Recent Publications Relating to the History of Astronomy

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— *Books and Pamphlets* —

• Arqueoastronomía y etnoastronomía en Mesoamérica. Editores: Johanna Broda, Stanislaw Iwaniszewski, Lucrecia Maupomé. México, Universidad Nacional Autónoma de México, 1991. xx, 574 p. illus., maps, plans, plates. (Serie de historia de la ciencia y la tecnología, 4)

"Memoria del Simposio que tuvo lugar en Ciudad Universitaria del 24 al 28 de septiembre de 1984 ..."

Contents: Broda, J. Presentación.—I. Temas introductorios. 1. Stegar, H. A. Estructuras indígenas del tiempo y del espacio en la cultura actual de México. 2. González Torres, Y. Los precursores de los estudios sobre los astros en Mesoamérica. 3. Krupp, E. C. Light and shadow.—II. Arqueoastronomía y etnoastronomía mayas. A. Arqueoastronomía maya: la arqueología. 4. Malmstrom, V. H. Edzna: earliest astronomical center of the Maya? 5. Cortés de Brasdefer, F. La astronomía como principio de urbanismo en Mesoamérica: el caso de Kohunlich. 6. Segovia, V. La astronomía en Uxmal. 7. Aveni, A. F., and H. Hartung. Archaeoastronomy and the Puuc sites. 8. Arochi, L. E. Concordancia cronológica arquitectónica entre Chichén Itzá y Mayapán. B. Arqueoastronomía maya: códices y fuentes indígenas coloniales. 9. Vollemaere, A. L. JDN 774.080: ¿una solución más para la correlación maya? 10. Bricker, V. R., and H. M. Bricker. La tabla de Marte en el *Códice de Dresde*. 11. Brito Sansores, W. Interpretación de un calendario sagrado del *Códice de Dresde*. 12. Montoliu Villar, M. Conceptos cosmológicos de los antiquos mayas de Yucatán estudiados en el *Chilam Balam de Chumayel*. 13. Tedlock, D. La siembra y el amenecer de todo el cielo-tierra: astronomía en el *Popol Vuh*. C. Etnoastronomía maya y aspectos comparativos. 14. Tedlock, B. La dialéctica de la agronomía y astronomía maya-quichés. 15. Sosa, J. R. Las cuatro esquinas del mundo: un análisis simbólico de la cosmología maya yucateca. 16. Ochiai, K. Bajo la mirada del sol portátil: representación social y material de la cosmología tzotzil. 17. Lupo, A. La etnoastronomía de los huaves de San Mateo del Mar, Oaxaca. 18. Köhler, U. Conceptos acerca del ciclo lunar y su impacto en la vida diaria de indígenas mesoamericanos. 19. Köhler, U. Conocimientos astronómicos de indígenas contemporáneos y su contribución para identificar constelaciones aztecas.—III. Arqueoastronomía y etnoastronomía del altiplano central. A. Arqueoastronomía del altiplano central: Teotihuacan. 20. Iwaniszewski, S. La arqueología y la astronomía en Teotihuacan. 21. Soruco Sáenz, E. Una cueva ceremonial en Teotihuacan y sus implicaciones astronómicas religiosas. 22. Wallrath, M., and A. Rangel Ruiz. Xihuingo (Tepeapulco): un centro de observación astronómica. 23. Angulo V., J. Identificación de una constelación en la pintura teotihuacana. 24. Edmonson, M. S. El calendario de Teotihuacan. 25. Flores Gutiérrez, J. D. Venus y su relación con fechas antiguas. B. Altiplano central: calendario, arquitectura, geografía cultural y cosmovisión. 26. Prem, H. J. Los calendarios prehispánicos y sus correlaciones; problemas históricos y técnicos. 27. Ponce de Leon H., A. Propriedades geométrico-astronómicas en la arquitectura prehispánica. 28. Tichy, F. Los cerros sagrados de la cuenca de México en el sistema de ordenamiento del espacio y de la planeación de los poblados. ¿El sistema ceque de los Andes en Mesoamérica? 29. Broda, J. Cosmovisión y observación de la naturaleza: el ejemplo del culto de los cerros en Mesoamérica. 30. Heyden, D. La matriz de la tierra. 31. Vega Sosa, C. El curso del Sol según los glifos de la cerámica azteca tardía.—IV. Arqueoastronomía de norte de México y de Norteamérica. 32. Peschard Fernandez, A., J. Ganot Rodríguez, and J. E. Lazalde Montoya. Petroglifos de El Zape, Durango: un calendario solar en el norte de México. 33. Ballereau, D. Lunas crecientes, soles y estrellas en los grabados rupestres de los cerros La Proveedora y Calera (Sonora, México). 34. Zeilik, M. Sunwatching and calendars: a Southwestern-Mesoamerican contrast in a distant, smoky mirror. 35. Hall, R. L. A Plains Indian perspective on Mexican cosmovision.

• Astrological reports to Assyrian kings. Edited by Hermann Hunger. Illus. edited by Julian Reade and Simo Parpola. Helsinki, Helsinki University Press, 1992. xxxix, 384, [16] p. illus., plates. (State archives of Assyria, v. 5)

Transliterated texts with English translations.

• Aveni, Anthony F. Conversing with the planets: how science and myth invented the cosmos. New York, Times Books, 1992. 255 p. illus.

• Baccani, Donata. Oroscopi greci: documentazione papirologica. Messina, Sicania, 1992. 190 p. illus. (Ricerca papirologica, 1)

• Bamberger Arbeitskreis "Antike Naturwissenschaft und ihre Rezeption." Symposion, *1st, Bamberg, 1989*. Vorträge des ersten Symposions des Bamberger Arbeitskreises "Antike Naturwissenschaft und ihre Rezeption" (AKAN). Hrsg. von Klaus Döring und Georg Wöhrle. Wiesbaden, O. Harrassowitz, 1990. 221 p. illus. (Gratia, Heft 21)

Partial contents: Krafft, F. Die Mathematisierung des Kosmos.—Hübner, W. Der Titel zum achten Buch des Martianus Capella.—Waschkies, H. J. Zur Genese des Zeitbegriffs in der Antike.—Knobloch, E. Christoph Clavius—ein Astronom zwischen Antike und Kopernikus.

• Bazin, Louis. Les systèmes chronologiques dans le monde turc ancien. Budapest, Akadémiai Kiadó; Paris, Éditions du CNRS, 1991. 571 p. (Bibliotheca orientalis hungarica, 34)

• Beaujouan, Guy. Science médiévale d'Espagne et d'alentour. Aldershot, Hants, Variorum; Brookfield, Vt., Ashgate Pub. Co., 1992. [304] p. illus. (Collected studies series, CS374)

Partial contents: 8. Fernand Colomb et le traité d'astrologie d'Henri le Navigateur (1961).—9. Science livresque et art nautique au XV^{e} siècle (1966).—10. L'astronomie dans la péninsule ibérique à la fin du moyen âge (1969).

• Borst, Arno. Computus: Zeit und Zahl in der Geschichte Europas. Berlin, K. Wagenbach, 1990. 126 p. illus. (Kleine kulturwissenschaftliche Bibliothek, 28. Bd.)

The text of this essay is considerably enlarged from its first appearance in the *Deutsches Archiv für Erforschung des Mittelalters*, 44. Jahrg., Heft 1, 1988, cited in HAD *Newsletter* no. 20.

• Britton, John P. Models and precision: the quality of Ptolemy's observations and parameters. New York, Garland Pub., 1992. xvii, 202 p. illus. (Sources and studies in the history and philosophy of classical science, 1)

• Calder, Nigel. Giotto to the comets. London, Presswork, 1992. 223 p. illus., ports.

The history of the spacecraft and its encounters with Halley's Comet (1986) and Comet Grigg-Skjellerup (1992).

• Chemnitius, Fritz. Die Mathematiker, Astronomen und Physiker an der Universität Jena (1558–1914). Edition eines Manuskripts (1930). Gert Schubring (Hrsg.). München, Institut für Geschichte der Naturwissenschaften, 1992. xxii, 114 p. (Algorismus, Heft 7)

• Chiabò, Maria, *and* Luciana Roberti. Index verborum Hygini De astronomia. Hildesheim, New York, Olms-Weidmann, 1990. 159 p. (Alpha-Omega. Reihe A, Lexika, Indizes, Konkordanzen zur klassischen Philologie, 103)

• Cleere, Gail S. The house on Observatory Hill, home of the Vice President of the United States. Washington, D.C., Dept. of the Navy, U.S. Naval Observatory, 1989. 74 p. illus. (part col.), maps, plans, ports. (part col.)

One fold. col. map in pocket.

• Compte i Porta, Ramon. L'astronomia a Mallorca. Versió catalana:

Miquel Flaquer i Servera. Pròleg: Josep Sbert i Casasayas. Palma de Mallorca, El Tall, 1991. 75 p. illus., ports. (El Calaix d'El Tall, 2)

• Copernicus, Nicolaus. Minor works. Translation and commentary by Edward Rosen with the assistance of Erna Hilfstein. Baltimore, Johns Hopkins University Press, 1992. xv, 373 p. illus., maps. (Foundations of natural history)

Reprint of the 1985 ed.

• Copernicus, Nicolaus. On the revolutions. Translation and commentary by Edward Rosen. Baltimore, Johns Hopkins University Press, 1992. xxi, 452 p. illus. (Foundations of natural history)

Translation of *De revolutionibus orbium caelestium.*

Reprint of the 1978 ed. with a new introduction by Erna Hilfstein.

• Cuno Hoffmeister: Festschrift zum 100. Geburtstag. Hrsg. von Siegfried Marx. Leipzig, J. A. Barth, 1992. 136 p. illus. (part col.), col. facsims., ports.

Contents: Marx, S. Vorwort des Herausgebers.—Götz, W. Der Lebensweg Cuno Hoffmeisters.—Richter, G. A. Zur Geschichte der Sternwarte Sonneberg.—Jensch, A. Meine Begegnung mit Cuno Hoffmeister.—Kippenhahn, R. Meine Erinnerungen an Cuno Hoffmeister.—Deinzer, W. Eine Reise nach Sonneberg.—Schubart, J. Eine Reise in die Vergangenheit.—Geyer, E. H., and M. Eichhorn. Cuno Hoffmeisters Weg zum Astronomen—erschlossen aus einem Briefwechsel mit Prof. Ernst Hartwig.—Busch, H. [Meine Begegnung mit Cuno Hoffmeister]

• La Diffusione delle scienze islamiche nel Medio Evo europeo (Roma, 2–4 ottobre 1984). Convegno internazionale promosso dall'Accademia nazionale dei Lincei, Fondazione Leone Caetani e dall'Università di Roma "La Sapienza," Facoltà di lettere—Dipartimento di studi orientali. Roma, Accademia nazionale dei Lincei, 1987. 538 p.

Partial contents: Burnett, C. S. F. Literal translation and intelligent adaptation amongst the Arabic-Latin translators of the first half of the twelfth century.—Federici Vescovini, G. "Albumasar in Sadan" e Pietro d'Abano.—Pingree, D. The diffusion of Arabic magical texts in Western Europe.—Poulle, E. Le vocabulaire de l'astronomie planétaire du XII[e] au XIV[e] siècle.—Vernet, J. Las traducciones del árabe a las lenguas romances setecientos años después de la muerte de Alfonso X El Sabio (1284).—Lemay, R. De la scolastique à l'histoire par le truchement de la philologie: itinéraire d'un mediéviste entre Europe et Islam.

• Dohrn-van Rossum, Gerhard. Die Geschichte der Stunde: Uhren und moderne Zeitordnung. München, C. Hanser, 1992. 415 p. illus.

• Earth and sky: visions of the cosmos in native American folklore. Edited by Ray A. Williamson and Claire R. Farrer. Albuquerque, University of New Mexico Press, 1992. 299 p. illus., plans, ports.

Contents: 1. Williamson, R. A., and C. R. Farrer. Introduction: the animating breath.—2. Zolbrod, P. Cosmos and poesis in the Seneca thank-you prayer.—3. Williamson, R. A. The celestial skiff: an Alabama myth of the stars.—4. Farrer. C. R. "... by you they will know the directions to guide them": stars and Mescalero Apaches.—5. Young, M. J. Morning star, evening star: Zuni traditional stories.—6. Pinxten, R., and I. Van Dooren. Navajo earth and sky and the celestial life-force.—7. Griffin-Pierce, T. The *hooghan* and the stars.—8. Hoskinson, T. Saguaro wine, ground figures, and power mountains: investigations at Sears Point, Arizona.—9. Bean, L. M. Menil (moon): symbolic representation of Cahuilla woman.—10. Broughton, J. M., and F. Buckskin. Racing *Simloki's* shadow: the Ajumawi interconnection of power, shadow, equinox, and solstice.—11. Miller, J. North Pacific ethnoastronomy: Tsimshian and others.—12. Kehoe, A. B. Clot-of-Blood.—13. Goodman, R. On the necessity of sacrifice in Lakota stellar theology as seen in "The Hand" constellations, and the story of "The Chief Who Lost His Arm."—14. Chamberlain, V. D. The chief and his council: unity and authority from the stars.—15. Conway, T. The conjurer's lodge: celestial narratives from Algonkian shamans.—16. McElwain, T. Asking the stars: Seneca hunting ceremonial.—17. Farrer, C. R., and R. A. Williamson. Epilogue: blue archaeoastronomy.

• Encyclopedia of cosmology. Historical, philosophical, and scientific foundations of modern cosmology. Edited by Norriss A. Hetherington. New York, Garland Pub., 1993. xv, 686 p. illus.

• Faria, Francisco C. Pessoa. Os astrônomos pre-históricos do Ingá. São Paulo, Instituição Brasileira de Difusão Cultural, 1987. 114 p. illus., map. (Biblioteca "Historia, explorações e descobertas," 34)

• Farrer, Claire R. Living life's circle: Mescalero Apache cosmovision. Albuquerque, University of New Mexico Press, 1991. 274 p. illus., map.

• Frontiers in cosmic physics; symposium in memory of Serge Alexander Korff. Edited by Rosalind B. Mendell and Allen I. Mincer. New York, New York Academy of Sciences, 1992. 365 p. illus., ports. (Annals of the New York Academy of Sciences, v. 655)

"This Korff memorial volume reviews the past and present and points to the future of this new frontier in astrophysics."

• Gemeinschaft der Forschungsinstitute für Naturwissenschafts- und Technikgeschichte am Deutschen Museum, 1963–1988. Hrsg. von Menso Folkerts. München, Deutsches Museum, 1988. 143 p. ports.

See particularly "Die Deutsche Copernicus-Forschungsstelle," by Heribert M. Nobis (p. 97–104), and "Die Kepler-Kommission am Forschungsinstitut des Deutschen Museums in den Jahren 1967 bis 1975," by Volker Bialas (p. 105–106).

• Gemma, Frisius. De principiis astronomiae & cosmographiae (1553). A facsimile reproduction with an introd. by C. A. Davids. Delmar, N.Y., Published for the John Carter Brown Library by Scholars' Facsimiles & Reprints, 1992. 32, 185, [46] p. illus. (Scholars' facsimiles & reprints, v. 475) (Maritime history series)

• Gerdes, Dieter. Die Lilienthaler Sternwarte, 1781 bis 1818. Machinae Coelestes Lilienthalienses. Eine zeitgeschichtliche Dokumentation. Lilienthal, Simmering [1992?] 297 p. illus.

• Geschichte der Kometenforschung. Mit Beiträgen von F. Gehlhar, J. Hamel, D. B. Herrmann, S. Koge. Berlin-Treptow, Archenhold-Sternwarte Berlin-Treptow, 1987. 64 p. illus., ports. (Archenhold-Sternwarte Berlin-Treptow. Vorträge und Schriften, Nr. 66)

Revised versions of papers presented at a colloquium on Feb. 11, 1986, at the Archenhold-Sternwarte.

Contents: Gehlhar, F. Kometen, Weltbild und Wissenschaftsentwicklung.—Hamel, J. Gottfried Kirch und die Kometentheorie des 17. Jahrhunderts.—Koge, S. Johann Georg Palitzsch und die Entdeckung des Halleyschen Kometen 1758.—Herrmann, D. B. Der Beitrag der Astrophysik zur Erforschung der Kometen im 19. Jahrhundert.—Anhang. Aktivitäten der Archenhold-Sternwarte anlässlich der Wiederkehr des Kometen Halley 1985/86.

• Gingerich, Owen. The eye of heaven: Ptolemy, Copernicus, Kepler. New York, American Institute of Physics, 1993. 442 p. illus., facsims. (Masters of modern physics)

Contents: Introduction. 1. Ptolemy, Copernicus, and Kepler (1983).—Ptolemy and the geocentric universe. 2. Was Ptolemy a fraud? (1980). 3. Ptolemy revisited (1981). 4. Zoomorphic astrolabes: Arabic star names enter Europe (1987). 5. The Abd al-Aimma astrolabe forgeries (with D. King and G. Saliba, 1972). 6. Alfonso X as a patron of astronomy (1990). 7. The 1582 "Theorica Orbium" of Hieronymus Vulparius (1977). 8. The search for a plenum universe (1979).—Copernicus and the heliocentric universe. 9. The astronomy and cosmology of Copernicus (1974). 10. Did Copernicus owe a debt to Aristarchus? (1985). 11. "Crisis" versus aesthetic in the Copernican revolution (1975). 12. Early Copernican ephemerides (1978). 13. Erasmus Reinhold and the dissemination of Copernican theory (1973). 14. *De revolutionibus*: an example of Renaissance scientific printing (1986). 15. The censorship of Copernicus's *De revolutionibus* (1971). 16. Heliocentrism as model and reality (1973).—Kepler and the new astronomy. 17. Johannes Kepler and the new astronomy (1972). 18. Kepler as a Copernican (1971). 19. Kepler's place in astronomy (1975). 20. The origins of Kepler's Third Law (1975). 21. The computer versus Kepler (1964). 22. The computer versus Kepler revisited (1973). 23. Mercury theory from antiquity to Kepler (1971). 24. Kepler, Galilei, and the harmony of the world (1992). 25. Circumventing Newton (1978).

• González Reimann, Luis. Tiempo cíclico y eras del mundo en la India. México, D.F., El Colegio de México, 1988. 216 p. illus.

• Gray, Mike. Angle of attack: Harrison Storms and the race to the moon. New York, W. W. Norton, 1992. 304 p.

• Griffin-Pierce, Trudy. Earth is my mother, sky is my father; space, time, and astronomy in Navajo sandpainting. Foreword by N. Scott Momaday. Illus. by Trudy Griffin-Pierce. Albuquerque, University of New Mexico Press, 1992. xxiv, 236 p. illus., map, col. plates.

• Harvard University. *Collection of Historical Scientific Instruments*. Ivory diptych sundials, 1570–1750. Steven A. Lloyd, with introductions by Penelope Gouk and A. J. Turner. Cambridge, Mass., Distributed by Harvard University Press, 1992. 169 p. illus., maps.

• Hentschel, Klaus. Der Einstein-Turm. Erwin F. Freundlich und die Relativitätstheorie. Ansätze zu einer "dichten Beschreibung" von institutionellen, biographischen und theoriengeschichtlichen Aspekten. Heidelberg, New York, Spektrum, Akademischer Verlag, 1992. 192 p. illus.

• Herbster, Rainer. Die Grundlagen der frühen chinesischen Astronomie. Bestimmung der Periode und Bahn der Sonne. Frankfurt, 1986. 99 p.

Inaug.-Diss.: Johann Wolfgang Goethe Universität, Frankfurt am Main, 1986.

• History and astrology: Clio and Urania confer. Edited by Annabella Kitson. London, Unwin Paperbacks, 1989. 272 p. illus. (Mandala)

Contents: Walker, C. B. F. A sketch of the development of Mesopotamian astrology and horoscopes.—Pattie, T. Greek astrology.—Jones, P. Celestial and terrestrial orientations.—Kollerstrom, N. The star temples of Harran.—Kitson, A. Chaucer's astrology.—Campion, N. Astrological historiography in the Renaissance.—Heath-Stubbs, J. The astrological basis of Spenser's 'Shephearde's Calender.'—Kollerstrom, N. Kepler's belief in astrology.—Kitson, A. Some varieties of electional astrology.—Appleby, D. The foundation of St. Paul's Cathedral after its destruction in the great fire of 1666.—Appleby, D. The Revolution of 1688.—Curry, P. John Worsdale and late eighteenth-century English astrology.—Curry, P. Astrological literature in late eighteenth-century England.

• Hoffleit, Dorrit. Women in the history of variable star astronomy. Cambridge, Mass., American Association of Variable Star Observers, 1993. 62 p. illus., ports.

• Hubschmann, Kurty. Observatorio Cagigal: cien años de historia y de ciencia. Caracas, Lagoven, 1988. 99 p. illus., ports.

• Hundert Jahre Astronomie an der Leopold-Franzens-Unversität Innsbruck (1892–1992). Hrsg. vom Institut für Astronomie und vom Universitätsarchiv Innsbruck. Innsbruck, Institut für Astronomie und Universitätsdirektion Innsbruck, 1992. 116 p. illus., facsims., ports. (Universität Innsbruck 1669–2000, Retrospektiven)

• Hyginus. De astronomia. Edidit Ghislaine Viré. Stutgardiae, Teubner, 1992. lix, 176 p. (Bibliotheca scriptorum Graecorum et Romanorum Teubneriana)

• Illescas Cook, Guillermo. El cielo de los antiguos peruanos: el libro de oro de las lineas y de las figuras de Nasca. Lima, Consejo Nacional de Ciencia y Tecnología, Ministerio de la Presidencia, 1989. 188 p. illus., maps.

• The Investigation of difficult things. Essays on Newton and the history of the exact sciences, in honour of D. T. Whiteside. Edited by P. M. Harman, Alan E. Shapiro. Cambridge, New York, Cambridge University Press, 1992. xvi, 531 p. illus., ports.

Contents: I. Mathematics and astronomy before Newton. 1. Goldstein, B. R. Lunar velocity in the Ptolemaic tradition. 2. Swerdlow, N. M. Shadow measurement: the *Sciametria* from Kepler's *Hipparchus*—a translation with commentary. 3. Bos, H. J. M. Descartes, Pappus' problem, and the Cartesian Parabola: a conjecture. 4. Fellman, E. A. Honoré Febry (1607–1688) als Mathematiker—eine Reprise.—II. Newton's manuscripts. 5. Spargo, P. E. Sotheby's, Keynes and Yahuda—the 1936 sale of Newton's manuscripts. 6. Figala, K., J. Harrison, and U. Petzold. *De Scriptoribus Chemicis*: sources for the establishment of Isaac Newton's (al)chemical library. 7. Shapiro, A. E. Beyond the dating game: watermark clusters and the composition of Newton's *Opticks*.—III. Newton's *Principia*. 8. Brackenridge, J. B. The critical role of curvature in Newton's developing dynamics. 9. Hall, A. R. Newton and the absolutes: sources. 10. Bechler, Z. Newton's ontology of the force of inertia. 11. Gabbey, A. Newton's *Mathematical Principles of Natural Philosophy*: a treatise on 'mechanics'? 12. Cohen, I. B. The review of the first edition of Newton's *Principia* in the *Acta Eruditorum*, with notes on the other reviews. 13. Fowler, D. H. Newton, Cotes, and $\sqrt{\sqrt{2}}$: a footnote to Newton's theory of the resistance of fluids.—IV. Newton and eighteenth-century physics. 14. Gowing, R. A study of spirals: Cotes and Varignon. 15. Feigenbaum, L. The fragmentation of the European mathematical community. 16. Wilson, C. Euler on action-at-a-distance and fundamental equations in continuum mechanics. 17. Bertoloni Meli, D. St Peter and the rotation of the earth: the problem of fall around 1800.—V. After Newton: optics and dynamics. 18. Buchwald, J. Z. Why Stokes never wrote a treatise on optics. 19. Harman, P. M. Maxwell and Saturn's rings: problems of stability and calculability. 20. Gray, J. Poincaré, topological dynamics, and the stability of the solar system.

• Jaki, Stanley L. Olbers studies. With three unpublished manuscripts by Olbers. Tucson, Pachart Pub. House, 1991. 95 p. (History of astronomy series, v. 8)

Contents: pt. I. Three studies on Olbers. 1. Wilhelm Olbers. 2. Olbers as cosmologist. 3. New light on Olbers' dependence on Chéseaux.—pt. II. Three essays by Olbers. 4. A world of limited duration? 5. Is interplanetary travel possible? 6. The Copernican world system.

• Johannes *de Sicilia*. Scriptum super canones Azarchelis de tabulis Toletanis. Fritz S. Pedersen [editor] Copenhague, I kommission hos (distributeur) E. Paludan—International boghandel, 1986. 2 v. illus. (Copenhagen. Universitet. Institut for graesk og latinsk meddelalderfilologi. Cahiers de l'Institut du moyen-âge grec et latin, no 51–52)

Contents: pt. 1. Preface, apparatus of variants, list of parallels, index of names, etc.—pt. 2. Text.

• Krayer, Albert. Mathematik im Studienplan der Jesuiten. Die Vorlesung von Otto Cattenius an der Universität Mainz (1610/11). Stuttgart, F. Steiner, 1991. 434 p. illus., col. plates, fold. tables. (Beiträge zur Geschichte der Universität Mainz, Bd. 15)

"Anhang: Der Bestand an astronomischer Literatur in der Bibliothek des Mainzer Jesuiten-Kollegs um 1630": p. 365–400.

• Krishnamurthi, K. R. Indian astronomers. General editor, N. Mahalingam. Madras, International Society for the Investigation of Ancient Civilizations, 1991. 213 p.

On the lives and works of ancient Indian writers on astronomy.

• Litten, Freddy. Astronomie in Bayern, 1914–1945. Stuttgart, F. Steiner, 1992. 329 p. (Boethius, Bd. 30)

The personal name index includes brief biographical information.

• McConnell, Anita. Instrument makers to the world: a history of Cooke, Troughton & Simms. York, W. Sessions, 1992. 116 p. illus., maps, ports.

Contents: Prologue.—pt. 1. Troughton and Simms of London.—pt. 2. Cooke of York.—pt. 3. Cooke, Troughton & Simms.—Epilogue.

A lithograph based on a watercolor by Charles Piazzi Smyth depicting the scene at the beginning of the total solar eclipse of 28 July 1851, at Bue Island, Norway, is reproduced in color on the front cover.

• Mackensen, Ludolf von. Die naturwissenschaftlich-technische Sammlung; Geschichte, Bedeutung und Ausstellung in der Kasseler Orangerie. Kassel, G. Wenderoth, 1991. 156 p. illus. (part col.), facsims., col. maps, ports. (part col.) (Schriften zur Naturwissenschafts- und Technikgeschichte, 3)

• Maffeo, Sabino. In the service of nine popes: 100 years of the Vatican Observatory. Translation by George V. Coyne. Vatican City, Pontificia Academia Scientiarvm, Specola Vaticana, 1991. [xvi], 241 p. map, plates (part col.), ports. (part col.)

Translation of *Nove papi, una missione; cento anni della Specola*

vaticana (1991).

• Marx, Siegfried, *and* Werner Pfau. Astrophotography with the Schmidt telescope. Translated by P. Lamble. Cambridge, New York, Cambridge University Press, 1992. 165 p. illus.

Translation of their *Himmelsfotografie mit Schmidt-Teleskopen.*

See the comments to the listing of the German edition in HAD *Newsletter* no. 20.

• Miotto, Enrico, Guido Tagliaferri, *and* Pasquale Tucci. La strumentazione nella storia dell'Osservatorio astronomico di Brera. Milano, UNICOPLI, 1990. 121 p. illus. (part col.), map, plans.

A print showing Schiaparelli at the Merz-Repsold refractor is reproduced in color on the front cover.

• Morbech, Finn. Jens Olsen: med haender som en smed og hoved som en laerd. Høng, Sct. Eligius, 1991. 238 p. illus. (part col.)

Olsen (1872–1945) was a clockmaker and amateur astronomer.

• Moss, Jean Dietz. Novelties in the heavens: rhetoric and science in the Copernican controversy. Chicago, University of Chicago Press, 1993. xiv, 353 p.

• Moyer, Albert E. A scientist's voice in American culture: Simon Newcomb and the rhetoric of scientific method. Berkeley, University of California Press, 1992. xviii, 301 p. illus., facsims., ports.

• Müller, Peter. Sternwarten in Bildern: Architektur und Geschichte der Sternwarten von den Anfängen bis ca. 1950. Mit 276 überwiegend farbigen Darstellungen. Berlin, New York, Springer-Verlag, 1992. 257 p. illus. (part col.), plans.

• Mysteries of life and the universe; new essays from America's finest writers on science. Edited by William H. Shore. New York, Harcourt Brace Jovanovich, 1992. 317 p.

Partial contents: Lightman, A. P. First birth.—Aveni, A. F. Somebody else's cosmology.—Gregory, B. A detective story.—Krauss, L. M. Rediscovering creation.—March, R. H. Does anybody know the right time?—Levenson, T. Peering into shadows.—Overbye, D. Where's home, cowboy?—Marschall, L. A. 2 rms riv vu: on the search for habitable planets.

• Naturgesetzlichkeit und Kosmologie in der Geschichte. Festschrift für Ulrich Grigull. Volker Bialas (Hrsg.). Stuttgart, F. Steiner, 1992. 115 p. (Boethius, Bd. 29)

Partial contents: Hübner, J. Einheit und Vielfalt der Wahrheit. Gewissheit des Glaubens und Toleranz des Denkens bei Johannes Kepler und den Theologen seiner Zeit.—Seck, F. Über den Briefwechsel von Wilhelm Schickard.—Nevskaia, N. I. Joseph-Nicolas Delisle (1688–1768) und seine russische astronomische Schule.—Schenkel, P. M. Der Pulkower Kepler-Nachlass und die deutsch-russischen Wissenschaftsbeziehungen.—Kothmann, H. Denkmale. Zur Kepler-Rezeption in der neueren deutschsprachigen Literatur.—Bialas, V. Über die Anfänge des kosmologischen Denkens.—Wahsner, R. Weltharmonie und Naturgesetz. Zur wissenschaftstheoretischen und wissenschaftshistorischen Bedeutung der Keplerschen Harmonielehre.

• North, John D. Verborgen betekenissen in de dichtkunst van Geoffrey Chaucer. Amsterdam, New York, Noord-Hollandsche, 1991. 14 p. (Koninklijke Nederlandse Akademie van Wetenschappen. Afdeling Letterkunde. Mededelingen, nieuwe reeks, d. 54, no. 5)

On astronomical and astrological references in Chaucer's poetry.

• Obenga, Théophile. La philosophie africaine de la période pharaonique, 2780–330 avant notre ère. Paris, L'Harmattan, 1990. 567 p. illus., plates.

See the sections entitled "Du Temps—Du Ciel" (p. 105–135) and "Astronomie" (p. 265–301). The latter includes discussion of the astronomical knowledge of a number of African peoples.

The plates are bound at the end of the volume.

• Olmsted, Garrett. The Gaulish calendar. A reconstruction from the bronze fragments from Coligny with an analysis of its function as a highly accurate lunar/solar predictor as well as an explanation of its terminology and development. Bonn, Dr. R. Habelt, 1992. xiv, 212, [100] p. illus.

• Osservatorio astronomico di Brera. Catalogo della corrispondenza degli astronomi di Brera. v. 1. 1726–1799. La stesura del testo è stata curata da Agnese Mandrino, Guido Tagliaferri, Pasquale Tucci. Milano, Università degli studi di Milano, 1986. 427 p.

Describes and summarizes the contents of 1,333 items, arranged alphabetically by the name of the sender. There are indexes of the names of senders, addressees, and places from which the items were sent. Brief biographical sketches of the correspondents are also provided.

This is a revision of an entry first published in HAD *Newsletter* no. 9.

• Osservatorio astronomico di Brera. Catalogo della corrispondenza degli astronomi di Brera. v. 2. 1800–1809. La stesura del testo è stata curata da Gianluca Battioni, Paola Locatelli. Milano, Edi.Ermes, 1991. [429]–913 p.

Furnishes information on items numbered 1,334–2,588. Indexes and a biographical section similar to those in v. 1 are again provided.

• Paltrinieri, Giovanni. Antichi quadranti solari: il Plinto di Tolomeo. Il quadrante astronomico di Santa Maria Novella in Firenze. Brescia, Museo civico di scienze naturali di Brescia, 1990. 34 p. illus. (L'Astrofilo, bollettino dell'Unione astrofili bresciani, 16)

Contents: La vita di Egnazio Danti.—Il quadrante di Santa Maria Novella.—L'armilla equinoziale.—La tracciatura degli orologi solari.

• Paltrinieri, Giovanni. Le meridiane: da S. Petronio a S. Giuseppe di Brescia. Brescia, Museo civico di scienze naturali di Brescia, 1991. 32 p. illus. (L'Astrofilo, bollettino dell'Unione astrofili bresciani, 18)

• Pedersen, Olaf. Early physics and astronomy, a historical introduction. Rev. ed. Cambridge, New York, Cambridge University Press, 1993. 413 p. illus.

Biographical appendix: p. 297–404.

• Petroni, Angelo M. I modelli, l'invenzione, e la conferma: saggio su Keplero, la rivoluzione copernicana e la "New philosophy of science." Milano, F. Angeli, 1990. 247 p. illus. (Filosofia e scienza nel Cinquecento e nel Seicento. Studi, 33)

Contents: pte. 1. La conferma del sistema copernicano.—pte. 2. L'invenzione del modello kepleriano.

• Piazzi, Giuseppe. Sulle vicende dell'astronomia in Sicilia. A cura di Giorgia Foderà Serio. Palermo, Sellerio Editore, 1990. 93 p. illus. (part col.), col. ports. (Biblioteca siciliana di storia e letteratura, 29)

• Poincaré, Henri. New methods of celestial mechanics. Edited and introduced by Daniel L. Goroff. Woodbury, N.Y., American Institute of Physics, 1993. 3 v. illus., ports. (History of modern physics and astronomy, v. 13)

Translation of *Les méthodes nouvelles de la mécanique céleste.*

Contents: pt. 1. Periodic and asymptotic solutions.—pt. 2. Approximations by series.—pt. 3. Integral invariants and asymptotic properties of certain solutions.

• The Port Orford, Oregon, meteorite mystery. Roy S. Clarke, Jr., editor. Washington, D.C., Smithsonian Institution Press, 1993. 43 p. illus. (part col.), facsims., maps. (Smithsonian contributions to the earth sciences, no. 31)

Contents: 1. Plotkin, H. John Evans and the Port Orford meteorite hoax.—2. Buchwald, V. F., and R. S. Clarke. A mystery solved: the Port Orford meteorite is an Imilac specimen.

• Radke, Gerhard. Fasti romani. Betrachtungen zur Frühgeschichte des römischen Kalenders. Münster, Aschendorff, 1990. illus. (Orbis antiquus, Heft 31)

• Ricci, Saverio. La fortuna del pensiero di Giordano Bruno, 1600–1750. Pref. di Eugenio Garin. Firenze, Le Lettere, 1990. 408 p. (Giornale critico della filosofia italiana, quaderni, 1)

Contents: 1. L'eredità di Lullo.—2. Tra naturalismo e nuova scienza.—3. Infiniti mondi, vortici cartesiani e spazio divino.—4. dio e natura.—5. Tra newtonismo e libero pensiero.

• Robertson, Peter. Beyond southern skies: radio astronomy and the Parkes Telescope. Cambridge, New York, Cambridge University Press, 1992. 357 p. illus., ports.

• Rudd, M. Eugene. Science on the great plains: the history of physics and astronomy at the University of Nebraska-Lincoln. Lincoln, University of Nebraska, 1992. 168 p. illus., ports. (Univer-

sity of Nebraska studies, new ser., no. 71)

• Scandaletti, Paolo. Galileo privato. Milano, Camunia, 1989. 275 p. (Storia & storie)

• Schukowski, Manfred. Die astronomische Uhr in St. Marien zu Rostock. Unter Mitarbeitung von Wolfgang Erdmann und Kristina Hegner. Königstein im Taunus, Langewiesche, 1992. 49 p. illus. (part col.) (Die blauen Bücher)

• Schwarzschild, Karl. Gesammelte Werke. Collected works. Edited by H. H. Voigt. Berlin, New York, Springer-Verlag, 1991–92. 3 v. illus.

• Sherrod, P. Clay, *and* Martha A. Rolingson. Surveyors of the ancient Mississippi Valley; modules and alignments in prehistoric mound sites. Fayetteville, AR, Arkansas Archeological Survey, 1987. xiv, 151 p. maps, plans. (Arkansas Archeological Survey research series, no. 28)

"It is hypothesized here that the late prehistoric Indians of the Mississippi River Valley had a body of knowledge concerning celestial phenomena and mound engineering that provided principles for planned construction of ceremonial centers."

Based on the study of 31 sites.

• Studies on Gersonides, a fourteenth-century Jewish philosopher-scientist. Edited by Gad Freudenthal. pt. 1. Gersonides' astronomy: the work, its context, and its influence. Leiden, New York, E. J. Brill, 1992. (Collection de travaux de l'Académie internationale d'histoire des sciences, t. 36) p. 1–80. illus.

Contents: Goldstein, B. F. Levi ben Gerson's contributions to astronomy.—Mancha J. L. The Latin translation of Levi ben Gerson's *Astronomy*.—Chabas, J. L'influence de l'astronomie de Lévi ben Gershom su Jacob ben David Bonjorn.—Hugonnard-Roche, H. Problèmes méthodologiques dans l'astronomie au début du XIV^{e} siècle.—Beaujouan, G. Les orientations de la science latine au début du XIV^{e} siècle.

See also the section "Astronomy and Astrology" (p. 397–403) in the "Bibliographia Gersonideana; an Annotated List of Writings By and About R. Levi ben Gershom," by Menachem Kellner. Kellner states that he would like to make the bibliography an ongoing project and invites colleagues to send him "comments, corrections, and additions, and especially offprints of their future publications on Gersonides."

• Suagher, Françoise, Paul Perroud, *and* Jean P. Marchand. L'heure au soleil: cadrans solaires en Franche-Comté. Besançon, Cêtre, 1991. 127 p. illus. (part col.)

• Tadic, Milutin. Studenicki suncanici. Krusevac, Bagdala, 1987. 60 p. illus. (Biblioteka istocnik)

English summary: p. 57–58.

On sundials of the Studenica monastery.

• Taub, Liba C. Ptolemy's universe. The natural philosophical and ethical foundations of Ptolemy's astronomy. Chicago, Open Court, 1993. xvi, 188 p. illus.

• Theodosiou, Stratos, *and* Manos Danezes. Ta astra kai hoi mythoi tous; eisagoge sten ouranographia. Athena, Ekdoseis Diaulos, 1991. 226 p. illus. (part col.)

• Thulesius, Olav. Nicholas Culpeper, English physician and astrologer. New York, St. Martin's Press, 1992. 210 p. illus., facsims., maps, ports.

• Trabulse, Elías. Archipielagos siderales; eclipses y astronomía en la historia de México. Tlalpan, México, Secretaria de Comunicaciones y Transportes, 1991. 176 p. illus. (part col.), facsims. (part col.), maps, ports.

• Trejo Sandoval, Marte. Las ciudades del cielo. México, D. F., Hoja Casa Editorial, 1992. 213 p. illus., maps, plans, fold. table. (Círculo cuadrado)

• Tyard, Pontus de. Mantice. Discourse de la verité de divination par astrologie. Edition critique par Sylviane Bokdam. Genève, Droz, 1990. 275 p. facsim. (Textes littéraires français)

• Viré, Ghislaine. Informatique et classement des manuscrits: essai méthodique sur le De astronomia d'Hygin. Bruxelles, Éditions de l'Université de Bruxelles, 1986. 100 p. chart (fold. in pocket) (Sources et instruments, 8)

• Wacht, Manfred. Concordantia in Manilii Astronomica. Hildesheim, New York, Olms-Weidmann, 1990. 502 p. (Alpha-Omega. Reihe A, Lexika, Indizes, Konkordanzen zur klassischen Philologie, 106)

• Wagh, V. D. Ancient Indian knowledge about comets. Pune, 1989. 99 p. illus.

Includes passages in Sanskrit.

• Weiss, Ferenc. Correspondence de Ferenc Weiss, astronome hongrois du XVIII^{e} siècle. Publiée par Magda Vargha. II. Budapest, Bibliothèque de l'Université, 1992. 256, [47] p. facsims. (Fontes et studia, 7)

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• Wilhelms, Don E. To a rocky moon; a geologist's history of lunar exploration. Tucson, University of Arizona Press, 1993. xx, 477 p.

• Wolschin, Georg. Spektrum der Physik: Höhepunkte moderner physikalischer und astronomischer Forschung. Mit einem Vorwort von Gerd Binnig. Leipzig, J. A. Barth, 1992. 233 p. illus.

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• Aaboe, Asger. Babylonian mathematics, astrology, and astronomy. *In* The Cambridge ancient history. 2d ed. v. 3, pt. 2. The Assyrian and Babylonian empires and other states of the Near East, from the eighth to the sixth centuries B.C. Cambridge, New York, Cambridge University Press, 1991. p. 276–292. illus.

• Abhyankar, Krishna D. Misidentification of some Indian naksatras. Indian journal of history of science, v. 26, Jan. 1991: 1–10. illus.

• Abraham, George. Mean sun and moon in ancient Greek and Indian astronomy. Indian journal of history of science, v. 26, Oct. 1991: 383–387.

• Allen, David A. IRIS: a dream fulfilled. *In* Yearbook of astronomy. 1993. Edited by Patrick Moore. New York, W. W. Norton, 1992. p. 141–157. illus.

• Altieri Biagi, Maria L. Postille al *Dialogo sopra i massimi sistemi*. Alma mater studiorum, rivista scientifica dell'Università di Bologna, v. 3, fasc. 1, 1990: 1–46. illus.

An abridgment in English, "Notes to the *Dialogo sopra i massimi sistemi*," follows on p. 47–66.

• Appleby, John H. The Russia Company and John Rowley's orrery. Bulletin of the Scientific Instrument Society, no. 36, Mar. 1993: 15.

• Arboleda, Luis Carlos, *and* Diana Soto Arango. Las teorías de Copérnico y Newton en los estudios superiores del Virreinato de Nueva Granada y en la Audiencia de Caracas. Siglo XVIII. Quipu, v. 8, enero/abr. de 1991: 5–34.

English summary.

• Attinger, Claude. La pierre à cadrans solaires du couvent de Sarnen. Chronométrophilia, no 33, hiver 1992: 58–77. illus.

• Aveni, Anthony F. Moctezuma's sky: Aztec astronomy and ritual. *In* Carrasco, David, *and* Eduardo Matos Moctezuma. Moctezuma's Mexico: visions of the Aztec world. Scott Sessions, assistant editor. Foreword by James N. Corbridge, Jr. With essays by Anthony F. Aveni and Elizabeth Hill Boone. Photographs by Salvador Guil'liem Arroyo. Niwot, Colo., University Press of Colorado, 1992. p. 149–158. col. illus.

• Baasner, Rainer. Aspekte der Aufklärungsastronomie—ein Paar Probleme ihrer Erforschung. *In* Zum Gedanken an Hans Schimank (1888–1979). Festkolloquium, verbunden mit der Verleihung des Schimank-Preises, aus Anlass seines 100. Geburtstages am 9. Mai 1988 im Geomatikum der Universität. Redaktion: J. Lippert. Hamburg, Pressestelle der Universität Hamburg, 1989. (Hamburger Universitätsreden, 48) p. 43–57.

• Baize, Paul. Sylvain Arend (1902–1992). L'Astronomie, v. 106, janv. 1993: 25. port.

• Bandyopadhyay, Amalendu, *and* Ranatosh Chakraborti. Radha

Gobinda Chandra—a pioneer in astronomical observations in India. Indian journal of history of science, v. 26, Jan. 1991: 103–113. port.

• Bartolucci, Jorge. Formación tardía de comunidades científicas. El caso de los astronómos mexicanos. Quipu, v. 8, sept./dic. 1991: 361–377.

English summary.

• Bastianini, Guido, *and* Claudio Gallazzi. Dati per un oroscopo. O. Tebt. NS inv. 89/1. *In* Tyche; Beiträge zur alten Geschichte, Papyrologie und Epigraphik. Bd. 5. Wien, Verlag A. Holzhausens Nfg., 1990. p. 5–7. plate.

The plate (part of Tafel 2) is bound at the end of the volume.

Concerns an ostrakon dating from the end of the second or beginning of the third century of our era.

• Bateson, Frank M. Obituary: George Allison Eiby. Southern stars, v. 34, June 1992: 418–419.

• Baum, Richard. A Barnard centenary: the finding of Jupiter V. *In* British Astronomical Association, *London*. Journal, v. 102, Dec. 1992: 316, 323, 350.

• Baum, Richard. A matter of misinformation: G. D. Cassini and the rotation of Venus. *In* British Astronomical Association, *London*. Journal, v. 102, Oct. 1992: 273, 279.

• Baum, Richard. Neptune unveiled, 1892–1893. *In* British Astronomical Association, *London*. Journal, v. 103, Apr. 1993: 86, 95–96.

• Bauval, Robert G. Cheops's pyramid: a new dating using the latest astronomical data. Discussions in Egyptology, no. 26, [May?] 1993: 5–6. illus.

• Beaulieu, Armand. L'énigmatique Gassendi: prévôt et savant. Comptes rendus de l'Académie des sciences: La vie des sciences, t. 9, no 3, 1992: 205–229. illus., ports.

• Becker, Udo. Astronomie auf Keilschrifttafeln. Wissenschaft und Fortschritt, 42. Jahrg., März 1992: 129–131. illus.

• Becker, Udo. Astronomie im alten Orient. Wissenschaft und Fortschritt, 42. Jahrg., Feb. 1992: 77–78. illus., map.

• Becker, Udo. Der Babylonische Kalender. Wissenschaft und Fortschritt, 42. Jahrg., Apr. 1992: 186–188. illus. (part col.)

The color illustrations appear on the inside back cover of the issue under the heading "Astronomie in Babylon."

• Beckwith, Roger T. The Essene calendar and the moon: a reconsideration. Revue de Qumrân, t. 15, mars 1992: 457–466.

• Bedini, Silvio A. Historic scientific relic hidden in the Palazzo Vecchio. Interdisciplinary science reviews, v. 17, Dec. 1992: 382–384. illus.

"In November 1667, the great clock in the tower of the Palazzo Vecchio, Florence, began to strike the hours. It incorporated the horary inventions of Galileo Galilei, the pinwheel type of escapement and the pendulum regulator. The origin of this historic clock, its installation and subsequent history are here described and illustrated."

• Bedini, Silvio A. Of 'science and liberty': the scientific instruments of King's College and eighteenth century Columbia College in New York. Annals of science, v. 50, May 1993: 201–227. illus., port.

Navigational, astronomical, and surveying instruments are included.

• Beech, Martin. Escher's stars. *In* Royal Astronomical Society of Canada. Journal, v. 86, Aug. 1992: 169–177. illus.

"The graphic artist Maurits Escher (1898–1972) is well known for his works that explore the symmetry and transformation tilings of the plane. It is not so well known, however, that he was also a keen amateur astronomer. Several of his many works are clearly inspired by astronomical themes, and we discuss one such work here. Escher's wood engraving called *Stars* was produced in 1948, and is an extensive investigation of the geometrical properties of polyhedron structures. It is the properties of these structures and their interpretation that we consider in this article."

• Beek, Leo. 14. Jacobus Cornelius Kapteyn: onderzoeker van het heelal. *In his* Pioniers der natuurwetenschappen. II. Van Metius tot Kramers. Assen, Van Gorcum, 1989. p. 130–138. port.

• Bell, David N. A Cistercian at Oxford: Richard Dove of Buckfast and London, B. L., Sloane 513. Studia monastica, v. 31, fasc. 1, 1989: 69–87.

Introduces and describes the contents of Dove's manuscript notebook, dating from the first half of the 15th century, which includes copies of several astronomical and astrological works.

• Bellucci, Dino. Genèse 1, 14 et l'astrologie dans l'exégèse de Philippe Mélanchthon. *In* Colloque international d'histoire de l'exégèse biblique au XVI[e] siècle, *3d, Geneva, 1988*. Actes du troisième colloque international sur l'histoire de l'exégèse biblique au XVI[e] siècle (Genève, 31 août–2 septembre 1988). Textes réunis par Irena Backus et Francis Higman. Genève, Librairie Droz, 1990. (Études de philosophie et d'histoire, 43) p. 177–190.

• Bellucci, Dino. Luther et le défi de la Théologie de la Parole à la science contemporaine du ciel. *In* Commission internationale d'histoire ecclésiastique comparée. Colloque, *Geneva, 1989*. Les églises face aux sciences du Moyen Age au XX[e] siècle. Actes du colloque ... tenu à Genève en août 1989. Édités par Olivier Fatio. Genève, Librairie Droz, 1991. (Histoire des idées et critique littéraire, v. 300) p. 53–63.

• Berggren, J. L., *and* Robert S. D. Thomas. Mathematical astronomy in the fourth century B.C. as found in Euclid's *Phaenomena*. Physis, v. 29, fasc. 1, 1992: 7–33. illus.

• Bertoloni Meli, Domenico. Eric John Aiton. Studia Leibnitiana, Bd. 24, Heft 2, 1992: 131–132. port.

The portrait faces p. 131.

• Betti, Gian Luigi. Un ragionamento astrologico del francescano osservante Cornelio Ghirardelli per il 1628. Studi francescani, anno 85, genn./giugno 1988: 95–101.

• Blumenthal, Gabriel. Una profezia astronomica di Leon Battista Alberti. *In* Labyrinthos. 13/16; 1988/89. Firenze, Vallecchi, 1990. p. 63–80. illus.

• Boccuto, Giuseppina. Il *Liber de astronomia* di Marziano Capella e i *Disciplinarum libri* di Varrone Reatino. Rivista di cultura classica e medioevale, anno 27, sett./dic. 1985: 135–151.

• Bodnár, István M. Anaximander on the stability of the earth. Phronesis, v. 37, no. 3, 1992: 336–342.

• Boehm, Conrad. L'astronomia sovietica sotto Stalin. L'Astronomia, anno 14, apr. 1992: 24–29. illus. (part col.), port.

• Bösche, Hermann. Die astronomischen Kenntnisse bei C. Plinius Secundus d.Ä. und ihr Einfluss bis zum Mittelalter. *In* Naturforschende Gesellschaft Bamberg. 60. Bericht; 1985. Bamberg, 1986. p. 19–30. illus.

• Bonnard, Brian. Lunar photographic mystery unravels. Astronomy now, v. 6, Nov. 1992: 24–25. illus.

"A paper bag containing photographs of the Moon and a selection of telescopes from around the 1870s was found in Alderney. They have been traced to Birr Castle in Eire."

• Bricker, Victoria R., *and* Harvey M. Bricker. The Mars table in the Dresden Codex. *In* Research and reflections in archaeology and history; essays in honor of Doris Stone. Edited by E. Wyllys Andrews V. New Orleans, Middle American Research Institute, Tulane University, 1986. (Tulane University of Louisiana. Middle American Research Institute. Publication, 57) p. 51–80. illus.

• Broda, Johanna. La función social de calendarios y astronomía en Mesoamérica. *In* Alcina Franch, José, Miguel León Portilla, *and* Eduardo Matos Moctezuma. Azteca Mexica. Barcelona, Lunwerg Editores, 1992. (Colección Encuentros. Serie Catálogos) p. 99–197. col. illus.

• Bronshten, Vitalii A. Nikolai Voronov. Zemlia i vselennaia, mart/apr. 1992: 71–77. illus., ports. (Vosstanavlivaia stranitsy istorii, ocherk sedmoi)

• Brooks, Garland P., *and* Randall C. Brooks. 'Important results' versus 'mischievous effects': George Crabb on the differences between astronomy and astrology. *In* British Astronomical Association, *London*. Journal, v. 102, Oct. 1992: 278–279.

• Brooks, Randall C., *and* Mary L. Whitehorne. Interpretation of Wolf-Rayet stars: C. S. Beals' contribution. *In* Royal Astronomical

Society of Canada. Journal, v. 86, Oct. 1992: 228–247. illus., port.

• Bruning, Bernard. De l'astrologie à la grâce. *In* Collectanea Augustiniana; mélanges T. J. van Havel. Publiés par B. Bruning, M. Lamberigts, J. van Houtem. v. 2. Leuven, Leuven University Press, Uitgeverij Peeters, 1990. (Bibliotheca ephemeridum theologicarum lovaniensium, 92–B) p. 575–643.

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• Brush, Stephen G. Alfvén's programme in solar system physics. IEEE transactions on plasma science, v. 20, Dec. 1992: 577–589.

"Since Alfvén has made many predictions (often based on ideas not widely accepted at the time) and some of them have been tested rather thoroughly, his work and its reception by the scientific community provide a useful case history for examining the role of predictions in the evaluation of theories."

• Brzostkiewicz, Stanislaw R. Krakowski okres studiów Kopernika. Urania (Kraków), r. 62, wrzes. 1991: 234–241.

• Brzostkiewicz, Stanislaw R. Torunski portret Kopernika. Urania (Kraków), r. 63, listop. 1992: 331–335. ports.

• Bulmer-Thomas, Ivor. The star of Bethlehem—a new explanation—stationary point of a planet. *In* Royal Astronomical Society. Quarterly journal, v. 33, Dec. 1992: 363–374.

• Burnett, Charles S. F. Arabic, Greek, and Latin works on astrological magic attributed to Aristotle. *In* Pseudo-Aristotle in the Middle Ages; the *Theology* and other texts. Edited by Jill Kraye, W. F. Ryan and C. B. Schmitt. London, Warburg Institute, University of London, 1986. (Warburg Institute surveys and texts, 11) p. 84–96. illus.

The illustration is the frontispiece of the volume.

• Bustamante, Martha Cecilia, *and* Antonio A. P. Videira. Bernhard Gross y la física de los rayos cósmicos en el Brasil. Quipu, v. 8, sept./dic. 1991: 325–347.

English summary.

• Calendars. *In* Encyclopaedia Iranica. Edited by Ehsan Yarshater. v. 4. London, New York, Routledge & K. Paul, 1990. p. 658–677.

Contents: 1. Panaino, A. Pre-Islamic calendars.—2. Abdollahy, R. Islamic period.—3. Balland, D. Afghan calendars.—4. Panaino, A. Other modern calendars.

• Candela, Francesco. Lo *Speculum astronomiae* di Alberto Magno nella storia della Chiesa. Quaderni medievali, n. 34, dic. 1992: 59–72.

• Castellani, Flavio. Il cacciatore di supernovae. L'Astronomia, anno 13, magg. 1991: 60–64.

About the Rev. Robert O. Evans.

• Castelli, Patrizia. Il Padiglione del Cielo: metamorfosi di animali, mostri e divinità. *In* Congresso di storia della miniatura italiana, *2d, Cortona, 1982*. La miniatura italiana tra gotico e Rinascimento; atti. A cura di Emanuela Sesti. I. Firenze, L. S. Olschki, 1985. (Storia della miniatura. Studi e documenti, 6) p. 223–242. illus.

• Castells, Margarita. Un nuevo dato sobre *El Libro de las cruces* en *al-Ziy al-mustalah* (obra astronómica a Egipcia del siglo XIII). Al-Qantara, v. 13, fasc. 2, 1992: 367–376. facsim.

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• Cattermole, Peter. Septuagenarian extraordinaire. Astronomy now, v. 7, Mar. 1993: 18–20. ports. (part col.)

Patrick Moore celebrated his 70th birthday on Mar. 4, 1993.

• Chakravarty, A. K. Some studies on Varahamihira. Indian journal of history of science, v. 26, Jan. 1991: 71–77.

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1. Kepler's 'distance law'—myth not reality (p. 103–120).—2. Grading the eggs (Kepler's sizing procedure for the planetary orbit) (p. 121–142).—3. Kepler's road to Damascus (p. 143–164).—4. Kepler's physical framework for planetary motion (p. 165–191).

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• Livingston, John W. Science and the occult in the thinking of Ibn Qayyim al-Jawziyya. *In* American Oriental Society. Journal, v. 112, Oct./Dec. 1992: 598–610.

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• McCrea, *Sir* William H. Jan Hendrik Oort, 1900–92. Physics world, v. 6, Jan. 1993: 61. port.

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• Markel, Stephen. The genesis of the Indian planetary dieties. East and West, v. 41, Dec. 1991: 173–188. illus.

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The four categories of prognostic material are based on astrological principles.

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• Miniati, Mara. Un nuovo orologia notturno. Nuncius, anno 7, fasc. 2, 1992: 115–117. plates.

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• Mooney, Richard M. Archaeoastronomy in Tennessee: the Moonshadow site and Indian sunshrines of the Cumberland plateau. Tennessee anthropologist, v. 17, spring 1992: 33–53. illus.

• Moreno Corral, Marco A. Telescopios que han influído en el desarrollo de la astronomía y la astrofísica en México. Quipu, v. 8, enero/abr. 1991: 51–62.

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• Murrill, Mary B. The grandest tour: Voyager. Mercury, v. 22, May/June 1993: 66–77. illus.

Includes box, "*Voyager* Does It Again!" by Sally Stephens (p. 71).

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"This paper argues that one text intimately associated with Palladius, his Easter table, has in fact survived and was known to Hiberno-Latin writers in the seventh century."

• Oda, Minoru. How has space astrophysics expanded the horizon of physics? *In* Evolutionary trends in the physical sciences. Proceedings of the Yoshio Nishina Centennial Symposium, Tokyo, Japan, December 5–7, 1990. M. Suzuki, R. Kubo (eds.). Berlin, New York, Springer-Verlag, 1991. (Springer proceedings in physics, v. 57) p. 113–125. illus.

"Serendipitous discoveries in the 1960s drastically expanded the horizon of physics. In this paper, the evolution of major problems in astrophysics since the 1950s is analysed by decades. Several questions as of 1990 are raised. Progress of the understanding in a couple of specific subjects, i.e. the neutron star and the black hole, are briefly described. Future directions are discussed."

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• Osterbrock, Donald E. The Canada-France-Hawaii Telescope and George Willis Ritchey's great telescopes of the future. *In* Royal Astronomical Society of Canada. Journal, v. 87, Feb. 1993: 51–63. illus.

• Pagani, Valeria. A *Lunario* for the years 1584–1586 by Francesco da Volterra and Diana Mantovana. Print quarterly, v. 8, June 1991: 140–145. facsims.

• Pancaldi, M. G. Le osservazioni di Mikhail Vasilievich Lomonosov sul passagio di Venere davanti al Sole, osservato dall'Accademia delle Scienze di Pietroburgo il 26 maggio 1761. Giornale di astronomia, v. 18, dic. 1992: 23–28.

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• Pankenier, David W. The *Bamboo Annals* revisited: problems of method in using the chronicle as a source for the chronology of early Zhou. *In* London. University. *School of Oriental and African Studies.* Bulletin, v. 55, pt. 2–3, 1992: 272–297, 498–510.

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• Pankenier, David W. The metempsychosis in the moon. *In* Östasiatiska Museet. Bulletin. no. 58. Stockholm, 1986. p. 149–159.

Glossary of Chinese characters: p. 159.

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of the moon.

• Pankenier, David W. Reflections of the lunar aspect on Western Chou chronology. T'oung pao, revue internationale de sinologie, v. 78, livr. 1/3, 1992: 33–76. illus.

• Pantin, Isabelle. Giordano Bruno, l'impardonnable précurseur de Galilée. Sciences et avenir, no 551, janv. 1993: 80–84. ports.

Includes a box entitled "Le procès de Galilée: 'Une tragique incomprehension'" (p. 83), translating excerpts from the speech given by Pope John Paul II on Oct. 31, 1992, at a meeting of the Pontifical Academy of Sciences.

• Papathanassiou, Maria. Stephanus of Alexandria: pharmaceutical notions and cosmology in his alchemical work. Ambix, v. 37, Nov. 1990: 121–133.

• Paramhans, S. A. Astronomy in ancient India—its importance, insight and prevalence. Indian journal of history of science, v. 26, Jan. 1991: 63–70.

• Pearsall, James E., *and* Clyde D. Malone. A Middle Woodland solstice alignment at Old Stone Fort? Tennessee anthropologist, v. 16, spring 1991: 20–28. illus., maps.

• Pecker, Jean C. Jan Hendrik Oort, 28 avril 1900–05 novembre 1992. L'Astronomie, v. 107, fév. 1993: 60–64. illus., ports.

• Pedersen, Olaf. Poul Helgesen confronts astrology. *In* Die dänische Reformation vor ihrem internationalen Hintergrund. The Danish Reformation against its international background. Hrsg. von Leif Grane und Kai Hørby. Göttingen, Vandenhoeck & Ruprecht, 1990. (Forschungen zur Kirchen- und Dogmengeschichte, Bd. 46) p. 39–53.

Helgesen (1485–1535?) was a Carmelite friar who "took a firm stand against astrology and made preparations for a conscious attack upon it."

• Penhallow, William S., *and* Michael J. Brennan. Archaeoastronomy of the Old Stone Tower, Newport, RI. *In* American Association of Variable Star Observers. Journal, v. 20, no. 1, 1991: 109–110.

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• Perkins, Adam. G B Airy and J C Adams: like poles repel. Gemini, newsletter of the Royal Greenwich Observatory, no. 36, June 1992: 29–34. ports.

• Pernet, Jacques. Une assiette anglaise astronomique. L'Astronomie, oct. 1992: 21. illus.

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• Peruzzi, Enrico. Critica e rielaborazione del sistema copernicano in Giovanni Antonio Magini. Giornale critico della filosofia italiana, anno 70, sett./dic. 1991: 357–368.

• Pesce, Mauro. Una nuova versione della lettura di G. Galilei a Benedetto Castelli. Nouvelles de la republique des lettres, anno 11, nov. 1991: 89–122.

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• Petri, Winfried. Die Astronomie im *Kalacakralaghutantra. In* International Association for Tibetan Studies. Seminar, *4th, Munich, 1985.* Tibetan studies. Proceedings of the 4th Seminar of the International Association for Tibetan Studies, Schloss Hohenkammer—Munich, 1985. Edited by Helga Uebach and Jampa L. Panglung. München, Komission für Zentralasiatische Studien, Bayerische Akademie der Wissenschaften, 1988. (Studia tibetica, Bd. 2) p. 381–385.

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• Petzold, Hartmut. Zeitzeichen; Entstehung und Wandel des Bewusstseins von Zeit. Kultur & Technik, 17. Jahrg., Heft 1, 1993: 22–27. illus. (part col.)

• Pignedoli, Antonio. Meditazione sullo sviluppo del concetto di relatività del moto dal Rinascimento a Newton. Alma mater studiorum, rivista scientifica dell'Università di Bologna, v. 1, fasc. 1, 1988: 57–84.

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• Pokorny, Zdenek. †Zdenek Horsky. Studia comeniana et historica, roc. 19, cís. 39, 1989: 127–129.

• Prem, Hanns J. Kalender und Schrift. *In* Altamerikanistik: eine Einfürung in die Hochkulturen Mittel- und Südamerikas. Hrsg. von Ulrich Köhler. Berlin, D. Reimer, 1990. p. 241–253. illus.

• Prestinenza, Luigi. Mentore Maggini. L'Astronomia, anno 14, apr. 1992: 14–21. illus. (part col.), ports. (part col.)

• Prestinenza, Luigi. Una vita per Marte. L'Astronomia, anno 13, magg. 1991: 28–35. illus. (part col.), ports.

About Glauco de Mottoni.

• Priou, Denis, *and* Florence Durret. Le grand débat de 1920: de la taille de la Galaxie à la distance des galaxies. L'Astronomie, v. 107, mars–avril 1993: 86–91, 122–127. illus.

• Prosen, Marijan. Andrej Perlach kot astronom. Casopis za zgodovino in narodopisje, nova vrsta, 27. letnik, 2. zvez., 1991: 251–259. illus.

• Proverbio, Edoardo. Dalla navigazione pre-astronomica alla navigazione astronomica in latitudine. Giornale di astronomia, v. 19, mar. 1993: 30–34. illus.

• Pühringer-Zwanowetz, Leonore. Zur Sternwarte des Stiftes Kremsmünster—der "Mathematische Turm" im Hofgarten. *In* Wiener Jahrbuch für Kunstgeschichte. Bd. 43; 1990. Wien, Böhlau. p. 181–190. plate.

The plate with three illustrations (p. 261) is bound at the end of the volume.

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• Qu, An-jing. The source of the synodic period of five planets in Chinese calendars from East Han to Liu Song Dynasty. Acta astronomica sinica, v. 33, no. 1, 1992: 109–112.

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• Reach, William T. On the origin of interplanetary dust within recorded history. Meteoritics, v. 27, Sept. 1992: 353–360. illus.

• Regourd, Annick. La figure de l'astrologue dans les *Mille et une nuits.* Studia islamica, no 76, 1992: 137–150.

• Reubi, François C. Astronomie et poésie chinoise. À propos de la Première Ode de la Falaise Rouge de Su Dongpo. Asiatische Studien, v. 46, Heft 2, 1992: 640–652. illus.

• Riese, Berthold. Schrift, Kalender und Astronomie der Maya. *In* Altamerikanistik: eine Einfürung in die Hochkulturen Mittel- und Südamerikas. Hrsg. von Ulrich Köhler. Berlin, D. Reimer, 1990. p. 101–126. illus.

• Romain, William F. Azimuths to the otherworld: astronomical alignments of Hopewell charnel houses. Ohio archaeologist, v. 42, fall 1992: 42–48. plans.

• Romano, Giuliano. Alcune questioni sul calendario maya. Giornale di astronomia, v. 18, dic. 1992: 18–22. illus.

• Romano, Giuliano. Uno studio sulla matematica applicata alla calendaristica maya. Giornale di astronomia, v. 18, dic. 1992: 2–17. illus.

• Ronan, Colin A. The invention of the reflecting telescope. *In* Yearbook of astronomy. 1993. Edited by Patrick Moore. New York, W. W. Norton, 1992. p. 129–140. facsim.

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