplinary domain of the history of science, a discourse has developed during the last decades, concerning the ways of propagation of the dominant science and technology. There are also a growing number of comparative studies of different scientific and technological traditions. The radical approach of these subjects does not content itself only to recognizing the “peculiarities”, but it also goes on to examine and reveal the relations of authority and of mutual dependence, as well as the uses of science by the dominant social classes. Adopting an attitude of critique towards the sociological approaches, which try to degrade the importance of the historical analysis of the relations of dependence, the radical approach is studying the relations between the classes, the forms of state and/or the cultures.

A common feature of all of the participants in this effort is their belief that a new, different point of view about science and education is attainable (or, even more, a new form of science and of education is attainable). We believe that the social forces of labor and cultural resistance conserve their renewing potential, and that a different world is feasible, despite the hegemony of a political and cultural conservatism, which has lead to fragmentation not only of the collective, but also of the personal, individual. The reconstruction of the individual (either the collective or the personal) – an individual who possesses the ability for action – is directly connected with his/her theoretical equipment.

With this argumentation as the linchpin, the first working conference was organized, in July 2004, within the wider framework of the seminars of Ermoupolis, on the island of Syros, Greece. The subject of the conference was: “Radical Approaches to Science and the History of Science”. The second working conference took place at the same site, in June 2005, having as a subject: “Sciences and Social Justice” and a third in July 2006.

The current journal mainly publishes articles which are based on presentations made during the working conferences of the group. However, the journal is open and invites papers to be published, provided that they integrate in its repertoire and they promote the theoretical discourse, in the form it was sketched in the previous lines.

The journal has an editorial board which represents the various fields of its scopes. The editorial secretarial is composed by Dimitris Chassapis, Eugenia Koleza, Efthymios Nicolaidis and Kostas Skordoulis

**INTERNATIONAL UNION OF THE HISTORY AND PHILOSOPHY OF SCIENCE
DIVISION OF HISTORY OF SCIENCE AND TECHNOLOGY**

New Board and new Web2 site

At the General Assembly of the International Union of the History and Philosophy of Science / Division of History of Science and Technology a new Council has been elected for the period 2005-2009.

Ronald NUMBERS, Hilldale Professor of the History of Science and Medicine of the University of Wisconsin, has been elected President of the Council.

Efthymios NICOLAIDIS has been elected Secretary General.

The Council met in January 2006 in Istanbul, hosted by the Past-President Prof. Ekmeleddin IHSANOGLU at IRCICA and in December 2006 in Athens, hosted by the Secretary General Efthymios NICOLAIDIS at the NHRF. The Benaki Museum supported the meeting in Athens, where the theme of the cultural heritage concerning scientific archives and materials has been discussed.

Fabio BEVILACQUA, Second Vice-President of the Council has inaugurated a new website of the DHST with web2 facilities at the

address: www.dhstweb.org. All historians of science are invited to visit this site. They can obtain a dhstweb mail and take advantage of the web2 facilities. The new DHST Website aims to become the main worldwide site on history of science, providing information not only on the life and the activities of the thematical Commissions of the DHST, but also on various issues of history of science and technology: Reviews, national and regional societies, bibliographies, agenda etc. etc.

The other members of the new DHST Council are:

First Vice-President Liu DUN (China); Treasurer Ida STAMHUIS (Netherlands); Assistant secretary general Eva VAMOS (Hungary); Assessors: Lesley CORMACK (Canada), Ubiratan D'AMBROSIO (Brazil), Abdul HAFIZ MOHAMOT (Egypt), Michio YANO (Japan), Catherine JAMI (France), Alexey POSTNIKOV (Russia)



The Executive Committee meeting of DHST at Yildiz Palace, Istanbul. From left to right: Liu Dun, Fabio Bevilacqua, Ida Stamhuis, Ekmeleddin Ihsanoglu, Ronald Numbers and Efthymios Nicolaidis

Please, send your contribution to the *Newsletter for the History of Science in Southeastern Europe* in order to be published to the editor, Efthymios Nicolaidis, e-mail: enicola@astro.noa.gr. The Newsletter aims to make known all the activities, publications etc of history of Science and Technology in the region of Southeastern Europe.
