CHAMA Newsletter

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Commission for the History of Ancient and Medieval Astronomy
Division of History of Science and Technology
International Union of History and Philosophy of Science

Message from the President

This issue of the CHAMA Newsletter has been delayed by a succession of circumstances, for which we apologize; we should be able to return to a more regular pace of publication in 2012. The executive is grateful to many members for supplying news of publications and other activities.

Soon after the new CHAMA website was set up, we learned that access to it was blocked in certain countries. After investigating different possibilities for another host for the website, we have decided that the best course is to have a mirror website, which presents the same information though in a slightly different format. The URLs for the two home pages are:

http://sites.google.com/site/chamaiuhps/

http://isaw.nyu.edu/Members/alexander.jones-40nyu.edu/chama/chama-commission-for-the-history-of-ancient-and-medieval-astronomy/

Within the next weeks, the first elements of a new bibliographies component of the website will be posted. The purpose of the online bibliographies will be to provide paths of entry into the various areas within the history of ancient and medieval astronomy for beginners, so the lists will be kept very short, with emphasis on general works, the most important primary sources, and topics of particular interest in current research.

We also would like to reintroduce a list of members on the website. Since some members may prefer not to be listed or may wish to provide only selective contact information, we ask all members who wish to be listed on the website to send an email to me (alexander.jones@nyu.edu), copied to Josep Casulleras (jcasulleras@ub.edu), giving their name as they wish it to appear on the website, and any of the following that they wish to have listed: email address, postal address, URL of personal (or institutional) website.

We remind members that the CHAMA listserv is an excellent, but as yet underused, means

of promptly communicating professional announcements (e.g. new publications, job and fellowship announcements, conferences) to more than a hundred colleagues worldwide. All members may submit messages to the listserv by sending an email (from the email address that CHAMA has on file) to:

ancient-medieval-astron@lists.nyu.edu

If a submission is rejected, that probably means that the address you are using is different from the one we have; in such an event, please contact Josep or me and we will update our records and the listserv. (Similarly, if you find out that you are not receiving messages from the listserv, let us know.) We recently enabled moderation of the listserv, in order to weed out accidental messages, so your submission will not go out until I authorize it. In most instances this should take place within a few hours.

Alexander Jones

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Erratum

In vol. 7.2 of the Newsletter the term of the CHAMA executive was erroneously stated to be eight years; it is in fact four years, and the next election of the executive will take place at the Manchester congress in 2013. The error has been corrected in the online version.

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Recent (since 2009) and forthcoming publications

S. M. R. ANSARI, "On Khayrullāh Khan Muhandis" (in Persian), in *Encyclopaedia of the World of Islam* (Dā'irat al- Ma'ārif -i Islāmī), edited by Golām 'Alī Haddad 'Adel, Tehran. To be published in Vol. 16 (2012).

— "An Indian Family of Mathematicians: Aṭā ' ullāh, Luṭfullāh, Khayrullāh and Imāmuddīn", in Farid Ghassemlou (ed.), *Proceedings of the International Conference on The History of Mathematics and Astronomy in Islamic Era, held on Dec. 8-10, 2009, in Tarbiat Modarres University, Tehran*, in press (2011).

— "A Survey of Arabic-Persian Sources on the Astrolabe Extant in India and on the Indian Astrolabe-Makers", in Nakamura, T., Orchiston, W., Sôma, M., and Strom, R. (eds.), *Mapping the Oriental Sky. Proceedings of the Seventh International Conference on Oriental Astronomy (held on Sept.6-10, 2010), Tokyo*. National Astronomical Observatory of Japan, in press (2011).

— "A Survey of Al-Bīrūnī 's Scientific Manuscripts in India", in Qamar Ghaffar (ed.), *Proceedings of the the International Seminar on "A Renowned Scholar Abu Rayhan Al-Biruni and his Relevance in the Present World", held on March 24-26, 2010 at the Persian Department, Jamia Millia Islamia, New Delhi*, in press (2011).

E. BOUTSIKAS and R. HANNAH, "Ritual and the Cosmos: Astronomy and Myth in the Athenian Acropolis," in C. L. N. Ruggles (ed.), *Archaeoastronomy and Ethno-astronomy: Building Bridges between Cultures. Proceedings of the 278th Symposium of*

the International Astronomical Union and 'Oxford IX' International Symposium on Archaeoastronomy, held in Lima, Peru, January 5–14, 2011, Cambridge, Cambridge University Press 2011, 342–48.

Christián CARMAN, Alan THORNDIKE, and James EVANS, "On the Pin-and-slot Device of the Antikythera Mechanism, with a New Application to the Superior Planets," *Journal for the History of Astronomy*, 43 (2012): 1-24.

Josep CASULLERAS, *La astrología de los matemáticos. La matemática aplicada a la astrología a través de la obra de Ibn Mu'ad de Jaén*, Universitat de Barcelona, 2010.

M.G. EDMUNDS, "An Initial Assessment of the Accuracy of the Gear Trains in the Antikythera Mechanism," *Journal for the History of Astronomy* 42 (2011), 307-320.

James EVANS, Christián CARMAN, and Alan THORNDIKE, "Solar Anomaly and Planetary Displays in the Antikythera Mechanism," *Journal for the History of Astronomy* 41 (2009), 1-39.

Stašo FORENBAHER and Alexander JONES, "The Nakovana Zodiac: Fragments of an Astrologer's Board from an Illyrian-Hellenistic Cave Sanctuary," *Journal for the History of Astronomy* 42 (2010), 425-438.

Bernard R. GOLDSTEIN, "Apollonius of Perga's Contributions to Astronomy Reconsidered", *Physis*, 46 (2009), 1–14. [appeared July 2011]

— "Levi ben Gerson and the Cross Staff Revisited", *Aleph*, 11 (2011), 365–383.

Robert HANNAH, *Time in Antiquity*, London, Routledge 2009.

— "Calendar, Greek", in M. Gagarin (ed.), *The Oxford Encyclopedia of Ancient Greece and Rome*, New York, Oxford University Press 2010, vol. 2, 37–39.

— "Astronomy"; "Arktos"; "Boötes"; "Hesperos"; "Hyades"; "Orion"; "Pleiades"; "Seasons"; "Sirius", in M. Finkelberg (ed.), *Homer Encyclopedia*, Oxford, Blackwell 2011, 96–97, 106–107, 142, 355–56, 382, 613, 675, 785, 806.

R. HANNAH and G. MAGLI, "The role of the sun in the Pantheon's design and meaning," *Numen* 58 (2011) 486-513.

Alexander JONES, "The Wrong Planet. P. Berol. inv. 21226 revisited." *Archiv für Papyrusforschung* 55, 2009, 303-315.

— "Mathematics, science, and medicine in the papyri," in R. S. Bagnall, ed., *The Oxford Handbook of Papyrology*, Oxford, 2009, 338-357.

Alexander JONES and Marco PERALE, "Dai papiri della Società Italiana 11-12: Two Astronomical Tables," *Comunicazioni dell'Istituto papirologico «G. Vitelli»* 9, 2011, 40-51 and tavv. VI-VIII.

Alexander JONES and John STEELE, "A New Discovery of a Component of Greek Astrology in Babylonian Tablets: The 'Terms'," *ISAW Papers* 1, 2011, http://dlib.nyu.edu/awdl/isaw/isaw-papers/1/ .

David KING, Article "Badîc al-Asturlâbî", in *Encyclopaedia of Islam*, 3rd edn.

— "The geometry of Piero's Flagellation of Christ and the geometry of the epigram on the astrolabe of Regiomontanus that inspired it", in Rocco Sinisgalli, ed., *L'arte della matematica nella prospettiva*, Foligno (PG): C. B. Cartei & Bianchi Editore, 2009, pp. 189-191 and 407-412 (illustrations).

— "Edward Stewart Kennedy, (1912-2009)", an obituary in *Journal for the History of Astronomy* 41 (2010), pp. 117-119.

— "Astronomical instruments", in *Handbook of Medieval Studies*, Albrecht Classen, ed., Berlin and New York: De Gruyter, 2010, pp. 126-130.

— Contributions to biographical notes on E. S. Kennedy and a complete bibliography of his works (the last with Benno van Dalen), in *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* 9 (2009/10), pp. 185-214.

— "An illustration of the Caliph al-Hâkim together with his astronomer/astrologer Ibn Yûnus", in *Ismaili and Fatimid Studies in Honor of Paul E. Walker*, Bruce D. Craig, ed., Chicago: University of Chicago, Center for Middle East Studies, 2010, pp. 151-159.

— *Astrolabes from Medieval Europe*, Aldershot & Burlington VT: Ashgate - Variorum, 2011.

— A review of Julio Samsó, *Astronomy and Astrology in al-Andalus and the Maghrib*, Aldershot: Ashgate-Variorum, 2007, and idem, *Astrometeorología y astrología medievales*, Barcelona, 2008, in Journal of Islamic Studies (Oxford), 2011, doi: 10.1093/jis/etr068. [First title suppressed by publisher in review.]

— A review of Catherine Eagleton, *Monks, Manuscripts and Sundials – The Navicula in Medieval England*, Leiden & Boston: Brill, 2010, to appear in *Speculum – A Journal of Medieval Studies* in October, 2011. [Illustration removed by reviews editor!]

— "The invention of algebra in Zabid: Between legend and fact", to appear in *Islamic Philosophy, Science, Culture, and Religion: Studies in Honor of Dimitri Gutas*, Felicitas Opwis, ed., David Reisman and Felicitas Opwis, eds., Leiden: Brill, 2011, pp. 223-231.

— "From a heavenly Arabic poem to an enigmatic Judaeo-Arabic astrolabe" (with Mohamed Abu Zayed and Petra Schmidl), to appear in *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation.*

— *Islamic Astronomy and Geography*, Aldershot & Burlington VT: Ashgate - Variorum, to appear in 2012.

Fritz KRAFFT, "*orbis (sphaera), circulus, via, iter, orbita* – zur terminologischen Kennzeichnung des wesentlichsten Paradigmawechsels in der Astronomie durch Johannes Kepler." *Beiträge zur Astronomiegeschichte* 11 (2011), 25–99.

Clemency MONTELLE, *Chasing Shadows: Mathematics, Astronomy, and the Early History of Eclipse Reckoning*, Johns Hopkins University Press, 2011. 408pp.

Olaf PEDERSEN, *A Survey of the Almagest*, with annotation and new commentary by Alexander JONES, Sources and Studies in the History of Mathematics and Physical

Sciences, Springer, 2010.

Jamil RAGEP, "Astronomy in the Fanārī-Circle: The Critical Background for Qāḍīzāde al-Rūmī and the Samarqand School," in *Proceedings of the International Symposium on Molla Fanârî (4-6 December 2009 Bursa)*, Bursa 2010, pp. 165-176.

— "Islamic Reactions to Ptolemy's Imprecisions," in Alexander Jones, ed., *Ptolemy in Perspective*, Springer-Verlag (2010), 121-134.

— "The Khilāṣ kayfiyyat tarkīb al-aflāk of al-Jūzjānī: A Preliminary Description of Its Avicennian Themes", in Y. Tzvi Langermann, ed., *Avicenna and his Legacy: A Golden Age of Science and Philosophy*, Turnhout: Brepols (2010), 303-308.

— "Astronomy," in *Encyclopaedia of Islam*, 3rd ed., Part 1. Leiden: Brill, 2009, pp. 120-150.

— "Review of Al-Ghazālī's Philosophical Theology by Frank Griffel," Isis 101, No. 4 (Dec. 2010): 867-868.

— "Review of A Brief Introduction to Astronomy in the Middle East by John M. Steele," Journal for the History of Astronomy 40 (August 2009): 346-347.

Francesca ROCHBERG, *In the Path of the Moon: Babylonian Celestial Divination and Its Legacy, Studies in Ancient Magic and Divination*, Leiden and Boston: E.J. Brill, 2010.

— "If P, then Q: Form, Reasoning and Truth in Babylonian Divination," in A. Annus ed. *Divination and Interpretation of Signs in the Ancient World*, Oriental Institute Seminars, 6 (Chicago: Oriental Institute Publications, 2010), pp.19-27.

— "Beyond Binarism in Babylon," *Interdisciplinary Science Reviews* 35.3-4 (2010), issue *History and Human Nature*, Willard McCarty and Brad Inwood, eds., pp.253-265.

— "Sheep and Cattle, Cows and Calves: The Sumero-Akkadian Astral Gods as Livestock," S. Melville and A. Slotsky, eds., *Opening the Tablet Box: Near Eastern Studies in Honor of Benjamin R. Foster*, Culture and History of the Ancient Near East, vol. 42 (Leiden and Boston: Brill, 2010), pp. 347-359.

— "Natural Knowledge in Ancient Mesopotamia," in Peter Harrison, Ronald L. Numbers and Michael M. Shank (eds.), Wrestling with Nature: From Omens to Science (Chicago: University of Chicago Press, 2011), pp.9-36.

— "Scientific Observation and Knowledge of the World in Cuneiform Culture" E. Robson and K. Radner, eds., *Oxford Companion to Cuneiform Culture*, Oxford University Press, 2011, pp.618-636.

— "Divine Causality and Cuneiform Divination," in G. Frame, Erle Leichty, Jeffery Tigay, and Steve Tinney eds., *A Common Cultural Heritage: Studies on Mesopotamia and the Biblical World in Honor of Barry L. Eichler*, Bethesda, MD.: CDL Press, 2011, pp. 189-203.

— "The Heavens and the Gods in Ancient Mesopotamia: The View from a Polytheistic Cosmology," in Beate Pongratz-Leisten, ed., *Reconsidering Revolutionary Monotheism*, Winona Lake, IN: Eisenbrauns, 2011, pp.117-136.

George SALIBA, *Islamic Science and the Making of the European Renaissance*, MIT Press, 2007, has now gone into the fourth printing, and the second edition, with corrections and full detailed index, has just appeared in paperback from the same publisher (2011). The Arabic translation has also just appeared (2011), jointly published by Arab Scientific Publishers (Beirut) and Kalima (Abu Dhabi).

Nathan SIVIN, *Granting the Seasons: The Chinese Astronomical Reform of 1280, With a Study of its Many Dimensions and a Translation of its Records*. Sources and Studies in the History of Mathematics and Physical Sciences. Secaucus, NJ: Springer, 2009.

Anne TIHON and Raymond MERCIER, *Πτολεμαίου Πρόχειροι Κανόνες Les Tables Faciles de Ptolémée*, vols. 1a and 1b, Publications de l'Institut orientaliste de Louvain 59A, 2011, http://www.peeters-leuven.be/boekoverz_print.asp?nr=8912 and http://www.peeters-leuven.be/boekoverz_print.asp?nr=8918

Anne Tihon

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News of members

Robert HANNAH has been awarded the following research grants:

2011–2013, Marsden Grant, Royal Society of New Zealand, $590,000 (co-PI with Dr E. Boutsikas, University of Kent, Canterbury, UK): Myth, Cult and Cosmos: astronomy in ancient Greek religion.

2010, British Academy/ACU Grants for International Collaboration, £4,985 (joint PI with Dr E. Boutsikas, University of Kent, Canterbury, UK): Myth, Ritual and the Cosmos: Greek astronomy in ancient Athenian culture.

Jamil RAGEP presented the following papers at recent conferences:

"The Origins of the Ṭūsī Couple Revisited," paper presented at the "Scientific and Philosophical Heritage of Naṣīr al-Dīn al-Ṭūsī" conference, 23-24 Feb. 2011, Tehran, Iran.

"The Byzantine scholar George Chioniades and his contacts with Islamic astronomers in Tabriz around 1300," paper presented at the "Beyond the Abbasid Caliphate: Politics, Patronage and the Transmission of Knowledge in 13th – 15th Century Tabriz" workshop, 1-2 October 2010, Koç University Research Center for Anatolian Civilizations, Istanbul, Turkey.

"Religion as Agency in the Transmission and Transformation of Greek Astronomy within Islam," paper presented at the "Agents and Agency in Transmission, Translation and Transformation" workshop, 23-24 April 2010, McGill University.

"Astronomy in the Fanārī-Circle: The Critical Background for Qāḍīzāde al-Rūmī and the Samarqand School," paper presented at the International Symposium on Molla Fanari, 4-6 December 2009, Bursa, Turkey (invited presentation).

Francesca ROCHBERG presented the following paper:

"Before Nature: Babylonian Legal Metaphors and Divine Cosmic Order," at the

symposium Himmelsgesetze-Naturgesetze: Rechtsförmige Interpretationen kosmischer Phänomene in der antiken Welt, Universität Zürich, 5./6. September 2011.

Clive RUGGLES and Michel COTTE, eds., *Heritage Sites of Astronomy and Archaeo-astronomy in the Context of the UNESCO World Heritage Convention*, International Astronomical Union and International Council on Monuments and Sites, 2011. Available as a paperback from Ocarina Books (http://www2.ocarinabooks.com/) or as a free PDF e-book (http://www.astronomy2009.org/resources/documents/).

Raymond MERCIER has a website www.raymondm.co.uk, which makes available the program Kairos (calendrical conversion, and now detailed desription of eclipses), and the program Devplo, which provides a laboratory for the investigation of astronomical tables.

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Obituaries

John BRITTON (6 December 1939 – 8 June 2010)

[The following obituary appeared in *Archive for History of Exact Sciences* 64 (2010) 613-615, where a list of Britton's publications will also be found.]

Many promising young scholars leave the academic world soon after finishing their doctorates; few return years later to become authorities in their field. John Britton was educated at St. Paul's School (Concord, New Hampshire) and Yale University, where he earned a B.A. in physics and history and a Ph.D. in history of science, under the supervision of Asger Aaboe. One brief chapter of his dissertation, an astronomical study of the solar and lunar observation reports in Ptolemy's *Almagest*, appeared in *Centaurus* in 1969; but for more than twenty years this was his only published research. Immediately after taking his degree, Britton entered the investment management business. In the mid-1980s he began again to devote significant time to the history of ancient astronomy, and from 1987 on, he published more than twenty articles, at an accelerating pace, as well as a revision of his dissertation. When he died, suddenly and unexpectedly, of a cardiac arrest on June 8, 2010, he had at least a dozen projects underway. Britton never sought a conventional academic appointment, but at various times he held visiting appointments with the history of science departments of Yale and Harvard, the Dibner Institute at M.I.T., and the Institute for the Study of the Ancient World at N.Y.U. His relations with colleagues were characterized by remarkable generosity, humor, and a willingness to consider new approaches even when they compelled him to reconsider his convictions.

Britton possessed a broad knowledge of the ancient exact sciences, but the area closest to his heart was the study of the relationship between observations and mathematical theories in ancient Babylonian astronomy and the impact of Babylonian astronomy on the Greeks. No part of this subject had more fascination for him than the evolution of the Babylonian lunar theories known as System A and System B, which were the first complex mathematical models devised to reproduce the behavior of observable phenomena involving multiple periodicities. His great project was to establish, within a rigorous historical and documentary framework, the possible routes by which unknown Babylonian scribes could have arrived at the often remarkably accurate numerical parameters and the combinations of arithmetical functions and algorithms comprising these systems. The preceding chapter ["Studies in Babylonian Lunar Theory, Part III: The Introduction of the Uniform Zodiac," *AHES* 64, 2010, 617-663], which had just reached the proof stage when Britton died, was to have been followed by chapters on the Babylonian treatment of solar anomaly, lunar latitude and eclipse magnitude, and lunar visibility.

Alexander Jones

Juan VERNET (31 July 1923 – 23 July 2011)

[We are grateful to Julio Samsó for permitting us to reprint the following obituary and bibliography, which will be published in *Suhayl* together with a bibliography of Professor Vernet's publications.]

One of the finest Andalusī writers, Ibn Shuhayd, included the following verse in an elegy composed on the occasion of the death of Abū ʿUbayda Ḥasān ibn Mālik (d. 1025 or 1029):

> *How can I be guided through darkening misfortunes when my eyes have been deprived of the light of certain stars?*[1]

This idea has been present in my mind during the last few years in which a young journal like *Suhayl* has published the obituaries of Boris Rosenfeld, John D. North, Edward S. Kennedy and Mercè Comes and is compelled, now, to publish another sad note mourning the death of Juan Vernet, the master of all the members of the Barcelona school of the history of Arabic science and chief editor of our journal. Vernet retired in 1988, but he was always willing to receive us and to give us advice with any academic or research problems we might have. The following lines are the result of my friendship and academic collaboration with him over the last fifty years.

Juan Vernet was a great historian of Arabic Science and the disciple, in this field, of Josep Mª

[1] James T. Monroe, *Risālat at-tawābiʿ wa z-zawābiʿ. The Treatise of Familiar Spirits and Demons by Abū ʿĀmir ibn Shuhaid al-Ashjaʿī al-Andalusī*. University of California Publications. Los Angeles, 1971, pp. 60-61.

Millàs Vallicrosa, the first scholar to carry out research on Andalusī astronomy and agronomy and on the history of the transmission of Arabic knowledge to Europe through the Latin and Hebrew translations made in the Iberian Peninsula between the 10th and the 14th centuries. In his early stages as a student, Vernet was mainly interested in Sumerian and Babylonian studies (see his article no. 3 in his attached bibliography)[2] but coming into contact with Millàs made him change his mind. Throughout his life he never abandoned this field of research and produced books and articles such as his early studies on Ibn al-Bannā' al-Marrākushī (1952), his edition of the Geography of Ibn Saʿīd al-Maghribī (1958), his masterly survey of the knowledge transmitted through Spain in the Middle Ages (1978, a book translated into German, French, Arabic and Polish), his lectures in the chair of the Institut du Monde Arabe (Paris), published in 1993, or the two volumes of collected papers (1979 and 1989), published by his disciples. He was the first to draw attention to the possible Islamic influence in the development of maritime cartography (1953), a task continued by Mercè Comes. His interest in seafaring led him to suggest that astronomical navigation, which allowed sailors to move from one port to another without following the coast line, had been known since the 3rd century and that the knowledge it involved was transmitted secretly from father to son or from master to disciple, due to its importance for trade.

His papers, sometimes very brief, are often revealing: one of the things he taught me was the interest of historical chronicles to the history of science, and one of the results of his reading of Ibn Ḥayyān's *Muqtabis* was a short paper ("La maldición de Perfecto") published in the *Festschrift* for Willy Hartner (1977) which helped me to understand the situation in the field of astronomy and astrology in Cordova in the first half of the 9th century. Vernet was also the first scholar to hold that Andalusī science of the 8th and beginning of the 9th centuries was influenced by Latin sources, an entirely new idea in a world in which both Arab and Western scholars had always been aware that Arabic science received a very important Greek heritage but very rarely thought of Latin influences. Vernet's imagination led him, sometimes, to formulate very daring hypotheses like his idea of a possible contact between the Marāgha astronomers and the collaborators of Alfonso X who were working in Toledo at the same time: Vernet suggested that there was a mutual communication of the results of a simultaneous observation of a lunar eclipse which improved the values of the difference of longitudes between the two localities that we find in Islamic maps of the 14th and 15th centuries. His interest in the works of Alfonso X continued with the discovery, in a manuscript in the Medicea Laurenziana Library in Florence, of a treatise on mechanics by Ibn Khalaf al-Murādī, probably written in Toledo in the 11th century, which deals with clocks, war machines and mechanical toys. The manuscript itself had been copied in Toledo during the reign of King Alfonso and it contains a note (in Arabic, but in Hebrew script) which shows that Isḥāq b. Sīd, the king's main scientific advisor, had read the text.

In spite of this, Vernet always refused to be considered *solely* as a historian of Arabic science;

[2] See Juan Vernet, "Autopercepción intelectual de un proceso histórico. Autobiografía intelectual". *Anthropos* (S. Cugat del Vallés [Barcelona]-Madrid) no. 117 (February, 1991), pp. 9-25. See also an interview with him ("15 minuts...amb Juan Vernet Ginés!") in http://www.ub.edu/ubtv. This interview was recorded on 16th February 2011, a few months before his death.

he preferred to see himself as a historian of science as a whole. If, obviously, his contributions to the *Encyclopaedia of Islam* always centre on Arab scientists, one might be surprised to find that he wrote most of the articles on Spanish scientists from all periods in the *Dictionary of Scientific Biography* between 1970 and 1976. In the mid-seventies, he was invited by the Instituto de España (the institution that oversees all Spain's national academies) to give a series of lectures on the history of Spanish science. For an entire academic year he went to Madrid once a week to deliver his lecture. The result of this course was the publication (1976) of the first History of Spanish Science. His research in the archives of the Royal Academy of Science in Barcelona led him to the discovery of a whole set of documents belonging to a 19th century Spanish scientist, Llorenç Presas (1977, 1978), and, as a result, he was asked to write the chapter on science during the reign of Isabel II (1833-1868), more than a hundred pages long, for the most important scholarly History of Spain, the *Historia de España Menéndez Pidal* (1989).

In 1973, five hundred years after the birth of Copernicus, he published a study on the Polish astronomer in which he summarized the research made by Kennedy and his school on the influence of the "Marāgha school" on Copernicus' planetary models.

There is a third aspect, as important as the other two, in Vernet's production that cannot be forgotten. His master Millàs was an orientalist and a medievalist who could work with Hebrew, Arabic, Latin, and Medieval Spanish and Catalan, while Vernet was basically an Arabist, with a keen interest in all aspects of human culture with, perhaps, two exceptions: music and the plastic arts. One of his main concerns was the *Qur'ān* which he translated twice into Spanish (1953 and 1963) and which he knew almost by heart: many years ago, the *imām* of the Islamic Centre in Barcelona, an extremely cultivated Syrian gentleman who presented his PhD thesis in our University, was the only student in Vernet's course in the History of Arabic Astronomy and I am afraid to say that the topic of the classes had nothing to do with astronomy, but became a discussion on different passages of the *Qur'ān*. The result of all this was that the Muslim milieu in Spain began to believe that Juan Vernet was a crypto-Muslim. I can bear witness to the fact that Vernet was neither a Muslim nor a Christian: he used to say that he was a *ḥanīf*, which, for him, meant that he was a monotheist without adscription to any particular religion. During the last years of his life he spent his time reading Islamic journals which reproduced *fatwā*s by Eastern Muslim *muftī*s related to problems of everyday life and told me that he would have liked to translate the *Qur'ān* for the third time using these materials as a commentary (*tafsīr*) and forgetting about the old medieval *tafsīr*s he had been using so far.

He was also interested in Islamic History (see his book on the Islamization of Morocco, published in 1957) and, as I have already said, he spent many hours reading chronicles. When the manuscript of volume V of Ibn Ḥayyān's *Muqtabis* was discovered in the Royal Library of Rabat, in the nineteen sixties, he very quickly obtained a microfilm and immediately read its contents in a paper copy which I helped him to print. He discovered quite a few interesting facts which he published in newspapers without ever worrying about a more scholarly way of publication.

Another of his passions was Arabic Literature and, especially, *The Thousand and One Nights*, of which he was the author of the first direct Spanish translation (1964-1967). He also

published a handbook on the History of Arabic Literature (1966) because he wanted his students to be able to read an easily available and up to date synthesis. This meant that he did not need to give theoretical lectures and could spend all the time in his classes reading and commenting on Arabic literary texts. I remember with horror my efforts to understand al-Nābigha's *muʿallaqa* when I was his student. As a result of this practice, he accumulated a great number of Spanish translations of fragments of Arabic masterpieces, many of which he later added to the second edition of his Arabic Literature (2002).

Something should be said about his customs and techniques he used in his research. He was an early riser: he used to arrive at the University at about six o'clock in the morning and stay there until eleven. Consequently, he went to bed very early: we all knew we could not phone him after nine at night. He read all the time and wrote summaries and quotations in card-indexes, made by cutting DIN A-4 folios into four pieces. He kept these cards in shoe boxes, and hundreds of these boxes are preserved in his apartment in Barcelona. For most of his life he used a portable type writer and made two or three carbon copies. He numbered the pages he wrote from the beginning of his scholarly life and, therefore, his pages had two different numbers: one corresponding to the paper or the book he was writing at that moment, and the second indicating the number of pages he had written in his life. He kept bound volumes containing the carbon copies of all this production. He knew of the existence of large computers before the arrival of PCs and, with the help of a computer expert, he prepared a program for a computerised catalogue of the books in the Arabic seminar (1970). Later, he conceived the idea of automatic translation from Arabic into Spanish and reached the stage of preparing the software needed to perform morphological analysis of Arabic texts. When personal computers were available, he had one but never progressed very far: nor did he use the email.

I cannot finish these lines without saying something about Juan Vernet as a man: in spite of the fear he inspired in me when I attended his classes as his only student, it took me only a very short time to discover that he was a man of strong convictions and a very clear moral attitude in which the idea of fidelity to his masters (Millàs particularly, but García Gómez also) and to his friends, colleagues and students, was an extremely important element. Like many other students who were his disciples, I felt that he offered me protection in a period of my life in which I was greatly in need of it. From the moment in which I obtained my B.A. degree in Arabic studies, I was allowed to use his own private library and borrow books from it. He was pleased when I decided to follow his main trend of research and dedicate my life to the History of Arabic Science, something which, at the beginning, I had not intended to do. Although he always looked very serious and severe with me and with his other students, we soon discovered that this was only a kind of protective armour and that he needed friendship and affection. I have always said, using a verse of the Spanish poet Antonio Machado, that he was, "in the best meaning of the word, good".

Julio Samsó

Emmanuel POULLE (8 June 1928 – 1 August 2011)

Emmanuel Poulle, medievalist and historian of medieval astronomy, has died at the age of

83. He received his education as a paleographer and archivist at the École de Chartes, and for much of his career he was associated with that institution; he was Professor of Paleography from 1970 until his retirement in 1997, and Director from 1988 to 1993. He was a member of and held offices in many learned societies, notably serving for many years as *secrétaire perpétuel* of the Académie internationale d'Histoire des Sciences. In 1996 he was elected a member of the Académie des Inscriptions et Belles Lettres. He was *Officier* of the Légion d'Honneur and of the Ordre des arts et lettres, and *Commandeur* of the Ordre des Palmes académiques. Among his many publications, extending over more than four decades, works on medieval European astronomical instruments and tables occupied a prominent place. A biography and bibliography appeared in the volume, *Receuil d'études offert en hommage à Emmanuel Poulle*, Revue de l'Avranchin et du Pays de Granville 87 (2010), fasc. 425.

Biographical note: http://www.aibl.fr/fr/membres/academ/poulle.html/

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