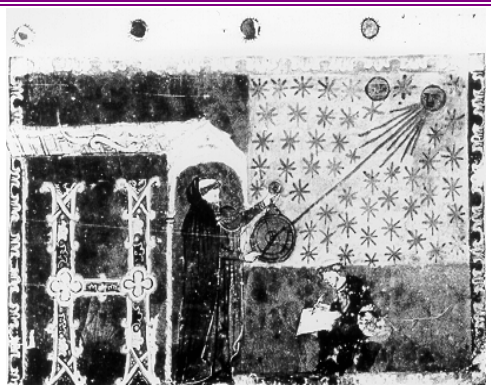
INTERNATIONAL UNION OF HISTORY & PHILOSOPHY OF SCIENCE



CHAMA NEWSLETTER

Commission for History of Ancient and Medieval Astronomy

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Foreword by the President

We have the pleasure to present in this issue notices on nine important books. They are: two books on Graeco-Roman and Byzantine astrology; two books on medieval cosmology; and one proceedings of the first conference on Ethno-astronomy. Special mention may be made of the English translation by Evans and Berggren of Geminos' *Introduction to Phenomena* comprising Greek astronomy between Hipparchos and Ptolemy; of Petra Schmidl' thesis on Islamic folk astronomy, namely, the direction of Mecca and Prayers' timings) and of a catalogue of 53 astrolabe in National Maritime Museum (London). We appreciate our members: Bernard Goldstein (Yale University), Tezvi Langermann (Israel), and Petra Scmidl (Frankfurt) for contributing lists of their recent publications. May I hope that the others will follow suit ?

Besides including a selected list of papers on Indian astronomy as published in Indian J. of history of Science (New Delhi), we have digressed somewhat in this issue by publishing a write-up on the enigmatic Greek Antikythera calendarical device (of *circa* first century B.C.) and a short interesting communication on testing vision by observing the faint star *Alcor* (80-UMa) – a companion of *Mizar* (ζ-UMa) – during the Islamic Middle Ages. Moreover, one of us (Anne Tihon) has compiled a detailed report of the 21st International Congress of Byzantine Studies, which is being included in this issue. Further, under the item: 'News', a note on the significance of the international project: *Islamic Scientific Manuscripts Initiative* is also being presented.

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Finally, I wish to report here about a meeting, of a few members of the Organising Committee of CHAMA, held in Louvain-la-Neuve on Sept.29, 2006, to discuss the possibility of holding a special symposium of this Commission, in Spring. 2008, on "***Ptolemy and his Times***" . I am happy that the IUHPS Council has approved our request and has also allocated some funds, though insufficient, for this purpose. Prof. Tihon is kindly making efforts to get some more funds from Académie Royale de Belgique and Université Catholique de Louvain (Institut Orientaliste).

The proposal of the Symposium-2008 is printed here on p. 5. The themes are listed therein. More precise information will be given in the next Newsletter.

I request you again to remain in contact with Prof. Anne Tihon, the Secretary of the Commission, and to send her some key information/news and even short communication for inclusion in the Newsletter.

S. M. Razaullah Ansari

The Antikythera Research Project

Extracts of an article published in the New York Times on November 29, 2006 by John Noble Wilford.

An Ancient Computer Surprises Scientists.

A computer in antiquity would seem to be an anachronism, like Athena ordering takeout on her cell-phone.

However, a century ago, pieces of a strange mechanism with bronze gears and dials were recovered from an ancient shipwreck off the coast of Greece. Historians of science concluded that this was an instrument that calculated and illustrated astronomical information, particularly phases of the Moon and planetary motions, in the second century B.C.
The Antikythera Mechanism, sometimes called the world's first computer, has now been examined with the latest in high-resolution imaging systems and three-dimensional X-ray tomography. A team of British, Greek and American researchers was able to decipher many inscriptions and reconstruct the gear functions, revealing, they said, "an unexpected degree of technical sophistication for the period."

The researchers, led by Tony Freeth and Mike G. Edmunds, both of the University of Cardiff, Wales, are reporting the results of their study in Thursday's issue of the journal *Nature*. They said their findings showed that the inscriptions related to lunar-solar motions and the gears were a mechanical representation of the irregularities of the Moon's orbital course across the sky, as theorized by the astronomer Hipparchos. They established the date of the mechanism at 150-100 B.C. The Roman ship carrying the artefacts sank off the island of Antikythera around 65 B.C. Some evidence suggests that the ship had sailed from Rhodes. The researchers speculated that Hipparchos, who lived on Rhodes, might have had a hand in designing the device.

In another article in the journal, a scholar not involved in the research, François Charette of the University of Munich museum, in Germany, said the new interpretation of the Antikythera Mechanism "is highly seductive and convincing in all of its details." It is not the last word, he concluded, "but it does provide a new standard, and a wealth of fresh data, for future research."

(…) The mechanism presumably used in preparing calendars for seasons of planting and harvesting and fixing religious festivals, had at least 30, possibly 37, hand-cut bronze gear-wheels, the researchers reported. An ingenious pin-and-slot device connecting two gear-wheels induced variations in the representation of lunar motions according to the Hipparchos model of the Moon's elliptical orbit around Earth.

The functions of the mechanism were determined by the numbers of teeth in the gears. The 53-tooth count of certain gears, the researchers said, was "powerful confirmation of our proposed model of Hipparchos' lunar theory."

The detailed imaging revealed more than twice as many inscriptions as had been recognized from earlier examinations. Some of these appeared to relate to planetary as well as lunar motions. Perhaps, the researchers said, the mechanism also had gearings to predict the positions of known planets.

Dr. Charette noted that more than 1,000 years elapsed before instruments of such complexity are known to have re-emerged. A few artefacts and some Arabic texts suggest that simpler geared calendrical devices had existed, particularly in Baghdad around A.D. 900.

It seems clear, Dr. Charette said, that "much of the mind-boggling technological sophistication available in some parts of the Hellenistic and Greco-Roman world was simply not transmitted further," adding, "The gear-wheel, in this case, had to be reinvented."

John Noble Wilford

A whole team is working on the Antikythera mechanism and a conference has been held in Athens on the subject during November 30 – December 1, 2006. The Abstracts of the conference will be available on the website of the Research project: http://www.antikythera-mechanism.gr/

Pictures of the mechanism, the presentation of the research teams, etc are also available on the website.

Astronomy and Cosmology at the 21st International Congress of Byzantine Studies, London, 21-26 August 2006

Several Papers on Astronomy and Astrology have been presented at the 21st International Congress of Byzantine Studies held in London in August 2006.
All the abstracts of these papers are available in the Proceedings of the 21st International Congress of Byzantine Studies, London, 21-26 August 2006, Ashgate, 2006, 1700 pages.
In the following, we summarise the talks held at the Congress.

Börje Bydén, "The Autonomy of Byzantine Cosmology"

The attempt of Cosmas Indicopleustes, in the mid-sixth century, to base a cosmological theory on a literal interpretation of Genesis is well known. But the influence of this and other similar theories on Medieval Greek Christian writers on cosmology was negligible. These writers were apparently confident that the basic elements of the more scientifically convincing Aristotelian-Ptolemaic conception of the universe were for the most part compatible with the Christian faith. Some of these elements were, however, repudiated, notably the doctrine of the eternity of the world. Such repudiations may indeed have been religiously motivated, but were usually defended by natural-philosophical arguments rather than appeal to theological principles. Thus, Byzantine cosmology was not independent of religion, but it enjoyed considerable autonomy.

Anne Laurence Caudano, “Un univers sphérique ou voûté? La survie de la cosmologie antiochienne à Byzance aux onzième et douzième siècles” (a summary was presented by Mrs. Tihon)

In the XIth and XIIth centuries, there were many discussions in Byzantium concerning some cosmological ideas. Some philosophical or theological ideas were condemned such as the Platonic views of John Italos or the dualist theory of the Bogomils. In this context, a debate was still active between the cosmological concepts coming from the ancient Antiochian theologians and more scientific views coming from Aristotle. An Analysis of the *catenae* of the Ancient Testament shows that the idea of a vaulted Cosmos similar to Moses' Tabernacle was still defended in opposition to the spherical universe of Aristotle which was commonly accepted in the scientific Byzantine circles.

Maria Mavroudi, "The Byzantine Greek versions of the Karpos attributed to Ptolemy and Its Commentary by Abu Jafar Ahmad b. Yusuf b. Ibrahim al-Daya"

The Greek text of the *Karpos* is a collection of one hundred maxims pertinent to the practice of divination (prognosis) and especially astrology. Its brief introduction, addressed to Syros, presents it as the product (fruit= *karpos*) of the study of prognostication and recommends that it be read after a student has covered all other aspects of this “science” (*episteme*). A number of Greek manuscripts attribute the text to Ptolemy, but modern research has reached a consensus that this attribution is spurious. The *Karpos* was an extremely popular text in the late medieval and renaissance periods even beyond the Greek-speaking world ; it is known in Latin, Arabic, Syriac and Hebrew versions. The paper will examine whether the *Karpos* was originally written in Greek or is a translation, and from which language. Further, it will discuss the *Karpos* in conjunction with the Greek translation of its Arabic commentary by the

tenth-century astronomer/astrologer and chronicler, Abū Ja'far Aḥmad b. Yūsuf b. Ibrāhīm al-Daya, active in Baghdad and Tulunid Egypt.

Anne Tihon, "Byzantine Astronomy: New Projects and Publications"

A. Tihon presented a report on the last publications and projects in the field of Byzantine science and especially astronomy. Recent publications are *L'astronomia matematica a Bizanzio*, in *Storia della Scienzia* (Enciclopedia Italiana), vol. IV-Medioevo e Rinascimento 346-352 and *La Matematica Bizantina*, in *Storia della Scienzia* (Enciclopedia Italiana), vol. IV-Medioevo e Rinascimento 329-334 (2001). New chapters in collective books are in course of print: *Numeracy and Science* in *Oxford Handbook of Byzantine Studies* (ed. Elizabeth Jeffreys), *Byzantine Science* in *Cambridge History of Science* (ed. D. Lindberg) and several entries in the *New Scientific Biography* (ed. Angela Pilchak) (Gregory Chioniades, George Pachymeres, Theodore Meliteniotes, Isaac Argyros, Manuel Moschopoulos).
The next volumes planned for the Corpus des Atsronomes Byzantins are:
CAB XI : *Ptolemaiou Procheiroi Kanones,* vol. I, by Anne Tihon and Raymond Mercier
CAB XII : *Demetrius Chrysoloras. Traité sur les Tables Latines*, by Anne Tihon and José Chabas (forthcoming).
CAB XIII : *Gregory Chioniades. The Zîj as-Sanjarî*, by Joseph Leichter (doctorate thesis presented in 2004 under the supervision of David Pingree.

Anne Tihon, "Les collections de tables astronomiques : les *Tables Faciles* de Ptolémée"

Another lecture was delivered by Anne Tihon on the *Collections of astronomical tables*, especially the *Handy Tables* of Ptolemy. In the Byzantine manuscripts (around 45 mss) the original tables of Ptolemy were mixed with other tables, according to the following tendencies: special tables for Byzantium were derived from the *Handy Tables*; chronological tables were extended to more recent periods while the tables dealing with calendars and chronology of the Vth and VIth centuries tended to disappear; some tables, connected with non-Ptolemaic ancient astronomy disappeared also, while tables taken from the *Almagest* were added; other tables were created in order to facilitate the calculation. At the end of the Byzantine period, some Ptolemaic tables are mixed with Persian or Jewish tables. Special tables are created for a specific place such as Moscow, Phocea (in Turkey), ... Books of astronomical tables accompanied the great travellers and diplomats of the XVth century, and notes or calculations can be found in many astronomical mss of that time.

Proposed Chama Symposium On ″Ptolemy and his Time″

We hope to be able to organize in Louvain-la-Neuve a symposium centered on Ptolemy, his writings and the astronomical context of his time. The symposium is planned for Spring 2008.

The following themes would be proposed :

1. Ptolemy's Writings : Current Status of Research

2. Transmission of Ptolemy's Writings /Ideas to the Oriental World

3. Transmission of His Ideas to the Byzantine and Western World

4. Astronomy in Egypt and Babylon at the Time of Ptolemy (papyri, tablets)

We are now searching the necessary funds for organising this meeting. More precise information will be given in the next Newsletter.

New Books

1. Roger BECK, *A Brief History of Ancient Astrology*, Malden, Blackwell, 2006, 176 pages, ISBN 1405110740

Presentation by the Publisher:

A Brief History of Ancient Astrology explores the theory and practice of astrology from Babylon to Ancient Greece and Rome. While recognizing the modern dichotomy between science and superstition, Roger Beck acknowledges the historical symbiosis between astrology and astronomy, as it existed in the ancient world. This book explains the ancient understanding of the zodiac and its twelve signs, the seven planets, and the fixed circle of "places" against which the signs and planets revolve. Using actual ancient horoscopes and handbooks, the book demonstrates how to construct and interpret a horoscope in the ancient manner. The book also discusses the socio-political and cultural impact of astrology on the Graeco-Roman world. The author addresses the relevance of ancient astrology today, presenting it not as a predictive art, but as a medium for telling stories about our world and the human condition.

2. Anne-Laurence CAUDANO, *Let There Be Lights in the Firmament of the Heaven : Cosmological Depictions in Early Rus* , Paleoslavica XIV. Supplementum 2., Cambridge -Ms 2006, 213 pages

Presentation by A. Tihon:
By looking at a wide range of written, artistic and archaeological evidence, this book opens the door to a specific worldview: that of the eastern Slavs of Rus from their conversion to Christianity at the end of the tenth century up to the departure of the metropolitan from Kiev to Vladimir in 1300.

In their particular approach to the heavens, the Rus considered the universe as a box, at the bottom of which the earth lays flat and immobile. This image, based essentially on literal interpretations of the Creation story, was inherited from biblical commentators of the fifth and sixth centuries, such as Severianos of Gabala or Kosmas Indikopleustes...

3. V.D. CHAMBERLAIN, J.B. CARLSON, M.J. YOUNG (Eds.), *Songs from the Sky: Indigenous Astronomical and Cosmological Traditions of the World*, Ocarina Books, Oxford**,** 2005, 380 pages, ISBN-13: 978-0954086725.

Presentation by the Publisher:

The long-awaited proceedings of the First International Conference on Ethno-astronomy, which was held at the Smithsonian Institution in 1983, have now been co-published as *Songs from the Sky: Indigenous Astronomical and Cosmological Traditions of the World*. The chapters within this 380- page collection also serve as volumes 12 and 13 of the Center's journal, *Archeo-astronomy*.

This substantial collection of papers on indigenous astronomical knowledge is quite unequalled in its scope and extent. The authors are drawn from a variety of academic disciplines, including anthropology, archaeology, astronomy, engineering, art history, history of science, history of religion, folklore, and mythology, and bring a variety of academic perspectives to bear upon aspects of celestial knowledge and perception in diverse social contexts from many different parts of the globe. Native voices speak alongside these academic ones, as indigenous art and folklore are presented for their own intrinsic value, as well as for the insights they offer into the cosmological traditions of their creators.

The Americas provide the main geographical focus, with twenty of the 32 papers concerning indigenous North American groups such as the Navajo, Lakota, Zuni and Blackfoot, the Mixe and Tzotzil Maya of southern Mexico, the Andean highlands and the Amazonian region of Peru, and southern coastal Brazil.

The remaining twelve articles extend to the Arab world, sub-Saharan Africa, southern India, Java, Melanesia, Australia and Polynesia, with a few addressing broader synthetic themes. For a number of the culture areas dealt with in some detail here, other published information about sky knowledge is extremely scant.

4. James EVANS & J. LENNART BERGGREN, Geminos's *Introduction to the Phenomena*: A Translation and Study of a Hellenistic Survey of Astronomy, Princeton University Press, 2006, 346 pages, ISBN: 978-0-691-12339-4.

Presentation by the Publisher:

This is the first complete English translation of Geminos's *Introduction to the Phenomena*--one of the most important and interesting astronomical works of its type to have survived from Greek antiquity. Gracefully and charmingly written, Geminos's first-century BC textbook for beginning students of astronomy can now be read straight through with understanding and enjoyment by a wider audience than ever before. James Evans and Lennart Berggren's accurate and readable translation is accompanied by a thorough introduction and commentary that set Geminos's work in its historical, scientific, and philosophical context. This book is generously illustrated with diagrams from medieval manuscripts of Geminos's text, as well as drawings and photographs of ancient astronomical instruments. It will be of

great interest to students of the history of science, to classicists, and to professional and amateur astronomers who seek to learn more about the origins of their science.

Geminos provides a clear view of Greek astronomy in the period between Hipparchos and Ptolemy, treating such subjects as the zodiac, the constellations, the theory of the celestial sphere, lunar cycles, and eclipses. Most significantly, Geminos gives us the earliest detailed discussion of Babylonian astronomy by a Greek writer, thus offering valuable insight into the cross-cultural transmission of astronomical knowledge in antiquity.

5. Paul MAGDALINO, *L'orthodoxie des astrologues, La science entre le dogme et la divination à Byzance* (VIIe-XVIe siècle), Réalités Byzantines, Paris, Lethielleux, p. 196, ISBN 2-283-60463-X.

Presentation by A. Tihon:

On Byzantine Astrology there exists an important material, collected in the *Catalogus Codicum Astrologorum Graecorum*, I-XII, Bruxelles, 1898-1936, which provides descriptions of all the exstant astrological manuscripts written in Greek and the edition of some interresting texts. But apart from detailed studies provided especially by David Pingree and the edition (also by D. Pingree) of the Greek astrological treatises such as Vettius Valens, Apomasar, Hephestion no real synthesis existed on Byzantine Astrology. In this book this enormous material is replaced in its historical and cultural context, which is analysed with the deep knowledge of the author concerning the Byzantine world. The author shows how the astrologers tried to demonstrate that astrology led to the knowledge of God, while the Orthodox Church refused to reduce the divine intervention to the motion of stars.

6. Barbara OBRIST, *La cosmologie médiévale. Textes et images. I. Les fondements antiques*, Firenze, Sismel, Edizioni del Galluzo, 2004, xx-380 pages, ISBN 88-8450-140-7.

Presentation by A. Tihon:

The aim of this work is to find of the origin of the cosmological representations circulating in many Medieval Latin Manuscripts. The cosmological representations of the Early Middle Ages studied here are explained and confronted with their Greek and Roman origins. The work, richly documented, presents itself not in the form of a systematic repertory, but of a historical essay which treats several topics: representations of the celestial sphere, the mechanical model of the terrestrial sphere, representations in Macrobus, representations of the constellated sphere, Platonic cosmology, Aristotelian cosmology, Stoical cosmology and the iconography which is associated with them. It is furnished with an abundant bibliography, rich illustrations and indexes.

7. Petra SCHMIDL, *Volkstümliche Astronomie im islamischen Mittelalter. Zur Bestimmung der Gebetszeiten und der Qibla bei al-Aṣbaḥī, Ibn Raḥīq und al-Fārisī* . (Islamic Philosophy, Theology and Science. *Texts and Studies*, 68), Leiden-Boston, Brill, 2 volumes, 904 pages, ISBN: 978 9004153 90 5

Presentation by the Publisher:

This volume deals with the determination of the times of Muslim prayer and the direction towards the Kaaba in Mecca (Arabic *qibla*) in a little known astronomical tradition of the Islamic Middle Ages. It presents an edition, translation, and explanation of selected chapters from three of the most important folk astronomical treatises, written by al-Aṣbaḥī (Yemen, 13th c.), Ibn Raḥīq (Hejaz, 11th c.), and al-Fārisī (Yemen, 13th c.).

The first part introduces the authors and their works and describes the relevant religious and astronomical background. The second part comprises the edition of the selected – and now for the first time published – chapters of the three works and a German translation. The third part contains a lexicographical survey with basic astronomical, religious, and related information, and a commentary on each chapter. The fourth part gives an overview of the topics discussed.

8. Nicole Oresme's *De visione stellarum* (*On Seeing the Stars*) . A Critical Edition of Oresme's Treatise on Optics and Atmospheric Refraction, with an Introduction, Commentary, and English Translation by Dan BURTON, (Medieval and Early Modern Science, 7), Leiden-Boston, Brill, 2006, 324 pages.

Presentation by the Publisher:

In this critical edition and translation of Nicole Oresme's *On Seeing the Stars*, the renowned 14th-century natural philosopher proposes that the stars are not where they seem. And perhaps nothing is where it seems. In this earliest treatise on atmospheric refraction, Oresme uses optics and infinitesimals to help solve this vexing problem of astronomy. He is the first to propose that light travels along a curve through the atmosphere – two centuries before Hooke and Newton, who are credited with the discovery. Further, he calls all sense data into doubt. Oresme's argument concerning the curvature of light is a major milestone in the history of science, confirming that Oresme was one of the most innovative scientists of the pre-modern world.

9. K. VAN CLEEMPOEL, *Astrolabes At Greenwich: A Catalogue Of The Astrolabes In The National Martitime Museum, Greenwich*, Oxford, Oxford University Press, 2006, 339 pages, ISBN: 978-0198530695.

Presentation by the Publisher:

The astrolabe is one of the most intriguing of all early scientific instruments. Invented by the Greeks, the design and construction of the astrolabe remained largely unchanged for hundreds of years as it passed through the Arabic, Indian, Persian and Medieval European cultures. The astrolabe was the starting-point for the design of many other types of calculating and observing instruments in the Middle Ages and the Renaissance. With 53 astrolabes, the National maritime Museum at Greenwich houses one of the largest collections in the world. This number presents a fair balance between the Eastern (30) and the Western (23) instruments, with some exceptionally fine highlights in each group.

Recent Publications and Projects of our Members

- ANSARI, S. M. RAZAULLAH

-"Hindu Scientific Contributions in Indo-Persian", *Indian Journal of History of Science*, Vol.40, No.2, (2005) 205-221.

- "Reception of Indian Astronomical Treatises and Handbooks in Sanskrit by Muslim Scholars of Medieval India**",** to be published in the volume**:** *Astronomy, Astrology, Mathematics and the Physical World*, Ed. J. V. Narlikar. A serial volume under the Project on History *of Indian Science, Philosophy and Culture***,** managed by the Centre for Studies in Civilisations, Kolkata/Delhi (Director, D.P. Chattopadhyaya), expected in summer 2007.

- GOLDSTEIN, Bernard

- CHABÁS, J.; GOLDSTEIN, B. R. " The Alfonsine Tables of Toledo" A: Archimedes: New Studies in the History and Philosophy of Science and Technology, 2003. Dordrecht and Boston: Kluwer Academic Publishers. ISBN: 1-4020-1572-0.
- "An Anonymous Zij in Hebrew for 1400 A.D.: A Preliminary Report", *Archive for History of Exact Sciences,* 57 (2003), 251–271.
- "Ancient and Medieval Values for the Mean Synodic Month", *Journal for the History of Astronomy*, 34 (2003), 65–74.
- "John Vimond and the Alfonsine Trepidation Model", *Journal for the History of Astronomy*, 34 (2003), 163–170 [with José Chabás].
- "Patronage and the Production of *De Revolutionibus*", *Journal for the History of Astronomy*, 34 (2003), 345–368 [with Peter Barker].
- "A Prognostication Based on the Conjunction of Saturn and Jupiter in 1166 [561 A.H.]", in *Studies in the history of the exact sciences in honour of David Pingree*, edited by C. Burnett *et al*. Leiden: Brill, 2004. Pp. 735–757.
- "*Symmetry* in Copernicus and Galileo", *Journal for the History of Astronomy*, 35 (2004), 273–292 [with Giora Hon].
- "Ptolemy, Bianchini, and Copernicus: Tables for Planetary Latitudes", *Archive for History of Exact Sciences*, 58 (2004) 453–473 [with José Chabás].
- "Early Alfonsine Astronomy in Paris: The Tables of John Vimond (1320)", *Suhayl*, 4 (2004), 207–294 [with José Chabás].
- "Preliminary Remarks on Judah ben Verga's Contributions to Astronomy", in *The Practice of Mathematics in Portugal: Proceedings of the International Meeting in Óbidos [Portugal], 16–18 November 2000*, edited by L. Saraiva and H. Leitão. Coimbra: Coimbra University Press, 2004. Pp. 63–90.
- "From Proportion to Balance: The Background to Symmetry in Science", *Studies in History and Philosophy of Science*, 36 (2005), 1–21 [with Giora Hon].
- "Colors of Eclipses in Medieval Hebrew Astronomical Tables", *Aleph*, 5 (2005), 11–34.
- "Isaac Ibn al-Hādib and Flavius Mithridates: The Diffusion of an Iberian Astronomical Tradition in the Late Middle Ages", *Journal for the History of Astronomy*, 37 (2006), 147–172 [with José Chabás].

- Y. TZVI LANGERMANN

- *Hebrew Medical Astrology: David ben Yom Tov, Kelal Qatan*, by Gerrit Bos, Charles Burnett, and Tzvi Langermann (Philadelphia: American Philosophical Society, 2006).
- *Astronomy and Astrology from the Babylonians to Kepler: Essays Presented to Bernard R. Goldstein on the Occasion of his 65th Birthday*, edited by Peter Barker, Alan C. Bowen, José Chabás, Gad Freudenthal and Y. Tzvi Langermann, *Centaurus* 45: 1-4 (2003) and 46:1 (2004).
- "From my Notebooks: An Early Modern Cosmography from Northern Italy," *Aleph: Historical Studies in Science & Judaism* 2 (2002), 279-290.
- "Criticism of Authority in Moses Maimonides and Fakhr al-Dīn al-Rātī ," *Early Science and Medicine* 7 (2002), 255-275.
- "Maimonides and the Sciences," in *The Cambridge Companion to Medieval Jewish Philosophy*, edited by Daniel H. Frank and Oliver Leaman (Cambridge: Cambridge University Press, 2003), 157-175.
- "A Star Table from the Yemen," (co-authored with Paul Kunitzsch), *Centaurus* 45 (2003), 159-174.
- "Cosmology and Cosmogony in *Doresh Reshumot*, A Thirteenth Century Commentary on the Torah," *Harvard Theological Review* 97 (2004), 199-228.
- "Abraham Ibn Ezra," accepted for publication on the Internet by the *Stanford Encyclopaedia of Philosophy* (URL forthcoming).
- "Ibn Kammūna at Aleppo," forthcoming in the *Journal of the Royal Asiatic Society*.

- SCHMIDL, PETRA

- "Al-Khwārizmī and Practical Astronomy in Ninth-Century Baghdad. The Earliest Extant Corpus of Texts in Arabic on the Astrolabe and Other Portable Instruments" (co-authored with François Charette), *SCIAMVS – Sources and Commentaries in Exact Sciences* 5 (2004): 101–198.
- "Dusk and Dawn in Medieval Islam. On the Importance of Twilight Phenomena with Some Examples of Their Representations in Texts and on Instruments". In: Campion, Nicholas (ed.): *The Inspiration of Astronomical Phenomena. Proceedings of the Fourth Conference on the Inspiration of Astronomical Phenomena* (Magdalen College, Oxford, 3–9 August 2003). Bristol 2004, 393–412.
- Article on ″al-Ṣūfī" in: Hoffmann, Dieter; Laitko, Hubert; Müller-Wille, Staffan (eds.): *Lexikon der bedeutenden Naturwissenschaftler*. 3 Bände. Heidelberg, Berlin 2003–2204.
- Art. "al-Ashraf", "al-Fārisī", "al-Kāshī" und "al-ʻUrḍī " to appear in: Hockey, Thomas et al. (eds.): *Biographical Encyclopaedia of Astronomers*.

- Art. "Hārūn b. Yaḥyā ", "Ibn Buṭlān " und "al-Maqdisī" to appear in: Clements, Joe *et al.* (eds.): *The Oxford Companion to Exploration*.

- "On Timekeeping by the Lunar Mansions in Medieval Egypt". In: Soltysiak, Arkadiusz (Ed.): *Time and Astronomy in Past Cultures*. Warszawa, Torun 2006, 75-87.

- TIHON, ANNE

- « Sous La plume de Jean Chortasmenos: des scolies byzantines sur la trépidation des equinoxes », in M. Cacouros, M.H. Congourdeau, *Philosophie et Sciences à Byzance de 1204 à 1453. les textes, les doctrines et leur transmission*. Actes de la Table Ronde organisée au XXe Congrès International d'Etudes Byzantines (Paris, 2001), Leuven, p. 157-184.
- "Astrological promenade in Byzantium in the early Palaeologan period", in P. Magdalino, M. Mavroudi, Occult Science in Byzantium, Geneva, 2006, (in course of printing)
-"Astrologie et astronomie à Byzance au début de l'époque paléologue", in *Liber Amicorum* Jacques Malherbe, pp. 1037-1052.

Selected Articles from the Indian Journal of History of Science

Vol. 41 (2006)

R.N. Iyengar, Some Celestial Observations Associated with Krishna-Lore, pp. 1-13.

K. Chandara Hari, Polar Longitude of the *Sūryasiddhānta* and Hipparchus' Commentary, pp.29-52.

D. Bhattacharya and P. C. Naik, Archeoastronomy at Bhubaneswar: A polygonal & Mathematical Model-Tārāka, pp.53-75.

S. Balachandra Rao, *Grahalāghavam* of Gaṇeśa Daivajña —An English Exposition with Mathematical Explanation and Notes (Introduction i-xii and Chapters 1-2), Supplement, pp. S1-S88.

Sudha Bhujle and M. N. Vahia, Calculation of Tithis: An Extension of *Sūryasiddhānta* Formulation, pp. 133-150.

K. D. Abhyankar, *Dhruvaka-Vikṣepa* System of Astronomical Coordinates, pp.151-157.

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S. Balachandra Rao and S. K. Uma, *Grahalāghavam* of Gaṇeśa Daivajña —An English Exposition with Mathematical Explanation and Notes (Chapters 3-4), Supplement, pp. S89- S183.

K. Chandara Hari, Epoch of *Romakasiddhānta*, pp. 263-270.

Nirupma Raghavan, Is Śiva Iconography Inspired by the Stars? , pp. 271-295.

K. D. Abhyankar, Eclipse Period 3339 in Rigveda − In support of R.N. Iyengar, pp.313-315.

S. Balachandra Rao and S. K. Uma, *Grahalāghavam* of Gaṇeśa Daivajña —An English Exposition with Mathematical Explanation and Notes (Chapters 5-11), Supplement, pp. S185- S315.

R.C.Gupta, Yabuuto Kiyosi (1906-2000), pp. 433-437

V. N. Sharma, David Edwin Pingree — An Obituary, pp. 455-474.

S. Balachandra Rao and S. K. Uma, *Grahalāghavam* of Gaṇeśa Daivajña —An English Exposition with Mathematical Explanation and Notes (Chapters 12-16), Supplement, pp. S317-S415.

Short Communication

A Medieval Islamic Vision Test using the Stars Alcor and Mizar?

Paul Kunitzsch
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In the star lore of the Arabs, existing long before their acquaintance with scientific Greek astronomy, the small companion (80, or g, Ursae Maioris) of Mizar (ζ UMa) was well-known; its current name was *al-suhā* ("the Neglected One"). It was said that, by means of that little star, people could test their eyes, as reported since 9th century A.D. by Ibn Qutayba, Ibn Durayd , al-Fārābī, al-Azharī, al-Ṣūfī, al-Jawharī, Ibn al-Adjābī , etc.. In this connection, also a proverb in Arabic is known:

"I show him/her (the star) *al-suhā*, and he/she shows me the moon",

in allusion to the comparison of an utterly tiny thing with a conspicuous big one.[1] This proverb was even reported, in Latin, by the German astronomer Peter Apian (d. 1552).[2] The present author has published a more detailed study in German in 1986.[3]

To note is that the modern names of the stars here involved are all corrupted medieval Latin transliterations of certain Arabic star names: *Alcor* is a corruption of Arabic *al-jawn* ("the Black Horse, or Bull"), name of ε UMa, wrongly transferred upon this little star in Renaissance times. The modern name *Alioth* for ε UMa is another derivate of the same Arabic name *al-jawn*. *Mizar* for ζ UMa derives from Arabic *al-marāqq* ("the Groin"), which in turn is a translation of Ptolemy's "*lagon*" (λαγών)**.**

[A shorter version of this note was circulated by ISLAMSCI e-mail service , dated 20.12.2006.The editors thank Prof. Kunitzsch to supply detailed references.]

[1] Cf. Lane, *Arabic-English Lexicon*, London/Edinburg, 1863 ff; reprinted Beirut 1968, p. 1456 s.v.

[2] See on all that Paul Kunitzsch, "Peter Apian and 'Azophi': Arabic Constellations in Renaissance Astronomy'', Journal *for the History of Astronomy,* Vol. 18 (1987), pp. 117-124; reprinted in P. Kunitzsch, *The Arabs and the Stars*, Northampton: Variorum reprints, 1998, item XXIII. On Alcor see esp. p. 122 *et seq.*

[3] Paul Kunitzsch, *Peter Apian und Azophi: Arabische Sternbilder in Ingolstadt im frühen 16. Jhdt.,* Bayerische Akademie d. Wissenschften, phil.-hist. Klasse, Sitzungsberichte, Nr. 3, 1986. On Alcor and the proverb, see therein Exkurs IV, pp.57-64, esp. pp. 57-64.

News and Announcement

EVENTS

- Ptolemy in Perspective: Use and Criticism of his Work from Antiquity to the Present, Francis Bacon Conference , Caltech, May 31-June 2, 2007

Confirmed participants with provisional titles are:

Alexander Jones (Classics,University of Toronto),Organization and introductory paper.

1. Anne Tihon(Université Catholique de Louvain),"A new astronomical document contemporary with Ptolemy".

2. Stephan Heilen (University of Illinois at Urbana Champaign ,Department of the Classics) "The reception of Ptolemy´s Apotelesmatika from Late Antiquity to the Renaissance".

3. F. Jamil Ragep(Institute of Islamic Studies, McGill University),"Islamic Reactions to Ptolemy's Imprecisions".

4. Dr. Florian Mittenhuber(Karmancenter, Universität Bern),"The sources of Ptolemy' data and subsequent errors in the tradition of the maps".

5. Darrel Rutkin (Department of the History of Science, The University of Oklahoma), "The Use and Abuse of Ptolemy in Renaissance and Early Modern Europe: Two Case Studies."

6. James Voelkel(Department of the History of Science, Medicine, and Technology, Johns Hopkins University),"Abandoning the Equant".

7. Dr John Steele (Department of Physics, University of Durham),"The use of the Almagest eclipse reports in early studies of the Earth's rotation".

8. François Charrette (Institute of History of Science, Munich),"Ptolemy and his Medieval Heirs in the Eyes of Nineteenth-Century Scholarship".

9. Gerd Grasshoff (Institute of Philosophy, University of Bern),"Ptolemy's derivation of location coordinates for his Geography"

10. Noel M. Swerdlow (Department of Astronomy and Astrophysics,The University of Chicago), subject unknown

For information, please visit the Caltech website soon, http://www.caltech.edu or write to Prof. Alexander Jones, alexander.jones@utoronto.ca

NEWS

- The Contents of the last Issue of *The Journal of History of Astronomy* is available at the following address: http://www.shpltd.co.uk/jha.html.

- The provocative Journal Dio presents on its website Aubrey Diller's edition of Ptolemy's Geography, Book 8 : http://www.dioi.org/

▪ *Islamic Scientific Manuscripts*

Islamic Scientific Manuscripts Initiative (ISMI) is the worldwide online database for information about the exact sciences in the pre-modern Islamic world. The project is carried out by spanning thousands of manuscripts in Arabic, Persian and Turkish, concerning astronomy, mathematics, physics, geography, mechanics and related disciplines. This important project is being managed by a number of institutions, in particular by Max Planck Institute for History of Science (Berlin, Germany) and Department of Islamic Studies of McGill University (Montreal, Canada). Recently, a number of internationally renowned historians of Islamic Sciences were invited to participate in its first Workshop held in Berlin during September 18-19, 2006; for instance, Professors : Razaullah Ansari (Aligarh/India), Julio Samsó (Barcelona), Ahmed Djebbar (France), David King (Frankfurt), Ihsan Fazlıoğlu (Istanbul/Turkey), Jan Witkam (Leiden), Sonja Brentjes (London) and Jamil Ragep (Montreal), to name just a few.

Prof. S. M. Razaullah Ansari (Former Professor of Physics, A.M.U. and currently President of CHAMA) was invited to join the International Board of Advisors of ISMI, and to attend its first Meeting and Workshop in Berlin. Prof. Ansari was the only participant in the Workshop representing South Asia, that is, India, Pakistan, Bangladesh etc. He presented an annotated review of the manuscript collections throughout India and Pakistan, highlighting particularly those collections extant in private libraries, Indian *Madrasahs* and *Dargāhs* (Monasteries), that had been neither examined seriously nor mentioned in well known catalogues, for instance, *Catalogue of World Islamic Scientific Manuscripts*, edited by B.A. Rosenfeld and E. Ihsanoglu (Istanbul 2003). He pointed out that, although for quite some time an Indian National Missions has been functioning to preserve manuscript collections in Indian libraries, more efforts are required to do justice with the Arabic, Persian and Turkish manuscripts extant today in Indian and even Pakistani repositories.

It is a matter of great pleasure for this Commission to know that Razaullah Ansari has recently been appointed a *Research Consultant* to this project of "*Islamic Scientific Manuscripts Initiative*". In the words of Jamil Ragep (member executive board of ISMI), Ansari's appointment is "both because of his professional eminence in the Islamic scientific source material in the Subcontinent and because of the importance of including manuscript information from South Asia in the ISMI database".

Obituary

It is with sadness that we convey the news to you taht Professor Emeritus Asger Asaboe (1922-2007) died of cancer on 19 Jan. 2007 in North Haven, CT, USA. He was a longtime member of the faculty of Yale University and a major contibutor to the study of Babylonian astronomy and mathematics. In 1987 a Festschrift in his honor was published in Copenhagen: *From Ancient Omens to Statistical Mechanics: Essays on the Exact Sciences* presented to Asger Aaboe, edited by J.L. Bergren and B.R. Goldstein. He was the author of two textbooks, *Episodes from the Early History of Mathematics* (1964), and *Episodes from the Early History of Astronomy* (2001), as well as many scholarly articles on ancient astronomy, both Babylonian and Greek. A memorial service is planned to take place at Yale near to what would have been Asger's 85th birthday, 26 April 2007.

(This obituary has been kindly posted to us by B. Goldstein)

COMMISSION ON HISTORY OF ANCIENT AND MEDIEVAL ASTRONOMY (CHAMA)

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*** If the space is not sufficient, use a separate sheet. Please give exact bibliographical details.