

Newsletter



for the History of Science in Southeastern Europe

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NEWS FROM THE MUSEUM OF ASTRONOMY AND EARTH SCIENCES OF THE NATIONAL OBSERVATORY OF ATHENS

The historical building of the National Observatory of Athens (the “Sinas” building, named after its 19th century sponsor, Baron George Sinas) is now a history of Astronomy and Earth sciences Museum. The Museum presents three thematic exhibitions, “Time and space”, “Astronomy and its measuring instruments” and “Meteorology”. In the future, the basement of the Museum will hold a permanent exhibition on the history of seismology and an astro-geophysical historical path will lead the visitor from the Hill of Pnyka, where the Ancient Greek astronomer Meto made his observations, to the Sinas’ building.

The historical exhibits of the Museum of the National Observatory are displayed on the Virtual Museum’s site (www.hasi.gr). Historical information is to be found on the site of the National Observatory of Athens (www.noa.gr).



The Meridian Circle made by Starke (1845).

THE HELLENIC SOCIETY OF HISTORY, PHILOSOPHY AND DIDACTICS OF SCIENCES HAS BEEN FOUNDED

HELLENIC SOCIETY OF HISTORY, PHILOSOPHY
AND DIDACTICS OF SCIENCES



ΕΛΛΗΝΙΚΗ ΕΤΑΙΡΕΙΑ ΙΣΤΟΡΙΑΣ, ΦΙΛΟΣΟΦΙΑΣ
ΚΑΙ ΔΙΔΑΚΤΙΚΗΣ ΤΩΝ ΕΠΙΣΤΗΜΩΝ

<http://www.hpds.gr>

The year 2007 saw the foundation of the long awaited Hellenic Society of History, Philosophy and Didactics of Sciences (HSHPDS). The rising interest in the Philosophy and History of Science and its relations with Didactics, as it became apparent by the success of the Conferences and Workshops organized on the subject, urged the fifty founding members to solidify the loose affiliation of scholars working on the relevant topics in the form of a scientific society.

HSHPDS aims to promote research in Philosophy, History and Didactics of Natural Sciences and Mathematics. It has also set as goals the organization of conferences and workshops on the above subjects and the promotion of radical approaches on philosophical, historical and didactical issues. Finally, HSHPDS will strive to publish journals and books on subjects of relevance, undertake research on behalf of third parties and will form affiliations and undertake cooperative actions with international, cultural or scientific, organizations and societies. The Journal *Critical Science and Education* and the *Newsletter for the History of Science in Southeastern Europe* are henceforth related to the HSHPDS.

BALKAN OF DISCOVERIES

During *South - East European Workshop for Hands on Primary Science Education*, held in Belgrade (Institute Vinca) in 2006 and 2007, one of the conclusions was that the project "Scientific Discoveries in Balkan" could be started. The book could contain the world known scientific and technical discoveries of scientists from our region. One scientific discovery would be presented in three parts (up to 15-20 pages):

- a) an exact presentation of discoveries,
- b) an explanation and proposition how children or layman could reproduce this discovery with very simple and easy found materials,
- c) a short story about scientist which could be real or imaginative but not fantasy

Up to now proposals from different countries have been received:

Bulgarian scientists are proposed by Jane Raykova, Department of Physics Education, University of Plovdiv:

Georgi Nadjakov (December 26, 1896-February 24, 1981) was a famous Bulgarian physicist, who performed experiments on the photoelectric effect, which led to the invention of the photo-copier by Chester Carlson.

John Vincent Atanasoff (October 4, 1903-June 15, 1995) was an American physicist of Bulgarian descent. He was the inventor of the first automatic electronic digital computer, a special-purpose machine that has come to be called the Atanasoff-Berry Computer.

Elizaveta Karamihailova (September 3, 1897-1968) was a Bulgarian pioneer of radioactivity and the founder of experimental nuclear physics research in Bulgaria. She has been acknowledged along with the other 22 women-scientists over the world for her contribution to the first generation of women in atomic physics between 1900-1920.

Romanian scientists are proposed by Adrian Puiu Neculae, West University of Timisoara, Romania:

Traian Vuia (August 17, 1872 - September 3, 1950) was a Romanian inventor, who designed and built a self-propelling heavier-than-air aircraft.

Aurel Vlaicu (November 19, 1882 – September 13, 1913) was a Romanian engineer, inventor, airplane constructor and early pilot.

Henri Marie Coandă (June 7, 1886 – November 25, 1972) was a Romanian inventor, aerodynamics pioneer and the parent of the modern jet aircraft.

George Emil Palade (b. November 19, 1912, in Iași) is a Romanian-born American cell biologist. In 1974, he shared with two colleagues the Nobel Prize in Physiology or Medicine for discoveries concerning the structure and function of organelles in biological cells.

Ștefan Odobleja (1902 - 1978) was a Romanian scientist, one of the precursors of cybernetics. His major work, *Psychologie consonantiste*, first published in 1938 and 1939, in Paris, had established many of the major themes of cybernetics regarding cybernetics and systems thinking ten years before the work of Norbert Wiener was published (1948).

Nicolae Paulescu (October 30, 1869-July 17, 1931) was a Romanian physiologist, professor of medicine and the discoverer of insulin.

Serbian scientists proposed by Stevan Jokić, Vinča Institute of Nuclear Sciences, Belgrade, and Aleksandar Petrovic, Serbian Society of History of Science:

Nikola Tesla (Serbian Cyrillic: Никола Тесла) (10 July 1856 - 7 January 1943[2]) was a world-renowned Serb-American inventor, physicist, mechanical engineer and electrical engineer. He is best known for his revolutionary work in, and numerous contributions to, the discipline of electricity and magnetism in the late 19th and early 20th century. Tesla's patents and theoretical work form the basis of modern alternating current electric power (AC) systems, including the polyphase power distribution systems and the AC motor, with which he helped usher in the Second Industrial Revolution.

Mihajlo Idvorski Pupin, Ph.D, LL.D. (4 October 1858 – 12 March 1935; Serbian Cyrillic: Михајло Идворски Пупин), also known as Michael I. Pupin, was a Serbian physicist and physical chemist. Pupin is best known for his landmark theory of modern electrical filters as well as for his numerous patents, including a means of greatly extending the range of long-distance telephone communication by placing loading coils (of wire) at predetermined intervals along the transmitting wire (known as pupinization).

Milutin Milankovic (Serbian Cyrillic: Милутин Миланковић) (also known as Milankovitch) (May 28, 1879, Dalj near Osijek, (Austria-Hungary) – December 12, 1958, Belgrade) was a Serbian mathematician and climatologist, professor of Applied Mathematics at Belgrade University, founder of the modern astronomical theory of climate change. He revolutionized understanding of climate dynamics and established climatology as an

exact science starting numerical modelling of the climate. He put the astronomical theory of climate on a firm mathematical basis and founded cosmic climatology by calculating the temperature conditions on planets of the inner Solar system, and the depth of the atmosphere of the outer planets. In particular he calculated the impact of the Earth's secular orbital cycles on climate changes and explained the origin of the Pleistocene ice ages. The perennial periodic orbital variations considered in his canon of insolation (eccentricity, obliquity, precession), along with their influence on planets' climates, today are called Milankovic cycles.

Mihailo Petrovic Alas (Serbian Cyrillic: Михаило Петровић Алас) (Belgrade 1868 – Belgrade 1943) was a Serbian mathematician, professor of theoretical mathematics at Belgrade University, inventor of the first hydraulic analog computer for resolving differential equations and founder of two new mathematical disciplines: theory of Mathematical Spectra for resolving problems in arithmetic, algebra and infinitesimal calculus; and Mathematical Phenomenology which comprises and aggregates phenomena previously inaccessible to mathematical research.

Slovenian scientists proposed by Dusan Krnel, Faculty of Education, University in Ljubljana, Slovenia:

Jurij Bartolomej Vega (also correct Veba; official Latin Georgius Bartholomaei Vecha; German Georg Freiherr von Vega) (March 23, 1754 – September 26, 1802) was a Slovenian mathematician, physicist and artillery officer. Jurij left Ljubljana five years after graduation and entered military service in 1780 as Professor of Mathematics at the Artillery School in Vienna. He was in several wars and had two 30-pound (14 kilogram) mortars cast, with conically drilled bases and a greater charge, for a firing range up to 3000 m (3300 yards). The old 60 lb (27 kg) mortars had a range of only 1800 m (2000 yd). Vega published a series of books of logarithm tables. The first one appeared in 1783. Much later, in 1797 it was followed by a second volume that contained a collection of integrals and other useful formulae. His *Handbook*, which was originally published in 1793, was later translated into several languages and appeared in over 100 issues. His major work was *Zakladnica vseh logaritmov* (*Thesaurus Logarithmorum Completus or Treasury of all Logarithms*) that was first published 1794 in Leipzig. Vega achieved a world record when he calculated pi to 140 places, of which the first

126 were correct. His method of calculating π is still mentioned today. Although he worked in the subjects of ballistics, physics and astronomy, his major contributions are to the mathematics of the second half of the 18th century.

Joseph Stefan (Slovene Jožef Stefan) (March 24, 1835 – January 7, 1893) was a Slovene physicist, mathematician and poet. He taught physics at the University of Vienna, was Director of the Physical Institute from 1866, Vice-President of the Vienna Academy of Sciences and member of several scientific institutions in Europe. He published nearly 80 scientific articles, mostly in the Bulletins of the Vienna Academy of Sciences, and he is best known for originating a physical power law in 1879 stating that the total radiation from a black body is proportional to the fourth power of its thermodynamic temperature. In 1884 the law derived theoretically in the framework of thermodynamics by his student Ludwig Boltzmann and hence known as the Stefan-Boltzmann law. Boltzmann treated a heat engine with light as a working matter. This law is the only physical law of nature named after a Slovene physicist.

Fritz Pregl (1869–1930) is the Nobel prize-winner for chemistry in 1923 (Quantitative Organic Microanalysis), Pregl's contribution to the development of quantitative organic microanalysis led to understanding of the elemental composition of organic substances, primarily of those which are present in the human body in minimal quantities. The understanding of the composition of hormones, enzymes, bile acids and other substances made possible their laboratory synthesis and introduction into medicine. This, for example, enabled the preparation of synthetic insulin for the prevention and treatment of diabetes, and also antibiotics such as penicillin, streptomycin and others, which through their exceptional efficacy became for the chemotherapeutical choice of treatment for bacterial diseases. The medical achievements following Pregl's method were further accompanied by numerous chemical approaches for studying the mass, elemental composition and structure of organic compounds, which had been available only in minimal quantities (a few milligrams).

Herman Potočnik (pseudonym Hermann Noordung) (December 22, 1892 - August 27, 1929) was a Slovene rocket engineer and pioneer of cosmonautics (astronautics). He is chiefly remembered for his work addressing the long-term habitation of space. At the end

of 1928, he published his sole book, *Das Problem der Befahrung des Weltraums - der Raketen-motor* (*The Problem of Space Travel - The Rocket Motor*) in Berlin. In 188 pages and 100 illustrations, Potočnik set out a plan for a breakthrough into space and the establishment of a permanent human presence there. He conceived a space station in detail and calculated its geostationary orbit. He described the use of orbiting spacecraft for detailed observation of the ground for peaceful and military purposes, and described how the special conditions of space could be useful for scientific experiments. With his many ideas he became one of the founders of astronautics. Potočnik's book described geostationary satellites and discussed communication between them and the ground using radio.

Turkish scientists proposed by Nimet Inceoglu and Ozge Tigdemir, the ex-students of Prof. Metin Arik who is the President of Balkan Physical Union:

Hazerfen Ahmet Celebi: Lived in 17th century. Tried to flee with his own made wings.

Piri Reis (... - 1554): Map of the Earth.

Ali Kuscü: Lived in 15th century. He is an important mathematician.

The project is in progress and we expect contributions from other countries from the region.

Stevan Jokic (sjokic@vin.bg.ac.yu)
Aleksandar Petrovic (petral@eunet.yu)

CRITICAL / SCIENCE AND EDUCATION

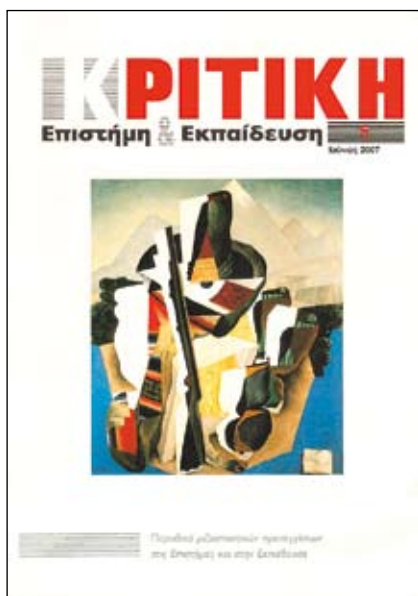
The Greek journal *Critical / Science & Education* is the product of the work of a network of researchers. This network is formed having as its basic unifying element the intention to theoretically reconstruct the radical perspective about science and education. Especially, *Critical* invites articles on Radical Approaches to Science and the History of Science

Critical aim is to publish selected papers from the Seminars on History, Philosophy and Didactics of Science organized from now on (2007) each July in Elati, Greece. However, the journal is open and invites papers to be published, provided that they integrate in its repertoire.

During 2007, *Critical* published two issues, 5 (July) and 6 (December).

Contents of the last (No 6) issue:

Efthymios Bokaris: *The Chemical revolution as test field of historiography strategies;*



Maria Rentetzi: *Invisible technicians at the Nuclear Research Center Democritus: Gender and Physics in Post-War Greece*; Dimitrios Athanasakis: *Philosophy as politics: Antonio Negri on Spinoza's democracy*; Christos Kefalis: *Michio Kaku, a radical scientist*; Helena Sheehan: *The influence of Marxism on Science Studies: 1931 and now*; Anastasia Stamou and Stefanos Paraskevopoulos: *The critical awareness of the language of environmental texts: selections from the interpersonal function of language*; Maria Terdimou: *Mathematics as theological argument in 20th c. Greece*; George N. Vlahakis: *The timeliness of the past. Metrical images of the science during the verge of two centuries (19th-20th c.)*; Dimitris Hasapis: *The research objective of the teaching of Mathematics: characteristic choices of the main stream.*

NOTIONS OF PHYSICS IN NATURAL PHILOSOPHY

George N. Vlahakis (editor), *Notions of Physics in Natural Philosophy, an EPS Conference Proceedings, Cambridge Scholars Publishing, 2008*

The European Physical Society Conference "Notions of Physics in Natural Philosophy" was held in 23-25 September 2007 in Athens. It was organized by the Program of History and Philosophy of Science of the Institute for Neohellenic Research / National Hellenic Research Foundation and the Laboratory of Science Education, Epistemology and

Educational Technology of the University of Athens. The Conference was supported by the History of Physics Committee of the European Physical Society and the History of Physics Group of the Institute of Physics (England). The latter was represented by Mr. Malcolm Cooper, editor of the *Newsletter* of the Group.

The main themes of the Conference were: The emergence of notions of physics in ancient philosophy, the concept of physical laws in Philosophy of Nature during the Middle Ages and the Renaissance and the mathematization of Natural Philosophy and the emergence of classical sciences.

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Efthymios Nicolaïdis, *Notions de physique dans la philosophie naturelle chrétienne au IV^e siècle: Les hexaémérons des Pères de Cappadoce.*

Manolis Kartsonakis, *A Dynamic Approach for Mechanics during Late Antiquity: Ioannes Philoponos' commentaries on Aristotelian Physics.*

Zoé Bosemberg, *L'étendue, le continu et l'infini au XIV^e siècle: le cas de Nicole Oresme.*

Epaminondas Vampoulis, *L'atomisme du 17^e siècle et l'héritage cartésien.*

Helge Kragh, *Natural Philosophy, Theology, and Cosmology: The Emergence of a New World Picture.*

George N. Vlahakis, *The Crossing of the River of Knowledge: From Natural Philosophy to Physics – From Nation to State. The Greek Case.*

Peter Maria Schuster, *Moving the Stars: Christian Doppler: His Life, his Works and Principle and the World After.*

Eugenia Koleza, *Le Role des Sciences Appliquees dans l'enseignement et l'apprentissage des Mathematiques.*

S. Sakkopoulos, E. Vitoratos and H. Polydorou, *Atomism: A Fundamental Concept in Ancient Philosophical Theories of Two Different Cultures, Indian and Greek.*

Constantine D. Skordoulis, *The Persistence of the Theories of the Ether in Greek Science Education Literature.*

GENDER AND PHYSICS

Maria Rentetzi, Trafficking Materials and Gendered Experimental Practices: Radium Research in Early Twentieth Century Vienna, NY: Columbia University Press, 2007



The book is about the materials and experimental practices of radioactivity research in early 20th century. It is centered on radioactive materials, instruments, women's work in physics, and gendered skills. The book shows how experimental cultures—ensembles of scientific practices employed by gendered subjects who share a certain material and epistemic style of research—in radioactivity are constructed and reshaped by scientists of different gender as well as by politics. At the same time, it explores the different ways experimental practices affect men and women in laboratory sciences. In this book the notion of material culture is broadened to include not only instruments and objects but materials that were both commodities and objects of scientific inquiry. Throughout the book certain questions have been addressed: how purified radium ended up on laboratory benches; who had done the hands on work of its extraction and isolation from tons of residues; who had designed experiments and instruments for probing radium's properties; who were those who carried radium outside of the physics laboratory to the clinic and medical amphitheaters; how the architecture of the laboratory affected men's and women's scientific work and how its urban setting reflected assumptions about scientific cross-disciplinary collaborations. Following the circulation of radium, the making of connections, and the pursuit of power through strategies of partnership and collaboration the book redraws paths of scientific exchanges and transfers the reader from scientific laboratories to hospitals and from academic to industrial sites. It connects different disciplines such as physics to medicine and chemistry; it reflects and constitutes struggles for scientific preeminence and diverse partnerships between scientists and industrialists; it even stands for efforts for professional existence.

The book has received the following awards:
2004 Honorable mention from the International

Union of the History and Philosophy of Science, Division of History of Science (IUHPS/DHS), 2003 Outstanding Dissertation Award in Social Sciences, Virginia Tech. The prize carries a stipend of \$1000,
2003 Gutenberg e-Prize, American Historical Association (AHA).

EUROPE, A COMMON SCIENTIFIC SPACE

M. Blay, E. Nicolaïdis (eds), *L'Europe des sciences: constitution d'un espace scientifique*, 1st ed., Seuil, Paris, 2001 (see *Newsletter for the history of science in Southeastern Europe* No 5, Nov. 2001, p. 14-15).

Chinese translation: Gao Yu, series Progress Course of Western Civilization, China's People University Press, Beijing, 2007.



OTTOMAN CANNON TECHNOLOGY

Salim Aydüz, Tophâne-i Âmire ve Top Döküm Teknolojisi (Imperial Cannon Foundry and Technology of Cannon Founding), Ankara: TTK, 2006 (559 pages)

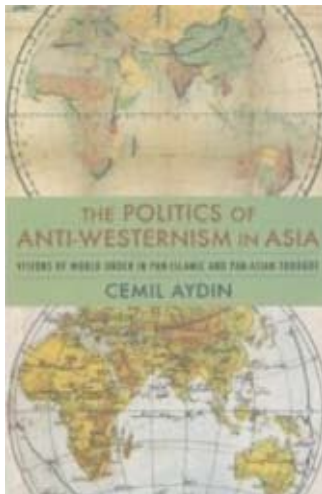
Salim Aydüz's book, *Tophâne-i Âmire ve Top Döküm Teknolojisi (Imperial Cannon Foundry and Technology of Cannon Founding)* published in Ankara in 2006 by Türk Tarih Kurumu (Turkish Society for History) is dedicated to one of the most important technological institutions of the Ottoman Empire: The Imperial Cannon Foundry. The book consists of an Introduction discussing the sources, and three chapters dedicated to the Imperial Cannon Foundry as an institution, supply of materials and



activities of the foundry, and types of cannons and their usage respectively. The book ends with a full-fledge bibliography. The book (559 pages) is unique with its emphasis on important archival sources and elaborate explanations of the technology and production of cannons and the personel working for the institution.

ISLAM AND ANTI-WESTERNISM

Cemil Aydın, The Politics of Anti-Westernism in Asia: Visions of World Order in Pan-Islamic and Pan-Asian Thought, New York: Columbia University Pres, 2007 (299 pages)



In his book released as a part of Columbia Studies in International and Global History, Cemil Aydın challenges the notion that anti-Westernism in the Muslim world is a political and religious reaction to the liberal and democratic values of the West. Nor is anti-Westernism a natural response to Western imperialism. Instead, by focusing on the agency and achievements of

non-Western intellectuals, Aydın demonstrates that modern anti-Western discourse grew out of the legitimacy crisis of a single, Eurocentric global polity in the age of high imperialism. Aydın compares Ottoman PanIslamic, and Japanese Pan-Asian visions of the world order from the middle of the nineteenth century to the end of WWII. The book offers a rare, global perspective on how religious tradition and experience of European colonialism interacted with Muslim and non-Muslim discontent with globalization, the international order and modernization. Aydın provides a fresh understanding of the history of contemporary anti-Americanism as well as the ongoing struggle to establish a legitimate and inclusive international society.

MODERNISATION OF OTTOMAN NAVY

Tuncay Zorlu, Innovation and Empire in Turkey: Sultan Selim III and Modernisation of the Ottoman Navy, London: I. B. Tauris Publishers, (forthcoming in 2008) (c. 270 pages)

Ottoman naval technology and its transformation during the late eighteenth and early nineteenth centuries constitute the general trajectory of *Innovation and Empire* in which has painstakingly been prepared by Tuncay Zorlu from original archival sources in Turkey and abroad. The writer draws attention to the new regulations in the naval administration as well as the systematic construction of new types of sailing warships such as two/three decked galleons, frigates, and corvettes that began to dominate the Ottoman fleets rendering the galley-type oared ships obsolete as war ships. A list of the ships that were constructed, purchased, captured in naval battles and received as present is given in the book elaborately as well. The reader will witness, during his/her voyage through the book, the adoption of the systematic copper sheathing of the hulls and bottoms of Ottoman warships from 1792-93 onwards, the construction of the first dry dock in the Golden Horn, an anchor house and a workshop for ship models, the adoption of new mast machines, fire conduits for emptying bilge and rain water from ships and putting out fires aboard, introduction of a new ship launching method, the beginning of keeping navigational log books, adoption of a new kitchen and provisioning system and many other significant developments.

The writer assigns a separate chapter for

the role of foreign missions and concludes that during the period foreign missions played an important part in the modernization of Ottoman naval technology, which brought about two long-term controversial consequences: they initiated a pattern of technological dependence on one hand, and contributed to the development of a fertile platform for the training and rise of prospective native shipwrights, architects and arsenal workers who combined their naval traditions with European ones in order to create a new synthesis.

ADNAN ADIVAR AND CELAL SARAÇ

Studies in Ottoman Science

The special issue (Vol.VII, Nr. 2, 2006, 221 p.) of the *Osmanlı Bilimi Arastirmalari (Studies in Ottoman Science)* is published to commemorate the Turkish historian of science Dr. Adnan Adivar (1882-1955) and includes, among others, the papers presented at the symposium organised in the Istanbul University on the 50th anniversary of his death.

ABDUL-HAK ADNAN, Paris-Istanbul
 PIERRE BRUNET, Paris-Joigny
 MAX MEYERHOF, Mişr al-Qähira
 HENRI-PAUL-JOSEPH RENAUD, Rabat
 JULIUS RUSKA, Berlin
 JOHAN ADRIAAN VOLLGRAFF, Leiden

ont eu l'obligeance de discuter avec moi certaines questions concernant l'histoire générale de la science arabe ou des savants et ouvrages particuliers; de contrôler sur les épreuves la graphie et les interprétations; d'assurer la correction linguistique de cet ouvrage écrit par un italien; enfin de me représenter auprès de l'éditeur.

Profondément reconnaissant, c'est à eux que

JE DÉDIE

ce livre qui leur doit en partie sa valeur.

ALDO MIELI

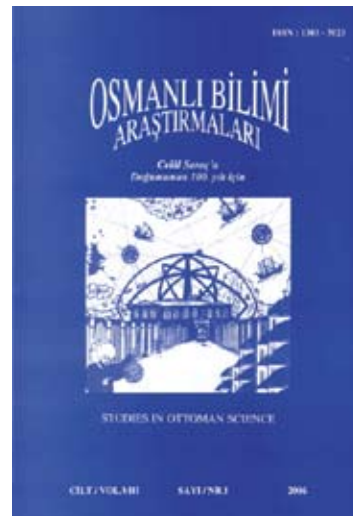
Paris, le jour du 2691^e anniversaire
 de la fondation de Roma.

Articles: Impressions on Adivar'a Bilgi Cumhuriyeti Haberleri (Erdal İnönü); Adnan Adivar's works in history of science: Prior to the La Science chez les Turcs Ottomans, and thereafter (Feza Günerngun); Abdülhak Adnan Adivar, as physician and professor of history of medicine and deontology (*Nuran Yıldırım*); The Adivar – Sarton correspondence: A testimony to the emergence of Turkish history of science (*Feza Günerngun*); Adnan Adivar on praise and appraisal (*Şeref Etker*); Piri Reis and *Müntehab-ı Bahriye* (*Mine Esiner Özen*); A plant collector in the East

Mediterranean region in the second half of the eighteenth century: John Sibthorp (1758-1796) (*Asuman Baytop*); A plant collector in Anatolia in the middle of the nineteenth century: Theodor Kotschy (1813-1866) (*Asuman Baytop*); Urban reforms of Tanzimat: Early planning practices in the formation process of Turkish reconstruction system (1839-1908) (*Koray Özcan*). **Addenda:** On Inas Darülfünunu (University for girls) by E. Dölen; Notes on the Inas Darülfünunu by S. Etker; Biographical note on Auguste Sarrou by S.Etker; A document on the commemoration of Salih Zeki's death by F.Günerngun; Symposia: Symposium commemorating the 50th anniversary of A. Adivar's death (Istanbul, 28th November 2005); International symposium on Science and Technology (10-14 May 2006).

The special issue (Vol.VIII, Nr. 1, 2006, 168 p.) of the *Osmanlı Bilimi Arastirmalari (Studies in Ottoman Science)* is a tribute to Celal Saraç (1906-1998), the Turkish professor of physics and historian of science, to commemorate the centenary of his birth. C. Saraç, studied physics at the Dijon University where he also attended the history of science courses given by G.Bachelard. Besides his contributions to physics teaching in the Istanbul, Ankara and Ege (Izmir) Universities, C. Saraç endeavoured to introduce history of science and especially that of physics to a diverse Turkish readership. His later studies focused on the works of the Turkish historian of science and mathematician Salih Zeki (1864-1921), acclaimed for his researches on medieval Islamic mathematicians and astronomers.

Articles: Celâl Saraç and history of science – A quest inspired by Gaston Bachelard (*Feza Günerngun*); Turkish distance archery, bows and arrows (*Atilla Bir, Mustafa Kaçar, Şinasi*



Acar); Performance of Turkish bows (*Adam Karpowicz, transl. Atilla Bir*); Ali Qushji and Regiomontanus: Eccentric transformations and Copernican revolutions (*F. Jamil Ragep, transl. Yavuz Unat*); A botanical collector in Anatolia in the 19th century: Eugène Bourgeau (1813-1877) (*Asuman Baytop*); A plant collector in Anatolia in the 19th century: Benjamin Balansa (1825-1891) (*Asuman Baytop & Michèle Nicolas*); Neşet Ömer İrdelp's inaugural lecture on the reformation in Turkish medical education (*Şeref Etker*); Historical notes on Istanbul University and its main campus: (*Feza Günergun, Sevtap Kadioğlu*).

TWO BOOKS ON GREEK HISTORY AND PHILOSOPHY OF SCIENCE, 18th-19th c.

Yannis Karas, Historical knowledge, national self-consciousness, *Athens, 2007, 244 p.*



In his new book, Yannis Karas presents features of the making of the Greek national conscience through history and philosophy of science from 18th to the end of the 19th century. The texts of the book are based on communications given by the author during the last two years in various Conferences. Contents of the book: Historical knowledge, an instrument for self-consciousness; Aristotelian tradition and scientific thought during the period of Modern Greek Revival (18th c.); The vicissitudes of Physics, the decay of Natural sciences during the 19th century in Greece; *The Anthology of Physics* of Rigas Ferraios, a radical educational concept; The Balkans as a common cultural space; The political thought during the period of the Greek Revival.

Yannis Karas, The Physical thought of the Reviving Hellenism, *Athens, 2007, 230 p.*

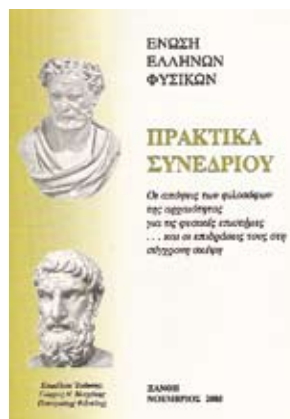


The book has been edited for the 250th anniversary of the birth of Rigas Ferraios, revolutionary and ideologist of the 18th century.

The book on Physics of Rigas is the first Physics book in Greek written after the French Revolution (it has been edited in 1790). During these years, happened a real upheaval in scientific thought in the Greek speaking world of the Ottoman Empire and many works spreading modern science have been written.

THE TOPICALITY OF ANCIENT GREEK PHILOSOPHY

George Vlahakis, Panagiotis Fildissis (eds), The ideas of Ancient Greek Philosophers for Natural Sciences and their influence on contemporary thought, *Hellenic Physical Society Conference Proceedings, Xanthi, November 2005*



This book presents selected papers from the 2005 annual meeting of the Hellenic Physical Society, which was devoted on the ideas of Ancient Greek Philosophers for Natural Sciences and their influence on contemporary thought.

PHYSICS AND PHYSICISTS IN GREECE

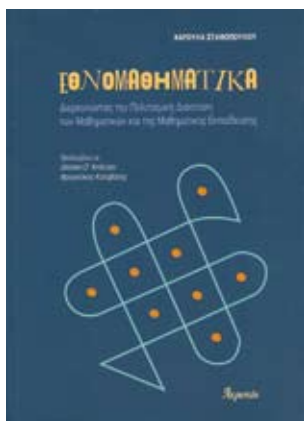
*George Vlahakis, Panagiotis Fildissis (eds),
Physics and Physicists in Greece, Symposium
Proceedings, Greek Physicists Society,
Larissa, 2006*



The Greek Physicists Society has organized in Larissa in 2006 a Symposium on the history of Modern Greek Physics. On this occasion an illustrated volume had been published (see Newsletter No 9, p. 8-9). The Proceedings of the Symposium have now been published.

A BOOK ON ETHNOMATHEMATICS

*Haroula Stathopoulou, Ethnomathematics,
searching for the cultural dimension of
Mathematics and Mathematical Education,
Athens, Atrapos, 2005, 392 p.*



Mathematics is an intellectual instrument created at the beginning to help in resolving situations presented in everyday life. The idea of Ethnomathematics came as a view on how mathematics relates to the real world, taking into consideration cultural and societal differences.

How measure is develop in the human species? In tropical forests people have develop different ways of measuring land than those

leaving in a prairie, thus they have different geo[land]-metrics[measurement]. Those leaving near the Equator perceive days and nights elapsing in the same pace all year round, while those leaving above the tropics recognize how the seasons affect the duration of days and nights. Thus, calculating systems and consequently means of production, labor organization etc have been developed in relation to the natural environment in different ways.

Prologue by Ubiratan d'Ambrosio (Brasil) and Fr. Kallavassiss.

The History and Pedagogy of Mathematics (HPM) Newsletter No. 66, November 2007, has been published by our colleague Nikos Kastanis (University of Thessaloniki, Greece).

This and earlier issues of the Newsletter can be downloaded from the website

<http://www.clab.edc.uoc.gr/hpm/>



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

FOURTH HELLENIC CONFERENCE ON HISTORY, PHILOSOPHY AND SCIENCE TEACHING: ISSUES IN SCIENCE, PHILOSOPHY AND DIDACTICS

Athens, September 28-30, 2007



The *Fourth Hellenic Conference on History, Philosophy and Science Teaching: Issues in Science, Philosophy and Didactics* (HCHPST: ISPD) was held in Athens from September 28 to September 30, 2007. Following a very successful Third Conference held in 2005, the 2007 HCHPST was attended by more than a hundred educators, scholars and students of pedagogy, mathematics, physics and philosophy. The 4th HCHPST: ISPD was held in the historic Central Building of the University of Athens and was co organized by the Athens Science and Education Laboratory of the Faculty of Primary Education of the University of Athens,

by the Research Laboratory on Mathematical Education of the Faculty of Primary Education of the University of Ioannina, by the History and Philosophy of Science Programme of the Institute for Neohellenic Research of the national Hellenic Research Foundation and finally by the Mathematical Education Research Unit.

The conference hosted several notable speakers as key lecturers. Professor Robert Halleux, Director of the *Centre d'Histoire des Sciences et de la Technologie* in Liège, Belgium gave a lecture titled "History of Science in Europe, yesterday and today". He was followed by Professor Michael Matthews (Australia) on the topic of "Science, Religion and the Enlightenment: The Case of Joseph Priestley (1733-1804)". Finally, Professor Efthymios Papadimitriou gave the third plenary lecture on teaching philosophy and Emeritus Professor Eftyhios Bitsakis discussed theories of cosmology and their philosophical significance.

The 4th HCHPST: ISPD was hailed as a success by all participants. All papers presented will be published in the proceedings.

CONFERENCE GIREP EPEC

Opatija, Croatia, 26-31 August 2007



GIREP - EPEC Conference 2007 (<http://www.ffri.hr/GE2/>) is a title of two joined international conferences on physics education, held 26th to 31st August 2007 in Opatija, Croatia. The conference comprised of scientific meeting of the GIREP (*Groupe International Recherche de l'Enseignement de la Physique* – International group for scientific research in physics education, founded in 1966, <http://www.girep.org>) and EPEC (*European Physics Education Conference*) which is organized by the European Physical Society (<http://www.eps.org>). Local organizers of GIREP-EPEC 2007 were Physics Department of Faculty of Arts and Sciences University of Rijeka and Golden Section Society, an NGO for development of science and mathematics education.

For the first time the GIREP Seminar was 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. Joining of the Conferences, under the same topic title of *Frontiers in physics education*, had a mission of bringing together physics teachers from schools and universities across the European continent and to encourage dialogue and the exchange of best practice in physics education.

The Conference gathered 241 participants from almost all of the European countries, as well as from other continents: USA, Japan, Mexico, Brazil, Venezuela, Egypt, South African Republic, There were 10 invited lectures, with lecturers from the most prestigious universities: Reinders Duit, *IPN, Leibniz-Institute for Science Education, University of Kiel*, Lillian Mc Dermott, *University of Washington*, Matko Milin, *University of Zagreb*, Petar Pervan, *Institute of physics Zagreb*, Monika Plisch, *Center for Nanoscale Systems, Cornell University*, Norman Reid, *Centre for Science Education, University of Glasgow*, Laurence Viennot, *University Denis Diderot Paris*, George Vlahakis, *Institute for Neohellenic Research, National Hellenic Research Foundation* and David Wark from *Imperial College London and Rutherford Appleton Laboratory*. A special guest to the Conference was a 2006 Nobel Prize Winner in Physics, Prof. George Smoot from *Berkeley University*.

The conference participants held 110 oral presentations and presented 84 posters. A special part of the Conference was organized as discussion workshops, as central part of the GIREP Seminars. Namely, in a highly successful GIREP Conference 2000 it was resolved that a series of Seminars should be launched, to take place in alternate years, in which the participants would be encouraged to submit papers clearly focused on narrowly defined topics with the aim of facilitating coordinated action. In these Seminars there is more time for discussion and less for presentations. The Seminars, however, are organized in such a way that all the participants have the chance to present their thoughts and research and make their work known. GIREP-EPEC Conference workshops provoked a significant interest and attracted many participants to actively participate. There were 7 discussion workshops on the following

topics:

- Teaching Electromagnetism: Issues and changes
- Central Features of Quantum Theory in Physics Education
- Learning Physics by Guided Inquiry
- Physics research in the classroom
- Hands-on workshop: Nano goes to school
- Creative-Discovery Workshop on Droplets and Dripping
- Interdisciplinary Classroom. Physics Hands-on Experiments as Motivation Stimulating Agents

During the Conference, a particular attention has been devoted to the tradition and history of science and science education. One of the oral sessions had a topic of History of Physics and its role in physics education, highlighted by the invited lecture of Dr. G.Vlahakis. Additionally, a part of the Conference time was also devoted to the work and personality of Andrija Mohorovicic, a Croatian physicist mostly known as seismologist who discovered the Moho discontinuity in the Earth's crust, and whose 150th birth anniversary has been celebrated in Croatia in 2007. During the Conference, there was an organized visit to his birthplace with a special lecture on Mohorovicic work. Conference participants were also invited to visit the nearby First Croatian High School of Sušak with the Collection of old scientific and didactic instruments used in the Physics Cabinet of the School since its origin.

Among the social events of the Conference, beside the usual welcome reception by Mayor of Opatija and Conference Dinner, the participants of the Conference would surely remember a boat trip around the Kvarner bay, as well as a special public event titled "*Physics on the beach*" in which conference participants enjoyed together with children from local elementary schools. It consisted of demonstrations of simple physical experiments on the nearby beach, with the topics suitable for the environment: air, water, waves, wind, sunlight, sand....

As it was planned, the Conference was a place of intensive exchange of experiences, results in physics teaching effectiveness research, methods for the improvement of the student's and teacher's scientific and ICT literacy, as well as the place to gather new insights in adequacy of content and effectiveness of teaching and learning methods.

Rajka Jurdana-Sepic
GIREP EPEC LOC Chair

MATHEMATICS AND TECHNOLOGY IN THE BODY OF EDUCATION: THE GENDER PERSPECTIVE

18-19 December 2007

University of Thessaly, Volos, Greece

The Conference was organised by Anna Chronaki, Associate Professor, University of Thessaly, (chair), Maria Rentetzi, Assistant Professor, National Technical University of Athens, Anastasia Stamou, Adjunct Lecturer, University of Western Macedonia, Ioanna Vekiri, Adjunct Lecturer, University of Thessaly, Ioannis Pextelidis, Lecturer, University of Thessaly.

Programme:



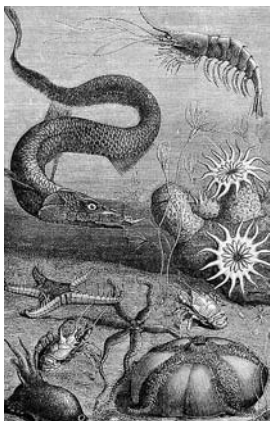
Mathematics and technology in the 'body' of education: knowledge and gender Politics, *Anna Chronaki*. Undoing mathematics? Troubling fantasies of gender and mathematics, *Heather Mendick*. Myths behind screens and numbers. *Yianis Pechteldis*. 'Discourses' of female students about computers: their experience in education, *Olga Pantouli*. Dominant discourses and gender dimensions in the writing of school mathematics: the case of the school magazine Euclid A, *Anastasia Stamou and Anna Chronaki*. Common viewpoints between feminist epistemologies and chaos theory: a balanced discussion, *Aristotelis Gkiolmas and Constantine Skordoulis*. Maths for all as music for all: music improvisation session led by *Panagiotis Kanelopoulos*. Minds, morals, and mathematics in the wake of the deaths of plato and god: Reflections on what social constructionism means, really, *Sal Restivo*. What is 'mathematics' for you? School mathematics from an 'anthropological' perspective, *Athena Kasapi*. Greek women mathematicians in the 20th century: an overview, *Kyriaki Frantzi*. Women writers in a school mathematics journal: belonging and becoming, *Anna Chronaki*. Gendered docility: the power of technology and

technologies of power for lowincome countries, *Mairéad Dunne*. Gender, self-efficacy and achievement among South African technology teacher trainers, *James Mackay* and *Jean Parkinson*. Primary boys' and girls' math and computer self-efficacy beliefs and their relation to students' socialization experiences beyond school, *Ioanna Vekiri and Anna Chronaki*. Equality, power and academic life: an analysis of a Swedish academic lunch table conversation *Karin Junefelt*. The second chance of the 'second sex': participation barriers for women in postgraduate adult distance education, *Helen Giannakopoulou & George Koulaouzides*. Death proof: Chicks, fast cars and feminism, *Yvonne -Alexia Cosma*. Marxism and Utopia in feminist science fiction, *Ioanna Stavrou and Constantine Skordoulis*. Reading advertisements, embodying technology, *M. Keramyda, N. Fachantidis, I. Vamvakidou*.

Reflective remarks *Maria Rentetzi*; Commentaries, *Sal Restivo, Heather Mendick, Mairéad Dunne*.

INTERNATIONAL WORKSHOP HISTORY OF MARINE SCIENCE IN EUROPE

*Thursday, 20th September, 2007
Ancona, Italy*



The European Federation of Marine Science and Technology Societies (EFMS) founded in 1998 in Paris, consists of non-governmental established scientific European Associations specializing in research and education relating to the marine environment. By integrating experiences from different countries, connecting their associations and contacting the affiliated members, the EFMS represents important added value for the European community.

The Federation acts to stimulate politicians and public opinion to appreciate that oceans are still largely unexplored and that enormous benefits can be gained through investing in improving our knowledge and understanding of the oceans.

The previous century has marked a fundamental change not only in the way that Science has been progressively integrated, but also in the way European citizens and students have been progressively connected and integrated. Furthermore, the last 50 years, by providing effective mechanisms for exchanging experiences and technologies between European countries, have seen the advancement of Marine Science research in Europe.

In September 2006, in Paris, on the occasion of the 100th anniversary of the Foundation Albert Ist, Prince of Monaco, "Institut océanographique", the European Federation of Marine Science and Technology Societies (EFMS) and the Union des océanographes de France organized a workshop entitled "One Century of Marine Research in Europe". The presentations in this workshop provided the attendants with an overview of the experiences of the different national scientific communities.

As an ideal continuation of that initiative and as a joint event of the national Congress of the Italian Association of Limnology and Oceanography, that has been held in Ancona 17-20 September, 2007, the EFMS has organized an international workshop dedicated to the history of oceanography. The Hellenic Oceanographers Association was represented by our colleague George Vlahakis.

HISTORY OF PHYSICS GROUP OF EPS ANNUAL MEETING.

Glasgow, November 14–15, 2007

The meeting took place in Glasgow. The participants had the chance to attend two events organized for the commemoration of Kelvin. Among the given talks, we have to point out the lecture by Prof. Denis Weaire.

Present: Prof. Denis Weaire, Prof. Peter M. Schuster (Chair), Prof. Henk Kubbinga, Prof. Efthymios Nicolaidis, Prof. George N. Vlahakis (Secretary).

Prof. Peter M. Schuster, the new Chairman, handed a symbolic gift to the previous Chairman Prof. Denis Weaire as an acknowledgement for his important contribution for the 'revival' of the



Group during his service as Chairman.

During the meeting, have been discussed the plans of the Group for the near future.

History of Physics Group of EPS will co-organize an international Conference under the title “Science and Culture” which will take place on Syros Island, Greece during July 14–15, 2008.

Next planned activities: participation to the International Congress of IUHPS/ DHST, which will be held in Budapest in 2009. In 2009, the Austrian and Swiss Physical Societies will have their annual meeting as a joint conference in Innsbruck, Austria. Prof. Peter M. Schuster proposed to organize an international HoP conference on that occasion.

Next History of Physics Group of EPS meeting will take place during EPS meeting in Rome in August 2008.

New nominated member is Prof. Rajka Jurdana, Univeristy of Rijeka, Croatia.

NETWORKING IN SCIENCE: THE GENDER PERSPECTIVE

*Ermoupolis of Syros, Greece
July 6-9, 2007*

Last July, the Commission “Women in Science, Technology and Medicine” of the International Union for History and Philosophy of Science/ Division of History of Science and Technology organized a conference to honor the 25th anniversary of the Commission’s establishment. The conference explored the importance of networking in science from a gender perspective. It is indubitable that networks play an important role in the development of science. Exchange of knowledge and expertise between scientists of several countries and universities stand on the top of their agenda. Parallel to this runs the importance of belonging to the “right” networks for the development of one’s own scientific career. Historically participation in professional organizations and other scientific networks have been long ago recognized as the most essential

part in the advancement of science. However, given the marginal position of women in science it is important to analyze the role of gender in networking in science. The conference aimed to a sociological and historical understanding of the role of scientific networks to women’s professional careers and the role of gender to the establishment and maintaining of scientific networks.

In her opening lecture, Annette Vogt, president of the Commission, made significant remarks about the future of our own network in ‘Women in STM’. She aimed to a broader collaboration among scholars working on women in science and also in technology and medicine. As one of our Commission’s founders, Margaret Rossiter offered her valuable account of its establishment during the international congress of the history of science held in Bucharest, Roumania, in 1981. Sally Kohlstedt, cofounder of the Commission, demonstrated the importance of supporting networks for women in science through the case of the chemist Shyamala Rajender. Mineke Bosch, Christine von Oertzen, Rossiter, Ida Stamhuis, Felicitas Seebacher and Annette Vogt presented significant case of women creating their own networks in the world of science. Examples include the International Federation of University Women, Women’s Caucuses in the U.S., and the Association for Extended Women’s Education in Vienna. Other experienced scholars such as Pnina Abir-Am but also graduate students such as Poli Giannakopoulou and Kristina Espmark focused on biographical studies of women in science, emphasizing their attempts to build up their own networks.

A special session in networking in the physical sciences brought right at front the fact that gender can work in multiple ways and it is always negotiable. Kenji Ito presented the fact that behind the apparent façade of male dominance in particle physics, there had been various and active networking of women, including wives of physicists, secretaries and other support staff, and women scientists. Maria Rentetzi analyzed the role of the Greek Queen Frederika to establish from scratch a network of politicians and scientists willing to support nuclear research in Greece. Staffan Wennerholm, argued that scientific networks were important in giving Swedish physicist Eva von Bahr opportunities to do work as a physicist despite the legal obstacles. Last a special session on contemporary networks in science and engineering reinforced the connections of the Commission to technology and engineering

studies. Amy Slaton, Anne-Sophie Godfroy-Genin, Page Miller, and Sophia Economides discussed issues of gender ideologies in professional engineering networks and women's access to internet and scientific careers.

*Maria Rentetzi,
Secretary of the Commission Women in STM
of the IUHPS/DHST
Assistant Professor, National Technical
University of Athens*

7th TWO-DAY CONFERENCE ON MATHEMATICS TEACHING

Thessaloniki, Greece, 15 & 16 March 2008

The 7th two-day Conference on Mathematics Teaching addressing the role of textbooks in teaching and learning of mathematics will be held at Thessaloniki, Greece on 15 and 16 March 2008. The conference is organised every year since 2001 focusing on a particular mathematics education topic and is intended to mathematics education researchers and teachers. Information: Dimitris Chassapis, Aristotle University of Thessaloniki, GR, e-mail: dchassap@eled.auth.gr.

ERDAL INONU (1926-2007)



*Erdal İnönü at a Conference in Assos,
Turkey, 2004*

Prof.Dr.Dr.h.c. Erdal İnönü, Turkish physicist, politician and historian of science, passed away on October 31st, 2007, in Houston where he was receiving cancer treatment. He was born in Ankara in 1926, a few years after the proclamation of the Republic as the son of İsmet İnönü, a hero of the Turkish War of Independence and the second president of the Turkish Republic, after Atatürk. E. İnönü studied physics in the newly founded Faculty of Science of the Ankara University, and pursued his postgraduate studies in California Institute of Technology (Caltech) where he obtained his Ph.D. degree in 1952. His thesis was on a phenomenological work based on the observations of high energy cosmic bursts.

He worked in Caltech for another two years with E. P. Wigner: The celebrated group contraction concept 'Wigner-İnönü' was named after the two physicists. İnönü was also well recognized for his contributions to the development of neutron transport phenomena.

Back to Turkey in 1954, E. İnönü joined the staff of the Faculty of Science, Ankara University. In 1957, he left for Oak Ridge National Laboratory (TN, USA) to conduct research within the 'Atoms for Peace Program'. Upon his return in 1960, he joined the Middle East Technical University (METU, Ankara) where he taught theoretical physics, and undertook a range of administrative duties as the University President and the Faculty Dean. During the Ankara years, he contributed to the creation of TUBİTAK (The National Scientific and Technical Research Council). In 1974 he moved to Bosphorus University (Istanbul) where he taught and continued to research until 1983, when he was invited to reorganize the Turkish social democratic movement. Thus, he became actively engaged in politics: he founded the Social Democratic Party (SODEP), became member of the parliament, acted as Minister of State, Vice Prime Minister and Minister of Foreign Affairs until 1995, when he left politics and devoted himself to research, especially on the history of science. He acted as the Turkish delegate at the UNESCO Executive Council (1979-83). His last position was lecturer in history of science at the Sabancı University, Istanbul.

E.İnönü's interest in history of science emerged in late 1960s when he was teaching theoretical physics at METU. Aiming to find out and evaluate the contribution of Turkish scholars to physics, he started to compile a bibliography of their publications between 1923 and 1966. This first project was published in 1971, and was followed by Turkish bibliographies on mathematics and chemistry research which saw the press in 1973 and 1983, respectively. E. İnönü's resignation from politics allowed him to focus on history of science. His book on the Turkish mathematician and Mehmed Nadir (1856-1927) was published by the TUBİTAK in 1996. This was followed by a good number articles and conferences analyzing, evaluating and discussing the scientific work of Turkish researchers and scholars, the beginning of modern physics in Turkey, the scientific activities in the Republic of Turkey (from 1923 on), the interaction between culture and science, and history of science in general. He strongly believed that the Ottomans society, in contrast to the European, was largely indifferent to the

production of scientific knowledge through observation and experiment from the 1600s to the 1900s – ‘a delay of 300 years’ to use his own words. A scientific research policy was established in Turkey as a state policy only after the 1930s. In consequence, Turkey is still struggling to bridge the detrimental effects of the past centuries.

E. İnönü’s last project was to extend the bibliographical research he had undertaken in 1960s. He started to compile the Turkish bibliographies of astronomy, biology and geology from 1923 up to the present day. These volumes, he hoped, would complete those of physics, mathematics and chemistry published earlier and give an overview of Turkish share in mathematical and natural sciences following the foundation of the Turkish Republic. Work is being carried out to complete the bibliographical research and to publish posthumously the remaining volumes.

In 2004, E. İnönü was awarded the Wigner Medal for his outstanding contributions to physics through group theory. He will be remembered, not only for his scientific work in physics, but as a modest, refined and an ever encouraging personality, a mentor of history of science studies in Turkey. Erdal İnönü is survived by his wife Sevinç İnönü, and his colleagues and students.

F. Günergün

A NEW INSTITUTION: THE ELATI SEMINARS

*4th Workshop on critical approaches
to science and education
Elati, 18-22 July 2007*

The *4th Workshop on Critical Approaches to Science and Education* was held in Elati from July 18th to July 22nd, in Elati. It was organized by the HRSN (Hellenic Radical Scientists Network) with the participation of the Universities of Athens and Janena, the National Hellenic Research Foundation, the French Institute of Athens, the Journal *Critical science and education* and hosted by the Municipality of Aithikon (Elati, Greece). About a hundred people attended the Workshop, ranging from



The Chair of the Workshop!

students pursuing their Master’s degree to established experts in the fields of didactics, philosophy and science.

The 4th Workshop hosted talks on a variety of topics, while the plenary session featured Professor Aristeidis Baltas expounding upon the notions of realism and idealism as relating to History of Science and Philosophy of Science. Among other speakers, Chairman Professor C. Skordoulis gave a talk on Ernest Mandel’s views on Ecology, NHRF director of research E. Nicolaidis spoke on globalization and History of Science, Professor D. Chassapis lectured on the subject of the new trends of Didactics of Mathematics, Prof. E. Bitsakis on a new approach of Descartes, E. Papadimitriou on Bacon and nature, E. Bokaris on Althusser and historiography of science, E. Koleza on the didactical features of Wittgenstein theories etc (see the Programme on the Hellenic Society of History, Philosophy and Didactics of Sciences site, <http://www.hpds.gr>).

The Workshop was deemed a huge success by all participants, building on the legacy of its predecessors, previously held in Ermoupoli of Syros. Selected papers based on the talks given will appear in the peer reviewed journal *Critical Science and Education*.

Due to the success of the 4th Workshop, the organisers decided to establish the “Elati Seminars” to be held each July in Elati. Next year, the Seminars are planned to last nine days, from 12 to 20 July comprising three events: A workshop on Ecology, the 5th Workshop on Critical Approaches to Science and Education and the Conference of the Teaching Commission of the International Union of the History and Philosophy of Science / Division of History of Science and Technology.

Costas Tabakis

Programme of History of Science, NHRF/NOA

Please, send your contribution to the *Newsletter for the History of Science in Southeastern Europe* in order to be published to the editorial secretary, George N. Vlahakis, e-mail: gvlahakis@yahoo.com. The Newsletter aims to make known all the activities, publications etc of History of Science and Technology in the region of Southeastern Europe.
