

Ruth Freitag
Library of Congress

— Books and Pamphlets —

Abstracts of contributed talks and posters presented at the scientific fall meeting of the Astronomische Gesellschaft at Bochum, September 27–October 1, 1993. Hamburg, 1993. 212 p. (Astronomische Gesellschaft. Abstract series, no. 9)

Partial contents: Talks. Schwarz, O. Remarks on the historical development of the theory of stellar structure (1860–1926). Wolfschmidt, G. Hermann Carl Vogel as a pioneer of astrophysics. Schmidt, H. J. Observable effects of a gravitational Yukawa potential. Duerbeck, H. W. In Hubble's shadow: early steps towards the velocity-distance relation of extragalactic nebulae. Reuter, S. The Cepheid period-luminosity relation: the significance for the cosmic distance scale. Hentschel, K. The discovery of center-limb shifts in the solar spectrum by Halm in Edinburgh in 1907 and early interpretations. Krauss, R. Ancient Egyptian observations of Mercury and Venus for astrological reasons. Schmidt, E. From earth globe (M. Behaim, 1492) to lunar globe (T. Mayer, 1750). Wünsch, J. Reduction of astrometric observations of planets by Hevelius. Bien, R., R. Jährling, and H. P. Schwake. Liselotte von der Pfalz und die totale Mondfinsternis vom 9. September 1718. Dick, W. R. Wilhelm Struve—some new facts and aspects.—Posters. Firneis, M. G. Elisabeth von Matt (1762–1814)—Austria's baroque lady of astronomy. Geyer, E. H., and R. Sitter. Der astronomische Inhalt eines vor-philatelistischen Briefumschlages aus dem Jahre 1848. Wolfschmidt, G. Nicolaus Copernicus—revolutionary against his will.

Aby M. Warburg. Bildersammlung zur Geschichte von Sternglaube und Sternkunde im Hamburger Planetarium. Hrsg. von Uwe Fleckner, Robert Galitz, Claudia Naber und Herwart Nöldeke. Hamburg, Dölling und Galitz, 1993. 398 p. illus., ports.

Partial contents: T. I. Dokumentation. Bing, G. Aby M. Warburg. Die Geschichte der Bildersammlung von 1927 bis 1987. Die Bildersammlung. Beiträge zur Ausstellung von 1930/31.—T. 2. Wissenschaftliche Beiträge. Blume, D. Die Bildersammlung aus heutiger Sicht; ein kommentierender Gang durch Warburgs Bildersammlung. Kommentierte Bildersammlung und aktueller Forschungsstand. Aktuelle Aspekte zur Bildersammlung.

Acloque, Paul. L'aberration stellaire: un mirage qui a destitué l'éther. Paris, Société française d'histoire des sciences et des techniques, 1991. 258 p. illus. (Cahiers d'histoire et de philosophie des sciences, nouv. sér., 36)

Action and reaction. Proceedings of a symposium to commemorate the tercentenary of Newton's *Principia*. Edited by Paul Theerman and Adele F. Seeff. Newark, University of Delaware Press, 1993. 324 p. illus., facsimils., port.

Partial contents: Brush, S. G., A. F. Seeff, and P. Theerman. Introduction.—Westfall, R. S. The culmination of the scientific revolution: Isaac Newton.—Cohen, I. B. The *Principia*, the Newtonian style, and the Newtonian revolution in science.—Dobbs, B. J. T. "The unity of truth": an integrated view of Newton's work.—Harper, W. L. Reasoning from phenomena: Newton's argument for universal gravitation and the practice of science.—Mahoney, M. S. Algebraic vs. geometric techniques in Newton's determination of planetary orbits.—Schaffer, S. Comets & idols: Newton's cosmology and political theology.—Wilczek, F. A modern look at Newton's final queries.—Shapere, D. Overview: Newton's place in history.

Archaeoastronomy in the 1990s. Papers derived from the third 'Oxford' International Symposium on Archaeoastronomy, St.

Andrews, U.K., September 1990. Edited by Clive L. N. Ruggles. Loughborough, UK, Group D Publications, 1993. xiv, 364 p. illus., maps.

Contents: 1. Ruggles, C. L. N. Introduction: Archaeoastronomy—the way ahead.—I. Thematic contributions. 2. Aveni, A. F. Archaeoastronomy in the Americas since Oxford 2. 3. McCluskey, S. C. Space, time and the calendar in the traditional cultures of America. 4. Iwaniszewski, S. Some social correlates of directional symbolism.—II. New horizons. 5. Pearce, S. M. Moon Man and Sea Woman: the cosmology of the Central Inuit. 6. Vilhjálmsson, T. Time-reckoning in Iceland before literacy. 7. Frank, R. M., and J. D. Patrick. The geometry of pastoral stone octagons: the Basque *sarobe*. 8. Lyle, E. The moon and Indo-European calendar structure. 9. Pásztor, E. Some remarks on the moon cult of the Teutonic tribes. 10. Radoslavova, TS. Astronomical knowledge in Bulgarian lands during the Neolithic and Early Bronze Age. 11. Ruggles, C. L. N. Four approaches to the Borana calendar. 12. Ecsedy, I., and K. Barlai. Astronomy in the ancient written sources of the Far East. 13. Liller, W. Orientations of religious and ceremonial structures in Polynesia. 14. Cairns, H. Aboriginal sky-mapping? Possible astronomical interpretation of Australian aboriginal ethnographic and archaeological material.—III. New techniques, methods and approaches. 15. Schaefer, B. E. Basic research in astronomy and its applications to archaeoastronomy. 16. Sinclair, R. M., and A. Sofaer. A method for determining limits on the accuracy of naked-eye locations of astronomical events. 17. Ruggles, C. L. N., and R. Martlew. An integrated approach to the investigation of astronomical evidence in the prehistoric record: the North Mull project. 18. Patrick, J. D. The astronomy and geometry of Irish passage grave cemeteries: a systematic approach.—IV. Continuing research: new results. 19. Ambruster, C. A., and R. A. Williamson. Sun and sun serpents: continuing observations in south-eastern Utah. 20. Chamberlain, V. D., and P. Schaafsma. The origin and meaning of Navajo starceilings. 21. Malville, J. M., and J. Walton. Organisation of large settlements of the northern Anasazi. 22. Krupp, E. C. Summer solstice: a Chumash basket case. 23. Murray, W. B. Counting and sky-watching at Boca de Potrerillos, Nuevo León, Mexico: clues to an ancient tradition. 24. Sprajc, I. Venus orientations in ancient Mesoamerican architecture. 25. Tichy, F. Mesoamerican geometry combined with astronomy and calendar: the way to realise orientation. 26. Iwaniszewski, S. Mesoamerican cross-circle designs revisited. 27. Ziolkowski, M. S., and A. Lebeuf. Were the Incas able to predict lunar eclipses? 28. Curtis, M., and R. Curtis. Callanish: maximising the symbolic and dramatic potential of the landscape at the southern extreme moon. 29. Thom, A. S. The Bush Barrow gold lozenge: a solar and lunar calendar for Stonehenge? 30. Proverbio, E. New evidence concerning possible astronomical orientations of 'Tombe di Giganti'.—V. Education and dissemination. 31. Ruggles, C. L. N. An image database for learning archaeoastronomy.—Appendix: Abstracts of [10] papers published in the companion Oxford 3 volume 'Astronomies and Cultures.'

Bartusiak, Marcia. Through a universe darkly; a cosmic tale of ancient ethers, dark matter, and the fate of the universe. New York, HarperCollins Publishers, 1993. xvi, 383 p. illus., ports.

Beiträge zur Geschichte der Astronomie in Deutschland. Fünf Aufsätze von Jürgen Helfricht, Peter Starsy, Gisela Müntzel, Jürgen Hamel, Edgar Mädlow. Berlin-Treptow, 1989. 68 p. illus. (Archenhold-Sternwarte, Berlin-Treptow. Veröffentlichungen, Nr. 21)

Contents: Helffricht, J. Tobias Beutel—sächsischer Astronom, *Kunstkämmerer, Matematiker und Kartograph* des 17. Jahrhunderts (um 1627–1690).—Starsy, P. Joachim Trumpf—ein mecklenburgischer “Amateurastronom” des 18. Jahrhunderts.—Münzel, G. Das Observatorium im Schloss Pleissenburg zu Leipzig. Gründungsgeschichte des ersten Observatoriums der Alma Mater Lipsiensis und Wirkungszeit des ersten Observators.—Hamel, J. Einige biographische Notizen zu Jakob Wilhelm Heinrich Lehmann (1800–1863).—Mädlow, E. Erinnerungen an die Berliner Astronomische Vereinigung (BAV), alias “Gramatzki-Gesellschaft.”

Bénichou, Hélène. *Fêtes et calendriers; les rythmes du temps*. Paris, Mercvre de France, 1992. 222 p. illus.

Bertoloni Meli, Domenico. *Equivalence and priority: Newton versus Leibniz. Including Leibniz's unpublished manuscripts on the Principia*. Oxford, Clarendon Press, 1993. 318 p. illus., facsimis. (Oxford science publications)

“This book examines the competing world systems put forward by Newton and Leibniz in the late 1680s and their reception up to the beginning of the eighteenth century.”

Betts, Jonathan. *John Harrison*. London, National Maritime Museum, 1993. 24 p. illus. (part col.), ports. (part col.)

Biagioli, Mario. *Galileo, courtier; the practice of science in the culture of absolutism*. Chicago, University of Chicago Press, 1993. 402 p. illus. (Science and its conceptual foundations)

Biblioteca casanatense. *Gli arcani delle stelle; astrologi e astrologia nella Biblioteca casanatense*. Gaeta, Gaetografiche, 1991. 181 p. illus., facsimis., col. plates. (Biblioteca casanatense. Mostre permanenti, 1)

In addition to introductory matter and the catalog of 154 books from the 15th–18th centuries, with an index of authors' names and titles of anonymous works, includes the essays listed below in a section entitled “A proposito di astrologia ...” (p. 147–179).

Contents: Anzaldi, A. Astrologia e scienza ovvero astrologia è scienza?—Bartòla, A. Il matematico e gli astri, contributo allo studio dell'arithmologia di Athanasius Kircher.—Bornoroni, M. Trattato naturale delle interrogazioni astrologiche, considerazioni intorno ad un manoscritto anonimo del secolo XVIII.—Calisi, M. Descrizione di un originale strumento conservato presso la Biblioteca casanatense.—Cerchiai, C. Augusto: Bilancia o Capricorno?—Manodori, A. Lo gnomone astronomico o linea meridiana tangente nella basilica di S. Maria degli Angeli e dei Martiri in Roma e suo ideatore Francesco Bianchini.

Bono da Lucca. *Computus lunaris*; 1254. A cura e con introduzione di Gino Arrighi. Lucca, Accademia lucchese di scienze, lettere ed arti, 1991. 26 p. (Accademia lucchese di scienze, lettere ed arti. Studi e testi, 29)

Caspar, Max. *Kepler*. Translated and edited by C. Doris Hellman. With a new introd. and references by Owen Gingerich. Bibliographical citations by Owen Gingerich and Alain Segonds. New York, Dover Publications, 1993. 441 p.

Castro Soler, Joaquín, Antonio E. Ten Ros, and Vicente Zorrilla Palau. *Bibliographia astronomica et geodaetica hispanica*, 1795–1905. v. 1. *Introducción. Inventario A–Z*. Valencia, Instituto de Estudios Documentales e Históricos sobre la Ciencia, Universidad de Valencia, 1990 [i.e. 1991] 243 p. (Cuadernos valencianos de historia de la medicina y de la ciencia, 34. Serie C, Repertorios bibliográficos)

Lists journal articles as well as books.

Ciclo di lezioni “Astrologia, scienza, filosofia e società nel Trecento europeo,” Parma, 1990. Filosofia, scienza e astrologia nel Trecento europeo. Biagio Pelacani Parmense. Atti ... a cura di Graziella Federici Vescovini e Francesco Barocelli, con un intervento di Raymond Klibansky. Padova, Il Poligrafo, 1992. 222 p. illus. (Percorsi della scienza; storia, testi, problemi, 2)

Contents: Conversazione con Raymond Klibansky, a cura di Francesco Barocelli.—Barocelli, F. Per Biagio Pelacani un convegno e un “Centro Studi.”—Federici Vescovini, G. Biagio Pelacani: filosofia, astrologia e scienza agli inizi dell'età moderna.—Pedersen, O. The ‘Theorica planetarum’ and its progeny.—Morpugo, P. Michele Scoto e Dante: una continuità di modelli culturali?—North, J. D. Astrological structures in the poetry of Geoffrey Chaucer.—Lemay, R. De l'antiarabisme—ou rejet du style scolaire—comme inspiration première de l'humanisme italien du Trecento.—Jacquart, D. Médecine et astrologie à Paris dans la première moitié du XIV^e siècle.—Biard, J. Conception sémiologique de la science et statut ontologique de la quantité dans le nominalisme parisien du XIV^e siècle.—Garfagnini, G. C. La polemica antiastrologica del Savonarola ed i suoi precedenti tomistici.—Appendice. Opere di Biagio Pelacani da Parma, a cura di Graziella Federici Vescovini.

Codex Borgianus. The Codex Borgia, a full-color restoration of the ancient Mexican manuscript. [By] Gisele Díaz and Alan Rodgers. With an introd. and commentary by Bruce E. Byland. New York, Dover Publications, 1993. xxxii, 77 p. illus., col. plates.

Cohen, Mark E. *The cultic calendars of the ancient Near East*. Bethesda, Md., CDL Press, 1993. xxiii, 504 p.

Cooper, Henry S. F. *The Evening Star; Venus observed*. New York, Farrar Straus Giroux, 1993. 273 p. maps (on lining papers) On the Magellan mission.

Cosmology: historical, literary, philosophical, religious, and scientific perspectives. Edited by Norris S. Hetherington. New York, Garland Pub., 1993. 631 p. illus. (Garland reference library of the humanities, v. 1634)

Contents: I. Cosmology and culture.—II. The Greeks' geometrical cosmos.—III. Medieval cosmology and literature.—IV. The scientific revolution.—V. Galaxies: from speculation to science.—VI. The expanding universe.—VII. Particle physics and cosmology.—VIII. Cosmology and philosophy.—IX. Cosmology and religion.

Eden, Alec. *The search for Christian Doppler*. Wien, New York, Springer-Verlag, 1992. xiv, 136 p. illus. (part col.), plans, ports. (part col.)

“The Published Works of Christian Doppler”: p. 83–92.

Includes facsimile text of “Ueber das farbige Licht der Doppelsterne und einiger anderer Gestirne des Himmels” with English translation on facing pages.

Empson, William. *Essays on Renaissance literature*. Edited by John Haffenden. v. 1. *Donne and the new philosophy*. Cambridge, New York, Cambridge University Press, 1993. xvi, 296 p.

Much attention is given to Donne's interest in astronomy, his conversance with the writings of Kepler and Galileo, and his probable familiarity with the ideas of Giordano Bruno. See particularly “Donne the Space Man,” “Donne's Foresight,” “Copernicanism and the Censor,” “Thomas Digges His Infinite Universe,” and “Godwin's Voyage to the Moon.”

Flik, Józef. *Portret Mikolaja Kopernika z Muzeum Okregowego w Toruniu; studium warsztatu malarstwa Toruń, Uniwersytet Mikolaja Kopernika*, 1990. 144 p. illus., ports.

English summary.

Fomenko, Anatoli T., Vladimir V. Kalashnikov, and G. V. Nosovski. *Geometrical and statistical methods of analysis of star configurations; dating Ptolemy's Almagest*. Boca Raton, CRC Press, 1993. 300 p. illus.

González González, Francisco J. *El Observatorio de San Fernando (1831–1924)*. Madrid, Ministerio de Defensa, Secretario General Técnica, Instituto de Historia y Cultura Naval, 1992. 386 p. col. illus., col. maps, col. plans.

Grant, Edward. *Planets, stars, and orbs; the medieval cosmos*, 1200–

1687. Cambridge, New York, Cambridge University Press, 1994. xxiii, 816 p. illus., ports.
- Grzybek, Erhard. *Du calendrier macédonien au calendrier ptolémaïque; problèmes de chronologie hellénistique*. Basel, F. Reinhardt, 1990. 212 p. illus. (part fold.) (Schweizerische Beiträge zur Altertumswissenschaft, Heft 20)
- Contents: 1. ptie. Le calendrier macédonien de 336 à 323 av. J.-C.—2. ptie. La stèle de Pithom.—3. ptie. Le calendrier ptolémaïque de 267 à 246 av. J.-C.
- Guest, Ivor F. Dr. John Radcliffe and his Trust. London, Radcliffe Trust, 1991. xvi, 595 p. illus., maps, ports. (part col.)
- See particularly chapters 6–7, “The Radcliffe Observatory at Oxford” (p. 224–303) and “The Radcliffe Observatory at Pretoria” (p. 304–358).
- Appendices list Radcliffe Observers (p. 498), achievements of the Radcliffe Observatory at Pretoria (p. 499–501), Radcliffe Travelling Fellows in Astronomy (p. 502), and amounts spent annually on the Library and the Observatory (p. 503–509).
- Guman, István. *Die Astronomie in der Mythologie der Dogon*. Berlin-Treptow, 1989. 48 p. illus. (Archonhold-Sternwarte, Berlin-Treptow. Vorträge und Schriften, Nr. 68)
- “Anhang: Die totale Sonnenfinsternis vom 4.(16.) April 1893, beobachtet in Foundiougne (Senegal), von N. Coculescu”: p. 45–48.
- Hitz, Hans R. *Der gallo-lateinische Mond- und Sonnen-Kalender von Coligny. Eine neue Deutung des längsten keltischen Dokuments*. Dietikon, Juris-Verlag, 1991. 271 p. illus., fold. tables.
- Hoffleit, Dorrit. *Astronomy at Yale, 1701–1968*. New Haven, Connecticut Academy of Arts and Sciences, 1992. xvii, 230 p. illus., facsimils., plan, ports. (Connecticut Academy of Arts and Sciences, New Haven. Memoirs, v. 23)
- Hostetter, Clyde. *Star trek to Hawa-i'i: Mesopotamia to Polynesia*. San Luis Obispo, Calif., Diamond Press, 1991. 208 p. illus., maps, ports.
- “Polynesian origins in the Middle East and Persian Gulf are revealed in this fascinating odyssey ...”
- Hoyle, Sir Fred. *The origin of the universe and the origin of religion*. Wakefield, R.I., Moyer Bell, 1993. 91 p. (Anshen transdisciplinary lectureships in art, science, and the philosophy of culture, monograph 2)
- Includes, on p. 65–82, discussion by Freeman Dyson, Paul Oscar Kristeller, John Archibald Wheeler, James Schwartz, Roger Shinn, Milton Gatch, Philip Solomon, and Norman Newell, with concluding remarks by Sir Fred on p. 83–85.
- 100 Jahre Dr. Remeis-Sternwarte Bamberg. Bamberg, 1989. 102 p. illus. (part col.), facsimils., ports. (Bamberg. Remeis-Sternwarte. Veröffentlichungen, Bd. 13, Nr. 134)
- More than half the issue is devoted to “Astronomische Werke in der Schlossbibliothek Pommersfelden,” an annotated catalog compiled by Gudrun Wolfschmidt (p. 34–102).
- The Imagination of matter: religion and ecology in Mesoamerican traditions. Edited by David Carrasco. pt. 2. *Astronomy, skyscapes and the imagination of matter*. Oxford, B.A.R., 1989. (BAR international series, 515) p. 83–135.
- Contents: Aveni, A. F. The role of astronomical orientation in the delineation of world view: a center and periphery model.—Milbrath, S. A seasonal calendar with Venus periods in Codex Borgia 29–46.—Aguilera, C. Templo Mayor: dual symbol of the passing of time.
- Kepler, Johann. *Keplers Elegie In obitum Tychonis Brahe*. Übertragung und Kommentar von Hans Wieland. München, Verlag der Bayerischen Akademie der Wissenschaften, In Kommission bei der C. H. Beck'schen Verlagsbuchhandlung, 1992. 45 p. (Bayerische Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Klasse. Abhandlungen, n.F., Heft 168) (Nova Kepleriana, n.F., Heft 8)
- Kulikov, Sergei. *Nit' vremēn; malaia entsiklopediia kalendaria s zametkami na poliakh gazet*. Moskva, “Nauka,” Glav. red. fiziko-matematicheskoi lit-ry, 1991. 287 p. illus.
- Lemonick, Michael D. *The light at the edge of the universe; leading cosmologists on the brink of a scientific revolution*. New York, Villard Books, 1993. 325 p. plates, ports.
- Levy, David H. *The man who sold the Milky Way; a biography of Bart Bok*. Tucson, University of Arizona Press, 1993. 246 p. illus., ports. “The Writings of Bart and Priscilla Bok”: p. 211–228.
- The Life and times of modern physics; history of physics II. Edited by Melba Phillips. New York, American Institute of Physics, 1992. 366 p. illus., ports. (Readings from Physics today, no. 5)
- Partial contents: DeVorkin, D. H. The Harvard summer school in astronomy (1984).—Goldberg, L. Harlow Shapley, 1885–1972 (1973).—Swenson, L. S. Michelson in 1887 (1987).—Stachel, J. Einstein and ether drift experiments (1987).—Smith, R. W. Edwin P. Hubble and the transformation of cosmology (1990).
- Major, John S. *Heaven and earth in early Han thought*. Chapters three, four, and five of the *Huainanzi*. With an appendix by Christopher Cullen. Albany, State University of New York Press, 1993. xvi, 388 p. illus. (SUNY series in Chinese philosophy and culture)
- “Appendix A. A Chinese Eratosthenes of the Flat Earth: A Study of a Fragment of Cosmology in *Huainanzi*, by Christopher Cullen”: p. 269–290.
- Malville, J. McKim, and Claudia Putnam. *Prehistoric astronomy in the Southwest*. Rev. ed. Boulder, Colo., Johnson Books, 1993. 108 p. illus., maps, plans.
- Margolis, Howard. *Paradigms & barriers: how habits of mind govern scientific beliefs*. Chicago, University of Chicago Press, 1993. 267 p. illus.
- According to the preface, “much of the study exploits case material from the history of astronomy.”
- Marshack, Alexander. *The roots of civilization; the cognitive beginnings of man's first art, symbol and notation*. Rev. and expanded. Mount Kisco, N.Y., Moyer Bell, 1991. 445 p. illus., map.
- Much of the work is concerned with the author's interpretation of engraved markings on bones and other objects from Ice Age sites as early calendars based on lunar phases: “The roots of science and of writing seem to be here.”
- Meier, Ludwig. *Der Himmel auf Erden: die Welt der Planetarien*. Leipzig, J. A. Barth, 1992. 156 p. illus. (part col.)
- Contents: 1. *Himmelsmaschinen aus zwei Jahrtausenden*.—2. *Erfundung und Entwicklung des Projektionsplanetariums*.—3. *Astronomie im Spiegel der Planetariumstechnik*.—4. *Planetarien im Einsatz*.
- Meinel, Christoph. *Karl Friedrich Zöllner und die Wissenschaftskultur der Gründerzeit. Eine Fallstudie zur Genese konservativer Zivilisationskritik*. Berlin, Sigma, 1991. 59 p. facsim., ports. (Berliner Beiträge zur Geschichte der Naturwissenschaften und der Technik, 13)
- English summary: p. 5.
- “The case displays the fragility of the culture of science in Imperial Germany and its hidden antinomies.”
- Mennim, Eleanor. *Transit circles; the story of William Simms (1793–1860)*. York, W. Sessions, 1992. xiv, 302 p. illus., geneal. tables (part fold.), ports.
- “List of instruments mentioned in text”: p. 277–279.
- Metzger, Hans C. *Kirche: Mutter der Physik? Eine Einführung in die*

Geschichte der kopernikanischen Wende unter besonderer Berücksichtigung der Rolle der Kirche. Bochum, Universitätsverlag Dr. N. Brockmeyer, 1992. 151 p. illus., maps. (Abhandlungen zur Geschichte der Geowissenschaften und Religion/Umwelt-Forschung. Beiheft 1)

Nasr, Seyyed Hossein. An introduction to Islamic cosmological doctrines. Conceptions of nature and methods used for its study by the Ikhwan al-Safa', al-Biruni, and Ibn Sina. Rev. ed. Albany, State University of New York Press, 1993. xxv, 322 p. illus.

Noack, Beate. Aristarch von Samos: Untersuchungen zur Überlieferungsgeschichte der Schrift Peri megethon kai apostematon heliou kai selenes. Wiesbaden, Dr. L. Reichert Verlag, 1992. 408, [53] p. illus. (Serta Graeca; Beiträge zur Erforschung griechischer Texte, 1)

O'Brien, Tim. Light years ago; a study of the cairns of Newgrange and Cairn T Loughcrew, Co. Meath, Ireland. Dublin, Black Cat Press, 1992. 55 p. illus. (part col.), col. maps, plans.

"There can be little doubt but that these two sites, if not all passaged cairns, were sophisticated structures built to measure the sun's movement by a society which possessed considerable engineering skill."

Observatoire astronomique de Strasbourg. Publications. Série Astronomie et sciences humaines. no 1. Strasbourg, 1988. 125 p. illus.

Contents: Parisot, J. P. Le calendrier gaulois de Coligny.—Barreau, H. Temps et devenir.—Rozelot, J. P. Essai de reconstitution des extrema solaires historiques.—Molet, L. Temps, durée et naissance des calendriers.—Jasniewicz, G. La détermination et la conservation d l'heure: histoire d'une fonction sociale.—Triomphe, R. Division et continuité du temps dans les mythes grecs: le seuil et le cercle.—Wagner, E. H. Abu Ma'sar et la théorie des grandes conjonctions.—Suagher, F., and J. P. Parisot. Les calendriers liturgiques et les irrégularités de la date de Pâques.—Fischer, K. A. F. Les phénomènes "météorologiques" dans la tradition populaire.

Observatoire astronomique de Strasbourg. Publications. Série Astronomie et sciences humaines. no 2. Strasbourg, 1988. 150 p. illus.

Contents: Andrillat, H. Le zodiaque de Denderah.—Parisot, J. P. Le lever héliaque de Sirius.—Jasniewicz, G., and F. Jaffiol. L'astronomie des anciens Mayas.—Lazarides, C. "Année platonicienne" et période précessionnelle.—Lebeuf, A. Les boîteries rituelles de printemps.—Florsch, A. L'observation populaire de la chute des météorites. (Deux enquêtes publiques sur des chutes de météorites; ou, La population face à des phénomènes célestes.)—Le Contel, J. M., and P. Verdier. La mesure du temps chez les Celtes. (Une lecture du calendrier de Coligny.)—Klein, E. Hildegard de Bingen: représentations cosmologiques.

With the exception of those by Parisot, Lazarides, and Lebeuf, the essays are accompanied by summaries in English.

Observatoire astronomique de Strasbourg. Publications. Série Astronomie et sciences humaines. no 3. Strasbourg, 1989. 110 p.

Contents: Triomphe, R. La lune vue par les Grecs.—Hornecker, J. P. Le calendrier romain de 304 jours.—Verdier, P. E. A. "Ma traduction" du calendrier de Coligny.—Lebeuf, A. L'observatoire astronomique de la cathédrale Saint-Lizier de Couserans.—Schlosser, W. Astronomy in Europe between 8000 and 1200 BC; ten years archaeoastronomy at the Ruhr-University.—Kah, P. Nicolas Machiavel et la structure ternaire de l'univers.

The essays in French are accompanied by abstracts in English.

"Ochava espera" y "astrofísica." Textos y estudios sobre las fuentes árabes de la astronomía de Alfonso X. Edición preparada por Mercè Comes, Honorino Mielgo y Julio Samsó. Barcelona, Agencia Española de Cooperación Internacional, Instituto de Cooperación con el Mundo Árabe; Universidad de Barcelona, Instituto "Millás Vallicrosa" de Historia de la Ciencia Árabe, 1990. 246 p. illus.

Contents: Comes, M. Al Sufi como fuente del libro de la "Ochava Espera" de Alfonso X.—Samsó Moya, J. El original árabe y la

versión alfonsí del *Kitab fi hay'at al-'alam* de Ibn al-Hayam.—Mancha, J. L. La versión alfonsí del *Fi hay'at al-'alam* (De configuratione mundi) de Ibn al-Haytam (Oxford, Canon. misc. 45, ff. 1r–56r).—Forcada Nogués, M. El *Picatrix*, fuente del *Lapidario*.—Calvo, E. La lámina universal de 'Ali b. Jalaf (s. XI) en la versión alfonsí y su evolución en instrumentos posteriores.—Viladrich i Grau, M. Dos capítulos de un tratado de astrolabio en un pergamo del Monasterio de Santa María de Pedralbes.

Osterbrock, Donald E. Pauper & prince: Ritchey, Hale & big American telescopes. Tucson, University of Arizona Press, 1993. xv, 359 p. illus., plans, ports.

"Papers, books, and articles by George Willis Ritchey": p. 293–295.

Paul, Erich Robert. The Milky Way galaxy and statistical cosmology, 1890–1924. Cambridge, New York, Cambridge University Press, 1993. xiv, 262 p. illus., facsimis., ports.

Peterson, Ivars. Newton's clock: chaos in the solar system. New York, W. H. Freeman, 1993. 317 p. illus., ports.

Pyenson, Lewis. Civilizing mission: exact sciences and French overseas expansion, 1830–1940. Baltimore, Johns Hopkins University Press, 1993. xxi, 377 p. illus., ports.

"This book completes a trilogy devoted to cultural imperialism and exact sciences. It treats physicists and astronomers who worked in the French overseas empire and in French spheres of influence; it documents how Western learning arrived on distant shores and also how pure knowledge played a role in geopolitical contests. It establishes a framework for a systematic study of exact sciences in nations that achieved political independence during the twentieth century."

The Role of Miklós Konkoly Thege in the history of astronomy in Hungary. The 120th anniversary of Konkoly Observatory, meeting in Budapest, 5–6 September 1991. Proceedings. Edited by Magda Varga, László Patkós and Imre Tóth. Budapest, Konkoly Observatory, 1992. 97 p. illus., facsimis., ports. (Konkoly Observatory of the Hungarian Academy of Sciences. Monographs, no. 1)

Contents: Patkós, L. Miklós Konkoly Thege, the Hungarian astronomer.—Varga, M. The role of Konkoly Thege in the history of astronomy in Hungary.—Barlai, K. Astronomical friendships: Konkoly Thege's scientific relations.—Horváth, J. Jenő Gotthard and Miklós Konkoly Thege.—Kálmán, B. Konkoly Thege's researches in solar physics.—Tóth, I. Konkoly Thege and the research of comets.—Illés-Almár, E. On Konkoly Thege's Jupiter observations.—Zsoldos, E. The Ógyalla catalogues.—Szabados, L. Later results based on old observations of variable stars.—Wolfschmidt, G. Astronomical instrumentation of the era Konkoly Thege in respect to their significance of astrophysics.—Druga, L. The Ógalla observatory today.—Konkoly Thege, S. Dr. Miklós Konkoly Thege the politician.

The deed of Dr. Konkoly Thege's gift is reproduced in an appendix.

Romano, Giuliano. Archeoastronomia italiana. Padova, Edizioni CLEUP, 1992. 272 p. illus., maps, plans, plates.

Samsó, Julio. Las ciencias de los antiguos en al-Andalus. Madrid, Editorial MPAFRE, 1992. 501 p. illus.

Partial contents: 1.3. Astrología y leyendas sobre la conquista.—1.4. El "Libro de las Cruces", el texto astrológico andalusí más antiguo conocido.—2.2. Los astrólogos de 'Abd al-Rahman II (821–852).—2.4. El desarrollo del "miqat".—2.5. Astronomía y astrología a partir de c. 850.—3.3. La astronomía [en el siglo de oro (1030–1086)]—5.2. La astronomía matemática y la herencia de Azarquiel.—5.3. Filosofía, física y astronomía [en el siglo de los filósofos (1086–1232)]—6.3.2.2. La astronomía [en la Granada Nazarí (1232–1492)]

Saturn, from antiquity to the Renaissance. Edited by Massimo Ciavolella and Amilcare A. Iannucci. Ottawa, Dovehouse Editions, 1992. 181 p.

illus. (University of Toronto Italian studies, 8)

Listed below are the essays concerning or emphasizing the planet Saturn, as opposed to the Roman deity.

Partial contents: Iannucci, A. Saturn in Dante.—Guerrini, R. Saturn at Città di Castello.—De Armas, F. A. Saturn in conjunction: from Albumasar to Lope de Vega.—Ciavolella, M. Saturn and Venus.

Schwarz, Oliver. Zur historischen Entwicklung der Theorie des inneren Aufbaus der Sterne von 1861 bis 1926. Berlin-Treptow, 1992. 169 p. (Archenhold-Sternwarte, Berlin-Treptow. Veröffentlichungen, Nr. 22)

Science in Western and Eastern civilization in Carolingian times. Edited by Paul Leo Butzer, Dietrich Lohrmann. Basel, Boston, Birkhäuser, 1993. 605 p. illus. (part col.), facsimis. (part col.), maps, plans.

One map on back lining paper.

Partial contents: Borst, A. Alkuin und die Enzyklopädie von 809.—Lohrmann, D. Alcuins Korrespondenz mit Karl dem Grossen über Kalender und Astronomie.—McCluskey, S. C. Astronomies in the Latin West from the fifth to the ninth centuries.—Eastwood, B. S. The astronomies of Pliny, Martianus Capella and Isidore of Seville in the Carolingian world.—Tihon, A. L’astronomie à Byzance à l’époque iconoclaste (VIII^e–IX^e siècles).—Kunitzsch, P. Arabische Astronomie im 8. bis 10. Jahrhundert.—Schlosser, W., and B. Hoffmann. Ptolemy’s Milky Way and modern surface photometries in the visual spectral range.—Wiesenbach, J. Pacificus von Verona als Erfinder einer Sternenuhr.—Euw, A. von. Die künstlerische Gestaltung der astronomischen und komputistischen Handschriften des Westens.—Stevens, W. M. Computus-Handschriften Walahfrid Strabos.

All abstracts are in English.

Sharov, Aleksandr S., and Igor D. Novikov. Edwin Hubble, the discoverer of the big bang universe. Translated by Vitaly Kisim. Cambridge, New York, Cambridge University Press, 1993. xv, 187 p. illus., ports.

Translation of *Chelovek, otkryvshii vzryv vselennoi*.

“Bibliography of Hubble’s publications”: p. 170–175.

The Sky in Mayan literature. Edited by Anthony F. Aveni. New York, Oxford University Press, 1992. 297 p. illus.

Contents: Aveni, A. F. Introduction: making time.—1. Tedlock, B. The road of light: theory and practice of Mayan skywatching.—2. Bricker, V. R., and H. M. Bricker. A method for cross-dating almanacs with tables in the Dresden Codex.—3. Aveni, A. F. The moon and the Venus table: an example of commensuration in the Maya calendar.—4. Hofling, C. A., and T. O’Neil. Eclipse cycles in the Moon Goddess almanacs in the Dresden Codex.—5. Closs, M. P. Some parallels in the astronomical events recorded in the Maya codices and inscriptions.—6. Bricker, H. M., and V. R. Bricker. Zodiacial references in the Maya codices.—7. Lounsbury, F. G. A derivation of the Mayan-to-Julian calendar correlation from the Dresden Codex Venus chronology.—8. Lounsbury, F. G. A solution for the number 1.5.5.0 of the Mayan Venus table.—9. Paxton, M. The Books of Chilam Balam: astronomical content and the Paris Codex.—10. Tedlock, D. Myth, math, and the problem of correlation in Mayan books.—11. Frake, C. O. Lessons of the Mayan sky: a perspective from medieval Europe.

Symposium on Research Amateur Astronomy, *La Paz, Baja California Sur, 1991*. Research amateur astronomy. Proceedings of the Symposium on Research Amateur Astronomy, 7–12 July 1991, La Paz, Baja California Sur, Mexico. Edited by Stephen J. Edberg. San

Francisco, Astronomical Society of the Pacific, 1992. 267 p. illus. (Astronomical Society of the Pacific conference series, v. 33)

Partial contents: Arnold, H. J. P. Eclipse of the sun: the first images.—Rickard, J. J. Human interaction at total solar eclipses—the events at General Santos City, Mindanao, The Philippines, March 18, 1988.—Ruiz Gallut, M. E. The solar eclipses in ancient Mexico.—Westfall, J. E. The 1769 transit of Venus expedition to San Jose del Cabo.

Tedlock, Barbara. Time and the highland Maya. [Foreword by Nathaniel Tarn] Rev. ed. Albuquerque, University of New Mexico Press, 1992. xv, 293 p. illus., maps.

“Two new chapters in this book, numbers eight and nine, include materials concerning Mayan calendars and astronomy that I collected during my original and more recent field trips.”

Thurston, Hugh. Early astronomy. New York, Springer-Verlag, 1994. 268 p. illus.

Tropp, Éduard A., Viktor IA. Frenkel, and Artur D. Chernin. Alexander A. Friedmann, the man who made the universe expand. Translated by Alexander Dron and Michael Burov. Cambridge, New York, Cambridge University Press, 1993. 267 p. illus., ports.

Translation of *Aleksandr Aleksandrovich Fridman*.

Tusi, Nasir al-Din Muhammad ibn Muhammad. Nasir al-Din al-Tusi’s Memoir on astronomy (al-Tadhkira fi ‘ilm al-hay’ā). [Translation and commentary by] F. J. Ragep. New York, Springer-Verlag, 1993. 2 v. (656 p.) illus. (Sources in the history of mathematics and physical sciences, 12)

English and Arabic on facing pages; critical apparatus in Arabic only.

Contents: v. 1. Introduction, edition, and translation.—v. 2. Commentary and apparatus.

Väth, Alfons. Johann Adam Schall von Bell, S.J. Missionar in China, kaiserlicher Astronom und Ratgeber am Hofe von Peking, 1592–1666. Ein Lebens- und Zeitbild. Unter Mitwirkung von Louis van Hee. Neue Aufl. mit einem Nachtrag und Index. Nettetal, Steyler, 1991. xx, 421 p. illus., geneal. table, ports. (Monumenta serica monograph series, 25)

“Eine gemeinsame Veröffentlichung des China-Zentrums und des Instituts Monumenta Serica Sankt Augustin.”

Originally published by J. P. Bachem in Köln, 1933, as Veröffentlichungen, 2. Bd., of the Rheinisches Museum in Köln. Includes a lengthy supplement to the bibliography of the 1933 edition.

Zehe, Horst. “Gott hat die Natur einfältig gemacht, sie aber suchen viel Künste.” Goethes Reaktion auf die Fraunhofer’schen Entdeckungen. Vorgelegt in der Sitzung vom 30. Juni 1990. Berlin, New York, Springer-Verlag, 1990. 38 p. illus. (part col.) (Sitzungsberichte der Heidelberger Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Klasse, Jahrg. 1990, 7. Abhandlung)

Zemanek, Heinz. Kalender und Chronologie: Bekanntes & Unbekanntes aus der Kalenderwissenschaft. Ein Essay. 5., verb. Aufl. München, R. Oldenbourg, 1990. 160 p. illus., facsimis., ports.

Contents: 1. Einige Grundbegriffe der Kalenderwissenschaft.—2. Vom Tag zum Jahr.—Der Computus—die Kirchenrechnung.—4. Joseph Scaligers Chronologie.—5. Der Julianische Tag (JD).—6. Verschiedene Kalender.—7. Die verbesserte Sekunde.—8. Rechenhilfen für die Kalenderrechnung.

— Articles —

- Abt, Helmut A. The growth of multiwavelength astrophysics. In *Astronomical Society of the Pacific. Publications*, v. 105, Apr. 1993: 437–439.
- Results from scanning “all the papers in the first halves of 1962, 1972, 1982, and 1992 in the *Astrophysical Journal and Supplements*, the *Astronomical Journal*, and these *Publications of the Astronomical Society of the Pacific*.”
- Aguiar Aguilar, Maravillas. À propos du doublet “auge”/“apogee”; quelques remarques étymologiques. *Scientiarum historia*, jaarg. 19, no. 1, 1993: 17–21.
- English summary.
- Alexander, Murray E., and Edwin Budding. Obituary: Professor Z. Kopal. *Southern stars*, v. 35, Sept. 1993: 126–128.
- Alexander, Peter. History of solar coronal expansion studies. *Eos*, v. 73, Oct. 13, 1992: 433, 438.
- Allen-Wytzes, Marjolein. *De Revolutionibus*, Nuremberg, 1543. Gemini, newsletter of the Royal Greenwich Observatory, no. 39, Mar. 1993: 30–33. facsim., port.
- Allmer, Franz. Die Meridianmessungen von Pater Joseph Liesganig, S.J. In *Kartographiehistorisches Colloquium*, 4th, Karlsruhe, 1988. 4. *Kartographiehistorisches Colloquium*, Karlsruhe, 1988, 17.–19. März 1988. Vorträge und Berichte. Hrsg. von Wolfgang Scharfe, Heinz Musall und Joachim Neumann, in Verbindung mit dem Arbeitskreis “Geschichte der Kartographie” der Deutschen Gesellschaft für Kartographie, dem Fachbereich Vermessungswesen und Kartographie der Fachhochschule Karlsruhe und der Badischen Landesbibliothek Karlsruhe. Berlin, D. Reimer, 1990. p. 111–121. illus., maps.
- Andrews, A. David. Cyclopaedia of telescope makers. pt. 2 (G–J). *Irish astronomical journal*, v. 21, Mar. 1993: 1–82. illus., maps, ports.
- Arrighi, Gino. L’“Astronomia” di Giovanni de’ Danti (sec. XIV). In *Accademia Petraraca di lettere, arti e scienze, Arezzo. Atti e memorie. nuova ser.*, v. 49; 1987. Arezzo, 1989. p. 315–348. illus.
- Bär, Nikolaus A., and Gerhard Rettelbach. Aufbau und Inhalt der Osmanischen Kalenderrolle im Hamburgischen Museum für Völkerkunde. In *Mitteilungen aus dem Museum für Völkerkunde Hamburg*, n.F., Bd. 20; 1990. Hamburg. p. 145–160.
- See also “Eine Osmanische Pergamentrolle,” by Monika Dahncke, an illustrated essay in Bd. 17, 1987, p. 55–73, and “Nachtrag zur Osmanischen Kalenderrolle im Hamburgischen Museum für Völkerkunde,” by Monika Dahncke and Hans J. Kornrumpf, in Bd. 18, 1988, p. 139–155.
- Bagnera, Alessandra. “Delfinus non longe ab Aquila” (Tolomeo-Almagesto). Una rara iconografia della protomaiolica e la sua probabile derivazione dall’Islam. *Rivista degli studi orientali*, v. 65, fasc. 3/4, 1991: 247–267. illus.
- Baldassarri, Mariano. Condizioni e limiti della scienze fisica nel “*De facie*” plutarcheo. In *Convegno di studi su Plutarco*, 4th, Genoa, 1991. Plutarco e le scienze. Atti del IV Convegno plutarcheo, Genova-Bocca di Magra, 22–25 aprile 1991. A cura di Italo Gallo. Genova, Sagep Editrice, 1992. (I Libri di Giano) p. 263–269.
- “Questa comunicazione costituisce la conclusione, e il completamento di un’ampia documentata analisi del *De facie in orbe lunae*, in corso di pubblicazione.”
- Baldini, Gianni. Una casa per due orologi (Fabbriceria del Tempio della Chiara). In *Deputazione di storia patria per le antiche provincie modenese. Atti e memorie*. ser. 11, v. 14. Modena, Aedes Muratoriana, 1992. p. 159–204. illus., facsim., port.
- Balinski, Aleksander. “Intercalations” of the “Zoroastrian” calendar in ancient Iran. In *Folia orientalia*. v. 27; 1990. Wroclaw, Zaklad narodowy im. Ossolinskich, Wydawn. Polskiej akademii nauk, 1991. p. 97–106.
- Barcaro, Francesco A. Jacopo de’ Dondi dall’Orologio, astronomo e medico. In *Ethos e cultura; studi in onore di Ezio Riondato*. I. Padova, Editrice Antenore, 1991. (Miscellanea erudita, 51) p. 195–205.
- Barral i Altet, Xavier. Le plafond cosmologique de la chambre de la comtesse Adèle de Blois d’après Baudri de Bourgueil. In *Société nationale des antiquaires de France. Bulletin*. 1988. Paris, Éditions-Diffusion de Boccard, Librairie de la Société, 1990. p. 85–92.
- Includes discussion.
- According to an early 12th-century poem by Baudri, abbot of St. Pierre de Bourgueil, the ceiling was decorated with a map of the sky as it appeared in Roman times.
- Bartha, Lajos. In memoriam Miklós Konkoly Thege (1842–1916). In *Teknikatörténeti szemle*. 19; 1992. Budapest, Országos Múszaki Múzeum. p. 63–73. illus., ports.
- Baum, Richard. Radar bright ice bright: V. A. Firsoff and ice caps on Mercury. In *British Astronomical Association, London. Journal*, v. 103, June 1993: 126, 139. port.
- Baumgärtel-Fleischmann, Renate. Der Sternenmantel Kaiser Heinrichs II. und seine Inschriften. In *Epigraphik* 1988. Fachtagung für mittelalterliche und neuzeitliche Epigraphik, Graz, 10.–14. Mai 1988. Referate und Round-Table-Gespräche. Hrsg. von Walter Koch. Wien, Verlag der Österreichischen Akademie der Wissenschaften, 1990. (Österreichische Akademie der Wissenschaften. Philosophisch-historische Klasse. Denkschriften, 213. Bd.) (Veröffentlichungen der Kommission für die Herausgabe der Inschriften des Deutschen Mittelalters, Bd. 2) p. 105–125. illus., plates.
- An extended version of the lecture presented on May 9, 1988.
- Twelve pages of plates follow p. 126.
- Beech, Martin. Denning on novae. In *British Astronomical Association, London. Journal*, v. 103, June 1993: 130–131. port.
- Beekman, George W. E. H. C. Schumacher: Astronom onder Aufständischen. Sterne und Weltraum, 32. Jahrg., Jan. 1993: 12–14. illus., map, port.
- First published as “H. C. Schumacher: astronom onder opstandelingen” in *Zenit*, 19. jaarg., juni 1992, p. 267–269. The German version is by C. J. C. Schoemaker.
- Beekman, George W. E. Jacht op een stoerling rond de zon. *Zenit*, 19. jaarg., juli/aug. 1992: 296–298. illus.
- Beekman, George W. E. Wer entdeckte die kosmische Hintergrundstrahlung? Sterne und Weltraum, 31. Jahrg., Juli 1992: 440. facsim.
- About Émile Le Roux.
- First published as “Wie ontdekte de kosmische achtergrondstraling?” in *Zenit*, 19. jaarg., maart 1992, p. 141.
- Berger, Christian P. Finsternisbeobachtungen im Feldkirch des 15. Jahrhunderts, anhand der “Feldkircher Astronomischen Handschrift.” Montfort, Vierteljahresschrift für Geschichte und Gegenwart Vorarlbergs, 44. Jahrg., Heft 4, 1992: 286–313. illus., map, facsim.
- Berger, Christian P. Georg Joachim Rheticus’ Geburtshoroskop aus astronomisch-chronologischer Sicht. Montfort, Vierteljahresschrift für Geschichte und Gegenwart Vorarlbergs, 44. Jahrg., Heft 2, 1992: 144–150. illus., facsim.
- Berger, Christian P. Kometenbeobachtungen im Lindau des 16. Jahrhunderts, erwähnt in einer handschriftlichen Chronik. Montfort, Vierteljahresschrift für Geschichte und Gegenwart Vorarlbergs, 43. Jahrg., Heft 4, 1991: 239–249. illus., facsim.
- Berger, Christian P. Rekonstruktion einer Mondfinsternis aus dem Jahre 1544, erwähnt in einem Brief Matthias Lauterwals an Georg Joachim Rheticus, dem Andenken Eugens Stecks gedwidmet.

- Montfort, Vierteljahresschrift für Geschichte und Gegenwart Vorarlbergs, 42. Jahrg., Heft 4, 1990: 257–271. illus.
- Berggren, J. L. Habash's analemma for representing azimuth circles on the astrolabe. In *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*. Bd. 7; 1991/92. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität, 1992. p. 23–30. illus.
- Berlin, Heinrich. Comentarios acerca de los glifos y nombres de meses del calendario maya. In *Academia de Geografía e Historia de Guatemala. Anales*, t. 63, enero/dic. 1989: 9–15. illus.
- Bertoloni Meli, Domenico. The emergence of reference frames and the transformation of mechanics in the Enlightenment. Historical studies in the physical and biological sciences, v. 23, pt. 2, 1993: 301–335. illus.
- Betti, Gian Luigi. Giovan Antonio Magini e i suoi allievi Antonio Roncò e Giovan Antonio Roffeni. Note in margine al carteggio tra il Magini e scienziati del suo tempo conservato presso la Biblioteca comunale dell'Archiginnasio di Bologna. In *L'Archiginnasio*, bollettino della Biblioteca comunale di Bologna, anno 86; 1991. Imola, Grafiche Galeati, 1992. p. 205–232. geneal. table.
- Beatts, Jonathan. The eighteenth century transits of Venus, the voyages of Captain James Cook and the early development of the marine chronometer. *Antiquarian horology*, v. 21, autumn 1993: 60–69. illus.
- Bien, Reinhold, Rainer Jährling, and Hans J. Kummer. Uhren und Kalenderrechnung: Ludwig Strassers Beziehung zur Astronomie. *Die Sterne*, Bd. 69, Heft 5, 1993: 281–288. illus., port.
- Blaauw, Adriaan, and Maarten Schmidt. Jan Hendrik Oort (1900–1992). In *Astronomical Society of the Pacific. Publications*, v. 105, July 1993: 681–685. port.
- Blaauw, Adriaan. Jan Hendrik Oort, 28 april 1900–5 november 1992. *Zenit*, 20. jaarg., mei 1993: 196–210. illus. (part col.), ports. (part col.)
- Borczyk, Wojciech. Uwagi na temat astronomicznej interpretacji układu kregów kamiennej w Odrach. *Urania* (Kraków), r. 64, luty 1993: 43–48. illus.
- On the stone circle at Odry.
- Boxmeer, Henri van. Poussières d'archives ... Du rapport "Quetelet" sur la formation d'un observatoire. *Ciel et terre*, v. 109, mai/juin 1993: 64–66. illus., facsimis.
- Excerpts from Quetelet's 1823 report to the Dutch government concerning the establishment of an observatory in the region that several years later became Belgium.
- Bräuer, H. J., and B. Fuhrmann. The Sonneberg plate archive. In *European Southern Observatory. Messenger*, no. 68, June 1992: 24–26. col. illus.
- Brandt, Lutz. Das Heliometer—ein fast unbekanntes Instrument. *Die Sterne*, Bd. 69, Heft 2, 1993: 94–110. illus., port.
- Brashear, William M. Ein mithräischer Katechismus aus Ägypten in Berlin. *Antike Welt*, 24. Jahrg., Heft 1, 1993: 2–19. illus. (part col.), facsimis.
- Another illustration appears on the front cover of the issue.
- Bretschneider, Joachim. Zu einer Flügelonne im Ethnologischen Museum von Adana. In *Ugarit-Forschungen. Internationales Jahrbuch für die Altertumskunde Syrien-Palästinas*. Hrsg. von Manfried Dietrich, Oswald Loretz. Bd. 23; 1991. Kevelaer, Butzon & Bercker, 1992. p. 9–12. illus.
- Bricker, Victoria R. The calendrical meaning of ritual among the Maya. In *Ethnographic encounters in southern Mesoamerica; essays in honor of Evon Zartman Vogt, Jr.* Edited by Victoria R. Bricker and Gary H. Gossen. Albany, Institute for Mesoamerican Studies, University at Albany, State University of New York; Austin, Distributed by University of Texas Press, 1989. (Studies on culture and society, v. 3) p. 231–249. illus.
- Bronshcen, Vitali A. Astronomicheskaiia dinastiia Struve. *Zemlia i vselennaia, mai/iun'* 1992: 61–67. geneal. table, ports.
- Bronshcen, Vitali A. "Astronomicheskie iavleniiia v russkikh letopisiakh." In *IUbilei nauki. '90-'91*. Kiev, Naukova dumka, 1991. p. 16–23.
- Brooks, Randall C. Who really made the first telescope? In *Royal Astronomical Society of Canada. Journal*, v. 87, Oct. 1993: 270. Abstract of a paper presented at the Society's general assembly, July 2–5, 1993, at Mount Saint Vincent University, Halifax. "This paper will review Ronan's evidence and will consider its significance in the history of science and technology."
- Brosche, Peter. Was heisst und zu welchem Ende befassen wir uns mit der Geschichte der Astronomie? *Die Sterne*, Bd. 69, Heft 3, 1993: 142–145.
- Brown, Robert Hanbury, Harry C. Minnett, and Sir Frederick W. G. White. Edward George Bowen, 14 January 1911–12 August 1991. In *Royal Society of London. Biographical memoirs of Fellows*. v. 38; 1992. London, p. 41–65. port.
- Bibliography of Bowen's writings: p. 63–65.
- Bührke, Thomas. Als dem Chinesen der Himmel auf den Kopf fiel. *Sterne und Weltraum*, 32. Jahrg., Juni 1993: 419. illus.
- On a study by Kevin K. C. Yau, Paul R. Weissman, and Donald K. Yeomans of Chinese records from the 7th to the early 19th century for evidence of meteorite falls, particularly those that resulted in property damage or death to humans.
- Burgess, John W. Possible use of the Mesoamerican calendar system to determine Sun-Moon-Venus relationships. In *International Symposium on Latin American Indian Literatures, 7th, University of New Mexico, 1989. LAIL speaks! Selected papers from the VII International Symposium on Latin American Indian Literatures*. Mary H. Preuss, editor. Culver City, Calif., Labyrinthos, 1990. p. 65–73. illus.
- Burgess, John W. Some astronomical correlations to the Mesoamerican calendar system involving the Sun, Venus, Moon, and Mars. In *Past, present, and future. Selected papers on Latin American Indian literatures, including the VIII International Symposium [of the Latin American Indian Literatures Association]* Mary H. Preuss, editor. Culver City, Calif., Labyrinthos, 1991. p. 63–72. illus.
- Burggraaf, Pieter. Manning Harqua Hala's skies. *Journal of Arizona history*, v. 34, spring 1993: 23–44. illus., ports.
- During the years 1920–25, the Smithsonian Astrophysical Observatory operated a field station on Harqua Hala Mountain, 70 miles northwest of Phoenix, where observers "looked for a link between the sun's energy and the weather on Earth."
- Burman, R. R., and P. M. Jeffery. Solar radio astronomy at the University of Western Australia, 1946–48. In *Astronomical Society of Australia. Proceedings*, v. 10, no. 2, 1992: 168–169.
- Burnett, Charles S. F. Al-Kindi on judicial astrology: 'The Forty Chapters.' Arabic sciences and philosophy, v. 3, Mar. 1993: 77–117. Includes passages in Arabic.
- Cagigao A., Raúl, and Jorge Cardozo C. Conocimientos astronomicos de los llameros del altiplano boliviano. In *Convención Regional de Observadores de la LIADA, 2d, Buenos Aires, 1989. Memorias*. Ignacio Ferrín, editor. Mérida, Venezuela, 1991. (Universo. 34) p. 76–87. illus.
- Callataÿ, Godefroid de. Le zodiaque de l'*Énéide*. *Latomus*, t. 52, avril/juin 1993: 318–349.
- Carlson, John B. Rise and fall of the city of the gods. *Archaeology*, v. 46, Nov./Dec. 1993: 58–69. col. illus., col. plans. "A cult of Venus-inspired warfare and blood sacrifice both sustained and ultimately destroyed the great Mesoamerican metrop-

lis of Teotihuacan."

See also the short piece about Carlson, "Star Wars Over Teotihuacan," by Peter A. Young, on p. 2 of this issue.

Carolin, Miriam. Science, religion [sic] and island universes: the views of Heber Doust Curtis. *Griffith observer*, v. 57, Jan. 1993: 2–10. illus., ports.

Castellani, Flavio, and Roberto Venditti. Ottant' anni di stelle variabili. *L'Astronomia*, anno 15, luglio 1993: 44–53.

An interview with Janet Mattei, accompanied by the following boxes: "Come ci si iscrive all'AAVSO," "I nomi delle stelle variabili," "I principali tipi di variabili," and "R Coronae Borealis: una variabile peculiare."

Chapman, Allen. The pit and the pendulum: G. B. Airy and the determination of gravity. *Antiquarian horology*, v. 21, autumn 1993: 70–78. illus.

Chapman, Allen. Pure research and practical teaching: the astronomical career of James Bradley, 1693–1762. *In Royal Society of London. Notes and records*, v. 47, July 1993: 205–212. port.

Cherniak, V. S. Traditsii ili al'ians traditsii? (Intellektual'naia revoliutsiiia v astronomii XVI v.) *In Traditsii i revoliutsii v istorii nauki*. Otv. redaktor P. P. Gadenko. Moskva, Izd-vo "Nauka," 1991. p. 105–125.

Chernin, Artur D. Dzhordzh Gamov. *Zemlia i vselennaia, mai/iiun'* 1992: 48–54. illus., ports.

Clark, Alfred. Medieval Arab navigation on the Indian Ocean: latitude determinations. *In American Oriental Society. Journal*, v. 113, July/Sept. 1993: 360–373. illus.

Clarke, Arthur C. Newcomb on aeronautics, and Doyle and his characters. *In British Astronomical Association, London. Journal*, v. 103, June 1993: 108.

Letter commenting on Bradley Schaefer's article, "Sherlock Holmes and Some Astronomical Connections," cited in *HAD Newsletter* no. 28.

Combes, Michel A. Le nom des astéroïdes, 20 ans après. *L'Astronomie*, v. 107, nov. 1993: 327–338. illus., map, ports.

Cook, Sir Alan H. Halley the Londoner. *In Royal Society of London. Notes and records*, v. 47, July 1993: 163–177. geneal. tables, map.

Corradini, Piero. La fine delle prime missioni cattoliche a Pechino. *Rivista degli studi orientali*, anno 64, fasc. 3/4, 1990: 301–319.

Contents: 1. Inizio e fine di un'impresa missionaria.—2. Missioni e astronomia.—3. Il Dicastero dell'Astronomia.—4. L'Osservatorio Astronomico e l'Ufficio del Calendario.—5. I missionari nel Dicastero dell'Astronomia.—6. Dai Gesuiti ai Lazaristi.—7. La fine delle missioni a Pechino.—8. L'ultimo missionario.—9. La sorte dei libri.

Costantini, Antonio, and Giovanni Lupato. I globi celesti del Coronelli. *L'Astronomia*, anno 15, luglio 1993: 22–27. illus. (part col.).

Crampton, David. From 1.8 to 8 m telescopes. *In Royal Astronomical Society of Canada. Journal*, v. 87, Oct. 1993: 299–317. illus., ports.

Discusses the history of the telescopes and other instruments of the Dominion Astrophysical Observatory.

Cunningham, Clifford J. The great asteroid nomenclature controversy of 1801. *In Asteroids, comets, meteors* 1991. Proceedings of the international conference held at Northern Arizona University, Flagstaff, USA June 24–28, 1991. Edited by Alan W. Harris and Edward Bowell. Houston, TX, Lunar and Planetary Institute, 1992. p. 141–143.

D'Amicone, Silvio. *Apocalypsis cum mensuris*. L'Astrologo di Giulio Campagnola. Venezia Cinquecento, studi di storia dell'arte e della cultura, anno 2, genn./giugno 1992: 75–87. illus.

On a 16th-century engraving.

Débarbat, Suzanne V. Coopération géodésique entre la France et l'Angleterre à la veille de la Révolution Française: échanges techniques, scientifiques et instrumentaux. *In Congrès national des sociétés savantes, 115th, Paris, 1989. Actes. Section histoire des sciences et des techniques. Échanges d'influences scientifiques et techniques entre pays européens de 1780 à 1830*. Paris, Éditions du CTHS, 1990. (Colloques du C.T.H.S., 5) p. 47–76. illus., facsimis., maps.

Del Olmo Lete, Gregorio. *Yaru y Nikkalu*: la mitología lunar sumeria en Ugarit. Aula orientalis, revista de estudios del Próximo Oriente antiguo, v. 9, enero/jul. 1991: 67–75.

De Meis, Salvo. L'eclisse dei Mille. *L'Astronomia*, anno 15, magg. 1993: 44–46. illus. (part col.).

On the total solar eclipse of July 18, 1860, which occurred during the battle of Milazzo, when Garibaldi and the Thousand defeated Bourbon forces and brought an end to the Kingdom of the Two Sicilies. See also the letter from Luciano Ugolini in the giugno 1992 issue, p. 3.

Dick, Wolfgang R. Dokumente von und über Argelander im Struve-Nachlass. *Die Sterne*, Bd. 69, Heft 3, 1993: 162–168. facsim., port.

Di Teodoro, Francesco P. 'La cumeta.' *In Achademia Leonardo Vinci*; journal of Leonardo studies & bibliography of Vinciana. Edited by Carlo Pedretti. v. 1; 1988. Firenze, Giunti. p. 105–106. plates.

Cites the "référence to a 'cumeta'" in the Codex Hammer, f. 2 A: 35 v" and discusses the sources of information known (and possibly known) to Leonardo. The two plates are in an extensive section of illustrations at the end of the volume.

Dobronravin, P. P. Osnovatel' Krymskoi astrofizicheskoi observatori. K 100–letiu so dnia rozhdeniya akademika G. A. Shaina. *Vestnik Rossiiskoi akademii nauk*, no. 6, 1992: 59–67. illus., ports.

Dobrzycki, Jerzy. n wymiarów historii astronomii. *Analecta, studia i materiały z dziejów nauki*, r. 1, zesz. 1, 1992: 103–109. illus.

Dorschner, Johann. 150 Jahre Doppler-Effekt. *Die Sterne*, Bd. 69, Heft 6, 1993: 311–312.

Drucker, R. David. Of calendars and kings: the covert chronology in the *Cronica Mexicayotl*. *In International Symposium on Latin American Indian Literatures, 7th, University of New Mexico, 1989. LAIL speaks! Selected papers from the VII International Symposium on Latin American Indian Literatures*. Mary H. Preuss, editor. Culver City, Calif., Labyrinthos, 1990. p. 57–63.

Dutka, Jacques. "Eratosthenes' measurement of the earth reconsidered." *Archive for history of exact sciences*, v. 46, no. 1, 1993: 55–66.

Echternach, Eddy. Adriaan Blaauw: zestig jaar sterrenkunde. *Zenit*, 19. jaarg., mei 1992: 204–208. illus., ports.

Echternach, Eddy, and Marco Langbroek. Vijfhonderd jaar 'Ensisheim.' *Zenit*, 19. jaarg., nov. 1992: 456–457. illus.

Includes a box, "De oudste meteoriet," about the Nagata stone, which fell on May 19, 861.

Eggen, Olin J. Notes from a life in the dark. *In Annual review of astronomy and astrophysics*. v. 31; 1993. Palo Alto, Calif., Annual Reviews. p. 1–11. port.

The portrait faces p. 1.

Eirich, Raimund. Bernhard Walther (1430–1504) und seine Familie. *In Verein für Geschichte der Stadt Nürnberg. Mitteilungen*. 74. Bd.: 1987. Nürnberg. p. 77–128. geneal. table, plates.

The plates follow p. 128.

Includes sections entitled "Bernhard Walther als Astronom" (p. 103–112) and "Das geistige Erbe von Bernhard Walther" (p. 112–116).

Eisenstaedt, Jean. Dark bodies and black holes, magic circles and Montgolfiers: light and gravitation from Newton to Einstein. Science in context, v. 6, spring 1993: 83–106. illus.

Ellis, George F. R. The physics and geometry of the universe: changing viewpoints. In Royal Astronomical Society. Quarterly journal, v. 34, Sept. 1993: 315–330.

A review is given of five different views that have been held from 1917 to the present day, of the relation between physics and the Universe. Each has centred on different issues and underlying philosophies. Two further viewpoints are considered that may be important in the future."

Eremeeva, Alina I. Anders Iokhan Leksel'. K 250-letiiu so dnia rozhdenia. In IUBilei nauki. '90-'91. Kiev, Naukova dumka, 1991. p. 40–48.

Ernst, Bruno. Was Leonard Digges de uitvinder van de spiegel-telescoop? Zenit, 19. jaarg., mei 1992: 214–215. illus., port.

Federici Vescovini, Graziella. L'astrologia all'Università di Ferrara nel Quattrocento. In La Rinascita del sapere; libri e maestri dello studio ferrarese. A cura di Patrizia Castelli. Venezia, Marsilio, 1991. p. 293–306. col. illus.

Federici Vescovini, Graziella. Pietro d'Abano e l'utilizzazione della traduzione di Guglielmo di Moerbeke del commento di Simplicio al II De caelo di Aristotele. In Guillaume de Moerbeke. Recueil d'études à l'occasion du 700^e anniversaire de sa mort (1286). Édité par J. Brams et W. Vanhamel. Leuven, University Press, 1989. (Ancient and medieval philosophy, ser. 1, 7) p. 83–106.

"Fehler müssen offen eingestanden werden": zur Revision des Galilei-Urteils durch den Vatikan. Physikalische Blätter, 49. Jahrg., Okt. 1993: 877–882. illus., ports.

Contents: Richter, P. Papst Johannes Paul II. und Galileo Galilei.— Bialas, V. Wissenschaft muss zum Ganzen zurückfinden.

There is also a brief introduction by the journal's editor, E. Dreisigacker.

Feldhay, Rivka. Catholicism and the emergence of Galilean science: a conflict between science and religion? In Knowledge and society: studies in the sociology of culture past and present. v. 7; 1988. Cultural traditions and worlds of knowledge: explorations in the sociology of knowledge. Guest editors: S. N. Eisenstadt, Ilana Friedrich Silber. Series editor: Henrika Kuklick. Greenwich, Conn., JAI Press. p. 139–163.

"... offers an alternative interpretation to the Galilean affair," finding that the usual interpretation "unjustly overemphasizes obscurantist and reactionary tendencies within the Church, while on the other hand it presents Galileo as wholly progressive, innovating, and divorced from his cultural and intellectual environment."

Feldmann, Erich. Unverschämt. genug vermass er sich, astronomische Anschauungen zu lehren; Augustins Polemik gegen Mani in conf. 5, 3 ff. In Signum pietatis; Festgabe für Cornelius Petrus Mayer OSA zum 60. Geburtstag. Hrsg. im Auftrag des Augustinus-Instituts der deutschen Augustiner vom Adolar Zumkeller. Würzburg, Augustinus-Verlag, 1989. (Cassiciacum, Bd. 40) p. 105–120.

Fernie, J. Donald. The great moon hoax. American scientist, v. 81, Mar./Apr. 1993: 120–122. illus., port.

Fernie, J. Donald. The Tunguska event. American scientist, v. 81, Sept./Oct. 1993: 412–415. illus., col. map.

Firneis, Maria G. Johann Tobias Bürg (1766–1834), Littrows Gegenspieler in Wien. Die Sterne, Bd. 69, Heft 3, 1993: 148–153. port.

"Publikationsliste Johann Tobias Bürgs": p. 152–153.

Flik-Fizek, Małgorzata. Najstarsze wizerunki Mikołaja Kopernika w malarstwie i grafice z XVI i XVII wieku. In Muzeum Okręgowe w Toruniu. Rocznik. t. 9. Toruń, 1992. p. 153–181. illus., ports.

English summary.

Ford, Brian J. The world in space. In his Images of science; a history of scientific illustration. New York, Oxford University Press, 1993. p. 145–164. facsimis. (part col.)

Franco, Loredana. The old globes in Friuli-Venezia Giulia (Italy). Nuncius, anno 8, fasc. 1, 1993: 169–195. plates.

Among the 23 different globes described, eight are celestial globes.

Franssen, Maarten. Did King Alfonso of Castile really want to advise God against the Ptolemaic system? The legend in history. Studies in history and philosophy of science, v. 24, Aug. 1993: 313–325.

Freudenthal, Gad. Rabbi Levi ben Gershom (Gersonides) und die Bedingungen wissenschaftlichen Fortschritts im Mittelalter: Astronomie, Physik, erkenntnistheoretisches Realismus und Heilslehre. Archiv für Geschichte der Philosophie, 74. Bd., Heft 2, 1992: 158–179.

Fried, Bart. From the cradle of liberty. Journal of the Antique Telescope Society, v. 1, fall 1992: 6–8. illus.

Concerns "two of the country's earliest imported telescopes, both located near Philadelphia."

Fried, Bart. A partial list of small Brashear telescopes and instruments. Journal of the Antique Telescope Society, v. 1, spring 1992: 3–4, 14.

Galil, Gershon. The Babylonian calendar and the chronology of the last kings of Judah. Biblica, v. 72, fasc. 3, 1991: 367–378.

Gascoigne, S. C. B. Bok, Woolley and Australian astronomy. Historical records of Australian science, v. 9, no. 2, 1992: 119–126. port.

"Appendix: Sir Richard Woolley's 'Little Essay)": p. 125.

Gascoigne, S. C. B. Robert L. J. Ellery, his life and times. In Astronomical Society of Australia. Proceedings, v. 10, no. 2, 1992: 170–176. illus., ports.

Gaska, Stanislaw. Gwiazdy, uniwersytety i obserwatoria Władysława Dziewulskiego, w XXX rocznice śmierci. Postępy astronomii, t. 41, stycz./mar. 1993: 11–16. ports. (Sylwetki)

Includes a box, "CH Cygni i inne ... gwiazdy zmienne Dziewulskiego" (p. 15).

Gauthier, Luc. Les habitus perceptuels des astronomes et leur rôle dans la production de la connaissance scientifique. Social science information, v. 31, Sept. 1992: 419–443.

Gent, Rob van. De Nederlandse Venus expedities van 1874 en 1882. Zenit, 20. jaarg., juli/aug. 1993: 332–337. illus., ports.

Geyer, Edward H., and R. Müller. Friedrich Magnus Schwerd, ein vergessener Pionier der Beugungstheorie und Sternphotometrie. Die Sterne, Bd. 69, Heft 3, 1993: 154–161. illus., port.

Gleicher, Sherri G. An astronomical oasis in an urban landscape: Steward Observatory in the 1920s and '30s. Journal of Arizona history, v. 34, spring 1993: 1–22. illus., ports.

Greco, Vincenzo, Giuseppe Molesini, and Franco Quercioli. Esame ottico dei cannocchiali di Galileo. Nuncius, anno 8, fasc. 1, 1993: 305–311. plates.

The authors summarized their results in the July 9, 1992, issue of *Nature* (cited in HAD Newsletter no. 28).

Griesser, Markus. Ein Besuch auf der Universitätssternwarte Wien. Orion, 51. Jahrg., Aug. 1993: 161–164. illus., plan.

Griffin, Ian. Armagh goes for gold in its silver year. Astronomy now, v. 7, Sept. 1993: 41–42, 39–40. col. illus.

"Armagh Planetarium celebrates its 25th anniversary this year and starts work on a £400,000 extension which will double its exhibition space."

Gurshtein, Aleksandr A. On the origin of the zodiacal constellations.

Vistas in astronomy, v. 36, pt. 2, 1993: 171–190. plates.

See also his "Minuvshie tsivilizatsii v zerkale Zodiaka," published, with different illustrations, in *Priroda*, okt. 1991, p. 57–71.

Gyldenkerne, Kjeld. Astronomi og astrofysik. In *Strejflys; træk af dansk videnskabs historie, 1917–92*. Redigeret af Olaf Pedersen. København, Munksgaard, 1992. p. 120–129. illus., port.

Haage, Bernhard. Das 'Astrolabium planum' des Codex Palatinus Germanicus 832. Ein Forschungsbericht. In *Heidelberger Jahrbücher*, 29; 1985. Berlin, New York, Springer-Verlag. p. 87–105. illus.

Häfner, Reinhold. 175 Jahre Sternwarte Bogenhausen. Die Sterne, Bd. 68, Heft 5–6, 1992: 263–273, 340–354. illus., ports.

Hall, Robert L. Algunas consecuencias de las asociaciones astronómicas de las fechas de cuenta larga de la Estela 1 de La Mojarra y de la Estatuilla de Tuxtla. La Palabra y el hombre, no. 80, oct./dic. 1991: 9–18. illus.

Hambleton, Robert. Two 18th century observatories of Ireland. Journal of the Antique Telescope Society, v. 1, fall 1992: 9–11. illus. The author visited Armagh and Dunsink.

Hamel, Jürgen. Die Astrologie als Versuch einer "anderen Welt"; oder, Der Mensch im Kosmos. Vision und Realität im Ablauf von Jahrhunderten. Die Sterne, Bd. 69, Heft 1, 1993: 15–25. facsimis.

Hattrup, Dieter. Galilei und Bellarmin. Eine These in sieben Thesen. Theologie und Glaube, 83. Jahrg., 2. Vierteljahr 1993: 213–219.

Hentschel, Klaus. The conversion of St. John: a case study on the interplay of theory and experiment. Science in context, v. 6, spring 1993: 137–194. illus., facsimis., ports.

Concerns Charles Edward St. John and his acceptance of the gravitational redshift of spectral lines.

Hentschel, Klaus. The discovery of the redshift of solar Fraunhofer lines by Rowland and Jewell in Baltimore around 1890. Historical studies in the physical and biological sciences, v. 23, pt. 2, 1993: 219–277. illus., ports.

Hernschier, Wolfgang. Johann Zirk und das "vertikale kopernikanische System." Sterne und Weltraum, 32. Jahrg., Aug./Sept. 1993: 592–595. illus., port.

Herrmann, Dieter B. On the life expectancy of astronomers. In European Southern Observatory. Messenger, no. 67, Mar. 1992: 62–63. ports.

The portraits are of Sir George Biddell Airy, Johann Jacob Baeyer, Johann Gottfried Galle, and Sir William Huggins.

Hitz, Hans R. Eine astronomische Deutung des keltischen (gallo-lateinischen) Mond- und Sonnenkalenders von Coligny (Frankreich). Orion, 51. Juni 1993: 129–133. illus.

Hockey, Thomas A. A brief history of the planetary telescope. Griffith observer, v. 57, Jan. 1993: 10–11, 14–15; Feb.: 16–18; Mar.: 11, 14–16. illus.

Contents: pt. 1. Early refractors.—pt. 2. Reflectors and achromatics.—pt. 3. The nineteenth century.

Hoffleit, Dorrit. Yale and USNO cooperation, especially in the Brouwer and Clemence era. Comments on astrophysics, v. 16, Feb. 1992: 17–30.

Howard-Duff, Ian. The work of the Historical Section of the British Astronomical Association. In *British Astronomical Association, London*. Journal, v. 103, Aug. 1993: 187–188.

Howse, Derek. The Astronomers Royal and the problem of longitude. Antiquarian horology, v. 21, autumn 1993: 43–51. illus., ports.

James, Stephen H. G. Dr Isaac Roberts (1829–1904) and his observatories. In *British Astronomical Association, London*. Journal, v. 103, June 1993: 120–122. illus., port.

See also the letter from A. F. Edwards, "Dr Isaac Roberts," in the Oct. 1993 issue, p. 218.

Jarrell, Richard A. The instrument was instrumental: Plaskett's telescope and Canadian astronomy between the wars. In *Royal Astronomical Society of Canada. Journal*, v. 87, Aug. 1993: 218–222.

Jeffery, P. M., R. R. Burman, and J. R. Budge. Wallal: the total solar eclipse of 1922 September 21. In *Marcel Grossmann Meeting on General Relativity, 5th, University of Western Australia, 1988*. The Fifth Marcel Grossmann Meeting on recent developments in theoretical and experimental general relativity, gravitation and relativistic field theories; proceedings. pt. B. Edited by D. G. Blair and M. J. Buckingham. Singapore, Teaneck, N.J., World Scientific, 1989. p. 1343–1360.

On "the key part played by A. D. Ross in the 1922 expedition to Wallal, on the northern coast of Western Australia, to measure with great care the deflection of starlight by the Sun during a total solar eclipse. Specially designed photographic equipment of very high quality was used and the weather was excellent. As a result, far more stars were observed than during the famous 1919 expeditions."

Jensen, Len. Two rare solar eyepieces. Journal of the Antique Telescope Society, v. 1, fall 1992: 3–5. illus.

Jha, Parmeshwar. Bhaskaracarya's works in Mithila. In *Ganganatha Jha Kendriya Sanskrit Vidyaapeetha, Allahabad*. Journal. v. 43; 1987. Allahabad, 1991. p. 29–38.

"... emphasises the need of a critical analysis of the works of Bhaskaracarya and other Maithila scholars to focus their contributions in the field of Astronomy and Mathematics."

Jiang, Xiaoyuan. The colour of Sirius as recorded in ancient Chinese texts. Chinese astronomy and astrophysics, v. 17, Apr./June 1993: 223–228.

Translated from *Acta Astronomica Sinica (T'ien wen hsüeh pao)*, v. 33, no. 4, 1992, p. 408–412.

"In this paper I have systematically examined the more reliable records regarding the colour of Sirius in extant ancient Chinese texts from B.C. times to the +7th century and found that, during this period, Sirius was unquestionably white, thus relieving the present theory of stellar evolution of any threat from this direction."

Kak, Subhash C., and David Frawley. Further observations on the Rigvedic code. Mankind quarterly, v. 33, winter 1992: 163–170.

Kemper Columbus, Claudette. Llamastronomers-eyes-and-roads: Chaupiñamca of Huarochirí. In *Société des Américanistes de Paris. Journal*, t. 78, fasc. 1, 1992: 31–44.

Kennedy, Edward S. Two topics from an astrological manuscript: Sindhind days and planetary latitudes. In *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*. Bd. 6; 1990. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität. p. 167–178. facsim.

Kerszberg, Pierre. Of learned ignorance in relativistic cosmology. In *Marcel Grossmann Meeting on General Relativity, 5th, University of Western Australia, 1988*. The Fifth Marcel Grossmann Meeting on recent developments in theoretical and experimental general relativity, gravitation and relativistic field theories; proceedings. pt. B. Edited by D. G. Blair and M. J. Buckingham. Singapore, Teaneck, N.J., World Scientific, 1989. p. 1315–1324.

"An interesting feature of the history of relativistic cosmology is that suggestions for a consistent static model of the universe have been made on several occasions despite growing evidence in favour of the Friedmann-Robertson-Walker non-static models. This situation is examined in the light of the early work in theoretical cosmology made by Hermann Weyl, who first formulated the principle underlying all non-static metrics (now known as Weyl's Principle) while still ignoring everything about non-static coordinates."

Khromov, O. R. Astronomiia i astrologiia v Drevnei Rusi; materialy k bibliografii. In Estestvennoauchnye predstavleniya Drevnei Rusi. Otv. redaktor, R. A. Simonov. Moskva, "Nauka," 1988. p. 290–310.

The bibliography consists of 76 numbered entries arranged in eight sections.

Kidger, Mark R. Some comments on the identification of medieval meteor showers recorded by the Arabs. In Royal Astronomical Society. Quarterly journal, v. 34, Sept. 1993: 331–334.

"The suggested identifications of medieval Arab meteor showers in the Rada and Stephenson catalogue are examined critically."

Kilkenny, David. Alan Cousins, a brief biography. In Astronomical Society of Southern Africa. Monthly notes, v. 52, Aug. 1993: 55–62. port.

Kim, Yung Sik. Chu Hsi (1130–1200) on calendar specialists and their knowledge; a scholar's attitude toward technical scientific knowledge in traditional China. T'oung pao, revue internationale de sinologie, v. 78, livr. 1/3, 1992: 94–115.

King, Andrew. John Harrison, Copley Medallist. Antiquarian horology, v. 21, autumn 1993: 52–59. illus.

King, David A. The ciphers of the monks and the astrolabe of Berselius reconsidered. In Amphora; Festschrift für Hans Wussing zu seinem 65. Geburtstag. Hrsg. von Sergei S. Demidov, Menso Folkerts, David E. Rowe, Christoph J. Scriba. Basel, Boston, Birkhäuser, 1992. p. 375–388. illus.

Kirsanov, V. S. Ob odnoi neizvestnoi poprovke N'iutona k III knige "Nachal'." Voprosy istorii estestvoznaniiia i tekhniki, no. 1, 1993: 24–30. facsim., port.

English abstract: p. 173.

Knapp, Wolfram. Der mathematische Edelstein. Bild der Wissenschaft, Aug. 1992: 68–72. col. illus.

"Astrolabien—die ältesten Karten des Sternenhimmels."

Knapp, Wolfram. Die neue Welt des Kopernikus. Bild der Wissenschaft, Mai 1993: 24–27. col. illus., col. port.

Marks the 450th anniversary of the publication of *De revolutionibus*.

Knobloch, Eberhard. Eulers früheste Studie zum Dreikörperproblem. In Amphora; Festschrift für Hans Wussing zu seinem 65. Geburtstag. Hrsg. von Sergei S. Demidov, Menso Folkerts, David E. Rowe, Christoph J. Scriba. Basel, Boston, Birkhäuser, 1992. p. 389–405. illus.

Koch, Johannes. Der Sternenkatalog BM 78161. In Die Welt des Orients; wissenschaftliche Beiträge zur Kunde des Morgenlandes. Bd. 23; 1992. Göttingen, Vandenhoeck & Ruprecht. p. 39–67. illus.

Kohoutek, Lubos. Komet 1973 XII: zwanzig Jahre danach. Sterne und Weltraum, 32. Jahrg., Juli 1993: 504–505. illus.

Kozenko, A. V. O periodizatsii istorii astrofiziki. Voprosy istorii estestvoznaniiia i tekhniki, no. 1, 1993: 100–104.

English abstract: p. 173.

Krauss, Rolf. Eine astronomische Kleinigkeit in Goethes "Werther." Die Sterne, Bd. 69, Heft 3, 1993: 146–147.

Krisciunas, Kevin. The legacy of Ulugh Beg. In Central Asian monuments. Edited by Hasan B. Paksoy. Istanbul, Isis Press, 1992. p. 97–103.

"Editions Containing All or Part of Ulugh Beg's Zij": p. 101–103.

Krupp, Edwin C. Phases of Venus. Griffith observer, v. 56, Dec. 1992: 2–18. illus. (part col.)

"... documents the images conceived for Venus worldwide." Color illustrations on the outside front and back covers also relate to this piece (captions on p. 2 and 21).

Krupp, Edwin C. Spilled milk. Griffith observer, v. 57, Dec. 1993: 2–18. illus. (part col.)

"A worldwide catalogue of Milky Way symbols and representations." Additional illustrations appear on the outside front and back covers of the issue.

Kunitzsch, Paul. Al-Sufi and the astrolabe stars. In Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften. Bd. 6; 1990. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität. p. 151–166.

Kunitzsch, Paul. Gerard's translations of astronomical texts, especially the *Almagest*. In Cremona. Biblioteca statale e libreria civica. Annali. v. 41; 1990. Cremona, 1992. p. 71–84.

Kuzakov, Vladimir K. Astrologiia skvoz' prizmu istoriografii istorii astronomii. In Estestvennoauchnye predstavleniya Drevnei Rusi. Otv. redaktor, R. A. Simonov. Moskva, "Nauka," 1988. p. 282–290.

Kyselka, Will. Solar eclipses in Hawai'i. In The Hawaiian journal of history. v. 25; 1991. Honolulu, Hawaiian Historical Society. p. 31–51. illus.

Lamoureux-Mangeot, Claude. Trois termes mathématiques dans le Calendrier de Coligny? In Études celtiques. 29; 1992. Paris, CNRS Éditions, 1993. p. 263–270.

Abstract in English.

Lavrinovich, K. K. F. W. Bessel und die russische Wissenschaft. NTM; Schriftenreihe für Geschichte der Naturwissenschaften, Technik und Medizin, 28. Jahrg., Heft 2, 1991/92: 211–216.

Le Boeuffle, André. Le symbole astronomique de la Terre et les autres symboles planétaires. L'Astronomie, v. 106, janv. 1993: 24. illus.

Le Bourdellès, Hubert. De astronomia more christiano. Studi medievali, ser. 3, anno 32, giugno 1991: 385–444.

Annotated Latin text with introduction, commentary, French translation, and index to the Latin vocabulary. The text is based on several manuscripts. Le Bourdellès proposes Paschase Radbert, abbot of Corbie, as the author.

Lecomte, Stéphane. Sur une observation ancienne de Saturn. L'Astronomie, v. 106, janv. 1993: 20.

On a drawing made Feb. 11, 1884, by Henry Pratt, published (with accompanying descriptive text) in the *Monthly Notices* of the Royal Astronomical Society, v. 44, June 1884.

Leopold, J. H. Christiaan Huygens, the Royal Society and horology. Antiquarian horology, v. 21, autumn 1993: 37–42. port.

Leopoldi, José Sávio. Elementos de etnoastronomia indígena do Brasil. Boletim informativo e bibliográfico de ciências sociais, n. 30, 2. semestre do 1990: 3–18.

Lertora Mendoza, Celina A. Las tablas astronómicas copiadas por Roberto Grosseteste. Mathesis, v. 7, nov. de 1991: 429–443.

Levi, Franco A., and Gemma R. Levi-Donati. Due strumenti della scienza del Cinquecento custoditi a Perugia. In Deputazione di storia patria per l'Umbria. Bollettino. v. 88; 1991. Perugia, 1992. p. 119–129. plates.

Levi-Donati, Gemma R. Testimonianze di 'eclissi notabili' nell'Umbria medievale. In Deputazione di storia patria per l'Umbria. Bollettino. v. 84; 1987. Perugia, 1988. p. 89–107. illus., plate.

Li, Zhi-chao, and Yu Chen. A textual research and new reconstruction of Zhang Heng's water-rotating celestial globe. Studies in the history of natural sciences, v. 12, no. 2, 1993: 120–127.

This reference, with English abstract, appears in *Chinese Science Abstracts*, pt. A, v. 12, Sept. 1993, p. 20. The vernacular version of the cited journal title is *Tzu jan k'o hsüeh shih yen chiu*.

Lichnérowicz, André. La vie et l'œuvre de Pierre Costabel. Comptes rendus de l'Académie des sciences: La vie des sciences, t. 9, numéro annuel 1992: 399–404. port.

- Liebowitz, R. P. Military sponsorship of astronomical observatories post WWII: the creation of the Sacramento Peak Solar Observatory, 1946–1952. *Eos*, v. 72, Oct. 29, 1991, suppl.: 383.
- Abstract of a poster paper presented at the fall meeting of the American Geophysical Union, Dec. 9–13, 1991, in San Francisco, California.
- Lippincott, Kristen. Aby Warburg, Fritz Saxl and the astrological ceiling of the Sala di Galatea. In *Aby Warburg. Akten des internationalen Symposiums Hamburg 1990*. Hrsg. von Horst Bredekamp, Michael Diers und Charlotte Schoell-Glass. Weinheim, VCH, Acta humaniora, 1991. (Schriften des Warburg-Archiv im Kunsts geschichtlichen Seminar der Universität Hamburg, Bd. 1) p. 213–232. illus.
- The ceiling was painted “by Baldassare Peruzzi around 1511,” and represents the horoscope of Agostino Chigi (1466–1520).
- Longo, Giuseppe, and Tiziana Longo. Giuseppe Piazzi, astronomo delle Due Sicilie. *L’Astronomia*, anno 15, nov. 1993: 22–27. illus. (part col.), ports. (part col.)
- Includes box, “I due secoli del ‘suo’ osservatorio,” by Luigi Prestinenza (p. 26).
- Longo, Giuseppe. L’Istituto di Astrofisica di Potsdam. *L’Astronomia*, anno 15, genn. 1993: 24–31. illus. (part col.), ports. (part col.)
- Longo, Giuseppe. Il nome dei giorni. *L’Astronomia*, anno 15, giugno 1993: 44–48. illus. (part col.)
- Longo, Oddone. Paolo Antonio Foscarini fra Bellarmino e Galileo. In *Istituto veneto di scienze, lettere ed arti. Classe di scienze morali, lettere ed arti. Atti*, t. 151, fasc. 2, magg. 1993: 267–295.
- English summary.
- Lorch, Richard. Some remarks on the *Almagestum parvum*. In *Amphora; Festschrift für Hans Wussing zu seinem 65. Geburtstag*. Hrsg. von Sergei S. Demidov, Menso Folkerts, David E. Rowe, Christoph J. Scriba. Basel, Boston, Birkhäuser, 1992. p. 407–437. illus.
- Lord, Mary L. Virgil’s Eclogues, Nicholas Trevet, and the harmony of the spheres. In *Mediaeval studies*, v. 54, 1992. Toronto, Pontifical Institute of Mediaeval Studies. p. 186–273. illus., plates.
- Lounela, Jaakko. Ensimmäinen ruotsinkielinen tähtitieteen oppikirja. [The first astronomy textbook in Sweden] Opusculum, v. 7, no. 2, 1987: 51–66. facsimis.
- English abstract: p. 91.
- Contends that a mid-17th-century manuscript (A 301) in the University of Uppsala library, a work in Swedish on astronomy attributed to Andreas Thuronius, is more likely the work of Simon Kexlerus.
- Luxton, Richard N. Balam dz’ib: astronomical implications of a series of dates at Classic Yaxchilan (526–808 A.D.). In *Past, present, and future. Selected papers on Latin American Indian literatures, including the VIII International Symposium [of the Latin American Indian Literatures Association]* Mary H. Preuss, editor. Culver City, Calif., Labyrinthos, 1991. p. 55–62.
- Macchia, Enrico F. Alla ricerca delle antiche ore umbre. *L’Astronomia*, anno 15, genn. 1993: 39–41. col. illus.
- McClure, Robert D. Scientific highlights from the Dominion Astrophysical Observatory. In *Royal Astronomical Society of Canada. Journal*, v 87, Oct. 1993: 282–298. illus., ports.
- “A brief account from a historical perspective is presented of the science carried out at the Dominion Astrophysical Observatory since its founding in 1918. Emphasis is placed on the early years, and the personalities involved. This account presents the highlights, and is not intended to be exhaustive.”
- McKim, Richard. Historique des tempêtes martiennes. *L’Astronomie*, v. 107, nov. 1993: 312–315. illus.
- McKim, Richard. The life and times of E. M. Antoniadi, 1870–1944. In *British Astronomical Association, London. Journal*, v. 103, Aug.–Oct. 1993: 164–170, 219–227. illus., maps, ports.
- Contents: pt. 1. An astronomer in the making.—pt. 2. The Meudon years.
- Additional illustrations appear on the front cover of the Oct. 1993 issue.
- McMullin, Ernan. Indifference principle and anthropic principle in cosmology. *Studies in history and philosophy of science*, v. 24, Aug. 1993: 359–389.
- Malherbe, Jean M. Janssen et l’Observatoire astronomique du mont Blanc. *L’Astronomie*, v. 107, oct. 1993: 278–283. illus.
- Malmström, Vincent H. Geographical diffusion and calendrics in pre-Columbian Mesoamerica. *Geographical review*, v. 82, Apr. 1992: 113–127. maps.
- Malville, J. McKim. Astrophysics, cosmology, and the interior space of Indian myths and temples. In *Concepts of space, ancient and modern*. Edited by Kapila Vatsyayan. New Delhi, Indira Gandhi National Centre for the Arts, Abhinav Publications, 1991. p. 123–144. illus.
- Mandel, Corinne. “Starry Leo,” the sun, and the astrological foundations of Sixtine Rome. *RACAR, Revue d’art canadienne/Canadian art review*, v. 17, no. 1, 1990: 17–39. illus.
- Marché, Jordan D. Edward Hitchcock’s promising astronomical career. *Earth sciences history*, v. 12, no. 2, 1993: 180–186.
- Includes a table, “Farrar’s and Hitchcock’s sightings of the Great Comet of 1811” (p. 184).
- Mardon, E. G., A. A. Mardon, and I. Williams. The eleven observations of comets between 678AD and 1114AD recorded in the Anglo Saxon Chronicle. In *Asteroids, comets, meteors 1991. Proceedings of the international conference held at Northern Arizona University, Flagstaff, USA June 24–28, 1991*. Edited by Alan W. Harris and Edward Bowell. Houston, TX, Lunar and Planetary Institute, 1992. p. 385–393. facsimis.
- The comets appeared in 679, 729, 892, 905, 975, 995, 1066, 1097, 1106, 1110, and 1114.
- Markowski, Mieczysław. Charakterystyka polskiego pismiennictwa astrologicznego epoki przedkopernickiej. In *Odrodzenie i Reformacja w Polsce*. t. 36. Wrocław, Zakład narodowy im. Ossolińskich, Wydawn. Polskiej akademii nauk, 1992. p. 75–87.
- Summary in German.
- Markowski, Mieczysław. Repertorium bio-bibliographicum astronomorum Cracoviensium medii aevi: Baltasar Samosarzius de Ciechanów seu de Zimoszarz, Bartholomaeus de Paczków, Bernardus de Cracovia, Bernardus Wapowski, Bertoldus Jodok de Glucholazy (Ziegenhals), Caspar Fuscinus (Alias Brauner) de Nissa, Derslaus de Karnice, Franciscus Voychdorf de Legnica. *Studia mediewistyczne*, t. 27, zesz. 2, 1990: 159–173.
- Marquet, Yves. La détermination astrale d’l’évolution selon les Frères de la Pureté. In *Bulletin d’études orientales*. t. 44; 1992. Damas, Institut français de Damas, 1993. p. 127–146.
- Marvin, Ursula B. The Meteoritical Society: 1933 to 1993. *Meteoritics*, v. 28, July 1993: 261–314. illus., ports. (part col.)
- Masani, Alberto. The 19th century and its principal astronomical steps. In *Società astronomica italiana. Memorie*, v. 64, n. 1, 1993: 159–165.
- Presented at the society’s 35th annual meeting, May 2–4, 1991, in Turin.
- Matar, Zeina. The chapter on death prediction (*qat’/qutu’*) from the *Kitab farag al-ahmum* by Ibn Tawus. In *Bulletin d’études orientales*. t. 44; 1992. Damas, Institut français de Damas, 1993. p. 119–125.

- Matlaga, Dan. The Great Goddess and the constellation Orion. *Planetarian*, v. 22, June 1993: 6–15. illus.
- Maurach, Gregor. Der Kristallhimmel—von Empedokles zu Dante. In *Braunschweigische Wissenschaftliche Gesellschaft. Abhandlungen*. Bd. 43; 1992. Göttingen, Verlag E. Goltze, 1993. p. 333–343.
- Meeting report: was there an Elizabethan telescope? *Bulletin of the Scientific Instrument Society*, no. 37, June 1993: 2–10. illus., ports.
- Contents: Colin Ronan spoke to the proposal—There was an Elizabethan telescope.—Turner, Gerard L'E. There was no Elizabethan telescope.—Rienitz, J. 'Make glasses to see the moon large'—an attempt to outline the early history of the telescope.—[Letters] From Derek Howse; from S. D. Ringwood.—Postscript—nature got there first! [On the "all-organic Schmidt telescope" formed by the eye of the scallop]
- Méluzin, Sylvia. The chamber of the zenith sun. *Griffith observer*, v. 57, July 1993: 10–18. illus., plans.
- On "a vertical duct that penetrates the top of a temple platform known as Structure P" at Monte Albán.
- Merlin, Jean C. L'histoire tumultueuse de la comète P/Swift-Tuttle. *L'Astronomie*, v. 107, mai 1993: 146–152. illus.
- Mietelski, Jan. 200 lat historii Obserwatorium Krakowskiego. *Postepy astronomii*, t. 40, lip./grudz. 1992: 101–117. illus. (part col.), ports.
- The color illustrations follow p. 142.
- Milani, Marisa. Il "Dialogo in perpuoso de la stella nuova" di Cecco di Ronchitti da Brugine. *Giornale storico della letteratura italiana*, v. 170, 1. trimestre 1993: 66–86.
- Concerns Kepler's supernova (1604), and includes texts of "Stanze d'incerto contra Aristotele per la stella nuovamente apparsa" (Paduan and Veronese versions) and "Discorso sopra la stella nuova comparsa l'ottobre prossimo passato," by Astolfo Arnerio Marchiano.
- Millar, F. Graham. The Irish David and Goliath. In *Royal Astronomical Society of Canada. Journal*, v. 87, Oct. 1993: 269–270.
- Abstract of a paper presented at the Society's general assembly, July 2–5, 1993, at Mount Saint Vincent University, Halifax.
- Considers the myth of Lugh and Balor to be very ancient and based on astronomy.
- Molenaar, Leo. Marcel Minnaert bij zijn honderdste geboortejaar. *Zenit*, 20. jaarg., okt. 1993: 414–418. illus., ports.
- Montandon, Reny O. Astronomie und Kalender. *Orion*, 51. Jahrg., Juni 1993: 146–149. illus.
- Münzel, Gisela. Beiträge zur Geschichte der Astronomischen Gesellschaft aus Leipziger Archivalien. *Die Sterne*, Bd. 69, Heft 5, 1993: 289–293.
- Mushailov, B. R. 25 let otkrytiu fonovogo reliktovogo izlucheniia. In *IUBilei nauki. '90-'91*. Kiev, Naukova dumka, 1991. p. 24–34.
- Ness, Lester. Astrology. Archaeology in the Biblical world, v. 2, fall 1992: 44–53. illus., map, plan.
- "In this article, we will discuss how it [astrology] was adapted and used by the Jews of the Roman Empire. In particular, we will see that by the fourth century A.D., astrological symbolism was used in synagogue art to portray YHWH's power and His care for Israel."
- Nitschelm, Christian. Pourquoi la nuit est-elle noire? *Orion*, 49, Jahrg., Aug.–Dez. 1991: 138–142, 172–175, 230–235. illus.
- Oettinger, Klaus. Familiarisierung des Universums; zur Kalenderastronomie. In *his Ulm ist überall. Essays und Vorträge zu Johann Peter Hebel*. Konstanz, Universitätsverlag Konstanz, 1990. (Konstanzer Bibliothek, Bd. 14) p. 37–44.
- Oproiu, Tiberiu. Probleme ale arheoastronomiei. In *Anuarul astonomic*. 1993. Bucureti, Editura Academiei Române, 1992. p. 263–270.
- Orchiston, Wayne, and Alex Buchanan. Illuminating incidents in antipodean astronomy: Campbell Town, and the 1874 transit of Venus. *Australian journal of astronomy*, v. 5, Mar. 1993: 11–31. illus., map.
- Orchiston, Wayne. New Zealand's role in the identification of the first "radio stars." Southern stars, v. 35, Mar. 1993: 46–52. illus., group port.
- Osterbrock, Donald E., Joel A. Gwinn, and Ronald S. Brashear. Edwin Hubble and the expanding universe. *Scientific American*, v. 269, July 1993: 84–89. illus., ports.
- Pál, Árpád, and Vasile Mioc. Gheorghe Bratu (1881–1941). Romanian astronomical journal, v. 1, no. 1/2, 1991: 118–119.
- Palter, Robert. *Black Athena*, Afro-centrism, and the history of science. *History of science*, v. 31, Sept. 1993: 227–287. illus.
- See particularly the sections on ancient astronomy (p. 230–235), Egyptian astronomy and Afro-centrism (p. 235–244), and Newton and Egypt (p. 244–246).
- Pang, Alex Soojung-Kim. The social event of the season: solar eclipse expeditions and Victorian culture. *Isis*, v. 84, June 1993: 252–277. illus.
- Papathanassiou, Maria. An anonymous astronomical treatise on Cod. Marc. Gr. VI. 9 identified. In *Thesaurismata; bollettino dell'Istituto ellenico di studi bizantini e postbizantini di Venezia*. v. 22; 1992. Venezia. p. 372–379.
- The text is ascribed to George Chrysokokkes (early 14th century) and Geminus.
- Parisot, Jean P. On the origin of the 5-years cycle in the Celtic calendar [of Coligny]. In *Études celtiques*. 29; 1992. Paris, CNRS Éditions, 1993. p. 343–354. illus.
- Pepin, M. Barlow. Seven arrows in the sky: the observations of Johannes Sachariassen [b. 1611]. In *British Astronomical Association, London. Journal*, v. 103, Oct. 1993: 241–244. illus.
- Perez Jiménez, Aurelio. Alle frontiere della scienza: Plutarco e l'astrologia. In *Convegno di studi su Plutarco, 4th, Genoa, 1991. Plutarco e le scienze. Atti del IV Convegno plutarcheo, Genova-Bocca di Magra, 22–25 aprile 1991*. A cura di Italo Gallo. Genova, Sagep Editrice, 1992. (I Libri di Giano) p. 271–286.
- Pernet, Jacques. Le bicentenaire de la fondation de l'Observatoire de Palerme et la découverte de Cérès. *L'Astronomie*, v. 107, oct. 1993: 276–277. illus., port.
- Petrosian, Artashes, and Massimo Turatto. L'astronomia nella tradizione culturale armeno. *L'Astronomia*, anno 15, giugno 1993: 22–26. illus. (part col.)
- Pfau, Werner. Der Doppler-Effekt—Fundament der messenden Astronomie und Kosmologie. *Die Sterne*, Bd. 69, Heft 6, 1993: 339–352. illus.
- Pilska, Edith. Veni, vidi ... Ensisheim 1992. *Postepy astronomii*, t. 41, kwiec./czerw. 1993: 89–92. illus.
- Pingree, David. Al-Tabari on the prayers to the planets. In *Bulletin d'études orientales*. t. 44; 1992. Damas, Institut français de Damas, 1993. p. 105–117.
- Pinto, Fabrizio. Giants' talk. *Griffith observer*, v. 56, Sept. 1992: 2–11, 14–18. illus., ports.
- "... tells how Kepler's favorable opinion of Galileo's unprecedented telescopic discoveries boosted Galileo's reputation when it needed a boost. Kepler's letter enhanced more than Galileo's professional profile. It changed the world."
- The illustration on the outside back cover also relates to this article

(caption on p. 23).

Pohl, Eckhard. 500 Jahre Astronomie in Franken. In Tradition und Geschichte in Frankens Mitte. Festschrift für Günther Schuhmann. Ansbach, 1991. (Historischer Verein für Mittelfranken. Jahrbuch, 95. Bd.) p. 83–101. col. illus., facsimis.

Pouille, Emmanuel. Astronomie et géométrie. In Mise en page et mise en texte du livre manuscrit. Sous la direction de Henri-Jean Martin et Jean Vezin. Préf. de Jacques Monfrin. Paris, Éditions du Cercle de la Librairie-Promodis, 1990. p. 192–199. facsimis. (part col.)

See also the chapter “Euclide” by Colette Sirat (p. 188–191). Some of the other illustrations are also of interest (e.g., no. 318, 333, 335, 339, and 427), but the work has only an index of manuscripts.

Powels, Sylvia. The Samaritan calendar and the roots of Samaritan chronology. In The Samaritans. Edited by Alan D. Crown. Tübingen, J. C. Mohr, 1989. p. 691–742.

Prestinenza, Luigi. Guido Ruggieri [1913–1976] L’Astronomia, anno 15, ag/sett. 1993: 20–27. illus. (part col.), ports. (part col.)

Rao, N. Kameswara. Astronomical orientations of the megalithic stone circles of Brahmagiri. In Bharatiya Jyotir Vijyan Parishad. Bulletin of the Astronomical Society of India, v. 21, Mar. 1993: 67–77. map, plans.

Rao, N. Kameswara. Astronomy with Buddhist stupas of Sanchi. In Bharatiya Jyotir Vijyan Parishad. Bulletin of the Astronomical Society of India, v. 20, June 1992: 87–98. illus., plans.

Rawlins, Dennis. [The achievement of Hipparchos, and his debt to Aristarchos] Dio, v. 1, Dec. 1991: 141–175.

Rawlins, Dennis. Tycho 1004-star catalog’s completion was faked. Dio, v. 2, Apr. 1992: 35–50.

Regourd, Annick. Astres et astrologie chez Ibn al-Qalanisi. In Bulletin d’études orientales. t. 44; 1992. Damas, Institut français de Damas, 1993. p. 70–77.

Reis, António E. dos. Um astrolábio diferente de todo os outros. Oceanos, no. 11, julho 1992: 35–42. illus. (part col.)

Renna, Enrico. Tolomeo, Pappo, Teone e Proclo: la nomenclatura degli strumenti astronomici. In Accademia peloritana dei pericolanti. Classe di lettere, filosofia e belle arti. Atti. v. 67. Messina, 1992. p. 303–322. illus.

Riazanov, P. E. Drevni zhenskii kalendar’. Sovetskaia etnografiia, nr. 2, mart/apr. 1990: 41–46. illus.

English summary: p. 171.

Robiou-Lamarche, Sebastián. El huracán y el Osa Mayor en Mesoamerica y las Antillas. In International Symposium on Latin American Indian Literatures, 7th, University of New Mexico, 1989. LAIL speaks! Selected papers from the VII International Symposium on Latin American Indian Literatures. Mary H. Preuss, editor. Culver City, Calif., Labyrinthos, 1990. p. 81–87. illus.

Romain, William F. Hopewell ceremonial centers and geomantic influences. Ohio archaeologist, v. 43, winter 1993: 35–44. illus., maps, plans.

Romano, Giuliano. Astronomia e scienze umane a Strasburgo. Nasce un’associazione per valorizzare il contributo dell’astronomia alla cultura dei popoli. L’Astronomia, anno 15, febbr. 1993: 73–74.

Rosino, Leonida. Galileo e la nascita dell’astronomia moderna. L’Astronomia, anno 15, febbr. 1993: 12–21. illus., (part col.)

Rothermel, Holly. Images of the sun: Warren De la Rue, George Biddell Airy and celestial photography. British journal for the history of science, v. 26, June 1993: 137–169. illus.

Russell, John A. Christopher Columbus: insight versus eyesight. Griffith observer, v. 57, Nov. 1993: 11, 14–16. illus.

Rut, M. E. Russkaia narodnaia astronomia Urala i Sibiri: problemy sбora, perspektivy izucheniiia. In Koordinatsionnoe soveshchanie po problemam izucheniiia sibirskikh govorov kafedr russkogo iazyka vozov Sibiri, Urala i Dal’nego Vostoka, Krasnoiarsk, 1991. Koordinatsionnoe soveshchanie po problemam izucheniiia sibirskikh govorov kafedr russkogo iazyka vozov Sibiri, Urala i Dal’nego Vostoka. Tezisy dokladov, 2–4 oktiabria 1991 g. Belousova G. G., otv. red. Krasnoiarsk, Krasnoiarski pedagogicheskii institut, 1991. p. 114–116.

Sabra, Abdelhamid I., and Anton Heinen. On seeing the stars. Edition and translation of Ibn al-Haytham’s Risala fi Ru’yat al-Kawakib. In Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften. Bd. 7; 1991/92. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität, 1992. p. 31–72.

Arabic and English on facing pages.

Saliba, George. Al-Qushji’s reform of the Ptolemaic model for Mercury. Arabic sciences and philosophy, v. 3, Sept. 1993: 161–203. illus.

Includes Arabic text and translation as well as historical and technical commentary.

Saliba, George. The role of the astrologer in medieval Islamic society. In Bulletin d’études orientales. t. 44; 1992. Damas, Institut français de Damas, 1993. p. 45–67. plates.

The six plates follow p. 67.

Santos Granero, Fernando. The dry and the wet: astronomy, agriculture and ceremonial life in western Amazonia. In Société des Américanistes de Paris. Journal, t. 78, fasc. 2, 1992: 107–132. illus., map.

Saurer, Andreas. Der Streit um die Zeit. Der neue Kalender—Anmerkungen zu einem vergessenen Kleinkrieg um verlorene Tage. Schweizer Monatshefte für Politik, Wirtschaft, Kultur, 22. Jahr, Jan. 1992: 9–14.

On the persistence of the Julian calendar in Graubünden (Grisons) until 1812.

Scatturin, Cecilia. Un codice astrologico dal Fondo Aldini di Pavia. In Rinascimento in miniatura, dedicato a Stella Matalon. Firenze, Centro Di, 1990. (Associazione amici di Brera e dei musei milanesi. Quaderni di Brera, 6) p. 40–49. illus. (part col.)

Concerns Aldini 490 in the collections of the Biblioteca universitaria di Pavia.

Schielicke, Reinhard, and Kathrin Blumenstein. Herzog Carl August, Goethe und die Einrichtung der Herzoglichen Sternwarte zu Jena. In Goethe-Jahrbuch. Im Auftrag des Vorstands der Goethe-Gesellschaft hrsg. von Werner Keller. 109. Bd.; 1992. Weimar, H. Böhlau Nachf., 1993. p. 173–180.

Schilling, Govert, and Eddy Echternach. De jacht op de Hubble-constante. Zenit, 19. jaarg., juli/aug. 1992: 300–305. illus., ports.

Schilling, Govert. Sky watchers of Arabian nights. New scientist, v. 140, Nov. 27, 1993: 44–46. col. illus.

“Benno van Dalen of the Mathematical Institute of the Utrecht University now thinks he has discovered a large number of Abu’l Wafa’s astronomical tables in a 13th-century manuscript kept at the Bibliothèque Nationale in Paris.”

Schlamminger, Ludwig. Potwierdzenie ruchu wlasnego Slonca 25 lat temu. Urania (Kraków), r. 63, grudz. 1992: 371–372. illus.

Schmitt, Robert C., and Doak C. Cox. Hawaiian time. In The Hawaiian journal of history. v. 26; 1992. Honolulu, Hawaiian Historical Society. p. 207–225. illus.

Schneider, Jürgen. Abdias Trew, *Mathematum & Physices Professor Publicus meritissimus* (1597–1669). In Festschrift Alfred Wendehorst

- zum 65. Geburtstag gewidmet von Kollegen, Freunden, Schülern. II. Hrsg. von Jürgen Schneider und Gerhard Rechter. Neustadt (Aisch), Kommissionsverlag Degener, Inh. M. Dreiss, 1992. (Jahrbuch für Fränkische Landesforschung, 53) p. 119–130. facsim., plate, port.
- Scholz, Erhard. Gauss und die Begründung der "hoheren" Geodäsie. In *Amphora*; Festschrift für Hans Wussing zu seinem 65. Geburtstag. Hrsg. von Sergei S. Demidov, Menso Folkerts, David E. Rowe, Christoph J. Scriba. Basel, Boston, Birkhäuser, 1992. p. 631–647.
- Schwarz, Oliver. August Ritter und die erste Theorie des Aufbaus und der Entwicklung von Fixsternen als konvektive Gaskugeln. NTM; internationale Zeitschrift für Geschichte und Ethik der Naturwissenschaften, Technik und Medizin, neue Serie, v. 1, Nr. 3, 1993: 137–145. English summary.
- Seelbach, Wilhelm. Astronomica. Rheinisches Museum für Philologie, 135. Bd., Heft 3/4, 1992: 262–267.
- On heliacal and acronychal risings and settings.
- Seidler, Jan, and Irena Seidlerová. Zur Entstehungsgeschichte des Dopplerschen Prinzips. *Centaurs*, v. 35, no. 3/4, 1992: 259–304.
- Shackelford, Jole. Tycho Brahe, laboratory design, and the aim of science. *Isis*, v. 84, June 1993: 211–230. illus.
- Figure 1, on an unnumbered page, faces p. 211.
- Signorini, Rodolfo. Una nuova chiave di lettura dei mesi raffigurati nello zodiaco di Palazzo d'Arco. Civiltà mantovana, nuova ser., n. 19, apr. 1988: 83–98. illus.
- Síma, Zdislav. Prague sextants of Tycho Brahe. *Annals of science*, v. 50, Sept. 1993: 445–453. illus.
- Smith, Julian A. Charles Potter [1831–1899], optician and instrument maker. In *Royal Astronomical Society of Canada. Journal*, v. 87, Feb. 1993: 14–33. illus., port.
- Smith, Julian A. The Schmalcalders of London and the "Priddis" dial. In *Royal Astronomical Society of Canada. Journal*, v. 87, Feb. 1993: 4–13. illus.
- Spence, Ian, and Robert F. Garrison. A remarkable scatterplot. *American statistician*, v. 47, Feb. 1993: 12–19. illus.
- About the Hertzsprung-Russell diagram.
- Starr, Eileen M. The mythology of the lost Pleiad. *Planetarian*, v. 22, Mar. 1992: 13–15.
- See also the letter from Edwin C. Krupp, published under the heading "Missing Pleiad" in the June 1993 issue, p. 4.
- Start, Eileen M. South American astronomical mythology. *Planetarian*, v. 21, June 1992: 14–19. map.
- Steel, Duncan, and Richard Ferguson. Auroral observations in the Antarctic at the time of the Tunguska event, 1908 June 30. *Australian journal of astronomy*, v. 5, Mar. 1993: 1–10.
- Stooke, Philip J. Mappaemundi and the mirror in the moon. *Cartographica*, v. 29, summer 1992: 20–30. illus.
- "A belief that the spots on the Moon are reflections of Earth's lands and seas can be traced from classical Greece via medieval Europe and the Middle East to 19th-century Persia and perhaps to the early years of this century in European folklore. Cartographers could have used the vista thus afforded them to fill in otherwise unknown regions on mappaemundi. It is not certain that they did so, but several examples of lunar influence may be noted."
- Stromer, Wolfgang von. Meister Konrad Scherp, Regiomontanus Experte für Feinmechanik in der Nürnberger Officina Febrilis und für den wissenschaftlichen Buchdruck. In *Verein für Geschichte der Stadt Nürnberg. Mitteilungen*. 79. Bd.; 1992. Nürnberg. p. 123–132.
- Strumpf, Manfred, and Thomas Marold. Sachzeugen der "astronomischen Epoche" Gotha; zum 200. Jahrestag der Errichtung der Sternwarte auf dem Seeberg. In *Gothaer Museumsheft*; Abhandlungen und Berichte zur Regionalgeschichte. Gotha, 1988. p. 17–25. plates.
- The plates (no. 7–12) are bound at the end of the issue. Another illustration appears on the lower part of the outside front cover.
- Swerdlow, Noel M. Science and humanism in the Renaissance: Regiomontanus's oration on the dignity and utility of the mathematical sciences. In *World changes; Thomas Kuhn and the nature of science*. Edited by Paul Horwich. Cambridge, Mass., MIT Press, 1993. (A Bradford book) p. 131–168.
- Targosz, Karolina. Scutum Sobiescianum Janina oslaniajaca astronomie przeniesiona na gwiazdne niebo. In *her Jan III Sobieski mecenensem nauk iuczonych*. Wrocław, Zakład narodowy im. Ossolińskich, Wydawn. Polska akademii nauk, 1991. (Monografie z dziejów nauki i techniki, t. 149) p. 308–357. facsim.
- English summary of this chapter: p. 360.
- Tedlock, Dennis, and Barbara Tedlock. A Mayan reading of the story of the stars. *Archaeology*, v. 46, July/Aug. 1993: 33–35. col. illus., facsim.
- See also the letter from Arthur Earle and the response by Dennis and Barbara Tedlock, published under the heading "Stellar Configurations" in the Nov./Dec. 1993 issue, p. 10–11.
- Temple, Blake, and Craig A. Tracy. From Newton to Einstein. *American mathematical monthly*, v. 99, June/July 1992: 507–521. On Einstein's correction of Newton's theory of planetary motion.
- Tenn, Joseph S. Bruce Medalist profiles. *Mercury*, v. 22, July/Aug. 1993: 119–121; Sept./Oct.: 19–21; Nov./Dec.: 20–21. illus., ports.
- Contents: Arthur Stanley Eddington, the nineteenth Bruce Medalist.—Henry Norris Russell, the twentieth Bruce Medalist.—Robert G. Aitken, the twenty-first Bruce Medalist.
- See also the "Erratum" notice on p. 31 of the Nov./Dec. issue, correcting several typographical errors and omissions relating to the profile of Henry Norris Russell in the previous issue.
- Thomson, Robert W. "Let now the astrologers stand up": the Armenian Christian reaction to astrology and divination. In *Homo byzantinus. Papers in honor of Alexander Kazhdan*. Anthony Cutler and Simon Franklin, editors. Washington, D.C., Dumbarton Oaks Research Library and Collection, 1992. (Dumbarton Oaks papers, no. 46) p. 305–312.
- Thornton, T. C. G. The Samaritan calendar, a source of friction in New Testament times. *Journal of theological studies, new ser.*, v. 42, Oct. 1991: 577–580.
- Thurston, Hugh. The length of the year. *Griffith observer*, v. 57, June 1993: 2–11. illus.
- On the different approaches used by the ancient Greeks and Chinese in attempting to achieve a precise measurement.
- Tifrea, Emilia. Calin Popovici (1910–1977). In *Anuarul astronomic*. 1992. Bucureti, Editura Academiei Române. p. 259–268.
- Tirion, Wil. *Uranografie: de cartografie van de sterrenhemel*. Zenit, 19. jaarg., apr. 1992: 156–160. illus.
- Torraca, Luigi. L'astronomia lunare in Plutarco. In *Convegno di studi su Plutarco, 4th, Genoa, 1991*. Plutarco e le scienze. Atti del IV Convegno plutarcheo, Genova-Bocca di Magra, 22–25 aprile 1991. A cura di Italo Gallo. Genova, Sagep Editrice, 1992. (I Libri di Giano) p. 231–261.
- Trachet, Tim. Op weg naar de Nieuwe Wereld: Columbus en de sterrenkunde. *Zenit*, 19. jaarg., oct. 1992: 396–402. illus., maps (part col.)
- Trachier, Jean P. Le 25^e anniversaire de l'observatoire de Triel (Yvelines). *L'Astronomie*, v. 107, juil./sept. 1993: 259.
- Trimble, Virginia. Patterns in citations of papers by American astronomers. In *Royal Astronomical Society. Quarterly journal*, v. 34,

June 1993: 235–250. illus.

“Numbers for annual citation rates to papers by American Astronomical Society prizewinners, officers, and randomly selected members are brought up to date ... Many of the correlations found in 1982 persist ...”

Trimble, Virginia. Patterns in citations to papers by British astronomers. In Royal Astronomical Society. Quarterly journal, v. 34, Sept. 1993: 301–314. illus.

“The similarities of patterns in British citation rates to those in American ones suggest that meaningful comparisons can be made among departments and other groups. For individuals, the caveat remains that citations are associated only with senior or sole authors of multi-authored papers and comparisons should be made cautiously.”

Tuman, Vladimir S. Astronomical dating of the kudurru IM/80908. In Sumer, a journal of archaeology & history in Arab world. v. 46; 1989/90. Baghdad [1993?] p. 98–106. illus.

Tuman, Vladimir S. Astronomical dating of the Nebuchadnezzar kudurru found in Nippur in February, 1896. In Rencontre assyriologique internationale, 35th, Philadelphia, 1988. Nippur at the centennial. Papers read at the 35th Rencontre assyriologique internationale, Philadelphia, 1988. Edited by Maria deJong Ellis. Philadelphia, University Museum, 1992. (Occasional publications of the Samuel Noah Kramer Fund, 14) p. 281–290. illus.

Turner, Gerard L'E., and Elly Dekker. An astrolabe attributed to Gerard Mercator, c. 1570. Annals of science, v. 50, Sept. 1993: 403–443. illus. (part col.), ports.

Tuscano, Pasquale. La civiltà dei lumi e la ‘Storia dell’astronomia’ di Giacomo Leopardi. Critica letteraria, anno 16, fasc. 1, 1988: 31–48.

Valetti, Alvero. Analogie e differenze fra due orologi con quadrante astronomico coevi: quello di Chisone e quello di Brescia. In Ateneo di Brescia. Commentari per l’anno 1990. Brescia, Stamperia Fratelli Geroldi, 1992. p. 97–123. illus.

Van den Bergh, Sidney. An astronomical life: J. H. Oort (1900–1992). In Royal Astronomical Society of Canada. Journal, v. 87, Apr. 1993: 73–76. port.

Vanysek, Vladimír. In memoriam: profesor Zdenek Kopal (4. IV. 1914–23. VI. 1993). Ríše hvězd, roč. 74, čís. 7/8, 1993: 178. group port., facsim.

A shorter contribution by Antonín Rükl appears on the same page.

Verbunt, Frank. Neutronensterren: 25 jaar studie. Zenit, 20. jaarg., okt. 1993: 404–413. illus. (part col.)

Vicente García, Luis M. La astrología en Los doce triunfos de los doce apóstoles del Cartujano. Revista de literatura, t. 54, enero/jun. de 1992: 47–73. illus.

Vicino, Gonzalo. El primer observatorio de Montevideo. Revista mexicana de astronomía y astrofísica, v. 26, oct. 1993: 139.

Abstract of a paper presented at the 7th Reunión Regional Latinoamericana de Astronomía, Nov. 2–6, 1992, Viña del Mar, Chile.

Vlasov, V. G. Puti rasshifrovki kargopol’skogo kalendaria-vyshivki. Sovetskaja etnografia, nr. 2, mart/apr. 1990: 46–63. illus.

English summary: p. 171.

Völker, Peter. Vierzig Jahre VdS. Sterne und Weltraum, 32. Jahrg., Okt. 1993: 728–733. illus. (part col.), ports. (part col.)

Wearner, Robert G. Astronomy and serendipity. Griffith observer, v. 57, Mar. 1993: 2–10. illus., ports.

Briefly discusses Lipppershey’s invention of the telescope, Newton’s development of the law of gravity, Herschel’s discovery of Uranus, the first observations of celestial radio sources by Karl Jansky, and the discovery of the first pulsar by Jocelyn Bell.

Wells, Ronald A. The 5th dynasty sun temples at Abu Ghurab as Old Kingdom star clocks: examples of applied ancient Egyptian astronomy. In International Congress of Egyptology, 4th, Munich, 1985. Akten des Vierten Internationalen Ägyptologen Kongresses, München, 1985. Hrsg. von Sylvia Schoske. Bd. 4. Geschichte, Verwaltungs- und Wirtschaftsgeschichte, Rechtsgeschichte, Nachbarkulturen. Hamburg, H. Buske, 1991. (Studien zur altägyptischen Kultur. Beihefte, Bd. 4) p. 95–104. illus., plan.

Wells, Ronald A. Sothis and the Satet temple on Elephantine: an Egyptian “Stonehenge”? In International Congress of Egyptology, 4th, Munich, 1985. Akten des Vierten Internationalen Ägyptologen Kongresses, München, 1985. Hrsg. von Sylvia Schoske. Bd. 4. Geschichte, Verwaltungs- und Wirtschaftsgeschichte, Rechtsgeschichte, Nachbarkulturen. Hamburg, H. Buske, 1991. (Studien zur altägyptischen Kultur. Beiheft, Bd. 4) p. 105–115. plans.

Wertime, Richard A., and Angela M. H. Schuster. Written in the stars: celestial origins of Maya creation myth. Archaeology, v. 46, July/Aug. 1993: 26–32. col. illus.

Includes, on p. 31, an essay by Anthony F. Aveni entitled “Mediators in a Universal Discourse,” adapted from his book, *Conversing With the Planets*.

West, David. Lucretius and the poetry of argument. Renaissance studies, v. 5, Sept. 1991: 242–249. illus.

“Today I propose to take a passage on astronomy from the fifth book [of *De rerum natura*] and try to show how it works as poetry.”

Widmalm, Sven. Anders Celsius and the politics of astronomy. In Nordic-Baltic Astronomy Meeting, Uppsala, 1990. Nordic-Baltic Astronomy Meeting; proceedings of a meeting held at the Astronomical Observatory of the Uppsala University, June 17–21, 1990, celebrating the 250th anniversary of the Celsius Observatory. Editors: C.-I. Lagerkvist, D. Kiselman, M. Lindgren. Uppsala, Uppsala Universitet Reprocentralen HSC, 1990. p. 1–9.

Wingen-Trennhaus, Angelika. Regiomontanus als Frühdrucker in Nürnberg. In Verein für Geschichte der Stadt Nürnberg. Mitteilungen. 78. Bd.; 1991. Nürnberg. p. 17–87. plates.

Winter, Frank H. First armada to Halley. Griffith observer, v. 57, July 1993: 2–10. illus., port.

Another illustration appears on the front cover of the issue (caption on p. 3).

Concerns balloon observations made in 1910.

Wittig, Joachim. Zur Entdeckungsgeschichte des Doppler-Effektes. Die Sterne, Bd. 69, Heft 6, 1993: 322–338. facsim., port.

Wu, Shou-xian, and Ci-yuan Liu. Secular variation of Earth’s rotation from ancient Chinese records of lunar occultations and approaches. Chinese astronomy and astrophysics, v. 17, July/Sept. 1993: 337–346. illus.

Translated from *Acta Astronomica Sinica* (*T’ien wen hsüeh pao*), v. 34, no. 1, 1993, p. 80–88.

Zadanfarukh al-Andarzaghar on anniversary horoscopes. Edited and translated by Charles Burnett and Ahmed Al-Hamdi. In Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften. Bd. 7; 1991/92. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität, 1992. p. 294–398.

English translation is followed by the Arabic text.

Zhang, Pei-yu. The identification and accuracy study of lunar eclipse records in ancient China. Chinese astronomy and astrophysics, v. 17, July/Sept. 1993: 347–358.

Translated from *Acta Astronomica Sinica* (*T’ien wen hsüeh pao*), v. 34, no. 1, 1993, p. 63–79.

Zusi, Luigi. L’epifania e gli antichi culti solari. L’Astronomia, anno 15, genn. 1993: 32–38. illus. (part col.)