

Recent publications relating to the history of astronomy

Books and Pamphlets

Après Galilée. Science et foi: nouveau dialogue. Sous la direction du cardinal Paul Poupard. 1. Une déjà longue histoire. Paris, Desclès de Brouwer, 1994. p. 17–107.

Contents: 1. Mayaud, P. N. Deux textes au cœur du conflit: entre l'Astronomie Nouvelle et l'Écriture Sainte: la lettre de Bellarmin à Foscarini et la lettre de Galilée à Christine de Lorraine.—2. Poupard, P. Compte rendu des travaux de la commission pontificale d'études de la controverse ptoléméo-copernicienne aux XVI^e-XVII^e siècles.—John Paul II, Pope. Discours à l'Académie pontificale des sciences.

Arkheoastronomiia—problemy stanovleniia. Tezisy dokladov mezhdunarodnoï konferentsii (15–18 oktiabriâ 1996 g.). Moskva, Rossiiskaiâ akademiâ nauk, Institut arkheologii, 1996. 159 p. illus.

Contents: Predislovie.—Antonova, E. V. Spetsifika uslovykh izobrazheniï dopis'menykh kul'tur i problema ikh interpretatsii kak znakov svetil.—Ashikhmina, L. I. Sviatilishche—observatoriâ (?) Vomyñ'iag na Verkhnei Vychege.—Bannikov, K. L. Baal-baly v pazyrykskoï kosmologii. (Po materialam polevykh issledovaniï na plato Ukok).—Bekbasarov, N. M. Astronomicheskie aspekty kurganov s "usami."—Belokon', A. T. Figury pustyni Naska kak vozmozhnyï arkheoastronomicheskiï ob'ekt.—Berezkin, IŪ. E. Areal'nye zakonomernosti v soliârno-lunarnoi mifologii indeitšev Latinskoï Ameriki i zaselenie Novogo Sveta.—Varenov, A. V. Otrazhenie kalendarno-astronomicheskikh sootnosheniï v chislennom sostave i strukture in'skikh voïnskikh podrazdeleniï.—Viktorova, V. D. Mifologicheskaiâ kartina mira éneoliticheskogo naseleniâ gornolesnogo Zaural'ia.—Vlasov, V. G. Agrarnyi kalendar' i narodnaiâ astronomiâ v drevnei Rusi. Podkhody k interpretatsii krugovogo ornamenta.—Vokhmentsev, M. P. Zaural'skie pamiâtniki s krugovoi planirovkoï.—Galkin, L. L. Dvenadtsatiletniï zhivotnyi tsikl na monetakh zolotoï ordy.—Gogin, N. D., and N. O. Kirsanov. Ob odnoi modeli Mira u pribaltiïskikh finnov.—Gusakov, M. G. Dneprovskie gorodishcha-sviatilishcha lesnoi polosy. (Problemy arkheoastronomii).—Dement'ev, M. S. Sravnenie (drevnimi astronomami) zvezdnoi karty neba a geograficheskoi karti zemli.—Demeshchenko, S. A. Diskovidnye podelki v kul'ture paleoliticheskogo cheloveka.—Dmitrieva, I. V., E. P. Zaborova, and V. N. Obridko. Stikhii nye bedstviâ i solnechnaiâ aktivnost' (po dannym letopiseï).—Dévlet, E. G. Astronomicheskie ob'ekty v naskal'nom iskusstve.—Ershova, G. G. Astronomicheskie teksty na arkheologicheskikh pamiâtnikakh maïia.—Zhitomirskii, S. V. "IÂvleniâ" Arata—unikal'nyi pamiâtnik istorii astronomii.—Zhuravlev, A. P. Kul'tovyi kompleks Pegrema-40.—Karapet'iânts, A. M. Problema proiskhozhdeniâ drevnekitaïskogo Zodiaka.—Kaurov, È. N. Istoki i évoliûttsiâ drevnekitaïskikh astronomicheskikh nablûdeniï.—Kirillov, A. K., and G. B. Zdanovich. Arkheoastronomicheskie issledovaniâ na gorodishche Arkaim (epokha bronzy).—Kifishin, A. G. "Otkrytoe" i "zakrytoe" nebo po dannym protoshumerskogo arkhiva Kamenoï Mogily i shumero-vavilonskim traktatam.—Klimka, L. A. Étnokosmologiiâ i arkheoastronomiâ v Baltiïskikh stranakh.—Kovaleva, V. T. Kosmogonicheskie predstavleniâ naseleniâ tashkovskoi kul'tury.—Kosarev, M. F. Nekotorye aspekty iâzycheskogo kosmologicheskogo znaniâ (po uralo-zapadnosibirskim arkheologo-étnograficheskim materialam).—Kochmar, N. N., A. V. Pen'kov, and P. S. Knurenko. Pervye opyty arkheoastronomicheskogo issledovaniâ pisanitš IÂkutii.—Larichev, V. E. Skul'pturnoe izobrazhenie surka iz mal'ty (rasshifrovka znakovoi zapisi i semantika obraza).—Marsadolov, L. S. Drevnee sviatilishche na gore Ocharovatel'noi v Zapadnom Altae.—Marsadolov, L. S., and V. L. Gorshkov. Astronomicheskie raschety dliâ sviatilishcha na gore Ocharovatel'noi.—Nagovitsyn, IŪ. A. Podkhod mnogomernoï statistiki k issledovaniû temperaturnykh anomalii pogody po materialam russkikh 1000-

letnikh khronik.—Nagovitsyn, IŮ. A. Rekonstruktšiiâ solnečnoï tšiklichnosti v XII-XVII vekakh na osnove nelineïnoï matematicheskoi modeli.—Nikitin, V. V. Kalendar' v ornamente posudy i ukrasheniïâkh finno-ugrov Povolzh'ia i Urala.—Otroshchenko, V. V. K voprosu o modeli mira u naseleniïâ srubnoi obshchnosti.—Povileïko, R. P., and T. D. Petrovskaiâ. Zakon "Velikolepnoi semerki" 7+2. (Ob'em vospriïatiïâ informatšii chelovekom segodniâ i v proshlom. K postanovke problemy.)—Potemkina, T. M., and V. A. IŮrevich. Drevneishaiâ "astronomicheskaiâ observatoriïâ" na territorii Rossii.—Potemkina, T. M. Kalendaro-obriâdovaiâ praktika naseleniia Zaural'ia v III tys. do n.è.—Raevskii, D. S. Zodiakal'naiâ simbolika na predmetakh kelermesskogo kurgana.—Salles, R., and D. D. Polozhentsev. Astronomicheskii aspekt drevnego arkheologicheskogo pamiâtника Bolivii "Tiauanako."—Sviâtropolk-Chetvertynskii, I. A. Vliianie faz Luny na bozhestvenniû i chelovecheskuiû sfery soglasno shumero-vavilonskoi traditšii. (Neskol'ko slov o prodvizhenii deshifrovki shumero-vavilonskoi formul'noi sistemy.)—Fedorova, I. K., and O. M. Fedorova. Zodiak i Mlechnyi Put' v predstavleniïâkh drevnikh polinezitšev.—Khudiâkov, IŮ. S. Istoriko-arkheologicheskii aspekt izucheniïâ svidetel'stv stolknoveniïâ zemli s opasnymi kosmicheskimi ob'ektami.—Chudinov, V. A. Nekotorye astronomicheskii terminy russkogo korneslova kak vyrazhenie drevneishogo vzgliâda na mir.—Chudinov, V. A. Astronomicheskii-ritual'naiâ interpretatšiiâ risunka-nadpisi iz Kammenoi Mogily.—Shilov, IŮ. A. Stanovlenie arkheoastronomii na Ukraine (istoriograficheskii ocherk).—IŮrevich, V. A. Astronomicheskai, orientatšii, amerikanskikh arkheologicheskikh pamiât-nikov.—IŮrevich, V. A. Astronomicheskii napravleniïâ arkheoastronomii.—Spisok uchastnikov mezhdunarodnoi konferentsii "Arkheoastronomiïâ: problemy stanovleniïâ."

Astronomiïâ na krutykh povorotakh XX veka. Redaktor-sostavitel': Eremeeva A. I. Dubna, Feniks, 1997. 473 p. illus., map, ports.

Errata sheet laid in.

Eighty-one papers presented at a conference held at Pulkovo in April 1995 to mark the 50th anniversary of the victory over Nazi Germany.

Includes an English translation by I. B. Pustyl'nik of Eremeeva's introductory essay, "Astronomy at the Sharp Turns of the XXth Century History" (p. 12–18).

The papers are organized into seven sections, the titles of which are given below.

Contents: Glava I. Kontrasty razvitiïâ sovetskoï astronomii v predvoennoe desiâtiletie.—Glava II. Astronomy na fronte. ch. 1. Geroi ne umiraiût v nashe pamiâti. ch. 2. Velikaiâ otechestvennaiâ voïna v vospominaniïâkh astronomov-frontovikov.—Glava III. Astronomiïâ dliâ fronta.—Glava IV. Sud'by astronomicheskikh tšentrov v raïonakh boevykh destvii, v blokade i okkupatšii.—Glava V. Sozdanie novykh i deiâtel'nost' starykh astronomicheskikh tšentrov v tylu.—Glava VI. Voenniïâ tekhnika i noveishaiâ tekhnologiïâ na sluzhbe astronomii.—Glava VII. Uspekhi astronomii v gody voïny i v pervoe poslevoennoe desiâtiletie.

La Bellezza dell'universo. A cura di Francesco Bertola, Massimo Calvani, Umberto Curi, Massimo Donà. Padova, Il Poligrafo, 1996. 126 p. illus. (Percorsi della scienza; storia, testi, problemi, 6)

Papers presented at a conference held in Venice, December 1993.

Contents: Sini, C. Il cosmo e il caos.—Dallaporta, N. Bellezza ed arte nell'ambito dei mondi tradizionali.—Pasqualotto, G. Forme orientali di universo.—Pomodoro, G. La bellezza dell'universo nella distanza attuale fra arte e scienza.—Kafka, F. Che cos'è la bellezza? Sulla teoria sistematica della creazione.—Boniolo, G. Vedo le stelle in cielo ... —Bertotti, B. Criteri estetici in fisica teorica.—Sciama, D. W. Contributo alla discussione.

Blaauw, Adriaan. ESO historical archives (EHA). Inventory per December 1992. Garching, European Southern Observatory [1992?] 40 leaves. facsims.

Bradshaw, Joseph. The night sky in Egyptian mythology. London, H. Bradshaw, 1997. 1–178, [62], 179–182 p. illus.

Obtainable from H. Bradshaw, 85 Balfour Road, London N5 2HE.

- Doscientos aniversario del Almanaque Náutico y Efemérides Astronómicas, 1792–1992. Volumen conmemorativo. San Fernando, Real Instituto y Observatorio de la Armada, 1992. 80 p. illus., facsim., ports. (Boletín ROA, no. 1/92)
- 3 × [Dreimal] Foerster. Beiträge zu Leben und Werk von Wilhelm Foerster, Friedrich Wilhelm Foerster und Karl Foerster. Hrsg. im Auftrag des URANIA-Vereins "Wilhelm Foerster" Potsdam e.V. von Mathias Iven. Milow, Schibri-Verlag, 1995. 267 p. illus., facsim., ports.
- Partial contents: Iven, M. "3 × Foerster" und die Potsdamer URANIA.—Zu Leben und Werk von Wilhelm Foerster.—Ausgewählte Veröffentlichungen.—Foerster, K. Der Mann, der neun Jahrzehnte erfüllte. Zum 100. Geburtstag des Astronomen Wilhelm Foerster.—Feyl, R. Wilhelm Foerster.—Lührs, O. Wilhelm Foerster und die Gründung der Urania.—Tiemann, K. H. Wilhelm Julius Foerster und die "Vereinigung von Freunden der Astronomie und kosmischen Physik" (1891 bis 1914).—Zenkert, A. Der Einfluss Wilhelm Foersters auf Bruno H. Bürgel.—Buschmann, E. Wilhelm Foersters Einfluss auf die Entwicklung der Höheren Geodäsie.—Kummer, H. J. Wilhelm Foerster und Ludwig Strasser—ein Freundschaft im Dienste der Deutschen Chronometrie.—Dick, W. R. Über das Schicksal des Nachlasses von Wilhelm Foerster.—Wilhelm Foesters Briefe an Eduard Schönfeld.
- Edson, Evelyn. Mapping time and space: how medieval mapmakers viewed their world. London, British Library, 1997. 210 p. facsim. (part col.) (The British Library studies in map history, v. 1)
- See particularly chapter 4, "Space and Time in the Computus Manuscript" (p. 52–71), and chapter 5, "Three Maps in Computus Manuscripts" (p. 72–96).
- Foderà Serio, Giorgia, and Donatella Randazzo. Astronomi italiani dall'unità d'Italia ai nostri giorni: un primo elenco. Firenze, Società astronomica italiana editore, 1997. 116 p.
- Small portraits of 36 of the astronomers are reproduced on the outside front cover of the volume.
- Gandt, François de. Force and geometry in Newton's *Principia*. Translated by Curtis Wilson. Princeton, N.J., Princeton University Press, 1995. xiv, 296 p. illus.
- Translation of *Force et géométrie: les "Principia" de Newton dans le XVIIème siècle*.
- George Gamow Symposium, George Washington University, 1996. The George Gamow Symposium. Sponsored by the George Washington University and the Carnegie Institution of Washington, 12 April 1997 [i.e. 1996] Edited by E. Harper, W. C. Parke, and G. D. Anderson. San Francisco, Astronomical Society of the Pacific, 1997. 157 p. illus., facsim., ports. (Astronomical Society of the Pacific conference series, v. 129)
- "Appendix: The Publications of George Gamow": p. 141–151.
- Partial contents: Stuewer, R. H. Gamow, alpha decay, and the liquid-drop model of the nucleus.—Bethe, H. Influence of Gamow on early astrophysics and on early accelerators in nuclear physics.—Alpher, R. A. Cosmochemistry and the early universe.—Herman, R. The prediction of the cosmic microwave background radiation.—Rubin, V. C. What George Gamow did not know about the universe.—Rich, A. Gamow and the genetic code.—Teller, E. Some personal memories about George Gamow.—Reminiscences of George Gamow [presented by Igor Gamow, Marshall Nirenberg, James Follin, Vera Rubin, Alexander Rich, Ralph Alpher, Robert Herman, and Philip Abelson]
- Gillispie, Charles C. Pierre-Simon Laplace, 1749–1827; a life in exact science. With the collaboration of Robert Fox and Ivor Grattan-Guinness. Princeton, N.J., Princeton University Press, 1997. 322 p. illus., port.
- Graf-Stuhlhofer, Franz. Humanismus zwischen Hof und Universität. Georg Tannstetter (Collimitius) und seine wissenschaftliches Umfeld im Wien des frühen 16. Jahrhunderts. Wien, WUV-Universitätsverlag, 1996. 192, [20] p. illus., facsim., maps, ports. (Schriftenreihe des Universitätsarchivs Universität Wien, 8. Bd.)
- "Georg Tannstetter, genannt Collimitius (1482–1535), und sein Schaffen als Mathematiker und Astronom, wird in diesem Band ausführlich dokumentiert."
- International Astronomical Union. Symposium, 172d, Paris, 1995. Dynamics, ephemerides and

astrometry of the solar system. Proceedings of the 172nd Symposium of the International Astronomical Union, held in Paris, France, 3–8 July 1995. Edited by S. Feraz-Mello, B. Morando and J. E. Arlot. Dordrecht, Boston, Kluwer Academic Publishers, 1996. xviii, 508 p. illus., facsim., port.

Partial contents: Arlot, J. E., and S. Ferraz-Mello. Bruno Morando (1931–1995).—Morando, B. Deux cents ans de mécanique céleste sous les auspices du Bureau des longitudes.—Pang, K. D., and K. K. C. Yau. The need for more accurate 4000-year ephemerides, based on lunar and spacecraft ranging, ancient eclipse and planetary data.—Seidelmann, P. K. Evolution of ephemerides representation and diffusion.—Débarbat, S. V. Des éphémérides astronomiques annuelles en préliminaire à l'Annuaire du Bureau des longitudes.—Toulmonde, M. Les diamètres du Soleil dans la *Connaissance des temps* depuis 1795.

Morando's paper is preceded by a lengthy abstract in English.

Krauss, Rolf. Astronomische Konzepte und Jenseitsvorstellungen in den Pyramidentexten. Wiesbaden, Harrassowitz, 1997. 297 p. illus. (Ägyptologische Abhandlungen, Bd. 59)

Leopardi, Giacomo. Storia della astronomia dalla sua origine fino all'anno MDCCCXIII. Con uno scritto di Armando Massarenti e un'appendice di Laura Zampieri. Milano, La Vita felice, 1997. 459 p. (Philobiblon, 2)

Contents: Massarenti, A. Leopardi e la leggerezza delle scienze.—Introduzione.—1. Storia della astronomia dalla sua origine sino alla nascita di Talete.—2. Storia dell'astronomia dalla nascita di Talete sino a quella di Ptolomeo.—3. Storia dell'astronomia dalla nascita di Ptolomeo sino a quella di Copernico.—4. Storia dell'astronomia dalla nascita di Copernico sino alla cometa dell'anno 1811.—5. Progressi fatti dalla astronomia.—Giunte alla storia dell'astronomia.—Opere delle quali si è fatto uso nello scrivere la storia della astronomia.—Dissertazione sopra l'origine, e i primi progressi dell'astronomia. 1814.—Zampieri, L. Appendice: Annotazioni leopardiane inedite relative alla *Storia dell'astronomia*.

Lindgren, Uta. Die Artes liberales in Antike und Mittelalter. Bildungs- und Wissenschaftsgeschichtliche Entwicklungslinien. München, Institut für Geschichte der Naturwissenschaften, 1992. 161 p. illus., facsim., port. (Algorismus, Heft 8)

Littmann, Mark. The heavens on fire: the great Leonid meteor storms. Cambridge, New York, Cambridge University Press, 1998. 349 p. illus., facsim., ports.

Methuen, Charlotte. Kepler's Tübingen: stimulus to a theological mathematics. Aldershot, Hants, Brookfield, Vt., Ashgate, 1998. 280 p. maps. (St Andrews studies in Reformation history)

Miller, Dorcas S. Stars of the first people: native American star myths and constellations. Boulder, Colo., Pruett Pub. Co., 1997. xv, 346 p. illus., maps.

Oestmann, Günther. Schicksaldeutung und Astronomie: der Himmelsglobus des Johannes Stoeffler von 1493. Mit Beiträgen von Elly Dekker und Peter Schiller. Ausstellungskatalog. Stuttgart, Württembergisches Landesmuseum Stuttgart, 1993. 71 p. illus. (part col.), facsim., ports.

The exhibit was held Dec. 2, 1993–Mar. 6, 1994.

Ondřejovská hvězdárna, 1898–1998. Sborník o české a moravské astronomii uspořádaný ke 100. výročí Ondřejovské hvězdárny a 650. výročí University Karlovy. Uspořádali Petr Hadrava, Marian Karlický, Jan Palouš, Martin Šolc. Praha, Astronomický ústav AV ČR v nakl. Vesmír, 1998. 373 p. illus. (part col.), facsim. (part col.), maps (part col.), ports.

Contents: Hadrava, P., M. Karlický, J. Palouš, and M. Šolc. Předmluva.—Historické kořeny astronomie v Čechách a na Moravě. Pleslová-Štiková, E. Zdeněk Horský: protagonista středoevropské archeoastronomie (in memoriam). Hadravová, A., and P. Hadrava. Středověká astronomie v Čechách. Hadravová, A., and P. Hadrava. Astronomie v rudolfínské Praze. Šolcová, A. Matematika a astronomie v době pobělohorské. Šíma, Z. Klementinská hvězdárna. Vetešník, M. Astronomie v Brně včera, dnes a zítra.—Zakládání hvězdárny. Šíma, Z. Jan Neruda a rozvoj české astronomie. Fričová-Brázdilová, A., and J. Brázdil. Historie založení hvězdárny v Ondřejově. Kopecký, M. Historický archiv

- astronomické observatoře v Ondřejově. Vondrák, J. Historie cirkumzenitálu. Krejčí, G. Knihovna bratří Fričů. Jarolím, M. Knihovna Astronomického ústavu AV ČR v minulosti a současnosti. Polášková, Š. Historie parku ondřejovské observatoře.—Historie hvězdárny a Astronomického ústavu Akademie věd ČR. Šolc, M. František Nušl, ČAS a Ondřejov. Plavec, M. Ondřejovská hvězdárna za druhé světové války. Šolc, M. František Link. Hadrava, P. Historie gravitačních čoček. Šíma, Z. Dr. Bohumil Šternberk. Ptáček, V., L. Webrová, and R. Weber. Časová služba. Zacharov, I., and L. Neužil. Vysoká atmosféra. Ceplecha, Z. Výzkum meteorů. Šimek, M. Meteorická radioastronomie. Ambrož, P., V. Bumba, and Z. Švestka. Sluneční astronomie. Plavec, M. Přes překážky ke hvězdám. Perek, L., J. Zicha, and P. Koubský. Dvoumetrový dalekohled. Perek, L., and L. Kohoutek. Hvězdná dynamika a planetární mlhoviny. Ruprecht, J. Otevřené hvězdokupy a OB asociace. Fárník, F., S. Fischer, L. Sehnal, and B. Valníček. Historie kosmického výzkumu. Perek, L., V. Bumba, J. Kleczek, Z. Švestka, J. Palouš, L. Sehnal, and M. Burša. Mezinárodní organizace. Harmanec, P. BAC. Havlíček, K., P. Ambrož, J. Boček, and F. Žďárský. Vývojové dílny v Ondřejově. Kleczek, J., and M. Páleník. Sluneční energie. Kleczek, J. Reč astronomů. Řezba, P. Výpočetní středisko ASÚ.—Současnost. Heinzl, P., M. Karlický, and F. Fárník. Sluneční fyzika. Hubený, I. Teoretická hvězdná spektroskopie v Ondřejově. Harmanec, P. Stelární oddělení. Spurný, P., J. Borovička, P. Pravec, and M. Šimek. Meziplanetární hmota. Vandas, M., R. Peřestý, and J. Klokočník. Fyzika okolí Země. Šidlichovský, M., and J. Vondrák. Dynamika sluneční soustavy. Palouš, J. Dynamika Galaxií. Hudec, R., and P. Hadrava. Astrofyzika vysokých energií.
- Orchiston, Wayne. Nautical astronomy in New Zealand: the voyages of James Cook. Wellington, N.Z., Carter Observatory, 1998. 131 p. illus., maps, ports. (Occasional papers, no. 1)
Contents: Acknowledgements.—Moore, P. Foreword.—ch. 1. Introduction.—ch. 2. The astronomers.—ch. 3. The astronomical instruments and equipment.—ch. 4. The astronomical observations.—ch. 5. Cook voyage astronomy in historic perspective.—ch. 6. Conclusion.
- Reisinger, Reiner. Historische Horoskopie. Das iudicium magnum des Johannes Carion für Albrecht Dürers Patenkind. Mit einem Geleitwort von Dieter Wuttke. Wiesbaden, Harrassowitz, 1997. 339 p. illus., facsim., ports. (Gratia, Bamberger Schriften zum Renaissanceforschung, 32)
- Rozenfel'd, Boris A., and Nadezhda D. Sergeeva. Akhmad al-Fergani, IX vek. Otv. redaktor, M. M. Rozhanskaia. Moskva, "Nauka," 1998. 85 p. illus. (Seriiā "Nauchno-biograficheskaiā literatura")
Contents: 1. Ot Fergany do Kaira.—2. Zhizn' i trudy.—3. Matematika.—4. Astronomiiā.—5. Astronomicheskie instrumenty.—6. Khronologiiā.—7. Geografiā.—8. Vliiānie "Ėlementov astronomii" al-Fergani na dal'neishee razvitie nauki.
- Russo, Lucio. La rivoluzione dimenticata; il pensiero scientifico greco e la scienza moderna. Prefazione di Marcello Cini. Milano, Feltrinelli, 1996. 380 p. illus. (Campi del sapere)
Argues that much of modern western science developed from rediscovery of the science of ancient Greece, which had been neglected and lost during the centuries of Roman domination. Astronomy is among the many topics treated.
- Schaldach, Karlheinz. Römische Sonnenuhren; eine Einführung in die antike Gnomonik. Thun, H. Deutsch, 1997. 123 p. illus., map.
Contents: 1. Grundlagen.—2. Zur Geschichte.—3. Sonnenuhrentypen.—4. Zur Analyse.—5. Beispiele.
- Turner, Gerard L'E. Scientific instruments, 1500–1900; an introduction. Berkeley, Calif., University of California Press, 1998. 144 p. illus. (part col.)
First published as *Antique Scientific Instruments* in Poole by Blandford Press in 1980.
See particularly "Astronomy and Time-Telling" (p. 11–28) and "Navigational Instruments" (p. 29–37). Telescopes are discussed on p. 98–100 in the section entitled "Optical Instruments."

The Universe unfolding. Edited by Sir Hermann Bondi and Miranda Weston-Smith. Oxford, Clarendon Press, 1998. 406 p., [4] p. of plates. illus. (part col.), facsim., ports.

The Milne Lectures, 1977–96.

Contents: Kington, B. Foreword.—Milne lecturers.—Bondi, Sir H. Introduction.—Hoyle, Sir F. Comets: a matter of life and death (1977).—Lyttleton, R. A. Gravitation, ancient eclipses, and mountains (1978).—Chandrasekhar, S. E. A. Milne: his part in the development of modern astrophysics (1979).—Rees, Sir M. Our universe and others (1980).—Cowling, T. G. Astrology, religion and science (1981).—Wolfendale, Sir A. The origin of cosmic rays (1982).—Kendall, D. G. Statistics, geometry and the cosmos (1983).—King-Hele, D. G. The earth's atmosphere ideas old and new (1984).—McCrea, Sir W. Time, vacuum and cosmos (1985).—Fowler, W. A. The age of the observable universe (1986).—Atiyah, Sir M. Geometry, topology and physics (1987).—Radhakrishnan, V. Polarization—its message in astronomy (1988).—Gold, T. Carbon—the element of life: what is its origin on earth? (1989).—Sciama, D. Cosmology and particle physics: a new synthesis (1990).—Dyson, F. J. Hunting for comets and planets (1991).—Longair, M. S. Modern cosmology—a critical assessment (1992).—Taylor, J. H. Binary pulsars and relativistic gravity (1993).—Kirshner, R. P. Taking the measure of the universe (1994).—Mather, J. C. Observing the Big Bang (1995).—Penrose, Sir R. The complexity of our singular universe (1996).

Western humanistic culture presented to China by Jesuit missionaries (XVII–XVIII centuries). Proceedings of the conference held in Rome, October 25–27, 1993. Edited by Federico Masini. Rome, Institutum Historicum S.I., 1996. 396 p. illus., facsim. (Bibliotheca Instituti Historici S.I., v. 49)

Partial contents: Iannaccone, I. From N. Longobardo's explanation of earthquakes as divine punishment to F. Verbiest's systematic instrumental observations. The evolution of European science in China in the seventeenth century.—Jami, C. From Clavius to Pardies: the geometry transmitted to China by Jesuits (1607–1723).—Libbrecht, U. What kind of science did the Jesuits bring to China?—Moortgat, G. Substance versus function (*ti* vs. *yong*). The humanistic relevance of Yang Guangxian's objection to Western astronomy.—Witek, J. W. A dialogue on astronomical phenomena and natural theology in early eighteenth-century China.

William, *of Conches*. A dialogue on natural philosophy (*Dragmaticon philosophiae*). Translation of the new Latin critical text, with a short introduction and explanatory notes, by Italo Ronca and Matthew Curr. Notre Dame, Ind., University of Notre Dame Press, 1997. xxvi, 212 p. illus. (Notre Dame texts in medieval culture, v. 2)

See particularly books 3 and 4, which deal with the creation of the stars, their movement, the heavenly circles, the planets and their motion, including retrograde motion and standstill, the seasons, and eclipses of the sun and moon.

York, Derek. In search of lost time. Bristol, Philadelphia, Institute of Physics Pub., 1997. 141 p. illus.

Articles, Including Essays in Books and Papers in Proceedings

Abraham, George. Ancient and medieval star catalogues. *Indian journal of history of science*, v. 32, Mar. 1997: 47–51.

Abraham, George. Variable radius epicycle model. *Indian journal of history of science*, v. 32, June 1997: 135–138. illus.

Achar, B. N. Narahari. Enigma of the five-year yuga of Vedāṅga Jyotia. *Indian journal of history of science*, v. 33, June 1998: 101–109.

Alexander, Amir. Lunar maps and coastal outlines: Thomas Harriot's mapping of the moon. *Studies in history and philosophy of science*, v. 29A, Sept. 1998: 345–368. illus., maps.

- Andrews, Arthur D. The Boyden Observatory. *Irish astronomical journal*, v. 25, July 1998: 129–166. illus., ports.
A short history of the Boyden Observatory, Bloemfontein, "is followed by a personal account of life and work at Boyden in 1965–1967 ..."
- Ansari, S. M. Razauallah. *Ghulām usain Jaunpūri and his Zij-i Bahādurkhānī*. *Studies in history of medicine and science*, v. 14, no. 1/2, 1995/96: 181–188.
The zij was compiled in 1838.
- Ashworth, William J. John Herschel, George Airy, and the roaming eye of the state. *History of science*, v. 36, June 1998: 151–178.
- Astronomia e letteratura. *Giornale di astronomia*, v. 24, mar. 1998: 20–39. illus. (part col.), facsimis., ports. (part col.)
Contents: Barletti, R. Regalare Dante partendo dall'astronomia.—Usher, P. D. La visione del cosmo di William Shakespeare.—Vetrano, F. Storia enigmatica di un universo: il tempo personale di Giacomo Leopardi tra il nulla e l'eternità.—Gabici, F. "io lo so perché tanto di stelle ..." L'astronomia nei versi di Giovanni Pascoli.
Usher's paper was originally published as "Shakespeare's Cosmic World View" in *Mercury*, v. 26, Jan./Feb. 1997, p. 20–23.
- Aubourg, Éric. La date de conception du zodiaque du temple d'Hathor à Dendera. *In* Cairo. Institut français d'archéologie orientale. *Bulletin*. t. 95. Le Caire, 1995. p. 1–10. illus. (part col.)
English summary: p. 647.
- Banfi, Vittorio. L'origine e la formazione delle comete secondo R. A. Lyttleton. *Giornale di astronomia*, v. 24, mar. 1998: 40–47. illus.
- Barocas, Vinicio. The Preston Observatory. 1. The first fifty years. *Southern stars*, v. 37, June 1998: 237–243.
The observatory was founded in Preston, Lancs., in 1881.
- Beeson, David. Hesitating on the threshold: Maupertuis's apprenticeship as a Newtonian. *In* International Congress on the Enlightenment, 8th, Bristol, 1991. *Transactions of the Eighth International Congress on the Enlightenment*. 2. Oxford, Voltaire Foundation at the Taylor Institution, 1992. (Studies on Voltaire and the eighteenth century, 304) p. 1118–1121.
- Belmonte Avilés, Juan A., César Esteban López, and José Jiménez González. Mediterranean archaeoastronomy and archaeotopography: pre-Roman tombs of Africa Proconsularis. *In* *Archaeoastronomy*. no. 23; 1998. Cambridge, Science History Publications. p. S7–S24. illus., map.
- Bender, Daryl. A proposal for the eclipse mechanism on the Wallingford clock. *Antiquarian horology*, v. 24, autumn 1998: 217–224. illus.
- Bender, Daryl. A proposal for the striking mechanism on the Wallingford clock. *Antiquarian horology*, v. 24, summer 1998: 134–140. illus.
Richard of Wallingford (1291–1336), abbot of the Benedictine monastery at St. Albans, "began work on this large monumental astronomical clock. While predating de Dondi's work it nevertheless had more accurate astronomical gearing. Unfortunately the clock was lost some time after the middle of the sixteenth century ..." Through Richard's surviving manuscripts, however, "we gain an appreciation of this very early yet incredibly complex timepiece."
- Bernard, Étienne A. Pensée scientifique et pensée magique: le cas de l'astronomie et de l'astrologie. *Ciel et terre*, v. 114, mai/juin 1998: 104–112. illus.
- Blitzstein, William. The seven identified observations of Uranus made by John Flamsteed using his mural arc. *Observatory*, v. 118, Aug. 1998: 219–222.
- Böhm, Conrad. Luna III: inizia l'esplorazione planetaria. *L'Astronomia*, anno 20, luglio 1998: 58–59. illus. (part col.) (Osservatorio del passato)
On the results obtained by a Soviet spacecraft that traveled to the moon in October 1959.
- Bönnhardt, Hermann. In memoriam Professor Vladimír Vanýsek, editor-in-chief of *Earth, Moon, and Planets*. *Earth, moon, and planets*, v. 76, no. 1/2, 1997/98: 1–3. port.

- Boiy, Tom. BM 59748, 28.XIIa.43 S.E.: an exception to the Babylonian intercalary cycle? *N.A.B.U., Nouvelles assyriologiques brèves et utilitaires*, mars 1998: 6–7.
- Bondi, Sir Hermann. Raymond Arthur Lyttleton, 7 May 1911–16 May 1995. *In Royal Society of London. Biographical memoirs of Fellows. v. 43; 1997. London. p. 303–219. port.*
- Bone, Neil. The 1799 Leonids. *In British Astronomical Association, London. Journal, v. 108, Aug. 1998: 230. illus.*
- Boxmeer, Henri van. Poussières d'archives ... Les méridiennes de Quetelet (suite et fin). Le pavillon astronomique de Liège. Les méridiennes de Louvain, de Lierre, d'Alost et de Termonde. *Ciel et terre, v. 114, janv./fév. 1998: 33–36. illus., facsim.*
- Brown, Robert Hanbury. R V Jones 1911–1997. *Astronomy & geophysics, v. 39, Aug. 1998: 438. port.*
- Calvo Labarta, Emilia. Astronomical theories related to the sun in Ibn a-Hā'im's al-Zij al-Kamil fi'l-Ta'ālim. *In Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften. Bd. 12. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität, 1998. p. 51–111. illus.*
Includes Arabic text of extracts from the zij.
- Chapman, Allan. James Nasmyth: astronomer of fire. *In Yearbook of astronomy. 1997. Edited by Patrick Moore. London, Macmillan, 1996. p. 143–167. facsim., port.*
- Chapman, David M. F. 140 years of comet photography. *In Royal Astronomical Society of Canada. Journal, v. 92, Aug. 1998: 186–187. (Reflections)*
- Chatterjee, S. K. Balinese traditional calendar. *Indian journal of history of science, v. 32, Dec. 1997: 325–346.*
A folded table designated "Appendix A," showing the Pawukon 210-day calendar, follows p. 346.
- Chatterjee, S. K. A note on Kali era. *Indian journal of history of science, v. 32, Mar. 1997: 69–86.*
- Chatterjee, S. K. Traditional calendar of Myanmar (Burma). *Indian journal of history of science, v. 33, June 1998: 143–160. illus.*
- Chinnici, Ileana. An "Italian" observatory in India: the history of the Calcutta Observatory. *Studies in history of medicine and science, v. 14, no. 1/2, 1995/96: 91–115. illus., ports.*
- Cohen, I. Bernard. Newton's determination of the masses and densities of the sun, Jupiter, Saturn, and the earth. *Archive for history of exact sciences, v. 53, no. 1, 1998: 83–95. illus.*
- Coles, Peter. David Norman Schramm (1945–97). *Observatory, v. 118, Aug. 1998: 251–252.*
- Creese, Mary R. S. Elizabeth Brown (1830–1899), solar astronomer. *In British Astronomical Association, London. Journal, v. 108, Aug. 1998: 193–197. facsim., port.*
- Crépel, Pierre. Gilbert Romme et les mathématiques. *Annales historiques de la Révolution française, no 304, avril/juin 1996: 107–220.*
- Davis, Dale, and Charles Standard. Celestial phenomena in Lacandon Maya song and lore. *In Latin American Indian Literatures Association. Symposium, 12th, Universidad Nacional Autónoma de México, 1995. Messages and meanings; papers from the Twelfth Annual Symposium, Latin American Indian Literatures Association/Asociación de Literaturas Indígenas Latinoamericanas. Edited by Mary H. Preuss. Lancaster, Calif., Labyrinthos, 1997. p. 47–51.*
- Débarbat, Suzanne V. À la rencontre de Christiaan Huygens. *L'Astronomie, v. 112, avril/mai 1998: 148–151. illus.*
On learning more about Huygens in the museum at his home, Hofwijck, and the Boerhaave Museum in Leiden.
- Deiss, Bruno M., and Volker Nebel. On a pretended observation of Saturn by Galileo. *Journal for the history of astronomy, v. 29, Aug. 1998: 215–220. illus.*
- Dejaiffe, René. Odon Godart [1913–1996] et son oeuvre. *Ciel et terre, v. 114, juil./août 1998: 143–148.*
- Delsemme, Armand H. Recollections of a cometary scientist. *Planetary and space science, v. 46, Jan. 1998: 111–124. illus., group ports.*
The group portraits were taken at the 4th and 5th international colloquia of astrophysics, held at Liege in 1952 and 1965.

Depuydt, Leo. The time of death of Alexander the Great: 11 June 323 B.C. (-322), ca. 4:00–5:00 PM. *In Die Welt des Orients*. Bd. 28; 1997. Göttingen, Vandenhoeck & Ruprecht, 1998. p. 117–135.

Examines the differing dates given in ancient sources and the workings of the calendars used—Babylonian, Egyptian, and Macedonian.

Dick, Steven J., Wayne Orchiston, and Tom Love. Simon Newcomb, William Harkness and the nineteenth century American transit of Venus expeditions. *Journal for the history of astronomy*, v. 29, Aug. 1998: 221–255. illus., map, ports.

Dobson, Geoffrey J. Newton's problems with rigid body dynamics in the light of his treatment of the precession of the equinoxes. *Archive for history of exact sciences*, v. 53, no. 2, 1998: 125–145. illus.

Dollar, Tom. In the realm of the long eyes. *Arizona highways*, v. 74, Aug. 1998: 4–11. col. illus.
A "tour of the telescope sites open to the public" in Flagstaff and on Kitt Peak, Mount Hopkins, and Mount Graham, as well as Discovery Park in Safford. The astronomy camps at Mount Lemmon are also mentioned.

Dollfus, Audouin. Les frères Huygens et les grandes lunettes sans tuyau. *L'Astronomie*, v. 112, avril/mai 1998: 114–129. facsims.

Dollo, Corrado. L'incorruttibilità dei cieli nelle *Reportationes* di Gerolamo [Hieronymus] Piccolomini (1612). *In Sicvlorvm gymnasivm. nuova ser.*, anno 46; 1993. Catania, Tip. E. Leone, 1994. p. 577–603.

Includes Latin text of "Quaestio tertia De Accidentibus coeli" from Piccolomini's *In octo libros Physicorum Aristotelis Adnotationes et quaestiones*.

Douglas, Geoffrey G., Thomas E. Corbin, and Brian D. Mason. Charles Edmund Worley (1935–97). *Observatory*, v. 118, Aug. 1998: 250–251.

Douglas, Graham. Color-term connotations, planetary personalities, and Greimas's square. *Semiotica*, v. 115, 3/4, 1997: 263–287. illus.

Douglas, Graham. Greimas's semiotic square and Greek and Roman astrology. *Semiotica*, v. 114, 1/2, 1997: 1–19. illus.

Ducos, Joëlle. Le clerc et les météores: constitution et évolution d'une culture encyclopédique. *In Le Clerc au Moyen Age*. Aix-en-Provence, CUER MA, Université de Provence (Centre d'Aix), 1995. (Sénéfiance, no 37) p. 149–164.

Dunn, Francis M. The uses of time in fifth-century Athens. *Ancient world*, v. 29, no. 1, 1998: 37–52. illus.

Ernst, Germana. Il cielo in una stanza. *L'Apologeticus* di Campanella in difesa dell'opuscolo *De siderali fato vitando*. *Bruniana & Campanelliana*, anno 3, n. 2, 1997: 303–304.

The Latin text of the *Apologeticus* has Italian translation on facing pages (p. 314–331).

An English summary of the introductory essay appears on p. 303.

Etayo-Pifol, Marie A. Medina y Cortés; o, El aprendizaje de las técnicas de navegación en Europa en el siglo XVI. Según la edición lyonesa. *Revista de historia naval*, año 16, 2. trimestre 1998: 41–47. col. ports.

Fanti, Roberto. Sessant'anni di radioastronomia: la scoperta di un universo invisibile. *Il Nuovo saggiaiore*, nuova ser., anno 9, mar./apr. 1993: 27–41; magg./ag.: 48–58. illus. (part col.), maps (part col.) (*Scienza in primo piano*)

Faracovi, Ornella. Sull'oroscopo di Campanella. *Bruniana & Campanelliana*, anno 3, n. 2, 1997: 245–263. facsims.

Summary in English.

Fernie, J. Donald. Transits, travels and tribulations. 4. *American scientist*, v. 86, Sept./Oct. 1998: 422–425. illus., facsims.

On the 1769 expeditions of Chappe d'Auteroche and William Wales.

Ferrari d'Occhieppo, Konradin. Neue Argumente zu Aufgang und Stillstand des Sterns in der Magierperikope Matthäus 2, 1–12. *In Österreichische Akademie der Wissenschaften. Mathematisch-naturwissenschaftliche Klasse. Sitzungsberichte. Abt. II*. 206. Bd.; Jahrg. 1997. Wien, Verlag der Österreichischen Akademie der Wissenschaften, 1998. p. 317–344.

- Fowler, David. In memoriam: Wilbur Richard Knorr (1945–1997), an appreciation. *Historia mathematica*, v. 25, May 1998: 123–132. port.
The portrait faces p. 123.
- Frاند, Pascal. Le calendrier républicain dans les annuaires datés de l'an IV à l'an XIII. *Annales historiques de la Révolution française*, no 298, oct./déc. 1994: 671–686. facsimis.
Abstract in English: p. 779.
- Fritz, John M., and J. McKim Malville. Recent archaeo-astronomical research at Vijayanagara. In *Association of South Asian Archæologists in Western Europe. International Conference, 11th, Berlin, 1991. South Asian archæology 1991. Proceedings of the eleventh International Conference of the Association of South Asian Archæologists in Western Europe, held in Berlin 1–5 July 1991. Edited by Adalbert J. Gail and Gerd J. R. Mevissen, with the assistance of Britta Zehmke. Stuttgart, F. Steiner, 1993. p. 415–425. maps, plans.*
- Fritz, Manfred, Ludwig Oechslin, Jörg Spöring, and Franz Türler. Der Himmel auf Erden. Die Türler-Uhr in Zürich: ein Modell des Kosmos. *Kultur & Technik*, 21. Jahrg., Nr. 3, 1997: 46–50. illus. (part col.)
A modern astronomical clock that took nine years to build.
- Froeschlé, Michel. À propos du calendrier républicain: Romme et l'astronomie. *Annales historiques de la Révolution française*, no 304, avril/juin 1996: 303–325.
- Fuller, Dudley K. M. The recovery of a long forgotten, early 18th century 6" Newtonian reflector—a remarkable story. *Journal of the Antique Telescope Society*, v. 11, summer 1996: 12–13. illus.
- Galea, Adrian J. On the trail of the nature of shooting stars; Maltese observations of the meteor displays of November 27, 1872 and 1885. In *Malta year book. 1996. Sliema, Malta, De La Salle Brothers Publications. p. 471–476.*
- Garzoni, Tomaso. Discorso XXXIX. Degli astronomi e astrologi. In *his La piazza universale di tutte le professioni del mondo. A cura di Paolo Cherchi e Beatrice Collina. v. 1. Torino, G. Einaudi editore, 1996. p. 604–639.*
See also Discorso VI, "De' formatori de' klendari" (v. 1, p. 187–205), and Discorso LXXX, "De' maestri d'orologi" (v. 2, p. 996–1000).
Garzoni's work was first published in 1585.
- Gaspani, Adriano. Cosa vide Gan De? *L'Astronomia*, anno 20, giugno 1998: 36–43. col. illus. (Ottica)
Could Gan De, observing in the fourth century B.C., have seen a satellite of Jupiter?
Includes a box, "Cosa vide veramente Gan De?" (p. 41).
- Gatti, Hilary. Giordano Bruno's *Ash Wednesday Supper* and Galileo's *Dialogue of the Two Major World Systems*. *Bruniana & Campanelliana*, anno 3, n. 2, 1997: 283–300.
Summary in English.
- Gingerich, Owen. In retrospect: *De revolutionibus orbium celestium* ("On the revolutions of the heavenly spheres") by Nicolaus Copernicus (1543). *Nature*, v. 391, Jan. 8, 1998: 340. facsimis.
- Golvers, Noël. Ferdinand Verbiest's *Compendium Latinum* (Peking, 1678), with a census. *Quaerendo*, v. 28, spring 1998: 85–127. facsimis., port.
"Appendix: Preliminary 'census' (30 August 1997)": p. 117–127.
- González González, Francisco J. Pendulos astronómicos y cronómetros marinos de la Armada: el Observatorio de San Fernando y los antecedentes del patrón nacional de tiempo (1753–1957). *Asclepio*, v. 50, fasc. 1, 1998: 175–198.
Summary in English.
- Gossin, Pamela. "All Danaë to the stars": nineteenth-century representations of women in the cosmos. *Victorian studies*, v. 40, autumn 1996: 65–96.
- Graf-Stuhlhofer, Franz. Zu den Hofastronomen Kaiser Maximilians. Über das jahrzentelange Fortwirken historischer Irrtümer. *Bibliothèque d'humanisme et renaissance*, t. 60, juin 1998: 413–419.
- Granada, Miguel A. Cálculos cronológicos, novedades cosmológicas y expectativas escatológicas en el Europa del siglo XVI. In *Rinascimento, rivista dell'Istituto nazionale di studi sul Rinascimento. 2. serie, v. 37. Firenze, L. S. Olschki, 1997. p. 357–435.*

- Grant, Edward. In memoriam: Richard S. Westfall, 1924–1996. *Archives internationales d'histoire des sciences*, v. 47, déc. 1997: 389–392.
- Griffin, Rita Elizabeth M. The Mount Wilson 100-inch—America's 'vintage' large telescope. *Journal of the Antique Telescope Society*, v. 11, summer 1996: 14–19. illus.
- Griffin, Roger F. O. C. Wilson and his *K*-line intensities. *Observatory*, v. 118, June 1998: 145–153.
Refutes criticisms of Wilson's estimates.
- Gurshten, Aleksandr A. The evolution of the zodiac in the context of ancient oriental history. *Vistas in astronomy*, v. 41, pt. 4, 1997: 507–525. illus., facsim.
- Habison, Peter. Die Sternwarte des Bierbrauers Moriz von Kuffner in Wien. *Sterne und Weltraum*, 37. Jahrg., Nr. 5, 1998: 477–480. illus. (part col.), port.
"Am Gallitzinberg in Wien-Ottakring, einem der östlichen Ausläufer des Wienerwaldes, befindet sich eine Sternwarte aus der Zeit des Historismus. Sie gehörte einst einem Grossindustriellen der österreichisch-ungarischen Monarchie und hat sich bis heute ihr historisches Aussehen bewahrt. In den letzten Jahren wurde sie renoviert und als astronomisches Bildungsinstitut neu adaptiert. Eine Geschichte des Observatoriums, seines Gründers und seiner Astronomen von der Jahrhundertwende bis zur Gegenwart."
- Hahn, Roger. A scientist responds to his skeptical crisis: Laplace's philosophy of science. In *The Skeptical tradition around 1800; skepticism in philosophy, science, and society*. Edited by Johan van der Zande and Richard H. Popkin. Dordrecht, Boston, Kluwer Academic Publishers, 1998. (*Archives internationales d'histoire des idées*, 155) p. 187–201.
- Hallyn, Fernand. La préface de Gemma Frisius aux *Ephemerides* de Stadius (1556). *Scientiarum historia*, jaarg. 24, nr. 1, 1998: 3–15. ports.
- Hari, K. Chandra. True rationale of Sūrya Siddhānta. *Indian journal of history of science*, v. 32, Sept. 1997: 183–190.
- Heine, Elizabeth. W. B. Yeats: poet and astrologer. *Culture and cosmos*, v. 1, autumn/winter 1997: 60–75. facsim.
- Hennessey, R. A. S. Charles Pritchard [1808–1893] *Astronomy now*, v. 12, July 1998: 19–20. illus., port.
"The Reverend Dr Charles Pritchard, a Victorian amateur astronomer, became Savilian Professor of Astronomy at Oxford when he was 62."
- Hilton, James L., and P. Kenneth Seidelmann. An examination of the change in the earth's rotation rate from ancient Chinese observations of lunar occultations of the planets. *Astronomical journal*, v. 104, Dec. 1992: 2250–2252.
- Hintsches, Eugen. Einsteins Phantom. *Kultur & Technik*, 21. Jahrg., Nr. 2, 1997: 36–37. illus.
"Die Gravitationslinsen, die Einstein 1912 berechnet hatte, schienen ihm damals ungläubwürdig."
- Holberton, Paul. Notes on Giulio Campagnola's prints. *Print quarterly*, v. 13, Dec. 1996: 397–400. illus.
Focuses on two engravings—"Saturn" and the "Astrologer."
- Holmes, Nigel. Lucan 7, 425: planets or stars? *Mnemosyne*, v. 51, Aug. 1998: 446–449.
- Hoppmann, Jürgen G. H. The Lichtenberger prophecy and Melanchthon's horoscope for Luther. *Culture and cosmos*, v. 1, autumn/winter 1997: 49–59. facsims.
- Hoskin, Michael A., and others. Studies in Iberian archaeoastronomy. 5. Orientations of megalithic tombs of northern and western Iberia. In *Archaeoastronomy*. no. 23; 1998. Cambridge, Science History Publications. p. S39–S87. illus., map.
Fifteen reports produced with a number of collaborators.
- Hübner, Wolfgang. Die Lyra cosmica des Eratosthenes: das neunte Sternbild der Musen mit neun Sternen und neun Saiten. *Museum helveticum*, v. 55, Juni 1998: 84–111.
- Hüttig, Manfred. The conical sundial from Abû Mîna. A second analysis. In *Société d'archéologie copte. Bulletin*. t. 37; 1998. Le Caire. p. 135–141. illus.
- Iwaniszewski, Stanisław. Entre el pasado y el presente: varios conceptos del tiempo y la tensión cronotópica entre los mexicas según las fuentes del siglo XVI. In *Latin American Indian*

- Literatures Association. Symposium, *12th, Universidad Nacional Autónoma de México, 1995*. Messages and meanings; papers from the Twelfth Annual Symposium, Latin American Indian Literatures Association/Asociación de Literaturas Indígenas Latinoamericanas. Edited by Mary H. Preuss. Lancaster, Calif., Labyrinthos, 1997. p. 115–127.
- Iwanowska, Wilhelmina. *Od Kopernika do Wolszczana: historia odkryci i współczesne badania astronomiczne wszechświata*. *Analecta*, r. 6, nr. 1, 1997: 311–320. illus.
- English summary.
- Jáchim, František. *Astronomie v díle Tadeáše Hájka z Hájku*. DVT, *Dějiny věd a techniky*, roč. 30, čís. 4, 1997: 211–235.
- English summary.
- Jager, Cornelis de. In memoriam: Hans van Diggelen. *Zenit*, 25. jaarg., sept. 1998: 365.
- Jarrell, Richard A. King, William Frederick. Surveyor, astronomer, and civil servant. *In Dictionary of Canadian biography*. v. 14. 1911 to 1920. Toronto, Buffalo, University of Toronto Press, 1998. p. 558–559.
- Johnson, Kevin. "The Sun Spotteries"—the South Kensington Solar Physics Observatory, 1879–1913. *Journal of the Antique Telescope Society*, issue 15, summer 1998: 22–24.
- Jordi, C., Leslie V. Morrison, Richard D. Rosen, David A. Salstein, and G. Rosselló. Fluctuations in the Earth's rotation since 1830 from high-resolution astronomical data. *Geophysical journal international*, v. 117, June 1994: 811–818. illus.
- Jospe, Raphael. The Torah and astrology according to Abraham ibn Ezra. *In World Congress of Jewish Studies, 11th, Jerusalem, 1993*. Proceedings of the Eleventh World Congress of Jewish Studies, Jerusalem, June 22–29, 1993. Division C. Thought and literature. v. 2. Jewish thought, Kabbalah and Hasidism. Jerusalem, World Union of Jewish Studies, 1994. p. 17–24.
- Junod, Philippe. Variations modernes sur un thème: la musique des sphères. *In Research Center for Musical Iconography*. RIDIM newsletter, v. 22, fall 1997: 53–61. illus., facsim.
- Kagan, Boris A., and Jürgen Sündermann. Dissipation of tidal energy, paleotides, and evolution of the earth-moon system. *In Advances in geophysics*. v. 38. Edited by Renata Dmowska, Barry Saltzman. San Diego, Academic Press, 1996. p. 179–266. illus.
- Kak, Subhash C. Early theories on the distance to the sun. *Indian journal of history of science*, v. 33, June 1998: 93–100. illus.
- Kak, Subhash C. Sāyana's astronomy. *Indian journal of history of science*, v. 33, Mar. 1998: 31–36.
- Kammerer, Odile. Un prodige en Alsace à la fin du XV^e siècle: la météorite d'Ensisheim. *In Congrès de la Société des historiens médiévistes de l'enseignement supérieur public, 25th, Orléans, 1994*. Miracles, prodiges et merveilles au Moyen Âge. XXV^e Congrès de la S.H.M.E.S. (Orléans, juin 1994). Paris, Publications de la Sorbonne, 1995. (Série Histoire ancienne et médiévale, 34) p. 293–315. facsim.
- Kemp, Martin. Modelled moons. *Nature*, v. 394, Aug. 27, 1998: 837. illus.
- "How do you bring a flat picture to three-dimensional life? Early photographers met the same visual challenges that confronted Galileo. They used ingenious methods to build relief models of the lunar landscapes."
- Kilburn, Kevin J., Michael Oates, and Anthony W. Cross. The ghost book of Manchester. *Sky & telescope*, v. 96, Nov. 1998: 83–86. facsim., col. group port. (Amateur astronomers)
- On the discovery, in the collections of the Manchester Astronomical Society, of John Bevis's *Atlas celeste*.
- Includes a box, "Prediscovery Observations of Uranus" (p. 86).
- Kollerstrom, Nick. The star zodiac of antiquity. *Culture and cosmos*, v. 1, autumn/winter 1997: 5–22. illus.
- Korpikiewicz, Honorata. In memoriam. Bohdan Kiełczewski (1912–1998). *Urania—postępy astronomii*, t. 69, maj/czerw. 1998: 134–135.
- Kozhamthadam, Job. Kepler and the origin of modern science. *Indian journal of history of science*, v. 33, Mar. 1998: 63–86.

Kruk, Jacek. Lucjan Orkisz (1899–1973). *Urania—postępy astronomii*, t. 69, stycz./luty 1998: 36–37. illus., port. (Z historii polskiej astronomii)

Krupp, Edwin C. Moonlit highways. *Sky & telescope*, v. 96, Sept. 1998: 94–96. col. illus. (Rambling through the skies)

Mostly about Harran, "renowned for at least three millenniums as a sacred city of Sin, the Mesopotamian moon god, and as the home of one of his most important temples."

Künzl, Ernst. Der Globus im Römisch-Germanischen Zentralmuseum Mainz: der bisher einzige komplette Himmelsglobus aus dem griechisch-römischen Altertum. *In Der Globusfreund*. Nr. 45/46; 1997/98. Wien, Internationale Coronelli-Gesellschaft für Globen- und Instrumentenkunde, 1998. p. 7–80. illus. (part col.)

Contents: Herkunft und Fundumstände.—Technik, Stil und Datierung.—Ein Obelisk als Gnomon einer Sonnenuhr.—Zodiacus und Sternzeichen bei der Hemisphären.—Ikonographie der Sternzeichen.—Astronomie.—Die Milchstrasse.—Himmelsgloben und Planisphären.

Fifteen illustrations appear on plates bound at the end of the volume. Additional color illustrations are reproduced on the outside front and back covers of the issue.

A full English translation, "The Globe in the 'Römisch-Germanisches Zentralmuseum Mainz'—the Only Complete Celestial Globe Found to-Date From Classical Greco-Roman Antiquity," appears on p. 81–153.

Kunitzsch, Paul. Traces of a tenth-century Spanish-Arabic astrolabe. *In Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*. Bd. 12. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität, 1998. p. 113–120. illus.

Kurtik, Gennadiĭ E. Astral'naiâ simbolika v Mesopotamii III tys. do n.è. *Voprosy istorii estestvoznaniâ i tekhniki*, no. 2, 1998: 20–44. illus. (Iz istorii estestvoznaniâ)

Abstract in English: p. [204]

Laird, Edgar S. Christine de Pizan and controversy concerning star-study in the court of Charles V. *Culture and cosmos*, v. 1, autumn/winter 1997: 35–48.

Lange, Armin. The Essene position on magic and divination. *In International Organization for Qumran Studies. Meeting, 2d, Cambridge, 1995. Legal texts and legal issues. Proceedings of the second Meeting of the International Organization for Qumran Studies, Cambridge, 1995. Published in honour of Joseph M. Baumgarten. Edited by Moshe Bernstein, Florentino García Martínez, John Kampen. Leiden, New York, Brill, 1997. (Studies on the texts of the desert of Judah, v. 23) p. 377–435.*

Astrological approaches to divination are among those considered.

Lavolette, Jean G. Du quadrant au cadran de hauteur. *Chronometrophilia*, no 44, été 1998: 27–40. illus.

Lepage, Thierry. La lune rousse dans la parémiologie* française. *Ciel et terre*, v. 114, juil./août 1998: 136–139.

"(*) Terme d'origine grecque obtenu à partir des termes paroimia signifiant 'proverb, dicton' et logos signifiant 'discours, étude scientifique.'"

Le Prado-Madaule, Danielle. L'astrométéorologie: influence et évolution en France 1520–1640. *Histoire, économie et société*, 15. année, avril/juin 1996: 179–201.

On the application of astrology to weather-forecasting.

Abstract in English.

Li, Y., and C. Z. Zhang. Chinese models of solar and lunar motions in the 13th century. *Astronomy and astrophysics*, v. 333, May (I) 1998: L13–L15. illus.

Li, Y., and C. Z. Zhang. Chinese syzygy calculations established in the 13th century. *Astronomy and astrophysics*, v. 332, Apr. (III) 1998: 1142–1146. illus.

Li, Y., and C. Z. Zhang. Secular variation of earth's rotation: inferred from the Chinese ancient *Shoushi* calendar (AD 1281). *Earth, moon, and planets*, v. 76, no. 1/2, 1997/98: 11–17. illus.

Lichtenberg, Heiner, Leonard Gerhards, Alfons Grassl, and Heinz Zemanek. Die Struktur des Gregorianischen Kalenders. *Sterne und Weltraum*, 37. Jahrg., Nr. 4, 1998: 326–332.

"In diesem Aufsatz wird dargelegt, was am Gregorianischen Kalender zeitlos und was zeitabhängig ist. Die wird durch Verallgemeinerung der Gauss'schen Osterformel erreicht. Erst eine verallgemeinerte Gauss'sche Osterformel lässt beides, den invarianten Kern und die Flexibilität dieses vorzüglichen und mit Recht heute weltweit verbreiteten Zeitrechnungssystems, klar zum Vorschein kommen."

Liu, Baolin, and F. Richard Stephenson. A brief contemporary history of the Chinese calendar. *Orion*, 56. Jahrg., Aug. 1998: 33–36. illus.

Liu, Baolin, and F. Richard Stephenson. The Chinese calendar and its operational rules. *Orion*, 56. Jahrg., Juni 1998: 16–20. illus.

"The Chinese calendar is a form of lunisolar calendar. The rules in operation today have remained unchanged since almost the very beginning of the last (Qing) dynasty—i.e. as far back as A.D. 1645. Since 1914, Western astronomical theory has been used in calculating the positions of the Sun and Moon (and other relevant details) but the basic rules have been unaffected. It is the purpose of this article to explain these rules, particularly with regard to the determination of month numbers and intercalation. One of the present authors (Liu) has specialised in the study of the Chinese calendar for many years."

Locke, Jack L. The beginning of the Dominion Radio Astrophysical Observatory. *In Royal Astronomical Society of Canada. Journal*, v. 92, June 1998: 112–114. illus., ports.

Followed on p. 114–115 by the text of "Official Opening of the Dominion Radio Astrophysical Observatory, White Lake, Penticton, B.C., June 20, 1960," by G. J. Odgers, first published in the *Journal*, v. 54, Dec. 1960, p. 269–272.

López Borgoñoz, Alfonso. Orientations of graves in the late Roman necropolises of Ampurias. *In Archaeoastronomy*. no. 23; 1998. Cambridge, Science History Publications. p. S25–S30. illus., map.

McCall, Joe. The enigma of tektites. *In Yearbook of astronomy*. 1998. Edited by Patrick Moore. London, Macmillan, 1997. p. 165–186. illus., maps.

MacMinn, Donn. An analysis of Ptolemy's treatment of retrograde motion. *Journal for the history of astronomy*, v. 29, Aug. 1998: 257–270. illus.

Maddison, Ron. Fifty years, and still the eighth wonder of the world: the Palomar 200-inch reflector. *In Yearbook of astronomy*. 1997. Edited by Patrick Moore. London, Macmillan, 1996. p. 183–197. illus.

Maddison, Ron. The Hale Telescope on Palomar Mountain: a giant leap in design. *Journal of the Antique Telescope Society*, issue 13, summer 1997: 4–14. illus.

Maeyama, Yasukatsu. Determination of the sun's orbit: Hipparchus, Ptolemy, Al-Battāni, Copernicus, Tycho Brahe. *Archive for history of exact sciences*, v. 53, no. 1, 1998: 1–49. illus.

Malina, Bruce J. Jesus as astral prophet. *Biblical theology bulletin*, v. 27, fall 1997: 83–98.

"Jesus' final discourse in the Synoptics is replete with words, phrases and statements typical of ancient Mediterranean astronomy/astrology. Further, forecasts concerning the Son of Man coming from the sky and the destruction of Jerusalem, a temple city, clearly entail astronomical and astrological dimensions. These features point to traditions about Jesus as astral prophet and his concern with sky events, much like Israel's astral prophets and their focus on celestial territoriality."

Marinone, Nino. *La costellazione*. *In his* Berenice, da Callimaco a Catullo. Testo critico, traduzione e commento. Nuova ed., ristrutturata, ampliata e aggiornata. Bologna, Pàtron editore, 1997. p. 245–259. illus.

Mathur, M. N. Risālah dar 'Ilm-i Hay'at-i Jadid, a 19th century Persian treatise on modern astronomy. *Studies in history of medicine and science*, v. 12, no. 1/2, 1993: 89–95.

Maurer, Andreas. A compendium of all known William Herschel telescopes. *Journal of the Antique Telescope Society*, issue 14, winter 1998: 4–15. illus., map.

Michalec, Adam. Polskie Towarzystwo Astronomiczne ma 75 lat! Urania—postępy astronomii, t. 69, mar./kwiec. 1998: 82–83. illus.

- Miziołek, Jerzy. *Oculus coeli: osservazioni sulla simbologia della luce nella cappella del primate Uchanius a Lovitium (Łowicz)*. *Qvasar*, n. 8/9, luglio 1992/giugno 1993: 5–18. illus., facsim.
- Mohr, Paul. A cometary conflagration in the west of Ireland: "Pædæphilus" versus John Birmingham. *Irish astronomical journal*, v. 25, July 1998: 179–206. illus., facsim., map, ports.
- Moran, James M. Thirty years of VLBI: early days, successes, and future. *In IAU Colloquium, 164th, Socorro, N.M., 1997*. Radio emission from galactic and extragalactic compact sources. Proceedings of IAU Colloquium 164 held in Socorro, New Mexico, USA, 21–26 April 1997. Edited by J. Anton Zensus, G. B. Taylor, and J. M. Wrobel. San Francisco, Astronomical Society of the Pacific, 1998. (Astronomical Society of the Pacific conference series, v. 144) p. 1–10.
- Moyer, Albert E. Simon Newcomb: astronomer with an attitude. *Scientific American*, v. 279, Oct. 1998: 88–93. illus. (part col.), facsim., ports.
 "The most celebrated American astronomer of the late 19th century advocated broad social and cultural reforms based on the use of scientific method."
- Müller, Paola. Dal geocentrismo all'eliocentrismo: verso una nuova immagine del mondo. *In Studi umanistici piceni*. 13; 1993. Sassoferrato, Istituto internazionale studi piceni. p. 141–150.
- Mulligan, Joseph F. Who were Fabry and Pérot? *American journal of physics*, v. 66, Sept. 1998: 797–802. illus., ports.
- Munzar, Jan. Antonín Bečvář—meteorolog. *DVT, Dějiny věd a techniky*, roč. 30, čís. 1, 1997: 41–44.
- Murray, William Breen. Models of temporality in archaeoastronomy and rock art studies. *In Archaeoastronomy*. no. 23; 1998. Cambridge, Science History Publications. p. S1–S6.
- Nicolaïdis, Efthymios. Ideology and scholarship in Soviet astronomy. *Physis, nuova ser.*, v. 37, fasc. 3, 1997: 659–674.
- Nouhuys, Tabitta van. Copernicus als randverschijnsel. De kometen van 1577 en 1618 en het wereldbeeld in de Nederlanden. *Scientiarum historia*, jaarg. 24, nr. 1, 1998: 17–38. facsim., ports.
- Ōhashi, Yukio. Early history of the astrolabe in India. *Indian journal of history of science*, v. 32, Sept. 1997: 199–295. illus.
 "Special attention is paid to the *Yantra-rāja-adhikāra* of Padmanābha, and its full text with English translation is presented here for the first time."
- Olson, Donald W., Marilyn S. Olson, and Russell L. Doescher. The stars of Hamlet. *Sky & telescope*, v. 96, Nov. 1998: 68–73. facsim., map, ports. (Astronomical computing)
 "A spectacular celestial event and the Danish astronomer who studied it may have inspired parts of William Shakespeare's famous play."
- Orchiston, Wayne. Illuminating incidents in antipodean astronomy: John Tebbutt and the great comet of 1861. *Irish astronomical journal*, v. 25, July 1998: 167–178. illus., ports.
- Oudenot, Gérard. Histoire des planétariums. Comment représenter les étoiles, les planètes et leurs mouvements apparents. *In La Science en scène*. Paris, Presses de l'École normale supérieure et Palais de la découverte, 1996. p. 143–150.
- Panaino, Antonio. Saturn, the lord of the seventh millennium. *East and West*, v. 46, Dec. 1996: 235–250.
 Includes a note contributed by David Pingree (p. 239–240).
- Pang, Alex Soojung-Kim. Technology, aesthetics, and the development of astrophotography at the Lick Observatory. *In Inscribing science; scientific texts and the materiality of communication*. Edited by Timothy Lenoir. Stanford, Calif., Stanford University Press, 1998. (Writing science) p. 223–248.
- Pingree, David. Āryabhaa, the Paitāmahasiddhānta, and Greek astronomy. *Studies in history of medicine and science*, v. 12, no. 1/2, 1993: 69–79.

- Plicht, Christof. Joseph von Fraunhofer, 1787–1826. *Journal of the Antique Telescope Society*, issue 15, summer 1998: 20–21.
- Polvani, Anna M. La cometa e gli annali di Mursili II. *In Studi epigrafici e linguistici sul Vicino Oriente antico*. 14; 1997. Verona, Essedue edizioni. p. 17–21.
- Pourciau, Bruce H. The preliminary mathematical lemmas of Newton's Principia. *Archive for history of exact sciences*, v. 52, no. 3, 1998: 279–295. illus.
- Pröstler, Viktor. Zeitsignale für die Seefahrt: die astronomischen Hauptuhren der Deutschen Seewarte Hamburg und das Nauener Zeitsignal. *Klassik Uhren*, 21. Jahrg., Apr./Mai 1998: 22–28. illus. (part col.)
- Proverbio, Edoardo. La controversia tra Giovan Battista Amici e Giovanni Grisostomo Gualtieri in merito alla realizzazione di riflettori astronomici (1810–1813). *Physis, nuova ser.*, v. 34, fasc. 3, 1997: 427–488.
- Rall, Gloria D. The Native American Bear in the sky. *Planetarian*, v. 27, Sept. 1998: 13–16, 38. illus.
- Rapaport, Michel. Trace et astronomie. *In Cahiers art et science*. 2; 1995. Bordeaux, Éditions Confluences. p. 48–59. illus., port.
- Read, John. Ancient timekeeping in Japan. *In Japan Society, London. Proceedings*, no. 130, winter 1997: 65–71. illus.
- Rius, Mònica. Eclipses y cometas en el *Rawḍ al-qirtās*. *Al-Qanara*, v. 19, fasc. 1, 1998: 3–17.
Among the phenomena recorded in this source is the supernova of 1006 (classified as a comet).
Abstract in English.
- Rodinson, Maxime. L'espace et le temps chez les anciens Arabes. 1. ptie. Le temps. *In Matériaux arabes et sudarabiques. nouv. sér.*, 8; 1997. Paris, Groupe d'études de linguistique et de littérature arabes et sudarabiques, 1998. p. 13–77.
- Rodonò, Marcello. In ricordo di Patrick Brendan Byrne (1947–1997). *Giornale di astronomia*, v. 24, mar. 1998: 55–56. port.
- Rodríguez-Sala, María Luisa. Cristobal Gudiel, armero-polvorista real y técnico instrumentista, su actividad técnica y su participación en la observación y descripción del eclipse lunar de noviembre de 1584. *In Tres etapas del desarrollo de la cultura científico-tecnológica en México. México, D.F., Instituto de Investigaciones Sociales, Seminario Permanente Interdisciplinario de Ciencia y Tecnología, Dirección General de Asuntos del Personal Académico, UNAM*, 1996. p. 11–28.
- Rudnicki, Konrad. Jak zasada brzytwy Ockhama opóźniła o sto lat rozwój astronomii pozagalaktycznej. *Analecta*, r. 6, nr. 1, 1997: 321–331.
English summary.
- Sabra, Abdelhamid I. One Ibn al-Haytham or two? An exercise in reading the bio-bibliographical sources. [pt. 1] *In Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*. Bd. 12. Frankfurt am Main, Institut für Geschichte der Arabisch-Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universität, 1998. p. 1–50. facsimis.
- Sagan, Carl. In memoriam: W. Reid Thompson (1952–1996). *Icarus*, v. 123, Sept. 1996: 2–3. port.
- Samsó, Julio, and Eduardo Millás. The computation of planetary longitudes in the *zīj* of Ibn al-Bannā'. *Arabic sciences and philosophy*, v. 8, Sept. 1998: 259–286. illus.
- Sarma, Sreeramula Rajeswara. From al-kura to bhagola: on the dissemination of the celestial globe in India. *Studies in history of medicine and science*, v. 13, no. 1, 1994: 69–85. illus.
- Sarma, Sreeramula Rajeswara. The Lahore family of astrolabists and their ouvrage. *Studies in history of medicine and science*, v. 13, no. 2, 1994: 205–224. illus.
Includes an "interim catalogue" of astrolabes and globes.
- Schaffer, Simon. The Leviathan of Parsonstown: literary technology and scientific representation. *In Inscribing science; scientific texts and the materiality of communication*. Edited by Timothy Lenoir. Stanford, Calif., Stanford University Press, 1998. (Writing science) p. 182–222. facsimis.

- Schaffer, Simon. On astronomical drawing. *In* *Picturing science, producing art*. Caroline A. Jones, Peter Galison, editors; with Amy Slaton. New York, Routledge, 1998. p. 441–474. facsimis.
- "... this chapter uses the labors of nebular astronomy in the mid-nineteenth century British Empire to see how astronomical picturing worked, the shared conventions by which it was governed, and the various milieux in which it mattered."
- Schnell, Anneliese, *and* Hermann Haupt. Kleine Planeten, deren Namen einen Österreichbezug aufweisen. Ein Beitrag zum 1000jährigen Österreich-Jubiläum 1996 und zum 150. Jahrestag der Gründung der Akademie der Wissenschaften 1997. *In* Österreichische Akademie der Wissenschaften. *Mathematisch-naturwissenschaftliche Klasse*. Sitzungsberichte. Abt. II. 204. Bd.; Jahrg. 1995. Wien, Verlag der Österreichischen Akademie der Wissenschaften, 1996. p. 185–257.
- Of the 6,200 asteroids named by the end of 1995, 197 are included here.
Abstract in English.
- Sharma, Virendra Nath. Mísra yantra of the Delhi Observatory. *Indian journal of history of science*, v. 29, July/Sept. 1994: 477–487. illus.
- Shea, James H. Ole Rømer, the speed of light, the apparent period of Io, the Doppler effect, and the dynamics of Earth and Jupiter. *American journal of physics*, v. 66, July 1998: 561–569. illus.
- Sheehan, William, *and* Thomas A. Dobbins. Le Verrier's wild geese. *Sky & telescope*, v. 96, Oct. 1998: 112–115. illus. (part col.), ports. (Observer's log)
- Observations of objects transiting the sun, reported occasionally during the 19th century and interpreted as supporting the idea of an intra-Mercurial planet, may well have been sightings of distant birds, as proposed by C. H. F. Peters in 1869.
- Snedegar, Keith V. First fruits celebrations among the Nguni peoples of southern Africa: an ethnoastronomical interpretation. *In* *Archaeoastronomy*. no. 23; 1998. Cambridge, Science History Publications. p. S31–S38.
- Šolcová, Alena. Místo posledního odpočinku Jana Marka Marci? *DVT, Dějiny věd a techniky*, roč. 31, čís. 1, 1998: 47–48.
- Soulié, Edgar J. French astronomers, visual double stars and the double stars working group of the Société Astronomique de France. *In* *Pacific Rim Conference on Recent Development on Binary Star Research, 3d, Chiang Mai, 1995*. Proceedings of a conference sponsored by Chiang Mai University, Thai Astronomical Society, and the University of Nebraska-Lincoln held in Chiang Mai, Thailand, 26 October–1 November 1995. Edited by Kam-Ching Leung. San Francisco, Astronomical Society of the Pacific, 1997. (Astronomical Society of the Pacific conference series, v. 130) p. 291–294.
- Stadler, Leopold. Eine zweite Armillarsphäre von Christian Carl Schindler. *In* *Der Globusfreund*. Nr. 45/46; 1997/98. Wien, Internationale Coronelli-Gesellschaft für Globen- und Instrumentenkunde, 1998. p. 197–206. illus. (part col.)
- The plates, no. 22–25, are bound at the end of the issue.
Summary in English.
- Stautz, Burkhard. Mit dem Himmel in der Hand: Astrolabien und die Astrolabiensammlung des Deutschen Museums. *Kultur & Technik*, 21. Jahrg., Nr. 2, 1997: 38–41. illus. (part col.)
- Another color illustration appears on p. 3.
- Steel, Duncan. The ABC of ACM: asteroids, Buffon and comets. *Planetary and space science*, v. 45, Dec. 1997: 1501–1503. illus.
- Steele, John M. Predictions of eclipse times recorded in Chinese history. *Journal for the history of astronomy*, v. 29, Aug. 1998: 275–285. illus.
- Stephenson, F. Richard, *and* Leslie V. Morrison. Long-term fluctuations in the Earth's rotation: 700 BC to AD 1990. *In* *Royal Society of London. Philosophical transactions, physical sciences and engineering*, v. 351, Apr. 15, 1995: 165–202. illus.
- Steves, B. A. The cycles of Selene. *Vistas in astronomy*, v. 41, pt. 4, 1997: 543–571. illus.

"The discovery and use of the Saros, a lunar cycle of 18 years and 10 or 11 days, is reviewed from its earliest origins two millennia ago to the present day, when it is known with precision and enables the accurate prediction of both time and type of solar and lunar eclipses."

Stoffel, Jean F. La révolution copernicienne et la place de l'Homme dans l'Univers. Étude programmatique. Revue philosophique de Louvain, t. 96, fév. 1998: 7–50.

Abstract in English.

Stroup, Alice. Christian Huygens et l'Académie royale des sciences. La Vie des sciences, t. 13, no 4, 1996: 333–341. illus., port.

Sturdy, David J. Dynasticism in the Académie: the La Hire family. In *his* Science and social status: the members of the Académie des sciences, 1666–1750. Woodbridge, Suffolk, Rochester, NY, Boydell Press, 1995. p. 193–213. geneal. table.

The book also contains brief sections on Auzout (p. 80–82), the design and construction of the observatory (p. 151–153), J. D. Cassini and Ole Rømer (p. 182–184), and d'Alembert (p. 395–397). Basic data on the academicians appointed 1669–98 and 1702–50 are provided in appendices.

Tachau, Katherine H. Et maxime visus, cuius species venit ad stellas et ad quem species stellarum veniunt. *Perspectiva* and *astrologia* in late medieval thought. In *Micrologus*. v. 5; 1997. La visione e lo sguardo nel Medio Evo: View and vision in the Middle Ages. 1. Firenze, SISMELE. p. 201–224. illus., facsim.

The 14 illustrations appear on 12 p. of plates following p. 224.

Thorel, Jean C. Les catalogues stellaires, bibles des astronomes. Ciel et terre, v. 114, mai/juin 1998: 113–121. ports.

Thro, E. Broydrick. Leonardo's early work on the pinhole camera: the astronomical heritage of Levi ben Gerson. In *Achademia Leonardi Vinci*. Journal of Leonardo studies & bibliography of Vinciana. v. 9; 1996. Edited by Carlo Pedretti. Firenze, Giunti. p. 20–54. illus., facsim. (part col.)

"Appendix I: Leonardo's Early Studies of Shadows, including CA, f. 187 r-a, v-a. Parallels with the Pinhole Camera and Anticipation of Francesco Maurolico's *Photismi*": p. 42–50.

"Appendix II: Leonardo's Astronomy: Sources and Authorship of the Codes Huygens": p. 51–54.

Most of the illustrations are reproduced on unnumbered plates bound at the end of the volume.

Tieder, Irène. Le calendrier républicain et ses incidences littéraires. *Annales historiques de la Révolution française*, no 292, avril/juin 1993: 259–267.

Abstract in English: p. 344.

Trimble, Virginia. Can't you keep Einstein's equations out of my observatory? pt. 1. *Beam line*, v. 28, summer 1998: 35–40. illus.

"... the focus is on interchanges of ideas between astronomy and other parts of science."

Trimble, Virginia. Cosmic abundances: past, present, and future. In *October Astrophysics Conference, 6th, College Park, Md., 1995*. Cosmic abundances. Proceedings of the Sixth Annual October Astrophysics Conference in College Park, Maryland, 9–11 October 1995. Edited by Stephen S. Holt and George Sonneborn. San Francisco, Astronomical Society of the Pacific, 1996. (Astronomical Society of the Pacific conference series, v. 99) p. 3–35. illus.

Trimble, Virginia. What, and why, is the International Astronomical Union? *Beam line*, v. 17, winter 1997: 43–52. ports.

Trinkner, Diana. Träume von Levania. Zur Rezeption neuer naturwissenschaftlicher Erkenntnisse am Beispiel von Galileis *Sidereus Nuncius* und Francis Godwins *The Man in the Moone*. In *Morgen-Blanz*; Zeitschrift der Christian Knorr von Rosenroth-Gesellschaft. 8; 1998. Bern, New York, P. Lang. p. 227–254. facsim.

Tubridy, Michael. The re-construction of the 6-foot Rosse Telescope of Ireland. *Journal of the Antique Telescope Society*, issue 14, winter 1998: 18–24. illus., facsim., ports.

- Turner, Anthony J. Le cadran solaire de Benjamin Scott. *La Revue, Musée des arts et métiers*, no 24, sept. 1998: 55–57. col. illus.
- Van Brummelen, Glen. Computer animations of Ptolemy's models of the motions of the sun, moon and planets. *Journal for the history of astronomy*, v. 29, Aug. 1998: 271–274. illus.
- Vasoli, Cesare. La difesa dell'astrologia di Luca Gaurico. *In his Civitas mundi: studi sulla cultura del Cinquecento*. Roma, Edizioni di storia letteratura, 1996. (Storia e letteratura: raccolta di studi e testi, 194) p. 313–327.
- Veer, Frans van 't. Christiaan Huygens: des lunettes plus en plus longues. *L'Astronomie*, v. 112, avril/mai 1998: 110–113. ports.
- Another portrait is reproduced on the outside front cover of the issue.
- Vermij, Rienk H. Waarom werd Philips Lansbergen Copernicaan? *Scientiarum historia*, 24. jaarg., nr. 1, 1998: 39–64. facsim.
- Waters, D. W. Obituary. Lieutenant Commander Derek Howse, MBE, DSc, Royal Navy, FSA, FRIN, FRAS. *Bulletin of the Scientific Instrument Society*, no. 58, Sept. 1998: 2–3. port.
- Watson, Fred. The universal astronomer: David Allen, 1946–1994. *In Yearbook of astronomy*. 1996. Edited by Patrick Moore. London, Macmillan, 1995. p. 126–140. illus., port.
- Wild, Paul, and Werner Gurtner. Prof. Max Schürer (1910–1997). *Orion*, 56. Jahrg., Aug. 1998, Mitteilungen: 1–2. port.
- Willach, Rolf. The early history of the achromatic objective. *Journal of the Antique Telescope Society*, v. 12, winter 1997: 4–13. illus., port.
- Williams, Thomas R. John Edward Mellish and the origins of the amateur telescope making movement in North America. *Journal of the Antique Telescope Society*, issue 13, summer 1997: 15–19.
- Witt, Volker. SuW-Besuch beim Royal Greenwich Observatory. *Sterne und Weltraum*, 37. Jahrg., Nr. 6, 1998: 576–579. col. illus., col. port.
- Wood, Christopher. The determination of the difference in meridians of the Paris and Greenwich observatories. *Antiquarian horology*, v. 24, autumn 1998: 234–236. illus., port.
- Yavetz, Ido. On the homocentric spheres of Eudoxus. *Archive for history of exact sciences*, v. 52, no. 3, 1998: 221–278. illus.
- Young, Edward J. Foerster and Archenhold: a legacy of popular astronomy in Berlin. *Journal of the Antique Telescope Society*, issue 14, winter 1998: 16–17. illus.
- Zenkert, Arnold. Die beste volkstümliche Himmelskunde. Zum 50. Todestag Bruno H. Bürgels am 8. Juli 1998. *Sterne und Weltraum*, 37. Jahrg., Nr. 7, 1998: 670–671. col. port.
- Zhou, Hongnan, Weifeng Zhuang, and Yu Wang. New reductions of orbits based upon Chinese ancient cometary records. *Planetary and space science*, v. 45, Dec. 1997: 1551–1555. illus.
- Zimbrón, Rafael. El solsticio de invierno en el Valle de México. *México desconocido*, año 22, dic. 1997: 18–26. col. illus., col. facsim., col. map.
- "Las civilizaciones contemporáneas a Cuicuilco y Teotihuacan crearon un calendario muy exacto, empleando para ello los movimientos aparentes del Sol, la Luna y las estrellas sobre los horizontes este y oeste, cuya configuración está definida por los grandes volcanes que limitan la cuenca.
- ¿Como se llevaba a cabo esta actividad astronómica y calendárica?"
- Includes two boxes, "Solsticios" (p. 23) and "Fenómeno solar" (p. 24).
- Zoller, Robert. The hermetica as ancient science. *Culture and cosmos*, v. 1, autumn/winter 1997: 23–34.



R S Freitag
Library of Congress
October 1998