

David A. King

## List of publications and works in press

September, 2011

**Notes:** Titles of books are printed bold; titles of reviews other than essay reviews are in small font. References of the form X-n indicate that an article has been reprinted as no. n in vol. X of the five Variorum volumes:

<b>A</b>	<i>Islamic Mathematical Astronomy</i>	(1986/1993, see nos. 79/132)
<b>B</b>	<i>Islamic Astronomical Instruments</i>	(1987/1995, see nos. 87/163)
<b>C</b>	<i>Astronomy in the Service of Islam</i>	(1993, see no. 131)
<b>D</b>	<i>Islamic Astronomy and Geography</i>	(to appear in 2012, see no. X5)
<b>E</b>	<i>Astrolabes from Medieval Europe</i>	(2011, see no. 255)

Some other works are available in new versions in:

**SATMI** *Studies in Astronomical Timekeeping and Instrumentation in Medieval Islam*  
(2004-05, see nos. 230-231)

Articles published in *Suhayl* are available on the Internet at [www.ub.edu/arab/suhayl/](http://www.ub.edu/arab/suhayl/).

Various articles are reprinted in *New Perspectives on the History of Islamic Science*, Muzaffar Iqbal, ed., 4 vols., Aldershot & Burlington VT: Ashgate, 2011.

The signs + and ++ indicate that the work in question was translated by Kurt Maier or the late Wolf-Dieter Wagner, respectively. An asterisk is used for further works not in English that were translated by others. X indicates a work in press, Y a work still in preparation.

### 1972

- 1 *The Astronomical Works of Ibn Yûnus*, Ph.D. dissertation, Yale University, Department of Near Eastern Languages and Literatures, 1972. [Available from ProQuest.com (formerly University Microfilms, Ann Arbor, Mich.), no. 7229740.]
- 2 “The ‘Abd al-A’imma astrolabe forgeries” (with Owen Gingerich & George Saliba), *Journal for the History of Astronomy* 3 (1972), pp. 188-198. [Repr. in **B-VI**.]

### 1973

- 3 “al-Khalili’s auxiliary tables for solving problems of spherical astronomy”, *Journal for the History of Astronomy* 4 (1973), pp. 99-110. [Repr. in **A-XI**; see now **SATMI, I-II**.]

- 4 “Ibn Yûnus’ *Very Useful Tables* for reckoning time by the sun”, *Archive for History of Exact Science* 10 (1973), pp. 342-394. [Repr. in **A-IX**; see now **SATMI, I-II**.]
- 5 A review of Bernard R. Goldstein, *al-Bitrījī: On the Principles of Astronomy*, New Haven, Conn., & London, 1971, in *Journal of the American Oriental Society* 93 (1973), pp. 566-567.
- 6 A review of Ahmed Saidan, *Arabic Arithmetic: The Arithmetic of Abû al-Wafâ’ al-Bûzjânî* [in Arabic], Amman, n.d. [1972?], in *ISIS* 64 (1973), pp. 123-125.

## 1974

- 7 “A double-argument table for the lunar equation attributed to Ibn Yûnus”, *Centaurus* 18 (1974), pp. 129-146. [Repr. in **A-V**.]
- 8 “On medieval Islamic multiplication tables”, *Historia Mathematica* 1 (1974), pp. 317-323. [Repr. in **A-XIV**; see also no. 32.]
- 9 “Smithsonian Institution Project in Medieval Islamic Astronomy”, *Historia Mathematica* 1 (1974), pp. 183-184.
- 10 “An analog computer for solving problems of spherical astronomy: The *shakkâzîya* quadrant of Jamâl al-Dîn al-Mâridîni”, *Archives Internationales d’Histoire des Sciences* 24 (1974), pp. 219-242. [Repr. in **B-X**.]
- 11 A review of Edward S. Kennedy & David Pingree, *The Astrological History of Mâshâ’allâh*, Cambridge, Mass., 1971, in *Journal of Near Eastern Studies* 33 (1974), pp. 158-160.
- 12 A review of Edward S. Kennedy, *A Commentary upon al-Bîrûnî’s Tabdîd [nibâyât] al-amâkin*, Beirut, 1973, in *Centaurus* 19 (1974), pp. 320-323.

## 1975

- 13 “al-Khalîfî’s qibla table”, *Journal of Near Eastern Studies* 34 (1975), pp. 81-122. [Repr. in **A-XIII**.]
- 14 “On the astronomical tables of the Islamic Middle Ages”, *Studia Copernicana* 13 (1975), pp. 37-56. [Repr. in **A-II**.]
- 15 “Astronomical timekeeping (*ilm al-mîqât*) in medieval Islam”, *Actes du XXIX<sup>e</sup> Congrès International des Orientalistes*, Paris: L’Asiathèque, 1975, II:2, pp. 86-90.
- 16 “Ibn al-Shâtir” in *Dictionary of Scientific Biography*, vol. XII, New York: Charles Scribner’s Sons, 1975, pp. 357-364.
- 17 “Medieval mechanical devices”, an essay review of Donald R. Hill, *The Book of Knowledge of Ingenious Mechanical Devices*, Dordrecht & Boston, Mass., 1974, *History of Science* 13 (1975), pp. 284-289. [Repr. in **B-XX**.]

## 1976

- 18 “Ibn Yûnus” in *Dictionary of Scientific Biography*, vol. XIV, New York: Charles Scribner’s Sons, 1976, pp. 574-580.
- 19 A review of Saleh Ahmed & Rushdi Rashed, *Al-Bahir en algèbre d’as-Saman’al*, Damascus, 1972, in *ISIS* 67 (1976), pp. 307-308.

## 1977

- 20 “A fourteenth-century Tunisian sundial for regulating the times of Muslim prayer”, in Walter G. Saltzer & Yasukatsu Maeyama, eds., *ΠΡΟΣΜΑΤΑ: Naturwissenschaftsgeschichtliche Studien – Festschrift für Willy Hartner*, Wiesbaden: Franz Steiner, 1977, pp. 187-202. [Repr. in **B-XVIII**; see now **SATMI, IV**.]

- 21 “Ibn al-Shâtir’s *Sandûq al-yawâqîf*: An astronomical compendium” (with Louis Janin), *Journal for the History of Arabic Science* 1 (1977), pp. 187-256. [Repr. in **B-XII**.]
- 22 A review of Bernard R. Goldstein, *The Astronomical Tables of Levi ben Gerson*, Hamden, Conn., 1974, in *ISIS* 68 (1977), pp. 476-477.
- 23 A review of Donald R. Hill, *On the Construction of Water-Clocks; Kitâb Arshimidas fi ‘amal al-binkamat*, London, 1976, in *History of Science* 15 (1977), pp. 295-298. [Repr. in **B-XXI**.]

## 1978

- 24 “Astronomical timekeeping in fourteenth-century Syria”, *Proceedings of the First International Symposium for the History of Arabic Science (Aleppo, 1976)*, 2 vols., Aleppo: Institute for the History of Arabic Science, 1978, I, pp. 391-415 (Arabic), and II, pp. 75-84 (English). [Repr. in **A-X**; see now **SATMI, I-II**.]
- 25 *Project in Medieval Islamic Astronomy – A Progress Report with Bibliography*, Cairo: American Research Center in Egypt (Project Report No. 1), Jan. 1978.
- 26 “Three sundials from Islamic Andalusia”, *Journal for the History of Arabic Science* 2 (1978), pp. 358-392. [Repr. in **B-XV**.]
- 27 “Notes on the astrolabist Nastûlus/Bastûlus”, *Archives Internationales d’Histoire des Sciences* 28 (1978), pp. 115-118. [Repr. in **B-IV**; see also no. 63.]
- 28 “Le cadran solaire de la mosquée d’Ibn Tûlûn au Caire” (with Louis Janin), *Journal for the History of Arabic Science* 2 (1978), pp. 331-357. [Repr. in **B-XVI**.]
- 29 “al-Khalîlî” in *Dictionary of Scientific Biography*, vol. XV, Supp. I, New York: Charles Scribner’s Sons, 1978, pp. 259-261.
- 30a/b “Islamic mathematics and astronomy”, an essay review of the chapters on astronomy and mathematics in Seyyed Hossein Nasr, *Islamic Science: An Illustrated Study*, London, 1976, in *Journal for the History of Astronomy* 9 (1978), pp. 212-219, repr. in *Bibliotheca Orientalis* 35 (1978), pp. 339-343. [The latter version is repr. in **A-XVII**.]

## 1979

- 31 “Report on a field-trip to India, September-October, 1978”, *Newsletter of the American Research Center in Egypt*, no. 108 (Spring, 1979), pp. 21-24.
- 32 “Supplementary notes on medieval Islamic multiplication tables”, *Historia Mathematica* 6 (1979), pp. 405-417. [A supplement to no. 8; repr. in **A-XV**.]
- 33 “On the early history of the universal astrolabe in Islamic astronomy and the origin of the term *shakkâzîya* in medieval scientific Arabic”, *Journal for the History of Arabic Science* 3 (1979), pp. 244-257. [Repr. in **B-VII**.]
- 34 “Ibn Yûnus and the pendulum: A history of errors”, *Archives Internationales d’Histoire des Sciences* 29 (1979), pp. 35-52. [Repr. in **B-XIX (abridged)**.]
- 35 “Mathematical astronomy in medieval Yemen”, *Arabian Studies* 5 (1979), pp. 61-65. [Repr. in **A-IV**; see no. 58.]
- 36 “Astronomical timekeeping in Ottoman Turkey”, *Proceedings of the International Symposium on the Observatories in Islam, 19-23 Sept., 1977*, Istanbul: Millî Egitim Basımevi, 1980, pp. 245-269. [Repr. in **A-XII**.]
- 37 “A classification of Islamic astronomical literature and the present state of research on the manuscript sources”, *Proceedings of the International Symposium on the Observatories in Islam, 19-23 Sept., 1977*, Istanbul: Millî Egitim Basımevi, 1980, pp. 169-180.

- 38 “The sundial on the West Wall of the Madrasa of Sultan Qaytbay in Jerusalem” (with Archibald G. Walls), *art and architecture research papers* 15 (July, 1979), pp. 16-21. [Repr. in **B-XVII.**]
- 39 “Kibla. ii. Astronomical aspects” [sacred direction], in *The Encyclopaedia of Islam*, new edition, vol. V, fascs. 79-80, Leiden: E. J. Brill, 1979, pp. 83-88. Repr. in **C-IX.**]
- 40 “On the sources for the study of early Islamic mathematics”, an essay review of Fuat Sezgin, *Geschichte des arabischen Schrifttums*, V: Mathematik, Leiden: E. J. Brill, 1974, in *Journal of the American Oriental Society* 99 (1979), pp. 450-459.
- 41 A review of Ali Abdallah Daffa, *The Muslim Contribution to Mathematics*, London & Atlantic Highlands, N.J., 1977, in *History of Science* 17 (1979), pp. 295-296. [Repr. in **A-XVIII.**]
- 42 A review of William Brice, Colin Imber & Richard Lorch, *The Dâ'ire-yi Mu'addel of Seydî Ali Re'îs*, Manchester, 1976, in *Journal for the History of Astronomy* 10 (1979), pp. 51-53. [Repr. in **B-XIII.**]

## 1980

- 43 “New light on the *Zîj al-safâ'ih* of Abû Ja'far al-Khâzin”, *Centaurus* 23 (1980), pp. 105-117. [Repr. in **B-XI.**]
- 44 “The exact sciences in medieval Islam: Some remarks on the present state of research”, *Bulletin of the Middle East Studies Association of North America* 4 (1980), pp. 10-26. [Repr. in **A-I (abridged).**]
- 45 “A handlist of the Arabic and Persian astronomical manuscripts in the Maharaja Mansingh II Library in Jaipur”, *Journal for the History of Arabic Science* 4 (1980), pp. 81-86. [Repr. in **A-XVI.**]
- 46 “Ibn al-Majdî's tables for calculating ephemerides” (with E. S. Kennedy), *Journal for the History of Arabic Science* 4 (1980), pp. 48-68. [Repr. in **A-VI.**]

## 1981

- 47 ***A Catalogue of the Scientific Manuscripts in the Egyptian National Library [in Arabic], vol. 1: A critical handlist of the scientific collections – Indexes of copyists and owners, Cairo: General Egyptian Book Organization, 1981.*** [See nos. 77 and 78.]
- 48 “On the origin of the astrolabe according to the medieval Arabic sources”, *Journal for the History of Arabic Science* 5 (1981), pp. 43-83. [Repr. in **B-III** and republished in **SATMI, XIIIe.**]
- 49 “Early Islamic astronomy”, an essay review of Fuat Sezgin, *Geschichte des arabischen Schrifttums*, VI: Astronomie, Leiden: E. J. Brill, 1978, in *Journal for the History of Astronomy* 12 (1981), pp. 55-59.
- 50 A review of Kenneth Brecher & Michael Feirtag, eds., *Astronomy of the Ancients*, Cambridge, Mass., 1979, in *Technology and Culture* 22 (1981), pp. 300-301.

## 1982

- 51 “On the astronomical orientation of the Kaaba” (with Gerald S. Hawkins), *Journal for the History of Astronomy* 13 (1982), pp. 102-109. [Repr. in **C-XII.**]
- 52 “Some astronomical observations from thirteenth-century Egypt” (with Owen Gingerich), *Journal for the History of Astronomy* 13 (1982), pp. 121-128. [Repr. in **A-VII.**]

- 53 “Astronomical alignments in medieval Islamic religious architecture”, *Annals of the New York Academy of Sciences* 385 (1982), pp. 303-312. [Repr. in **C-XIII**.]
- 54 “Faces of the Kaaba”, *The Sciences* (The New York Academy of Sciences) 22:5 (May/June, 1982), pp. 16-20, and 22:6 (September, 1982), p. 2.
- 55 “Willy Hartner, Ibn Yûnus and the meridian degree”, *Centaurus* 26 (1982), pp. 218-219.
- 56 “Indian astronomy in fourteenth-century Fez: The versified *Zīj* of al-Qusuntîni” (with E. S. Kennedy), *Journal for the History of Arabic Science* 6 (1982), pp. 3-45. [Repr. in **A-VIII**.]
- 57 A review of Emilie Savage-Smith & M. B. Smith, *Islamic Geomancy and a Thirteenth-Century Divinatory Device*, Malibu, Ca.: Undena, 1980, in *Archaeoastronomy – The Bulletin of the Center for Archaeoastronomy* (College Park, Md.) 5 (1982), pp. 42-43. [Repr. in **B-XXII**.]

## 1983

- 58 ***Mathematical Astronomy in Medieval Yemen – A Bio-Bibliographical Survey*, (Publications of the American Research Center in Egypt), Malibu, Ca.: Undena, 1983, xiii+98 pp. and 10 pls.**
- 59 **E. S. Kennedy, Colleagues and Former Students, *Studies in the Islamic Exact Sciences*, Beirut: American University of Beirut, 1983 (co-editor with Mary Helen Kennedy).**
- 60 “A report on the Azhar Manuscript Library”, *Newsletter of the American Research Center in Egypt*, no. 122 (Summer, 1983), pp. 41-50.
- 61 “The astronomy of the Mamluks”, *ISIS* 74 (1983), pp. 531-555. [Repr. in **A-III** and ***New Perspectives on the History of Islamic Science*, III.**]
- 62 “al-Khwârizmî and new trends in mathematical astronomy in the ninth century”, *Occasional Papers on the Near East* (New York University, Hagop Kevorkian Center for Near Eastern Studies) 2 (1983).
- 63 “Nastûlus the astrolabist once again” (with Paul Kunitzsch), *Archives Internationales d’Histoire des Sciences* 33 (1983), pp. 342-343. [Repr. in **B-V**; see also no. 27.]
- 64 “Mathematical astronomy in medieval Yemen”, in R. B. Serjeant & Ronald Lewcock, eds., *San’â’: An Arabian Islamic City*, London: World of Islam Festival Trust, 1983, pp. 34-35.
- 65 “Al-Bazdawî on the qibla in early Islamic Transoxania”, *Journal for the History of Arabic Science* 7 (1983/1986), pp. 3-38. [Repr. in **D-IX**.]
- 66 A review of Heinrich Suter, *Die Mathematiker und Astronomen der Araber und ihre Werke*, Amsterdam: Oriental Press, 1982 reprint, in *Journal for the History of Astronomy* 14 (1983), pp. 62-63.

## 1984

- 67 “The astronomy of the Mamluks: A brief overview”, *Muqarnas* 2 (1984), pp. 73-84.
- 68 “Architecture and astronomy: The ventilators of medieval Cairo and their secrets”, *Journal of the American Oriental Society* 104 (1984), pp. 97-133. [A revised version is in **SATMI, VIIb**.]

## 1985

- 69\* “Five minor works of al-Khwârizmî” [in Russian], *Proceedings of the International Conference on Khorezmi, Tashkent and Urgench, 1983*, Tashkent, 1985, pp. 91-95.
- 70 “The sacred direction in Islam: A Study of the Interaction of Religion and Science in the Middle Ages”, *Interdisciplinary Science Reviews* 10:4 (1985), pp. 315-328.
- 71 “Osmanische astronomische Handschriften und Instrumente”, in *Türkische Kunst und Kultur aus osmanischer Zeit*, 2 vols., Recklinghausen: Aurel Bongers, 1985, II, pp. 373-378. [Repr. in **B-XIV**.]
- 72 “Astronomy for landlubbers and navigators: The case of the Islamic Middle Ages”, *Revista da Universidade de Coimbra* 32 (1985), pp. 211-223.
- 73 “The medieval Yemeni astrolabe in the Metropolitan Museum of Art in New York”, *Zeitschrift für Geschichte der arabisch-islamischen Wissenschaften* 2 (1985), pp. 99-122, and 4 (1987/88), pp. 268-269 (corrections). [Repr. in **B-II** and republished in **SATMI, XIVa**.]
- 74 A review of Paul Kunitzsch, *Glossar der arabischen Fachausdrücke in der mittelalterlichen europäischen Fachliteratur*, Göttingen, 1983, in *ISIS* 76 (1985), p. 435.
- 75 A review of Ahmad Saeed Khan, *A Bibliography of the Works of Abu'l-Raihan al-Biruni*, New Delhi, 1982, in *Ghanita-Bhârâtî* 7 (1985), pp. 43-44.
- 76 A review of Ali Abdallah Al-Daffa & John S. Stroyls, *Studies in the Exact Sciences in Medieval Islam*, New York, N.Y., 1984, in *Bulletin of the Middle East Association of North America* 19 (1985), pp. 243-245. [Reviewed for Islamicists – see also no. 85.]

## 1986

- 77 ***A Catalogue of the Scientific Manuscripts in the Egyptian National Library [in Arabic], vol. 2: Descriptive catalogue arranged chronologically according to subjects – Indexes of authors and titles, Cairo: General Egyptian Book Organization, 1986.*** [See no. 47.]
- 78 ***A Survey of the Scientific Manuscripts in the Egyptian National Library, (Publications of the American Research Center in Egypt), Winona Lake, Ind.: Eisenbrauns, 1986, 331 pp.*** [Based on nos. 47 and 77, and arranged as a supplement to the standard bio-bibliographical literature. See no. 242 for an index.]
- 79 **[A] *Islamic Mathematical Astronomy, London: Variorum, 1986. Contents:***
- I Some reflections on the history of Islamic astronomy;
  - II On the astronomical tables of the Islamic Middle Ages (no. 14);
  - III The astronomy of the Mamluks (no. 61);
  - IV Mathematical astronomy in medieval Yemen (no. 35);
  - V A double-argument table for the lunar equation attributed to Ibn Yûnus (no. 7);
  - VI Ibn al-Majdi's tables for calculating ephemerides (no. 46);
  - VII Some astronomical observations from thirteenth-century Egypt (no. 52);
  - VIII Indian astronomy in fourteenth-century Fez: The versified *Zîj* of al-Qusuntîni (no. 56);
  - IX Ibn Yûnus' *Very Useful Tables* for reckoning time by the sun (no. 4);
  - X Astronomical timekeeping in fourteenth-century Syria (no. 24);
  - XI al-Khalîlî's auxiliary tables for solving problems of spherical astronomy (no. 3);
  - XII Astronomical timekeeping in Ottoman Turkey (no. 36);
  - XIII al-Khalîlî's *qibla* table (no. 13);
  - XIV On medieval Islamic multiplication tables (no. 8);
  - XV Supplementary notes on medieval Islamic multiplication tables (no. 32);
  - XVI A handlist of the Arabic and Persian astronomical manuscripts in the Maharaja Mansingh II Library in Jaipur (no. 45);

- XVII Islamic mathematics and astronomy. An essay review of the chapters on mathematics and astronomy in S. H. Nasr, *Islamic Science: An Illustrated Study* (no. 30);
- XVIII Islamic mathematics. A review of A. A. Daffa, *The Muslim Contribution to Mathematics* (no. 41);
- Addenda and corrigenda; indexes

[See no. 132 for the 2<sup>nd</sup> edn.]

Reviews:

Sonja Brentjes in *Historia Mathematica* 16 (1989), p. 295.

Jan Hogendijk in *Mathematical Reviews* (1989), no. 89e:01053.

F. Jamil Ragep in *Nuncius – Annali di Storia della Scienza* 6 (1991), pp. 211-213.

- 80 ***From Deferent to Equant: Studies in the History of Science in the Ancient and Medieval Near East in Honor of E. S. Kennedy* (co-editor with George Saliba), *Annals of the New York Academy of Sciences* (500), 1986.**
- 81 “Some early Islamic tables for determining lunar crescent visibility”, in D. A. King & George Saliba, eds., *From Deferent to Equant: Studies in the History of Science in the Ancient and Medieval Near East in Honor of E. S. Kennedy*, *Annals of the New York Academy of Sciences* 500 (1986), pp. 185-225. [Repr. in **C-II**.]
- 82 “Some Ottoman schemes of sacred geography”, *Proceedings of the II. International Symposium on the History of Turkish and Islamic Science and Technology, Istanbul, 1986*, 2 vols., Istanbul: Istanbul Technical University, 1986, I, pp. 45-57.
- 83 “The earliest Islamic mathematical methods and tables for finding the direction of Mecca”, *Zeitschrift für Geschichte der arabisch-islamischen Wissenschaften* 3 (1986), pp. 82-149. with corrections listed *ibid.* 4 (1987/88), p. 270. [Repr. in **C-XIV**.]
- 84 A review of Galina P. Matvievskaia & Boris A. Rosenfeld, *Mathematicians and Astronomers of the Islamic Middle Ages (VIII-XVII Centuries) and their Works* [in Russian], in *Historia Mathematica* 13 (1986), pp. 306-308.
- 85 A review of Ali Abdallah Al-Daffa & John S. Stroyls, *Studies in the Exact Sciences in Medieval Islam*, New York, N.Y., 1984, in *Historia Mathematica* 13 (1986), pp. 303-306. [Reviewed for historians of mathematics – see also no. 76.]
- 86 A review of Sharon Gibbs & George Saliba, *Planispheric Astrolabes from the National Museum of American History*, Washington, D.C., 1984, in *ISIS* 77 (1986), pp. 711-713.

## 1987

- 87 **[B] *Islamic Astronomical Instruments*, London: Variorum, 1987.** [See no. 163 for a reprint.]
- I Astronomical instrumentation in the medieval Near East;
- II The medieval Yemeni astrolabe in the Metropolitan Museum of Art in New York (no. 73);
- III The origin of the astrolabe according to the medieval Islamic sources (no. 48);
- IV A note on the astrolabist Nastûlus/Bastûlus (no. 27);
- V Nastûlus the astrolabist once again (no. 63);
- VI The ‘Abd al-A’imma astrolabe forgeries (no. 2);
- VII On the early history of the universal astrolabe in Islamic astronomy and the origin of the term *shakkâzîya* in medieval scientific Arabic (no. 33);
- VIII The astrolabe of ‘Alî al-Wadâ‘î;
- IX The astronomical instruments of Ibn al-Sarrâj: A brief survey;
- X An analog computer for solving problems of spherical astronomy: The *shakkâzîya* quadrant of Jamâl al-Dîn al-Mâridîni (no. 10);

- XI New light on the *Zīj al-safā'ih* of Abû Ja'far al-Khâzin (no. 43);  
 XII Ibn al-Shâtir's *Sandûq al-yawâqîf*: An astronomical compendium (no. 21);  
 XIII An Islamic astronomical instrument: A review of W. Brice, C. Imber & R. Lorch, *The Dâ'ire-yi Mu'addel of Seydî 'Alî Re'îs* (no. 42);  
 XIV Osmanische astronomische Handschriften und Instrumente (no. 71);  
 XV Three sundials from Andalusia (no. 26);  
 XVI Le cadran solaire de la mosquée d'Ibn Tûlûn au Caire (no. 28);  
 XVII The sundial on the West Wall of the Madrasa of Sultan Qaytbay in Jerusalem (no. 38);  
 XVIII A fourteenth-century Tunisian sundial for regulating the times of Muslim prayer (no. 20);  
 XIX Ibn Yûnus and the pendulum: A history of errors (extract of no. 34);  
 XX Medieval mechanical devices: A review of D. R. Hill, *The Book of Knowledge of Ingenious Mechanical Devices* (no. 17);  
 XXI On Arabic water-clocks: A review of D. R. Hill, *On the Construction of Water-Clocks* (no. 23);  
 XXII Islamic geomancy – A review of E. Savage-Smith & M. B. Smith, *Islamic Geomancy and a Thirteenth-Century Divinatory Device* (no. 57)

Addenda and corrigenda; indexes

Reviews:

E. S. Kennedy in *Annals of Science* 45 (1988), pp. 544-545.

Sharon Gibbs Thibodeau in *ISIS* 81 (1990), pp. 101-102.

- 88 “The astrolabe of ‘Alî al-Wadâ‘î” (previously unpublished), in **B-VIII**.
- 89 “The astronomical instruments of Ibn al-Sarrâ’” (previously unpublished), in **B-IX**. [See **SATMI, XIVb-5.1** for a more detailed description.]
- 90 “Science in medieval Syria”, in Harvey Weiss, ed., *Ebla to Damascus: Art and Archaeology of Ancient Syria*, Washington, D.C.: Smithsonian Institution Traveling Exhibition Service, 1985, pp. 497-507.
- 91 “Universal solutions in Islamic astronomy”, in J. Lennart Berggren & Bernard R. Goldstein, eds., *From Ancient Omens to Statistical Mechanics: Essays on the Exact Sciences Presented to Asger Aaboe*, *Acta Historica Scientiarum Naturalium et Medicinalium* (Copenhagen) 39 (1987), pp. 121-132. [Repr. in **C-VI**; a revised version is in **SATMI, VIa**.]
- 92\* “Astronomie im mittelalterlichen Yemen”, in Werner Daum, ed., *Jemen*, Innsbruck: Pinguin & Frankfurt am Main: Umschau, 1987, pp. 276-281 and 297-302. [See no. 106 for the original.]
- 93 “Makka. iv. As centre of the world” [sacred geography], *The Encyclopaedia of Islam*, new edition, vol. VI, fascs. 101-102, Leiden: E. J. Brill, 1987, pp. 180-187. [Repr. in **C-X**.]
- 94 A review of Edward S. Kennedy, David Pingree & Fuad Haddad, *The Book of Reasons behind Astronomical Tables (Kitâb fî ‘ilal al-zâjât) by ‘Alî ibn Sulaymân al-Hâshimî*, in *Journal for the History of Astronomy* 18 (1987), pp. 284-286.
- 95 A review of Ziva Vesel, *Les encyclopédies persanes: Essai de typologie et de classification des sciences*, Paris, 1986, in *Bulletin of the Middle East Studies Association of North America* 21 (1987), pp. 115-116.

## 1988

- 96 “Universal solutions to problems of spherical astronomy from Mamluk Egypt and Syria”, in Farhad Kazemi & Robert B. McChesney, eds., *A Way Prepared: Essays on Islamic Culture in Honor of Richard Bayly Winder*, New York: New York University Press, 1988, pp. 153-184, repr in **C-VII**. [A revised version is in **SATMI, VIb**.]



- 97 “A medieval account of algebra before al-Khwârizmî”, *al-Masâq: Studia Arabo-Islamica Mediterranea* 1 (1988), pp. 25-32.
- 98 “Ibn Yûnus on lunar crescent visibility”, *Journal for the History of Astronomy* 19 (1988), pp. 155-168. [Repr. in **C-III**.]
- 99 A review of Charles Pellat, *Cinq calendriers égyptiens*, Cairo, 1986, in *Journal of the American Research Center in Egypt* 25 (1988), pp. 252-253.

## 1989

- 100 “Some Arabic copies of Vettius Valens’ table for calculating the duration of life”, in Gerhard Endress, ed., *Symposium Graeco-Arabicum II*, Amsterdam: B. R. Grüner, 1989, pp. 25-28. [See now no. 224.]
- 101 “al-Marrâkushî”, *The Encyclopaedia of Islam*, new edition, vol. VI, fascs. 107-108, Leiden: E. J. Brill, 1989, p. 598.
- 102 “Matla<sup>c</sup>” [rising-points], *The Encyclopaedia of Islam*, new edition, vol. VI, fascs. 111-112, Leiden: E. J. Brill, 1989, pp. 839-840. [Repr. in **C-XI**.]
- 103 “Matâli<sup>c</sup>” [ascensions], *The Encyclopaedia of Islam*, new edition, vol. VI, fascs. 111-112, Leiden: E. J. Brill, 1989, pp. 792-794.
- 104 A review of Anton H. Heinen, *Islamic Cosmology: A Study of as-Suyûtî’s al-Hay’a al-sanîya fi-l-hay’a al-sunnîya*, Beirut, 1982, in *Journal of the American Oriental Society* 109 (1989), pp. 124-127.

## 1990

- 105 “An overview of the sources for the history of astronomy in the medieval Maghrib”, *Actes du 2<sup>e</sup> Colloque Maghrébin de l’Histoire des Mathématiques Arabes, Tunis, 1-3 Dec. 1988*, Tunis: Institut supérieur de l’Éducation et de la Formation continue, n.d. [ca. 1990], pp. 125-157. [See no. 196 for a revised, expanded version.]
- 106 “Astronomy in medieval Yemen”, in Werner Daum, ed., *Yemen – 3000 Years of Art and Civilization in Arabia Felix*, Innsbruck: Pinguin & Frankfurt/Main: Umschau, n.d. [ca. 1990], pp. 300-308. [See also no. 92.]
- 107 “Astronomy” in M. J. L. Young, J. D. Latham & R. B. Serjeant, eds., *Religion, Learning and Science in the ‘Abbasid Period*, (a volume of the *Cambridge History of Arabic Literature*), Cambridge, etc.: Cambridge University Press, 1990, pp. 274-289. [Submitted in 1975!]
- 108 “Die Sterne weisen nach Mekka – Arabische Astronomie im Dienste des Islam”, in Uwe Schultz, ed., *Scheibe, Kugel, Schwarzes Loch – Die wissenschaftliche Eroberung des Kosmos*, Munich: C. H. Beck, 1990, pp. 104-117. [Reprinted as a paperback Frankfurt am Main & Leipzig: Insel Verlag, 1996.]
- 109 “A survey of medieval Islamic shadow schemes for simple timereckoning”, *Oriens* 32 (1990), pp. 191-249. [A new version is in **SATMI, III**.]
- 110 “Between Europe and China: aspects of the astronomical traditions of the lands of Islam”, in Isaia Iannaccone & Adolfo Tamburello, eds., *Dall’Europa alla Cina: contributi per una storia dell’astronomia*, Naples: Istituto Universitario Orientale, 1990, pp. 55-66.
- 111 “Mayl” [declination], *The Encyclopaedia of Islam*, new edition, vol. VI, fascs. 113-114, Leiden: E. J. Brill, 1990, pp. 914-915.
- 112 “Mîkât. ii. Astronomical aspects” [time-keeping], *The Encyclopaedia of Islam*, new edition, vol. VII, fascs. 115-116, Leiden: E. J. Brill, 1990, pp. 27-32. [Repr. in **C-V**.]

- 113 A review of Emilie Savage-Smith, *Islamicate Celestial Globes: Their History, Construction and Use*, Washington, D.C., 1985, in *ISIS* 81 (1990), pp. 762-764.

## 1991

- 114 “Lunar crescent visibility predictions in medieval Islamic ephemerides”, in S. Seikaly, R. Baalbaki, P. Dodd, eds., *Quest for Understanding – Arabic and Islamic Studies in Memory of Malcolm H. Kerr*, Beirut: American University of Beirut, 1991, pp. 233-251. [Repr. in **C-IV**.]
- 115 “Medieval astronomical instruments: A catalogue in preparation”, *Bulletin of the Scientific Instrument Society* 31 (Dec., 1991), pp. 3-7.
- 116\* “Strumentazione astronomica nel mondo medievale islamico”, in Gerard L’E. Turner, ed., *Gli strumenti*, Turin: Giulio Einaudi, 1991, pp. 154-189 and 581-585. [See no. 125 for a summary and **SATMI, X** for a revised version of the original English text.]
- 117 “Science in the service of religion: The case of Islam”, *impact of science on society* (UNESCO), no. 159 (1991), pp. 245-262. [Repr. in **C-I**; also published in French, Portuguese, Russian, Chinese, Japanese and Korean. See nos. 143 and 164 for German and Italian versions, respectively.]
- 118 “[Yemeni astrolabe, dated 1291]”, in Richard Ettinghausen *et al.*, *Islamische Kunst – Meisterwerke aus dem Metropolitan Museum of Art, New York* [in German and English], Berlin: Staatliche Museen Preußischer Kulturbesitz, 1981, pp. 146-147.
- 119 “Mizwala” [sundial], *The Encyclopaedia of Islam*, new edition, vol. VII, fascs. 117-118, Leiden: E. J. Brill, 1991, pp. 210-211. [Repr. in **C-VIII**.]
- 120 A review of Mohammed Ilyas, *Astronomy of Islamic Times for the Twenty-First Century*, London & New York, 1988, in *ISIS* 82 (1991), pp. 348-349.
- 121 A review of David Pingree, *The Astronomical Works of Gregory Chionides, I: The Zij al-‘Alā’i*, Amsterdam, 1985-86, and Alexander Jones, *An Eleventh-Century Manual of Arabo-Byzantine Astronomy*, Amsterdam, 1987, in *ISIS* 82 (1991), pp. 116-118.

## 1992

- 122 “Qibla charts, qibla maps, and related instruments” (with Richard Lorch), a chapter in J. B. Harley & David Woodward, eds., *The History of Cartography*, vol. 2, book 1: *Cartography in the Traditional Islamic and South Asian Societies*, Chicago, Ill. & London: The University of Chicago Press, 1992, pp. 189-205. [See now no. 194.]
- 123\* “Los cuadrantes solares andalusíes”, in Juan Vernet, Julio Samsó, *et al.*, eds., *El legado científico andalusí*, Madrid: Ministerio de Cultura, 1992, pp. 89-102.
- 124 “[Andalusí astronomical instruments]”, in Jerrilynn D. Dodds, ed., *Al-Andalus – The Art of Islamic Spain*, New York: The Metropolitan Museum of Art, 1992, pp. 376-383.
- 125 “Some remarks on Islamic astronomical instruments”, *Scientiarum Historia* (Brussels) 18:1 (1992), pp. 5-23.
- 126 “Astronomical instruments between East and West” [summary], *Medium aevum quotidianum* (Krems) 27 (1992), pp. 125-130. [See no. 148 for the full version.]
- 127+ “Die Astrolabiensammlung des Germanischen Nationalmuseums”, in Gerhard Bott, ed., *Focus Behaim-Globus*, 2 vols., Nuremberg: Germanisches Nationalmuseum, 1992, I, pp. 101-114, and II, pp. 568-602, 640-643.

- 128+ “Weltkarten zur Ermittlung der Richtung nach Mekka”, *ibid.*, I, pp. 167-171, and II, 686-691. [See now no. 194.]
- 129 “Some remarks on Islamic scientific manuscripts and instruments and past, present and future research”, in John Cooper, ed., *The Significance of Islamic Manuscripts*, London: Al-Furqan Islamic Heritage Foundation, 1992, pp. 115-144. [Arabic version on pp. 159-193 of the Arabic translation *Ahammiyyat al-makhtûât al-islâmiyya*, published simultaneously.]
- 130 “The ciphers of the monks and the astrolabe of Berselius reconsidered”, in Sergei S. Demidov, Menso Folkerts, David A. Rowe & Christoph J. Scriba, eds., *Amphora – Festschrift für Hans Wussing zum 65. Geburtstag*, Basel, Boston, Mass. & Berlin: Birkhäuser, 1992, pp. 375-388. [See now no. 203.]

## 1993

- 131 [C] ***Astronomy in the Service of Islam*, Aldershot (U.K.): Variorum, 1993.**
- 1 Science in the service of religion – the case of Islam (no. 117);
- II Some early Islamic tables for determining lunar crescent visibility (no. 81);
- III Ibn Yûnus on lunar crescent visibility (no. 98);
- IV Lunar crescent visibility predictions in medieval Islamic ephemerides (no. 114);
- V Mîkât: astronomical timekeeping (no. 112);
- VI Universal solutions in Islamic astronomy (no. 91);
- VII Universal solutions to problems of spherical astronomy from Mamluk Egypt and Syria (no. 96);
- VIII Mizwala: sundials (no. 119);
- IX Kibla: sacred direction (no. 39);
- X Makka: as the centre of the world (no. 93);
- XI Matla': astronomical rising-points (no. 102);
- XII On the orientation of the Kaaba (no. 51);
- XIII Astronomical alignments in medieval Islamic religious architecture (no. 53);
- XIV The earliest Islamic mathematical methods and tables for finding the direction of Mecca (no. 83);
- Addenda; indexes
- Reviews:
- Anonymous in *Newsletter of the Organisation of the Islamic Conference Research Centre for Islamic History, Art, and Culture* (Istanbul) 35 (Dec., 1994), p. 32.
- George Saliba in *ISIS* 86 (1995), pp. 97-98.
- Paul Kunitzsch in *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 146 (1996), pp. 597-598.
- Raymond Mercier in *Journal for the History of Astronomy* 27 (1996), pp. 275-276.
- 132 ***Islamic Mathematical Astronomy*, 2<sup>nd</sup> revised edition, Aldershot (U.K.): Variorum, 1993.** [See no. 79 for the 1<sup>st</sup> edn.]
- 133 “1992 – A good year for medieval astronomical instruments”, *Bulletin of the Scientific Instrument Society* No. 36 (March, 1993), pp. 17-18.
- 134\* “L’astronomie en Syrie à l’époque islamique”, in Sophie Cluzan, Eric Delpont & Jeanne Mouliérac, eds., *Syrie, Mémoire et Civilisation*, Paris: Flammarion (Institut du Monde Arabe), 1993, pp. 386-395, and [“Instruments astronomiques syriens”], pp. 432-443 and 480, and pp. 485-487 (bibliography (confused)). [An expanded English version of the descriptions of instruments is in **SATMI, XIVb.**]
- 135 “Rewriting history through instruments: The secrets of a medieval astrolabe from Picardy”, in Robert G. Anderson, James A. Bennett & Will F. Ryan, eds., *Making Instruments Count – Essays on Historical Scientific Instruments presented to Gerard L’Estrange*

Turner, Aldershot (U.K.): Variorum, 1993, pp. 42-62. [Repr. in **E-III**; see now no. 203.]

- 136 “Some medieval astronomical instruments and their secrets”, in Renato Mazzolini, ed., *Non-Verbal Sources in Science before 1900*, Florence: Leo S. Olschki, 1993, pp. 29-52.
- 137+ “Über historische Modelle des Universums in drei und in zwei Dimensionen – die Armillarsphäre und das Astrolab” and descriptions of one early printed work and one manuscript as well as of various instruments, in Uwe Müller, ed., *450 Jahre Copernicus ‘De revolutionibus’ – Astronomische und mathematische Bücher aus Schweinfurter Bibliotheken*, Schweinfurt: Stadtarchiv (Veröffentlichung Nr. 9), 1993, pp. 123-137, then 167-169 (no. 20), 351-353 (no. 169), and 361-381 (nos. 177-181).
- 138+ “Die Geschichte der Naturwissenschaften: ein wahrhaft interdisziplinäres Fach – Von Astrolabien bis zu Zahlensystemen, mit Exkursen in die Architektur, die Kunst, die Religion und die Volkskunde”. Text of a lecture delivered on the occasion of the celebration of the 50th anniversary of the Institut für Geschichte der Naturwissenschaften, Frankfurt am Main, November, 1993, photocopied.

## 1994

- 139+ “Vergessene Schätze des Mittelalters – In Frankfurt erscheint der erste Katalog mittelalterlicher astronomischer Instrumente”, *Forschung Frankfurt* (Johann Wolfgang Goethe-Universität, Frankfurt am Main), 11. Jahrgang (1993), Nr. 4, pp. 1-13. [Published in 1994.]
- 140 “Mathematics applied to aspects of religious ritual in Islam”, in Ivor Grattan-Guinness, ed., *Companion Encyclopaedia of the History and Philosophy of the Mathematical Sciences*, 2 vols., London: Routledge & Kegan Paul, 1994, I, pp. 80-84.
- 141 “The astrolabe dedicated to Cardinal Bessarion by Regiomontanus in 1462” (with Gerard L’E. Turner), in Gianfranco Fiaccadori, ed., *Bessarione e l’Umanesimo*, Naples: Vivarium, 1994, pp. 340-367. [An early version of the next paper (prepared for the exhibition at the Biblioteca Nazionale Marciana, Venice, during 27.4-31.5.1994), with many printing errors.]
- 142 “The Astrolabe presented by Regiomontanus to Cardinal Bessarion in 1462” (with Gerard L’E. Turner), *Nuncius: Annali di Storia della Scienza* (Florence) 9:1 (1994), pp. 165-206. [Repr. in Gerard L’E. Turner, *Renaissance Astrolabes and Their Makers*, Aldershot (U.K.): Variorum, 2003, IV, and in **E-XI**.]
- 143+ “Astronomie im Dienste des Islam”, in Anton von Gotstedter, ed., *Ad radices – Festband zum fünfzigjährigen Bestehen des Instituts für Geschichte der Naturwissenschaften Frankfurt am Main*, Stuttgart: Franz Steiner, 1994, pp. 99-124. [See no. 117 for the original English text.]
- 144+ “Ein vergessenes Zahlensystem des mittelalterlichen Mönchtums”, in Anton von Gotstedter, ed., *Ad radices – Festband zum fünfzigjährigen Bestehen des Instituts für Geschichte der Naturwissenschaften Frankfurt am Main*, Stuttgart: Franz Steiner, 1994, pp. 405-420. [See now no. 203.]
- 145\* “Le plus vieil astrolabe d’Europe”, *Qantara – Cultures en mouvement* (Institut du Monde Arabe, Paris), No. 11 (April-June 1994), p. 51.
- 146 “Poor judgement at Nuremberg”, *Bulletin of the Scientific Instrument Society*, No. 41 (June, 1994), p. 1. [Comments on the fact that the richest collection of historical scientific instruments in Germany was put back into storage after the 1992-93

exhibition "Focus Behaim Globus". The collection was later displayed in an appropriate fashion.]

- 147 "Folk astronomy in the service of religion: The case of Islam", in Clive L. N. Ruggles & Nicholas J. Saunders, eds., *Astronomies and Cultures*, Niwot, Co.: University Press of Colorado, 1993 [published 1994], pp. 124-138, with a summary in Clive L. N. Ruggles, ed., *Archaeoastronomy in the 1990s*, Loughborough (U.K.): Group D Publications, Ltd., 1993, p. 346.
- 148 "Astronomical instruments between East and West", in Harry Kühnel, ed., *Kommunikation zwischen Orient und Okzident (Sitzungsberichte der Österreichischen Akademie der Wissenschaften, Phil.-Hist. Klasse, vol. 619, Veröffentlichungen des Instituts für Realienkunde des Mittelalters und der frühen Neuzeit, vol. 16)*, Vienna: Österreichische Akademie der Wissenschaften, 1994, pp. 143-198. [Repr. in **E-I**.]
- 149 "Illustrations in Islamic scientific manuscripts", in George N. Atiyeh, ed., *The Book in the Islamic World: The Written Word and Communication in the Middle East*, Albany, N.Y.: State University of New York, & Washington, D.C.: The Library of Congress, 1994, pp. 149-177. [Repr. in **D-III**.]
- 150 "Rub<sup>c</sup>" [quadrant], *The Encyclopaedia of Islam*, new edition, vol. VIII, fascs. 139-140, Leiden: E. J. Brill, 1994, pp. 574-575.
- 151 "Ru'yat al-hilâl" [lunar crescent visibility], *The Encyclopaedia of Islam*, new edition, vol. VIII, fascs. 141-142, Leiden: E. J. Brill, 1994, pp. 649-650.

## 1995

- 152 "Applications of folk astronomy and mathematical astronomy to aspects of Muslim ritual", *The Arabist (Budapest Studies in Arabic)*, 13-14 (1995) (Alexander Fodor, ed., *Proceedings of the XIVth UEAI Congress, Budapest, 1988, Part I*), pp. 251-274.
- 153++ "Himmel über Tanger", in Hans Joachim Tischleder, ed., *Tanger – Frankfurt – Zum Beispiel*, Frankfurt am Main: Deutsch-Marokkanische Kulturinitiative, 1995, pp. 168-177.
- 154 "Making instruments talk – Some medieval astronomical instruments and their secrets", *Bulletin of the Scientific Instrument Society*, No. 44 (March, 1995), pp. 5-12.
- 155 "Sâk" [leg in mathematics and astronomy], in *The Encyclopaedia of Islam*, new edition, vol. VIII, fascs. 143-144, Leiden: E. J. Brill, 1995, p. 872.
- 156 "The orientation of medieval Islamic religious architecture and cities", *Journal for the History of Astronomy* 26 (1995), pp. 253-274. [A new version is in **SATMI, VIIa**.]
- 157 "Samt" [direction, world-maps centred on Mecca], *The Encyclopaedia of Islam*, new edition, vol. VIII, fascs. 145-146, Leiden: E. J. Brill, 1995. [See now no. 194.]
- 158 "Donald Routledge Hill (1922-1994)", *Arabic Science and Philosophy* 5 (1995), pp. 297-302. [Obituary notice.]
- 159+ "Aspekte angewandter Wissenschaften in Moscheen und Klöstern", *Berichte zur Wissenschaftsgeschichte (Organ der Gesellschaft für Wissenschaftsgeschichte)* 18 (1995), pp. 85-95 and 137-149. [The English original is in **SATMI, VIII**.]
- 160 "A forgotten Cistercian system of numerical notation", *Cîteaux – Commentarii Cistercienses* 46:3-4 (1995), pp. 183-217. [See now no. 203.]

- 161 “Early Islamic astronomical instruments in Kuwaiti collections”, in Arlene Fullerton & Géza Fehérvári, eds., *Kuwait: Art and Architecture – A Collection of Essays*, Kuwait (no publisher stated), 1995, pp. 76-96.
- 162 “*Shafak*” [twilight], in *The Encyclopaedia of Islam*, new edition, vol. IX, fascs. 149-150, Leiden: E. J. Brill, 1995, pp. 179-180.
- 163 ***Islamic Astronomical Instruments*, London: Variorum, 1987, reprinted Aldershot: Variorum, 1995.** [See no. 87.]
- 164\* “La scienza al servizio della religione: il caso dell’Islâm”, in Clelia Sarnelli Cerqua, Ornella Marra & Pier Giovanni Pelfer, eds., *La civiltà islamica e le scienze, Atti del Simposio Internazionale, Firenze, Palazzo Panciatichi, 23 Novembre 1991*, Florence: CUEN, 1995, pp. 129-150. [A translation of no. 117.]
- 165 A review of Tzvi Langermann, *Ibn al-Haytham’s On the Configuration of the World*, New York & London, 1990, in *Journal of History of Astronomy* 26 (1995), pp. 84-85.
- 166 A review of Raymond d’Hollander, *L’astrolabe – les astrolabes du Musée Paul Dupuy*, Toulouse: Le Musée Paul Dupuy & L’association française de topographie, 1993, in *Annals of Science* 52 (1995), pp. 531-533.
- 167 A review of Daniel Martin Varisco, *Medieval Agriculture and Islamic Science – The Almanac of a Yemeni Sultan*, Seattle WA & London: University of Washington Press, 1994, in *Yemeni Update*, no. 36 (Winter/Spring 1995), pp. 36 and 45.

## 1996

- 168 “Astronomy in Islamic society: Qibla, gnomonics and timekeeping”, in Rushdi Rashed, ed., in collaboration with Régis Morelon, *Encyclopaedia of the History of Arabic Science*, 3 vols., London & New York, N.Y.: Routledge, 1996, I, pp. 128-184. [Repr. in ***New Perspectives on the History of Islamic Science***, IV; see no. 179 for the French translation.]
- 169 “On the role of the muezzin and the *muwaqqit* in medieval Islamic society”, in F. Jamil Ragep & Sally P. Ragep, with Steven J. Livesey, eds., *Tradition, Transmission, Transformation: Proceedings of Two Conferences on Premodern Science Held at the University of Oklahoma*, Leiden, New York, N.Y., & Cologne: E. J. Brill, 1996, pp. 285-346. [A new version is in ***SATMI***, V.]
- 170 “Islamic astronomy”, in Christopher Walker, ed., *Astronomy before the Telescope*, London: British Museum Press, 1996, pp. 143-174. [Repr. in **D-I**.]
- 171 “*Shakkâziyya*” [universal stereographic projections], in *The Encyclopaedia of Islam*, new edition, vol. IX, fascs. 151-152, Leiden: E. J. Brill, 1996, pp. 251-253.
- 172 “The neglected astrolabe”, in Menso Folkerts, ed., *Mathematische Probleme im Mittelalter – Der lateinische und arabische Sprachbereich*, (Wolfenbütteler Mittelalter-Studien, Band 10), Wiesbaden: Otto Harrassowitz, for the Herzog August-Bibliothek, Wolfenbüttel, 1996, pp. 45-55.
- 173 “The medieval Catalan astrolabe of the Society of Antiquaries, London” (with Kurt Maier), in Josep Casulleras & Julio Samsó, eds., *From Baghdad to Barcelona. Studies in the Islamic Exact Sciences in Honour of Prof. Juan Vernet*, (Anuari de Filologia (Universitat de Barcelona) XXX (1996) B-2), 2 vols., Barcelona: Instituto “Millás Vallicrosa” de Historia de la Ciencia Árabe, 1996, II, pp. 673-718. [Repr. in **E-IV**.]
- 174 “The earliest European astrolabe in the light of other early astrolabes”, in Wesley Stevens, Guy Beaujouan & Anthony J. Turner, eds., *The Oldest Latin Astrolabe*, (*Physis*

– *Rivista di storia della scienza* (Rome), Nuova serie 32:2-3 (1995) [published in September, 1996], pp. 189-450), pp. 359-404 (The remarks on pp. 384-385 beginning “An astrolabe from ca. 1300 ... ” should be marked “Added in proof.”) [Repr. in **E-II.**]

## 1997

- 175 “Der Frankfurter Katalog mittelalterlicher astronomischer Instrumente”, in Gerhard Endress & Remke Kruk, eds., *The Ancient Tradition in Christian and Islamic Hellenism – Studies on the Transmission of Greek Philosophy and Sciences dedicated to H. J. Drossaart Lulofs on his ninetieth birthday*, [contains the Proceedings of the Third Symposium Graeco-Arabicum held at the University of Leiden on March 26-28, 1991, and additional contributions], Leiden: Research School CNWS, School of Asian, African, and Amerindian Studies, 1997, pp. 145-164.
- 176 Articles in Helaine Selin, ed., *Encyclopaedia of the History of Science, Technology and Medicine in Non-Western Cultures*, Dordrecht: Kluwer Academic Publishers, 1997, as follows: “Astronomical Instruments in the Islamic World” (pp. 86-88); “Astronomy in the Islamic World” (pp. 125-134); “Ibn al-Shâtir” (pp. 412-414); “Ibn Yûnus” (pp. 438-440); “al-Khalîlî” (pp. 477-478); “Maps and Mapmaking: Islamic World Maps Centered on Mecca” (pp. 577-578 and frontispiece); “al-Mâridînî, Jamâl al-Dîn and Badr al-Dîn” (pp. 601-602); and “Religion and Science in Islam, I: Technical and Practical Aspects” (pp. 857-861).
- 177 “Two Iranian world maps for finding the direction and distance to Mecca”, *Imago Mundi – The International Journal for the History of Cartography* 49 (1997), pp. 62-82 and colour plate 1. [See now no. 194.]
- 178+ “Astrolabe picard et numérotation cistercienne”, *Musée des arts et métiers (Paris) – La revue*, Décembre 1997, pp. 47-55. [See now no. 203.]
- 179\* “Astronomie et société musulmane : qibla, gnomonique, miqât”, in Rushdi Rashed, ed., in collaboration with Régis Morelon, *Histoire des sciences arabes*, 3 vols., Paris: Éditions du Seuil, 1997, I, pp. 173-215. [See no. 169 for the English original.]

## 1998

- 180 “Mamluk astronomy and the institution of the muwaqqit”, in Thomas Phillip & Ulrich Haarmann, eds., *The Mamluks in Egyptian Politics and Society*, Cambridge, etc.: Cambridge University Press, 1998, pp. 153-162. [Repr. in **D-IV.**]
- 181 “Astrolabe” in Robert Bud & Deborah Warner, eds., *Instruments of Science: A Historical Encyclopedia*, New York, N.Y.: Garland Publishing, 1998, pp. 32-34.
- 182\* “Les instruments scientifiques en terre d’Islam”, in Sophie Makariou, ed., *L’apparence des vieux – Astronomie et astrologie en terre d’Islam*, Paris: Éditions de la Réunion des musées nationaux, 1998, pp. 74-95. [Catalogue of an exhibition held at the Musée du Louvre during 18.6.-21.9.1998.]
- 183 “Ta<sup>c</sup>dîl ... ” [three short articles on planetary equations, interpolation and the equation of time] in *The Encyclopaedia of Islam*, new edition, vol. X, fascs. 165-166, Leiden: E. J. Brill, 1998, p. 55.
- 184 “Takî al-Dîn” in *The Encyclopaedia of Islam*, new edition, vol. X, fascs. 165-166, Leiden: E. J. Brill, 1998, pp. 132-133.

- 185 “Tâsa” [magnetic compass] in *The Encyclopaedia of Islam*, new edition, vol. X, fascs. 167-168, Leiden: E. J. Brill, 1998, pp. 312-313.
- 186 **Editor: Donald R. Hill, *Studies in Medieval Islamic Technology – From Philo to al-Jazari – From Alexandria to Diyar Bakr*, Aldershot: Variorum, 1998.**
- 187 “Two Iranian world-maps for finding the direction and distance to Mecca”, in Z. Vesel, H. Beikbaghban and B. Thierry de Crussol des Epesse, eds., *La science dans le monde iranien à l’époque islamique, Actes du colloque tenu à l’Université des Sciences Humaines de Strasbourg 6-8 juin 1995*, (Bibliothèque iranienne 50), Tehran: Institut Français de Recherche en Iran, 1998, pp. 3-24. [See now no. 194.]

## 1999

- 188 “Islamische Weltkarten mit Mekka als Mittelpunkt – Die Wiederentdeckung einer bemerkenswerten Tradition mittelalterlicher Kartographie”, in Peter Eisenhardt, Frank Linhard and Kaiser Petanides, eds., *Der Weg der Wahrheit – Aufsätze zur Einheit der Wissenschaftsgeschichte – Festgabe zum 60. Geburtstag von Walter G. Saltzer*, Hildesheim: Olms, 1999, pp. 93-107. [See now no. 194.]
- 189 “The Toledo astrolabe”, *Christie’s Magazine* (London), April 1999, pp. 62-63. [See no. 215 for a detailed study.]
- 190 “The monumental Syrian astrolabe in the Maritime Museum, Istanbul”, *Aydın Sayılı Özel Sayısı*, I-III, a special issue of *Erdem* (Ankara: Atatürk Kültür Merkezi), in three parts (9:25-27), Ankara: Türk Tarih Kurumu Basımevi, 1996-1997, II, pp. 729-735 and 10 plates. [A contribution to a memorial volume for Professor Dr. Aydın Sayılı, first seen in 1999.] [Republished in **SATMI, XIVc**.]
- 191 “Wine-gauging at Damme: The evidence of a late medieval manuscript” (co-author with Ad Meskens, Germain Bonte, Jacques de Groot and Mieke de Jonghe), *Histoire et mesure* (Paris: C.R.H.-C.N.R.S.) 14 (1999), pp. 51-77. [See also no. 203.]
- 192 “Bringing astronomical instruments back to earth: The geographical data on medieval astrolabes (to ca. 1100)”, in Arjo Vanderjagt & Lodi Nauta, eds., *Between Demonstration and Imagination: Essays in the History of Science and Philosophy Presented to John D. North*, Leiden: E. J. Brill, 1999, pp. 3-53. [A new version is in **SATMI, XVII**.]
- 193 “Time and space in Islam”, in Kristen Lippencott, ed., *The Story of Time*, London: Merrell Holberton Publishers, in association with the National Maritime Museum, Greenwich, 1999, pp. 56-59.
- 194 ***World-Maps for finding the direction and distance to Mecca: Innovation and tradition in Islamic science*, Leiden: E. J. Brill, and London: Al-Furqan Islamic Heritage Foundation, 1999, xxix + 638 pp.** [See no. 177 for a summary, and **SATMI, Xc** for new information on the mathematics behind the grids on these maps.]  
Reviews:  
J. Lennart Berggren in *Journal of the American Oriental Society* 121:3 (2001), pp. 512-514.  
Charles Burnett in *Annals of Science* 59 (2002), pp. 328-329.  
Emilia Calvo in ***Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation*** (Barcelona) 1 (2000), pp. 363-366.  
Benno van Dalen in *Journal of the Royal Asiatic Society* (London), Series 3, 12 (2002), pp. 371-373.  
Elly Dekker, “Cartographic Grids from Iran: An Early Version of the Retro-Azimuthal Orthographic Projection?”, *The Cartographical Journal* 37 (2000), pp. 109-116. [Dekker cannot



- accept that the ellipse segments representing the latitude curves on the grid are approximated by arcs of circles or that the inspiration for the grids is Islamic.]
- Owen J. Gingerich in *History of Science* 38 (2000), pp. 245-247. [Misunderstands the structure of the maps and the grids and proposes a construction for the grids that is invalid.]
- Jan Hogendijk in *Historia Mathematica* 30 (2003), pp. 85-87. [Mentions newly-discovered materials on the mathematics underlying the grids from early Islamic sources.]
- Muzaffar Iqbal in *Islamic & Science* 1:1 (2003), pp. 135-142. [A Muslim perspective on a Western “positivist” operation.]
- John D. North in *Bibliotheca Orientalis* (Leiden), 57 (2000), cols. 747-750. [Raises problems partly solved by the materials presented in **SATMI**, **XIIa** and **XIIb** (universal horary quadrant and universal horary dial) and **VIIc** (the mathematics underlying the grids on the Mecca-centred world-maps).]
- F. Jamil Ragep in *Journal for the History of Astronomy* 32:2 (2001), pp. 171-172. [Unfortunately mentions the procedure for constructing the grids proposed by Owen Gingerich without realizing that it is invalid.]
- Roser Puig in *ISIS* 92 (2001), pp. 360-362.
- George Saliba in *Mathematical Reviews* (2001) (accessible on the Internet under MathSciNet, No. 2001h:01008, pp. 1-5).
- Emilie Savage-Smith in *Bulletin of the Scientific Instrument Society* 66 (2000), pp. 32-35. [Much confused.]
- Roberto Tottoli in *Quaderni di Studi Arabi* 18 (2000), pp. 239-240.
- 195 “Aspects of Fatimid astronomy: From hard-core mathematical astronomy to architectural orientations in Cairo”, in Marianne Barrucand, ed., *L’Égypte Fatimide: son art et son histoire – Actes du colloque organisé à Paris les 28, 29 et 30 mai 1998*, Paris: Presses de l’Université de Paris-Sorbonne, 1999, pp. 497-517. [Repr. in **D-IV**.]
- 196 “On the history of astronomy in the medieval Maghrib”, in *Études Philosophiques et Sociologiques Dédiées à Jamal ed-Dine Alaoui*, Université Sidi Mohamed Ben Abdallah, Publications de la Faculté des Lettres et des Sciences Humaines Dhar El Mahraz - Fès, N° Spécial 14 (Département de Philosophie, Sociologie et Psychologie), Fez, 1998 [published 1999], pp. 27-61. [A revised and updated version of no. 105 - see now **D-VI**.]

## 2000

- 197 “Cataloguing medieval Islamic astronomical instruments”, an essay review of Francis Maddison and Emilie Savage-Smith, *Science, Tools and Magic*, vol. XII (in 2 parts) of *The Nasser D. Khalili Collection of Islamic Art*, general editor Julian Raby, The Nour Foundation, London, in association with Azimuth Editions and Oxford University Press, 1997, in *Bibliotheca Orientalis* (Leiden) 57 (2000), cols. 247-258.
- 198 “The culmination of Islamic mathematical geography: World-maps for finding the direction and distance to Makkah”, *Newsletter / Hadīth al-Dār*, Dar al-Athar al-Islamiyyah, Kuwait, 7 (1997) [published 2000], pp. 19-21 (English / Arabic). [See no. 194.]
- 199 “The star-names on three 14th-century astrolabes from Spain, France and Italy”, in Menso Folkerts and Richard P. Lorch, eds., *Sic itur ad astra. Studien zur Geschichte der Mathematik und Naturwissenschaften. Festschrift für den Arabisten Paul Kunitzsch zum 70. Geburtstag*, Wiesbaden: Otto Harrassowitz, 2000, pp. 307-333. [Repr. in **E-VII**.]
- 200 “Islamic world-maps centred on Mecca: The rediscovery of a remarkable tradition of medieval cartography”, in Ekmeleddin Ihsanoglu and Feza Günergün, eds., *Science in Islamic Civilisation – Proceedings of the International Symposia “Science Institutions in Islamic Civilisation” and “Science and Technology in the Turkish and Islamic World”*, Istanbul:

Research Centre for Islamic History, Art and Culture (IRCICA), 2000, pp. 111-121. [See no. 194.]

- 201 “Too many cooks ... – A newly-rediscovered account of the first Islamic geodetic measurements”, *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* (Barcelona) 1 (2000), pp. 207-241. [Repr. in **New Perspectives on the History of Islamic Science**, IV, and **D-X**.]
- 202 “Mathematical astronomy in Islamic civilisation”, in Helaine Selin, ed., *Astronomy across Cultures: The History of Non-Western Astronomy*, Dordrecht, Boston & London: Kluwer Academic Publishers, 2000, pp. 585-613.

## 2001

- 203 ***The Ciphers of the Monks – A Forgotten Number Notation of the Middle Ages*, (Boethius – Texte und Abhandlungen zur Geschichte der Mathematik und der Naturwissenschaften, ed. Menso Folkerts, Band 44), Stuttgart: Franz Steiner Verlag, 2001, 506 pp.** [See nos. 160, 144 and 178 for summaries in English, German and French.]

Reviews:

Julio Samsó, in *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* 2 (2001) pp. 409-411.

Martin Hellmann, “Neue kurzschriftgeschichtliche Erkenntnisse im Zusammenhang mit den ‘griechischen’ und ‘chaldäischen’ Zahlzeichen”, published in *Archiv für Stenographie, Textverarbeitung, Bürotechnik* (Forschungs- und Ausbildungsstätte für Kurzschrift und Textverarbeitung, Bayreuth), 2002, with a longer version at:

[www.forschungsstaette.de/Rezensionen/King\\_2001.htm](http://www.forschungsstaette.de/Rezensionen/King_2001.htm).

[Contains important reflections on the connection between the ciphers as they appear in England in the 13th century and the “Acropolis” shorthand notation from 4th-century-B.C. Athens.]

Eberhard Knobloch, in *Mathematical Reviews* 2002, (accessible on the Internet under MathSciNet, No. 2002k:01013). [Announcement only.]

Jens Hoyrup in *Centaurus* 42 (2000), pp. 246-247.

Catherine Eagleton in *British Journal for the History of Science*, 38 (2005), pp. 138-139.

Alain Boureau, in *Histoire et mesure* 18 (2006), with several errors of fact and interpretation.

- 204 “Astronomical handbooks and tables from the Islamic world (750-1900): An interim report” (co-author with Julio Samsó, with a contribution from Bernard R. Goldstein), *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* (Barcelona) 2 (2001), pp. 9-105. [A shorter illustrated version is in no. 208.]
- 205 “The astrolabe depicted in the intarsia of the *Studiolo* of Archduke Federico in Urbino”, in *La scienza del Ducato di Urbino – The Science of the Dukedom of Urbino*, Flavio Vetrano, ed., Urbino: Accademia Raffaello, 2001, pp. 101-139. [The original version is now in **E-X**.]
- 206 A review of Ekmeleddin Ihsanoglu, ed., *Osmanlı astronomi literatürü tarihi (History of Astronomy Literature during the Ottoman Period)*, 2 vols., and *Osmanlı matematik literatürü tarihi (History of Mathematics Literature during the Ottoman Period)*, 2 vols., (IRCICA Studies and Sources on the History of Science, nos. 7-8), Istanbul: İslâm Tarih, Sanat ve Kültür Araştırma Merkezi (IRCICA), 1996 and 1999, in *ISIS* 92:2 (2001), pp. 357-359.

## 2002

- 207 A website featuring the table of contents of the Frankfurt catalogue of medieval instruments, listing these chronologically according to region:

- 208 Article “Zīdī” [= astronomical handbooks and tables] in *The Encyclopedia of Islam*, Leiden: E. J. Brill, 2002, vol. XI, fasc. 187, pp. 496-508. [Illustrated; a longer version is in no. 204.]
- 209\* “Weltkarten zum Auffinden der Richtung und Entfernung nach Mekka”, *Spektrum Iran* (Kulturabteilung der Botschaft der Islamischen Republik Iran, Berlin) 15:1 (2002), pp. 5-10. [See no. 194.]
- 210 “A *vetustissimus* Arabic text on the *quadrans vetus*”, *Journal for the History of Astronomy* 33 (2002), pp. 237-255. [Repr. in **E-VIII**; see also **SATMI, IXa**.]
- 211 “Medieval monastic ciphers in Renaissance printed texts”, in *Verfasser und Herausgeber mathematischer Texte der frühen Neuzeit*, Rainer Gebhardt, ed., Annaberg-Buchholz: Adam-Ries-Bund (Schriften, Band 14), 2002, pp. 51-62.
- 212 “A recently discovered sixteenth-century Spanish astrolabe” (by Roberto Moreno, with David A. King and Koenraad Van Cleempoel), *Annals of Science* 59 (2002), pp. 331-362. [In the published version, all three contributors are listed as co-authors.]
- 213 “Notes on Yemeni astronomy in the Rasulid period”, an essay review of Daniel Martin Varisco and G. Rex Smith, eds., *The Manuscript of al-Malik al-Afdal al-‘Abbās b. ‘Alī b. Dā‘ūd b. Yūsuf b. ‘Umar b. ‘Alī ibn Rasūl (d. 778/1377) – A Medieval Arabic Anthology from the Yemen*, [London?]: E. J. W. Gibb Memorial Trust, 1998, in *Yemen Update* 44 (2002), accessible at:  
[www.aiys.org/webdate/kngrev.html](http://www.aiys.org/webdate/kngrev.html).

## 2003

- 214 “The Renaissance of astronomy in Baghdad in the ninth and tenth centuries – A list of publications, mainly from the past 50 years”, website at:  
[www.uni-frankfurt.de/fb13/ign/astronomy\\_in\\_baghdad.bibliography.html](http://www.uni-frankfurt.de/fb13/ign/astronomy_in_baghdad.bibliography.html)
- 215 “An astrolabe from 14th-century Christian Spain with inscriptions in Latin, Hebrew and Arabic – A unique testimonial to an intercultural encounter”, *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* (Barcelona) 3 (2002/03), pp. 9-156. [A new version is in **SATMI, XV**.]
- 216+ “Ein vergessenes Zahlensystem des mittelalterlichen Mönchtums”, in *Jahresbericht des Physikalischen Vereins Frankfurt am Main – 1994, 170. Vereinsjahr*, Frankfurt, 2003 [I], pp. 47-62. [Reprinted from no. 144.]
- 217\* “L’astronomia al servizio dell’Islam / Astronomie im Dienste des Islam”, in *Nel segno di Aldebaran / Im Zeichen von Aldebaran – L’Islam e la Scienza / Islam und Wissenschaft*, Bolzano, 2003, pp. 12-19. [Catalogue of an exhibition in the Centro Culturale Trevi, Bolzano, during 8.-28.03.2003.]
- 218\* “Zur Geschichte des Astrolabiums in der Welt des Islam”, in *Das Astrolabium: Beobachtungs- und Rechengerät freisichtiger Himmelskunde*, Hermann Mucke, ed., Vienna: Österreichischer Astronomischer Verein (Internationale Fachabende), 2003, pp. 79-88.
- 219 A review of Gerald L’E. Turner, *Elizabethan Instrument Makers: The Origins of the London Trade in Precision Instrument Making*, Oxford: Oxford University Press, 2000, in *Journal of the History of Collections* (Oxford) 15:1 (2003), pp. 147-150.
- 220 “A remarkable Italian astrolabe from ca. 1300 – Witness to an ingenious Islamic tradition of non-standard astrolabes”, in *MUSA MUSAEI: Studies on Scientific*

*Instruments and Collections in Honour of Mara Miniati*, Marco Beretta, Paolo Galluzzi and Carlo Triarico, eds., Florence: Leo S. Olschki, 2003, pp. 29-52. [Repr. in **E-V**; a new version is in **SATMI, XIIIId.**]

- 221 “14<sup>th</sup>-century England or 9<sup>th</sup>-century Baghdad? New insights on the origins of the elusive astronomical instrument called the *Navicula de Venetiis*”, in *Astronomy and Astrology from the Babylonians to Kepler – Essays Presented to Bernard R. Goldstein on the Occasion of his 65<sup>th</sup> Birthday*, Peter Barker, Alan C. Bowen, José Chabás, Gad Freudenthal and Y. Tzvi Langermann, eds., 2 pts., *Centaurus* 45 (2003) and 46 (2004), I, pp. 204-226. [Repr. in **E-IX**; see also **SATMI, XIIf.**]
- 222 “Astronomy in the service of Islam”, in *Cosmology through Time: Ancient and Modern Cosmologies in the Mediterranean Area - Conference Proceedings*, Astronomical Observatory of Rome, Monteporzio Catone, June 17-20, 2001, Sergio Colafrancesco and Giuliana Giobbi, eds., Milan: Mimesis, 2003, pp. 143-152.
- 223 “The cult of St. Wilgefortis in Flanders, Holland, England and France”, in *Am Kreuz – Eine Frau: Anfänge – Abhängigkeiten – Aktualisierungen*, Sigrid Glockzin-Bever and Martin Kraatz, eds., in *Ästhetik – Theologie – Liturgik* (Münster: LIT Verlag), 26 (2003), pp. 55-97. [A revised version with many more illustrations is available: see X4.]

## 2004

- 224 “A Hellenistic astrological table deemed worthy of being penned in gold ink: The Arabic tradition of Vettius Valens’ auxiliary function for finding the length of life”, in *Studies in the History of the Exact Sciences in Honour of David Pingree*, Charles Burnett, Jan P. Hogendijk, Kim Plofker and Michio Yano, eds., Leiden & Boston: Brill, 2004, pp. 666-714. [Repr. in **D-VII.**]
- 225\* “Astrolabis de la Catalunya medieval”, in *La ciència en la història dels Països Catalans, I: Dels àrabs al Renaixement*, Barcelona: Institut d’Estudis Catalans, 2004, pp. 161-204.
- 226 “Reflections on some new studies on applied science in Islamic societies (8<sup>th</sup>-19<sup>th</sup> centuries)”, *Islam & Science* 2:1 (2004), pp. 43-56. [Available on the Internet at [www.highbeam.com](http://www.highbeam.com) (enter title at their site); repr. in **New Perspectives on the History of Islamic Science, III.**]
- 227 “Towards a history from Antiquity to the Renaissance of sundials and other instruments for reckoning time by the sun and stars”, an essay review of Hester Higton, ed., *Sundials at Greenwich – A Catalogue of the Sundials, Nocturnals, and Horary Quadrants in the National Maritime Museum*, Oxford: Oxford University Press, 2002, and *eadem, Sundials – An Illustrated History of Portable Dials*, London: Philip Wilson, 2001, *Annals of Science* 61:3 (2004), pp. 377-389. [Available at: [http://www.tandf.co.uk/journals/articlecollections/annalsofscience/documents/scientific\\_instruments.pdf](http://www.tandf.co.uk/journals/articlecollections/annalsofscience/documents/scientific_instruments.pdf)]
- 228 “From inscriptions to context: Some Islamic astronomical instruments and their secrets”, in *Text & Context in Islamic Societies*, Irene A. Bierman, ed., Reading (U.K.): Ithaca, 2004, pp. 87-130. [Repr. in **D-II.**]
- 229 “Islamic astronomical instruments and some newly-discovered examples of transmission to Europe”, in *Mediterranean. Splendour of the Medieval Mediterranean. 13<sup>th</sup>-15<sup>th</sup> Centuries*, Elisenda Guedea, ed., Barcelona: Institut Europeu de la Mediterrània (IeMed) & Lunwerg Editores, 2004, pp. 400-423 and 606-607 (bibliography).
- 230 [**SATMI-1**] *In Synchrony with the Heavens – Studies in Astronomical Timekeeping and Instrumentation in Islamic Civilization*, vol. 1: *The Call of*

***the Muezzin. Studies I-IX, (Islamic Philosophy, Theology and Science – Texts and Studies, vol. LV:1), Leiden & Boston: Brill, 2004, lvii + 930 pp.***

Contains:

- I A survey of tables for timekeeping by the sun and stars (previously unpublished);
- II A survey of tables for regulating the times of prayer (previously unpublished);
- III A survey of arithmetical shadow-schemes for time-reckoning (see no. 109);
- IV On the times of prayer in Islam (previously unpublished);
- V On the role of the muezzin and the muwaqqit in medieval Islamic societies (no. 169);
- VIa Universal solutions in Islamic astronomy (see no. 91);
- VIb Universal solutions from Mamluk Syria and Egypt (see no. 96);
- VIIa On the orientation of medieval Islamic architecture and cities (see no. 156);
- VIIb Architecture and astronomy: The ventilators of medieval Cairo and their secrets (see no. 68);
- VIIc Safavid world-maps centred on Mecca (supplement to no. 194);
- VIII Aspects of practical astronomy in mosques and monasteries (see no. 159);
- IX When the night sky over Qandahar was lit only by stars ... .. (previously unpublished).

Reviews:

Imad-ad-Dean Ahmad, in *Archeoastronomy: The Journal of Astronomy in Culture* 19 (2005), p. 103.

Benno van Dalen in *Abstracta Iranica* 29 (2006).

Charles Burnett in *The Medieval Review* (2005).

Muzaffar Iqbal, in *Islam & Science* 4:1 (2006), pp. 79-83.

George Saliba, an essay review “Islamic astronomy at its best” in *Journal for the History of Astronomy* 37 (2006), pp. 233-238.

Mercè Comes in *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* 8 (2008), pp. 278-280.

## 2005

- 231 **[SATMI-2] *In Synchrony with the Heavens – Studies in Astronomical Timekeeping and Instrumentation in Islamic Civilization, vol. 2: Instruments of Mass Calculation. Studies X-XVIII, (Islamic Philosophy, Theology and Science – Texts and Studies, vol. LV:2), Leiden & Boston: Brill, 2005, lxxvi + 1066 pp.*** Contains:

- X Astronomical instrumentation in the Islamic world (previously unpublished);
- XI An approximate formula for timekeeping (750-1900) (previously unpublished);
- XIIa On the universal horary quadrant for timekeeping by the sun (previously unpublished);
- XIIb On universal horary dials for timekeeping by the sun and stars (previously unpublished);
- XIIIa The neglected astrolabe – A supplement to the standard literature on the favourite astronomical instrument of the Middle Ages (previously unpublished);
- XIIIb The oldest astrolabe in the world, from 8<sup>th</sup>-century Baghdad (previously unpublished);
- XIIIc Astrolabes from late-9<sup>th</sup>- and 10<sup>th</sup>-century Baghdad (previously unpublished);
- XIIId A medieval Italian testimonial to a forgotten Islamic tradition of non-standard astrolabes (no. 220);
- XIIIe The origin of the astrolabe according to medieval Islamic sources (see no. 48);
- XIVa An astrolabe made by the Yemeni Sultan al-Ashraf (see no. 73);
- XIVb Some astronomical instruments from medieval Syria (see no. 134);
- XIVc A monumental astrolabe from 13<sup>th</sup>-century Damascus (see no. 190);
- XIVd An astrolabe for the Sultan Ulugh Beg (previously unpublished);
- XIVe Two astrolabes for the Ottoman Sultan Bayazid II (see no. 236);

- XIVf Brief remarks on astronomical instruments from Muslim India (previously unpublished);
- XIVg A universal astrolabe from 17<sup>th</sup>-century Lahore (previously unpublished);
- XV An astrolabe from medieval Spain with inscriptions in Hebrew, Arabic and Latin (see no. 215);
- XVI The geographical data on early medieval Islamic instruments (see no. 192);
- XVII The quatrefoil as decoration on astrolabe retes (previously unpublished);
- XVIII A checklist of Islamic astronomical instruments to ca. 1500, ordered chronologically by region (previously unpublished)

Reviews:

Benno van Dalen in *Abstracta Iranica* 29 (2006).

George Saliba, an essay review “Islamic astronomy at its best” in *Journal for the History of Astronomy* 37 (2006), pp. 233-238.

Muzaffar Iqbal, in *Islam & Science* 4:1 (2006), pp. 79-83.

Mercè Comes in *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* 8 (2008), pp. 278-280.

- 232 “The sacred geography of Islam”, in *Mathematics and the Divine – A Historical Study*, T. Koetsier and L. Bergmans, eds., Dordrecht: Elsevier, 2005, pp. 161-178. [Repr. in **D-VIII.**]
- 233a “Astronomie und Mathematik als Gottesdienst: Das Beispiel Islam”, in Jochen Brüning and Eberhard Knobloch, eds., *Die mathematischen Wurzeln der Kultur – Mathematische Innovationen und ihre kulturellen Folgen*, Munich: Wilhelm Fink Verlag, 2005, pp. 91-123. [Translation not seen by the author before publication.]
- 233b Article “Kibla” for *Religion in Geschichte und Gegenwart*, 4. Auflage, Tübingen: RGG4.

## 2006

- 234 “An introduction to Ioannes Regiomontanus’ acrostic, Cardinal Basileios “Ioannes” Bessarion’s agenda, and Piero Della Francesca’s enigma” (based on two remarkable discoveries by Berthold Holzschuh), *Preprints of the Institute for the History of Science, Johann Wolfgang Goethe University, Frankfurt am Main*, 4<sup>th</sup> series, no. 2 (2006), ca. 50 pp. – available at  
[web.uni-frankfurt.de/fb13/ign/Code.htm](http://web.uni-frankfurt.de/fb13/ign/Code.htm).
- 235 “Astrolabes and angels, epigrams and enigmas:~ Regiomontanus, Cardinal Bessarion and Piero della Francesca *conveniunt in unum*” (based on two remarkable discoveries by Berthold Holzschuh), *Preprints of the Institute for the History of Science, Johann Wolfgang Goethe University, Frankfurt am Main*, 4<sup>th</sup> series, no. 1 (2006), ca. 300 pp.
- 236 “Two astrolabes for the Ottoman Sultan Bayezit II”, in *Essays in Honour of Ekmeladdin Ihsanoglu*, 2 vols., Istanbul: Research Centre for Islamic History, Art and Culture (IRCICA), 2006, I, pp. 439-459. [A new version is in **SATMI, XIVE.**]

## 2007

- 237 Article “Astrolabes, quadrants and computing devices”, in *The Encyclopedia of Islam*, 3<sup>rd</sup> edn., Leiden: Brill.
- 238 *Astrolabes and Angels, Epigrams and Enigmas – From Regiomontanus’ Acrostic for Cardinal Bessarion to Piero della Francesca’s Flagellation of Christ – An essay inspired by two remarkable discoveries by Berthold Holzschuh (Boethius – Texte und Abhandlungen zur Geschichte der Mathematik und der Naturwissenschaften, Band 56, Menso Folkerts, ed.)*, Stuttgart: Franz Steiner, 2007, pp. xi+348 pp. with CD-ROM.

Reviews:

Marco Böhlandt in *ISIS* 100 (2009), pp. 903-904.  
 Uta Lindgren in *Sudhoffs Archiv* 93:1 (2009), pp. 119-120.  
 Arianna Borrelli in *NTM – Berichte zur Wissenschaftsgeschichte* 32:1 (2009), pp. 109-110.  
 Emmanuel Poulle\* in *Archives internationales d'histoire des sciences* 59 (2009), pp. 366-369.  
 Peter Schreiner\* in *Byzantinische Zeitschrift* 102 (2009), pp. 246-247.  
 Michael H. Shank\* in *Journal for the History of Astronomy* 42 (2011), pp. 391-403.  
 [\* None of these scholars accepts that the dedication on Regiomontanus' astrolabe is an acrostic or that there is any connection between the dedication and Piero's painting.]

- 239 “On the history of astronomy in the medieval Maghrib”, in *Études d'histoire des sciences arabes*, Mohammed Abattouy, ed., Series “Hiwar al-Dhiffatayn // Les deux rives”, Casablanca: Fondation du Roi Abdul Aziz Al Saoud pour les Etudes islamiques et les Sciences humaines, 2007, pp. 175-218. [A new version of nos. 105 and 196; repr. in **D-VI**.]
- 240 “A world-map in the tradition of al-Bîrûnî (ca. 1040) and al-Khâzinî (ca. 1120) presented by Sirâj al-Dîn al-Sajâwandî (1210)”, *Mélanges offerts à Hossam Elkhadem par ses amis et ses élèves*, ed. Frank Daelemans, Jean-Marie Duvosquel, Robert Halleux & David Juste, *Archives et bibliothèques de Belgique // Archief- en bibliotheekwezen in België*, Numéro spécial // Extranummer 83, Brussels, 2007, pp. 131-160. [Repr. in **D-XI**.]
- 241 Articles “Ibn Yûnus”, “Ibn al-Shâtîr”, “al-Khalîlî”, “Abu ‘l-‘Uqûl”, and “Hasan Husayn and Muhammad Husayn”, in Thomas A. Hockey, ed., *Biographical Encyclopedia of Astronomers*, 2 vols., Dordrecht: Kluwer Academic Publishers, 2007.
- 242 Benno van Dalen, with an introduction by DAK, “An index of authors for the *Survey of Cairo Scientific Manuscripts*”, *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* 7 (2007), pp. 9-46. [See no. 78 for the original publication.]
- 243 “Henry C. King (1915-2005)”, an obituary in *Journal for the History of Astronomy* 38:1 (2007), pp. 526-527.
- 244 “Asger Aaboe (1922-2007)”, an obituary in *ISIS* 98 (2007), pp. 796-798.

## 2008

- 245 “Mathematical geography in 15<sup>th</sup>-century Egypt – An episode in the decline of Islamic science”, *Islamic Thought in the Middle Ages – Studies in Text, Transmission and Translation, in Honour of Hans Daiber*, ed. Anna Akasoy & Wim Raven, (Islamic Philosophy, Theology and Science, Texts and Studies, ed. Hans Daiber, vol. LXXV), Leiden & Boston: Brill, 2008, pp. 319-344. [Repr. in **D-XII**.]
- 246 “An astrolabe from Einbeck datable ca. 1330”, *Mathematics Celestial and Terrestrial – Festschrift für Menso Folkerts zum 65. Geburtstag*, ed. Joseph Dauben, Stefan Kirschner, Andreas Kühne, Paul Kunitzsch & Richard P. Lorch, *Acta Historica Leopoldina*, Nummer 54, Halle (Saale): Deutsche Akademie der Naturforscher Leopoldina, 2008, pp. 161-178. [Repr. in **E-VI**.]
- 247 “An instrument of mass calculation made by Nastûlus in Baghdad ca. 900”, *Suhayl – International Journal for the History of the Exact and Natural Sciences in Islamic Civilisation* 8 (2008), pp. 93-119, repr. in *New Perspectives on the History of Islamic Science*, III.
- 248 “Islamic astronomical instruments and some examples of transmission to Europe”, in Emilia Calvo, Mercè Comes, Roser Puig and Mònica Rius, eds., *A Shared Legacy –*

*Islamic Science East and West – Homage to Professor J. Millàs Vallicrosa*, Barcelona: Universitat de Barcelona, Publicacions i edicions, 2008, pp. 321-361.

## 2009

- 249 Article “Badîc al-Asturlâbî”, in *Encyclopaedia of Islam*, 3<sup>rd</sup> edn.
- 250 “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).

## 2010

- 251 “Edward Stewart Kennedy, (1912-2009)”, an obituary in *Journal for the History of Astronomy* 41 (2010), pp. 117-119.
- 252 “Astronomical instruments”, in *Handbook of Medieval Studies*, Albrecht Classen, ed., Berlin and New York: De Gruyter, 2010, pp. 126-130.
- 253 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.
- 254 “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.

## 2011

- 255 **[E] *Astrolabes from Medieval Europe*, Aldershot & Burlington VT: Ashgate - Variorum, 2011.**

Contents:

- I Astronomical instruments between East and West (no. 148)
- II The earliest European astrolabe in the light of other early astrolabes (no. 174)
- III Rewriting history through instruments: The secrets of a medieval astrolabe from Picardy (no. 135)
- IV The medieval Catalan astrolabe of the Society of Antiquaries, London (no. 173)
- V A remarkable Italian astrolabe from ca. 1300 – Witness to an ingenious Islamic tradition of non-standard astrolabes (no. 220)
- VI An astrolabe from Einbeck datable ca. 1330 (no. 246)
- VII The star-names on three 14th-century astrolabes from Spain, France and Italy (no. 199)
- VIII A *vetustissimus* Arabic text on the *quadrans vetus* (no. 210)
- IX 14<sup>th</sup>-century England or 9<sup>th</sup>-century Baghdad? New insights on the origins of the elusive astronomical instrument called the *Navicula de Venetiis* (no. 221)
- X The astrolabe depicted in the intarsia of the *Studiolo* of Archduke Federico in Urbino (no. 205)
- XI The astrolabe presented by Regiomontanus to Cardinal Bessarion in 1462 (no. 142)
- XII An ordered list of European astrolabes up to ca. 1500 (previously unpublished)
- 256 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.]



- 257 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!]
- 258 “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.

## WORKS IN PRESS

- X1 “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*.
- X2 “The two traditions of sacred geography in medieval Islamic texts and their influence on the orientation of Islamic religious architecture”, prepared for *The World of Islamic Art – Papers Presented to Ernst Grube*, edited by Doris Abouseif and Dalu Jones.
- X3 “An Ottoman astrolabe full of surprises”, to appear in a *Festschrift* for J. Lennart Berggren, edited by Nathan Sidoli and Glen Van Brummelen.
- X4 “The woman on the cross: the bearded virgin St. Wilgefortis”. [A revised version of no. 223 with more illustrations; a French translation by Jeremy Nicklin is available.]
- X5 **[D] *Islamic Astronomy and Geography*, Aldershot & Burlington VT: Ashgate - Variorum, to appear in 2012.**

Contents:

- I Islamic astronomy (no. 170)
- II From inscriptions to context: Some Islamic astronomical instruments and their secrets (no. 228)
- III Illustrations in Islamic scientific manuscripts (no. 149)
- IV Aspects of Fatimid astronomy: From hard-core mathematical astronomy to architectural orientations in Cairo (no. 195)
- V Mamluk astronomy and the institution of the muwaqqit (no. 180)
- VI On the history of astronomy in the medieval Maghrib (see no. 239)
- VII A Hellenistic astrological table deemed worthy of being penned in gold ink: The Arabic tradition of Vettius Valens’ auxiliary function for finding the length of life (no. 224, newly formatted)
- VIII The sacred geography of Islam (no. 238)
- IX Al-Bazdawî and the qibla in early Islamic Transoxania (no. 65)
- X Too many cooks ... – A newly-discovered account of the first Islamic geodetic measurements (no. 201)
- XI A world-map in the tradition of al-Bîrûnî (*ca.* 1040) and al-Khâzinî (*ca.* 1120) presented by Sirâj al-Dîn al-Sajâwandî (1210) (no. 240)
- XII Mathematical geography in 15<sup>th</sup>-century Egypt – An episode in the decline of Islamic science (no. 245, newly formatted)