

Scientific Instrument Commission Bibliography 18

Eighteenth bibliography of books, pamphlets, catalogues and articles on or connected with historical scientific instruments prepared in Spring 2002. This bibliography covers the year 2001, but also contains earlier publications which came to the compiler's notice after completing the seventeenth bibliography in Spring 2001. Publications, or notices of publication (please with ISBN) for forthcoming bibliographies may be sent to the compiler:

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Members of the scientific instrument community are invited to send recent titles, especially of publications that may easily escape the compiler's notice, such as descriptive catalogues, exhibition catalogues and papers published in less widely known journals. To avoid duplication, please note that the compiler peruses some forty journals for relevant titles. These range from journals that focus entirely on historic instrumentation, such as the *Bulletin of the Scientific Instrument Society*, *Rittenhouse*, *Journal of the Antique Telescope Society* and *Equilibrium*, to more general journals on the history of science, technology and culture. A list of these journals is found in previous bibliographies.

First SIC section in Nuncius

As reported in plenary sessions and newsletters, Nuncius, the journal of the Istituto e Museo di Storia della Scienza, has agreed to 'host' an annual section devoted to material from SIC events. The first section has appeared in 2001: *The archives of scholars, collectors and dealers: their place in the study of the history of scientific instruments. Papers from the XIXth Symposium of the Scientific Instrument Commission. Nuncius. Annali di Storia della Scienza XVI (2001), 673-765*. For details see the bibliography under the name of the guest editor, Anthony Turner.

NOTE: This is the last SIC bibliography to be printed and distributed by post

In order to reduce the financial and administrative burden for the Commission, future bibliographies will only be offered on the Commission's web site at <http://www.sic.iuhps.org>. This has the further advantage that, unlike the printed versions, one can search them electronically. Indeed, all SIC bibliographies published since the early 1980s can be accessed on that site. The earlier bibliographies have already been assembled into larger files to facilitate electronic searches.

The SIC is grateful to the Museum Boerhaave, Leiden, for supporting the publication and distribution of this Bibliography and of the twenty-third Newsletter, issued simultaneously .

ACKERBERG-HASTINGS, Amy, 'The Brown & Sharpe Draftsmen's Protractor', *Rittenhouse* 53 (Vol. 15, 1; 2001), 31-38. [Measures angles from within a metal frame with an extended blade. Patented in 1887 and made in Providence, USA].

ACZEL, Amir D., *The Riddle of the Compass. The Invention that Changed the World* (New York, San Diego, London: Harcourt, Inc., 2001), 178 pages, ISBN 0-15-100506-0. [Having previously dealt with Fermat's last theorem, popular science writer now tackles the magnetic compass in this non artefact-centered booklet with hyperbolic subtitle].

ALLGEIER, T. and three others, 'Mesmerized by Sartorius', *Equilibrium* 2001, nr. 1, 2542-2547. [Detailed analysis of highly ingenious balance, 'The Golden Vacua', constructed c. 1952 by Sartorius-Werke of Göttingen, auctioned by Christie's South Kensington, April 2001. Cf. *Equilibrium* nr.3 pp. 2591-97 for discussions prompted by this paper.]

ARNDT, U.W., 'Instrumentation in X-ray crystallography: past, present and future', *Notes and Records of the Royal Society* 55, 3 (2001), 457-472. [Personal account of changes in X-ray crystallographic techniques and apparatus c. 1940-2000].

BANDINELLI, D., and RONGE, M., eds., *Tra scienza e tecnologia. La strumentaria storico scientifica dell'Istituto Tecnico "Leonardo da Vinci" di Firenze* (Livorno: Sillabe, 2001). 111 pages, ISBN 88-8347-063-X. [Catalogue of miscellaneous collection of mainly 20th century scientific instruments and apparatus of an important technical institute in Florence. The section dedicated to electric and electronic devices is particularly interesting].

BARCLAY, R. and ZIOMKIEWICZ, B., 'Historic Scientific Instruments containing Mercury', *Rittenhouse* 53 (Vol. 15, 1; 2001), 21-30. [The history and the safety hazards].

BARTHA, Lajos, 'A Renaissance celestial globe as an analogue computer', pp. 44-52 in HENTSCHEL, P. KLAUS and WITTMAN, Axel D. (ed.), *The Role of Visual Representation in Astronomy. History and Research Practice*. Acta Historica Astronomiae, vol. 9 (Thun and Frankfurt am Main: Verlag Harri Deutsch, 2000). 148 pages, ISBN 3-8171-1630-6.

BAYNES-COPE, A.D., 'A Scientist and Instruments', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 6-9. [The 8th Annual Invitation Lecture, delivered on 30 November 2000, by former conservation specialist of the British Museum].

BEDINI, Silvio A., *With Compass and Chain. Early American Surveyors and their Instruments* (Professional Surveyors Publishing Company Inc., Frederick, Maryland, 2001). 800+ pages. ISBN 0-9665120-0-6. ["Ninety-one insightful historical and biographical essays about instrument makers, cartographers and surveyors". Available only through *Professional Surveyor Magazine* at \$75 plus \$5. Credit card orders through www.profsurv.com or contact publishers at 100 Tuscanny Drive, suite B-1, Frederick, MD 21702-5958, phone 301-682-6101, fax 301-682-6105].

BELLODI, Giuliano, and BRENNI, Paolo, 'The "Arms of the Physicists": Volta and Scientific Instruments', pp. 1-40 in F. Bevilacqua and L. Fregonese, eds., *Nuova Voltiana, Studies on Volta*

and his Times (Università degli Studi di Pavia), vol. 3, 2001. ISBN 88-203-2791-0. [Detailed article about Volta, his scientific instruments, his physics cabinet in Pavia and "his" scientific instrument makers].

BENNETT, J.A., JOHNSTON, S.A, SIMCOCK, A.V., *Solomon's House in Oxford. New Finds from the First Museum* (Oxford: Museum of the History of Science, 2000). 88 pages, no ISBN. [Exhibition catalogue includes discussion and illustrations (pp. 31-49) of a hoard of some thirty earthenware chemical vessels from the Old Chemical Laboratory discovered under the Old Ashmolean Building, - the most significant archeological find of chemical apparatus yet made in England].

BENNETT, Jim, 'Instruments and Illustration in Eighteenth-Century Astronomy', pp. 137-154 in William R. Shea, ed., *Science and the Visual Image in the Enlightenment* (Canton MA, Science History Publications, 2000). viii + 232 pages. ISBN 0-88135-285-3. [Papers from a Strassbourg conference in a series 'European Studies in Science History and the Arts'].

BIEGEL, Gerd, OESTMANN, Günther, REICH, Karin, eds., *Neue Welten: Wilhelm Olbers und die Naturwissenschaften um 1800* (= *Disquisitiones Historiae Scientiarum*, vol. 1; Braunschweig, 2001). 272 pages, ISBN 3-927939-60-9. [Catalogue of exhibition held in Hamburg and Braunschweig on the physician and astronomer Wilhelm Olbers (1758-1840) of Bremen. Includes an article on mechanical calculating devices around 1800 by Erhard ANTHES, references to Olbers's instruments and a discussion of an early chronometer made by J. G. Thiele by Günther OESTMANN].

BLÜHM, Andreas, LIPPINCOTT, Louise, *Light! The Industrial Age 1750-1900. Art & Science, Technology & Society* (London: Thames & Hudson, 2000). 272 pages. ISBN 0-500-51029-6. [Beautiful catalogue of exhibition held in the Van Gogh Museum, Amsterdam, and then the Carnegie Museum of Art, Pittsburgh, from October 2000 to July 2001. Many optical instruments].

BOUGUER: Vol. 1 in a new series *Mémoire de la Science* published by the Académie des Sciences is entitled *Tricentenaire de la naissance de Pierre Bouguer, 1698-1998* (Paris, 2001, 72 pages, no ISBN). [Five papers read at the 'Journée Bouguer', held in June 1998 by the Bureau de Longitude, with some instrumental interest (surveying, optics, including the Bouguer heliometer)].

BRADBURY, Savil, 'Ernst Abbe's theories and his letters to English Microscopists', *The Quekett Journal of Microscopy* 39, 2 (Winter 2001), 139-161. [Summarises the angular aperture controversy and describes some of Abbe's work on the theoretical aspects of image formation, based on his extant letters to the English microscopist J.W. Stephenson. With list of c. 250 extant letters to and from Abbe, exchanged with numerous microscopists between 1875 and 1885].

BRENNI, Paolo, 'La conquête de la précision dans les sciences et l'industrie: deux siècles de mesures de longueur', in *Actes du Colloque Photomécanique 2001, Poitiers 24-26 avril 2001* (Poitiers: Gamac, 2001), pp. I-XII. [Illustrated article concerning apparatus and methods for

precision measurements of length in laboratories and workshops (c. 1750-c. 1930). Difficult to get, ask the author...]

BRENNI, Paolo, 'Un siècle d'instruments. La transformation des appareils scientifiques et leur utilisation pendant le XXe siècle', *Sartoniana*, Vol. 14 (2001), 13-56. [Inaugural lecture held on 9 November 2000 on being awarded the Sarton chair at the University of Gent for 2000-2001].

BRENNI, Paolo, 'Le cabinet de physique d'Alessandro Volta à Pavie', *Sartoniana*, Vol. 14 (2001), 57-75. [Public lecture held on 10 November 2000 following the aforementioned occasion].

BRENNI, Paolo, CHINNICI, Ileana and FODERÀ SERIO, Giorgia, 'The Restoration of Three Large Instruments of the Palermo Astronomical Observatory', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 11-16. [Ramsden circle, Merz refractor, Pistor & Martins meridian circle].

BROOKS, Randall C., 'Techniques of Eighteenth Century Telescope Makers', in two parts: *Bulletin of the Scientific Instrument Society* 69 (June 2001), 27-30 and 70 (September 2001), 6-9. [Concentrates on reflecting telescopes].

BROWN, C.N., 'Instrument Making to Instrument Manufacturing. R.W. Paul's Unipivot Galvanometer as a Case Study', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 17-20. [Introduced by the London maker Robert William Paul in 1903].

CALVO, Emilia, 'A study of the use of Ibn Baso's universal astrolabe plate', *Archives Internationales d'Histoire des Sciences* 50, nr. 145 (December 2000), 264-295

CAMEROTA, Filippo, *Il compasso di Fabrizio Mordente. Per la storia del compasso di proporzione* (Florence: Olschki, 2000). 300 pages. ISBN 88 2224853 8. ['Compass of proportion', erroneously classified as 'reduction compass', invented by Fabrizio Mordente (1532-1608?), mathematician from Salerno at the court of Rudolph II].

CAMEROTA, Filippo (ed.), *Nel Segno di Masaccio. L'invenzione della prospettiva* (Florence: Giunti, Firenze Musei, 2001). 311 pages. ISBN 88-09-02329-3. [Published to accompany exhibition in Florence on the history of perspective in art (painting, architecture, etc.), also describes and illustrates many drawing, perspective and mathematical instruments; some were reconstructed for the exhibition].

CAMILLERI, S., 'Folders for Foreign Coins. English Folding Coin Balances for Weighing Foreign Gold Coins', *Equilibrium* 2001, nr. 2, 2561-2568. [From the author's collection. Made by Thomas Williams, Anthony Wilkinson, Jesse Ramsden, Johann W. Herberz, W.T. Avery and John Smith].

CARON, Bob, 'Interferentie in het Fysisch Kabinet: een reconstructie', *Teyler Magazijn* 70 (Spring 2001), 10-12. [Brass resonator in Teylers Museum, illustrated in Gerard Turner's catalogue *Practice of Science* (1996) fitted on a wooden resonance box (cat. 492), was originally

part of Koenig's apparatus for experiments on the interference of sound (cat. nr. 529). Cf. the photographs in Turner's *Nineteenth-century scientific instruments* (1983), pages 142 and 144]

CARPINE, C., *Catalogue des appareils d'océanographie en collection au Musée océanographique de Monaco* (Bulletin de l'Institut océanographique nrs. 1437-1444, 1987-1999). [Illustrated catalogue of oceanographical instruments in seven volumes. Since the series was noted in SIC Bibliography 14, three further titles have been added: *Thermomètres* (1997. 211 pages, 73 ills. ISBN 2-7260-0189-0); *Instruments divers, matériel de pont, instruments de laboratoire* (1998. 207 pages, 81 ills. ISBN 2-7260-0195-5) and *Suppléments, matériel de démonstration, météorologie. Additions et index cumulatifs* (1999. 183 pages, 53 ills. ISBN 2-7260-0209-9). For a complete list and order form, contact Bibliothèque, Musée océanographique de Monaco, Avenue Saint-Martin, MC 98000 MONACO. E-mail memobiblio@meditnet.com]

CHEN, Xiang, *Instrumental Traditions and Theories of Light: The Uses of Instruments in the Optical Revolution*. Science and Philosophy 9. (Dordrecht, Boston and London: Kluwer Academic Publishers, 2000). xxiii + 211 pages. ISBN 0-7923-6349-3.

CHINA: *Scientific and Technical Instruments of the Qing Dynasty* (Hong Kong: The Commercial Press, 1998). Vol. 58 in series 'The Complete Collection of the Palace Museum', ca. 300 pages. [Illustrates and describes 247 instruments collected and commissioned by the Qing Court. Sections: astronomy, mathematics, geoscience and typography (incl. telescopes), clocks and watches, medicine. Makers include T. Heath and Daniel Quare (London), Butterfield and Chapotot (Paris), and Matin (France), while various instruments were made by the Imperial Workshops (presumably under Jesuit direction). Captions and brief descriptions of each object in English, otherwise Chinese only].

CHINNICI, Ileana, FODERÀ SERIO, Giorgia and BRENNI, Paolo, 'The Ramsden Circle at the Palermo Observatory', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 2-10

CLERCQ, Peter de, 'Instruments in the Cemetery. A Cast-iron Monument Erected for a Dutch Amateur of the Sciences', *Bulletin of the Scientific Instrument Society* 69 (June 2001), 3-4. [Instruments depicted on monument for C.J.W. Nahuys van Burgst (1762-1831) at Breda].

CLERCQ, Peter de, 'A Musschenbroek Trade Catalogue in the Library of Sir Hans Sloane' *Bulletin of the Scientific Instrument Society* 70 (September 2001), 10-14. [A printed catalogue dated 1720 in the British Library is the oldest known preserved catalogue of Musschenbroek workshop in Leiden]

CLERCQ, Peter de, 'Visit of the SIS to Oxford and Environs: 7th to 9th September 2001', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 34-37. [Snowhill Manor near Broadway, Museum of the History of Science, Ashmolean Museum and Pitt Rivers Museum, Oxford, and Waddeston Manor near Aylesbury].

CLERCQ, Peter de, 'The Scientific Instrument Commission and its Bibliographies', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 38.

CLIFTON, Gloria, 'Instrument Making around the Exchange', pp. 230-238 in Ann Saunders, ed., *The Royal Exchange* (London: The London Topographical Society Publication nr 152, 1997), 444 pages. ISBN 0 902 087 38 X.

CONSTABLE, Dr A.R., 'Message Received - Signal Hill. Detectors of a Bygone Age', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 21-27. [Discusses detector used by Marconi for first transatlantic wireless transmission from Cornwall to Newfoundland in 1901, as well as detectors developed and tested by others before this breakthrough].

COWHAM, Mike, 'The Gatty Family - Part 3', *British Sundial Society Bulletin* 13 (September 2001), 114-117. [Some additional information, such as works inspired by Gatty's book of sundials].

CRAWFORTH-HITCHINS, D.F., 'Beginner's Guide', *Equilibrium* 2001, nr. 2, 2571-2578. [Introduction to the wide variety of scales, including classification system for equal arm balances, developed by the author for museum curators, with illustration of 34 different beam ends].

CRAWFORTH-HITCHINS, D.F., 'Beginner's Guide Part 2', *Equilibrium* 2001, nr. 3, 2599-2606. [Discusses top-pans].

CRAWFORTH-HITCHINS, D.F. and LEADBETTER, R., 'Developing Torsion Balances', *Equilibrium* 2001, nr. 3, 2610-15.

CRAWFORTH-HITCHINS, D.F., 'First US Scale Patentee', *Equilibrium* 2001, nr. 4, 2639-2643. [Benjamin Dearborn of Boston, ca. 1800].

CRUMP, Thomas, *A Brief History of Science. As seen through the development of scientific instruments* (London: Constable, 2001). 425 pages. ISBN 1-84119-235-X.

CURRIER, Dean P., 'Dubois-Reymond and the sledge', *Rittenhouse* 54 (Vol. 15, 2; 2001), 65-82. [Emil Dubois-Reymond (1818-1896) contributed to the design of the sledge inductorium type of electric battery, which became a popular tool for clinicians of electrotherapeutics in the USA].

DEKKER, Elly, 'Cartographic grids from Iran: an early version of the Retro-azimuthal Orthographic Projection?', *The Cartographic Journal* 37, 2 (December 2000), 109-116. [Based on grids engraved on two recently discovered Iranian brass instruments for finding the *qibla* and distance to Mecca; disagrees with conclusions published by D.A.King in *World-Maps for Finding the Direction and Distance to Mecca. Innovation and Tradition* (1999)].

DE RENZI, Silvia, *Instruments in Print. Books from the Whipple collection* (Cambridge: Whipple Museum of the History of Science, 2000). 107 pages. ISBN 0-906271-16-9. [Accompanied exhibition of a selection from the collection of books on scientific instruments which Robert Whipple bequeathed to Cambridge University in 1944, together with his instruments. Sixty books are discussed].

DORIKENS, Maurice, *Joseph Plateau (1801-1883). Leven tussen Kunst en Wetenschap, Vivre entre l'Art et la Science, Living between Art and Science* (Provincie Oost-Vlaanderen, 2001). 278 pages, ISBN 90-76686-06-8. [Trilingual study on Belgian physicist, best known for his work on the persistence of vision, which makes him a precursor of the cinema. Also contributions by Laurent Mannoni on stroboscopic discs, by Giusy Pisano-Basile on J.E. Purkyne and stroboscopy, and by David Robinson on 'Plateau, Faraday and their spinning discs'. To order from Provincie Oost-Vlaanderen, Caermersklooster, Vrouwebroersstraat 6, B-9000 Gent, Belgium (Euro 37.50 excl. postage)].

DORIKENS, Maurice and Liliane DORIKENS-VANPRAET, 'Three Small Objects with a History: the First Scientific Instruments Made in Bakelite', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 33.

DORIKENS-VANPRAET, L. en DORIKENS, M., *Het "Cabinet de Physique" van Joseph Plateau in 1840* (Gent: Museum voor de Geschiedenis van de Wetenschappen, 2001). [Catalogue of temporary exhibition gives original drawings and descriptions (in French and Dutch) of 70 items in Plateau's physics cabinet at Gent University in 1840. No photographs].

DREYER, Francis, 'Henry LePaute. L'Horloger des Phares', *Neptunia* nr. 222 (2e trimestre, 2001) 4-15. [French firm made revolving apparatus for light houses and instruments such as sounding leads].

DUPRÉ, Sven, 'Galileo, Mathematical Instruments and Orthographic Projection', *Bulletin of the Scientific Instrument Society* 69 (June 2001), 10-20.

FEDER, Toni, 'Scrounging Old Equipment for New Experiments', *Physics Today*, 54, no. 7 (July 2001), 26-28. [What modern physicists will do to find used apparatus and pieces, big and small; "most small high-energy physics experiments have about 10% scrounged material"].

FINN, B., ed., with Robert Bud and Helmuth Trischler, associate eds., *Exposing Electronics. Artefacts: Studies in the History of Science*, 2. (Amsteldijk: Harwood Academic Publishers, 2000). xiv + 199 pages. ISBN 90-5823-057-0. [After *Manifesting medicine: bodies and machines* (1999), this second volume in the series contains papers on early electronic devices as exhibits and as subjects of artefact-oriented research].

FORD, Brian, 'The Royal Society and the Microscope', *Notes and Records of the Royal Society of London* 55, nr. 1 (2001), 29-49. [This is the most explicitly instrument-related paper in this 'Millennium Issue', which reviews areas of scientific activity in which Fellows of the Royal Society were involved].

FORSYTH, Hazel, ' 'Weighed in the Balances and Found Wanting ...': An Analysis of a Steelyard or Unequal Armed Balance in the Museum of London's Collection', pp. 108-118 in Ann Saunders, ed., *The Royal Exchange* (London: The London Topographical Society Publication nr. 152, 1997), 444 pages. ISBN 0 902 087 38 X. [Large steelyard, extravagantly ornated, bears an inscription to Thomas Gresham (c. 1518-1579) and has been held to have been

made for the First Royal Exchange. In fact, it was probably a 19th-century assemblage fabricated for the antiquarian Edward Thurlow (1781-1829)].

GALLUZZI, Paolo (ed.), *Scienziati a corte. L'arte della sperimentazione nell'Accademia Galileiana del Cimento (1657-1667)* (Livorno: Sillabe, 2001). 159 pages. ISBN 88-8347-065-6. [Profusely illustrated volume about the Florentine Accademia del Cimento, its history, experimenters, experiments and instruments].

GIATTI, Anna and MINIATI, Mara, *Acoustics and its instruments. The Collection of the Istituto Tecnico Toscano* (Florence: Giunti, Musei di Firenze, 2001). 144 pages. ISBN 88-09-02183-5. [Contents: Guido GORI, 'The Accademia delle Belle Arti and The Istituto Tecnico Toscano (1809-1859)' (11-30); Penelope GOUCK, 'Instruments and their effect: music acoustics and the emergence of early modern experimental science' (31-56); Paolo BRENNI: '1800-1900: a century of instruments for the study of the acoustics' (57-72), Paolo BRENNI, 'Catalogue' (73-144). Bilingual catalogue (Italian and English)].

GIORDANO, Raymond V., 'Some notes on the two extant Rowland Houghton new theodolates', *Rittenhouse* 54 (Vol. 15, 2; 2001), 93-97. [Two examples are known of the 'new theodolate' [sic], a surveying instrument patented by Boston mechanic Rowland Houghton (c. 1678-1744)].

GIRODET, Pierre, 'Mounters, collectors and sellers of microscopical mounts in France in the 19th and 20th centuries. (II): M-Z', *The Quekett Journal of Microscopy* 39, 1 (Summer 2001), 23-38

GIRODET, Pierre (ed.), 'The 1862 Joseph Bourgogne Catalogue of Microscopical Preparations', *The Quekett Journal of Microscopy* 39, 1 (Summer 2001), 39-52. [Translation of rare catalogue issued by Parisian maker of microscopical mounts].

GREENSLADE, Thomas B. jr., 'Collection Profile: Visits to Apparatus Collections III - Amherst College', *Rittenhouse* 53 (Vol. 15, nr. 1; 2001), 39-46. [In Massachusetts. Original collection, begun 1821, was destroyed by fire in 1882, and parts of the replacement collection survive].

GUSSMAN, Ernst-August, SCHOLZ, Gerhard, DICK, Wolfgang R. eds., *Der Grosse Refraktor auf dem Potsdamer Telegrafenberg. Vorträge zu seinem 100jährigen Bestehen* (Thun and Frankfurt am Main: Verlag Harri Deutsch, 2000). 136 pages. ISBN 3-8171-1642-X. [Papers to commemorate the centenary of the large refractor, the main instrument of the Astrophysikalisches Observatorium at Potsdam].

HACKMANN, Willem, 'The Enigma of Volta's "Contact Tension" and the Development of the "Dry Pile"', pp. 103-119 in F. Bevilacqua and L. Fregonese, eds., *Nuova Voltiana, Studies on Volta and his Times* (Università degli Studi di Pavia), vol. 3, 2001. ISBN 88-203-2791-0. [A detailed study about the discovery of dry piles].

HAMEL, Jürgen, 'Die Sonnenuhren des Museums für Astronomie und Technikgeschichte Kassel -Bestandskatalog', pp.160-200 in Wolfgang R. Dick, Jürgen Hamel, eds., *Beiträge zur*

Astronomiegeschichte Vol. 3 (Thun and Frankfurt am Main: Verlag Harri Deutsch, 2000). 251 pages, ISBN 3-8171-1635-7. [Catalogue of the 117 sundials in the museum in Kassel, of which 55 are shown in b/w photographs. Also available as off-print from the Staatliches Museum Kassel 2000].

HAMOU, Philippe, *La Mutation du Visible. Essai sur la portée épistémologique des instruments d'optique au XVII^e siècle. Volume 2: Microscopes et télescopes en Angleterre de Bacon à Hooke* (Villeneuve: Presses Universitaire du Septentrion, 2001). 317 pages. ISBN 2-85939-643-8. [Investigation of the philosophical dimension of early optical instruments; for vol. 1 see Bibliography 17. Artefacts hardly figure, only a few engravings and drawings are reproduced].

HEERING, Peter, ed., *Welt erforschen - Welten konstruieren. Physikalische Experimentierkultur vom 16. bis zum 19. Jahrhundert. Eine Sonderausstellung des Staatlichen Museums für Naturkunde und Vorgeschichte Oldenburg und der Carl von Ossietzky Universität Oldenburg* (Oldenburg: Isensee-Verlag, 1998), Vol. 6 in series Schriftenreihe des Staatlichen Museums für Naturkunde und Vorgeschichte. 124 pages, ISBN 3-89598-519-8. [Essays accompanying exhibition on historical experiments and instrument reconstructions made at the University of Oldenburg].

HIGTON, Hester, *Sundials. An Illustrated History of Portable Dials* (London: Philip Wilson Publishers, 2001). 136 pages. ISBN 0 85667 523 7.

HIGTON, Hester, 'Does using an instrument make you mathematician? Mathematical practitioners in the 17th century', *Endeavour* 25, nr 1 (2001), 18-22.

HOLLAND, Julian, 'John Jennings Smith (1782-1846) and his Philosophical Apparatus', *Bulletin of the Scientific Instrument Society* 69 (June 2001), 21-26. [Analysis of the apparatus and library of the Rev. Smith, auctioned in Sydney in 1846. With an addendum in *Bulletin* 70, p. 5].

HOLLAND, Julian, 'The Man Behind the Clock Dials. A L Franklin's Ashfield Town Hall Clock', in Chris Patten, ed., *Ashfield at Federation* (Sydney: Ashfield & District Historical Society, 2001), 319-350. [Electric public clock, installed in 1922, made by Arthur Louis Franklin (1892-1972), who had come from Shrewsbury and set up as instrument-maker in Sydney].

HOLLAND, Julian, 'A Testing Machine for Adelaide', *The Australian Metrologist* 24 (March 2001), 9-12. [Riehlé Brothers in Philadelphia made machines to test the strength of materials, such as metal pipes. One was supplied to the engineering laboratory at the University in Adelaide in 1902]

HOLLÄNDER, Hans (ed.), *Erkenntniss. Erfindung. Konstruktion. Studien zur Bildgeschichte von Naturwissenschaften und Technik vom 16. bis zum 19. Jahrhundert* (Berlin: Gebr. Mann Verlag, 2000). 1003 pages. ISBN 3-7861-2335-7. [Iconography of science and technology from c. 1500 to 1900. Ambitious volume, based on research sponsored by the Deutsche Forschungsgemeinschaft, with 36 colour and hundreds of b/w photos. Includes chapters by Jutta GÖRICKE on mathematical instruments (255-295), Heinz Herbert MANN on optical

instruments (357-407) and Sabine KRIFKA on natural philosophy, laboratories and lecture demonstrations (725-788)].

HOPP, Peter M., 'John Suxspeach's Catholic Organon or Universal Sliding Foot Rule', *Journal of the Oughtred Society* 10, nr. 2 (Fall 2001), 25-30. [Patent granted 1753. Specimens of Suxspeach's rule are in the Museum of the History of Science, Oxford and the Macleay Museum, Sydney].

INSLEY, Jane, McCONNELL, Anita and MORISSON-LOW, A.D., 'A Visit to Paris and the Recently Reopened Conservatoire des Arts et Métiers', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 32-34. [Also visit to the Musée de la Marine].

JACKSON, Myles W., *Spectrum of Belief: Joseph von Fraunhofer and the Craft of Precision Optics*. Transformations: Studies in the History of Science and Technology (Cambridge MA and London: MIT Press, 2000). 284 pages, ISBN 0-262-10084-3.

JARDINE, Lisa, 'Monuments and Microscopes: Scientific Thinking on a Grand Scale in the early Royal Society', *Notes and Records of the Royal Society* 55 (2) (2001), 289-308. [Contacts between Robert Hooke and Christopher Wren exemplify 'the way the worlds of arts and sciences are tangled together at the dawn of the so-called "scientific revolution"'. Involves among others pendulum and barometer experiments on top of the 202-foot Monument to the Great Fire in London].

JOERGES, Bernward and SHINN, Terry (eds), *Instrumentation between Science, State and Industry* (Dordrecht : Kluwer Academic Publishers, 2001). Vol. XXII in series Sociology of the Sciences. 270 pages, ISBN 0-7923-6736-7. [Contributions include Myles W. JACKSON, 'From Theodolite to Spectral Apparatus: Joseph von Fraunhofer and the Invention of a German Optical Research-Technology' (17-28), Sean F. JOHNSTON, 'In Search of Space: Fourier Spectroscopy, 1950-1970' (121-141), Hans-Jörg RHEINBERGER, 'Putting Isotopes to Work: Liquid Scintillation Counters, 1950-1970' (143-174) and Jean-Paul GAUDILLIÈRE, 'Making Mice and Other Devices: The Dynamics of Instrumentation in American Biomedical Research (1930-1960)' (175-196)].

KEENTOK, M., 'A.L. Franklin Pty Ltd: Scientific Instrument Makers to Australia', *The Physicist* Vol. 38, nr. 6 (Nov/Dec 2001), 161-163. [Instrument manufacturers in Sydney between 1919 and 1999]

KEYNES, Milo, 'A Bogus Newtonian 'Curiosity' at the Royal Society', *Notes and Records of the Royal Society* 55 (2) (2001), 247-252. [Watch shown on Newton portrait painted by Charles Servas in 1717 is not identical to a watch in the Royal Society].

KIDWELL, Peggy Aldrich, ' 'Yours for Improvement' - The Adding Machines of Chicago, 1884-1930', *IEEE Annals of the History of Computing* 23, nr 3 (2001), 3-21.

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Naturwissenschaften, ed. Menso Folkerts, Band 44)(Stuttgart: Franz Steiner Verlag, 2001). [Contains information on medieval European astronomical instruments, especially the 14th-century Picard astrolabe marked with monastic ciphers (Gunther, no. 202)].

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LANDRY-DERON, Isabelle, 'Les mathématiciens envoyés en Chine par Louis XIV en 1685', *Archive for History of Exact Sciences* 55 (2001), 423-463. [With brief discussion of some thirty instruments for measurement and observation sent to China, including two planetaria built by Isaac Thuret after Ole Rømer's design].

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LUALDI, Antonello, 'La famiglia Selva, Ottici del '700 veneziano', *Nuncius. Annali di Storia della Scienza* XVI (2001), 531-546

LÜHNING, Felix, 'Der Lindholmer Quadrant. Ein astronomisches Messinstrument aus der Zeit Tycho Brahes', *Nordelbingen. Beiträge zur Kunst- und Kulturgeschichte Schleswig-Holsteins* vol. 66 (Heide: Verlag Boyens & Co., 1997), 49-78. [Late 16th-century quadrant, radius 210 cms, in the Schleswig-Holsteinisches Landesmuseum].

LÜHNING, Felix, 'Saturn mit Ohren. Nachbau und Erprobung eines Fernrohres des Johannes Hevelius', *Sterne und Weltraum* 6 (2001), 444-454. [The author has reconstructed a Hevelius telescope (depicted in *Machina Coelestis* Fig. X, letter B) and made observations with it. This reconstruction is now at the Planetarium of the Fachhochschule Kiel].

MAGNELLO, Eileen, *A Century of Measurement. An Illustrated History of the National Physical Laboratory* (Bath: Canopus Publishing Ltd., 2000). 223 pages. ISBN 0 9537868 1 1. [Includes testing of instruments such as thermometers and sextants, and much electricity].

MANNHEIM: *Ausstellungskatalog. Landesmuseum für Technik und Arbeit in Mannheim* (Mannheim, 2001). 411 pages. ISBN 3-9804930-6-7. [Guide to prize-winning German museum on technology and labour. Illustrated sections on instruments, such as apparatus of 18th-century local observatory, include cylindrical Hahn calculating machine, Daniel Quare barometer and Canivet quadrant].

McGRAY, Patrick, 'What Makes a Failure? Designing a New National Telescope, 1975-1984', *Technology & Culture* 42, 2 (April 2001), 265-291. [After endless deliberation, it was decided not to build the telescope; the author advocates a balanced judgment].

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MEINEL, Chr. (ed.), *Instrument-Experiment: Historische Studien* (Berlin/Diepholtz: Verlag für Geschichte der Naturwissenschaften und der Technik, 2000). 423 pages. ISBN 3-928186-51-5. [Contains among others R. STALEY, 'R. Michelson's interferometer: experiment or instrument?'; I. KEIL, 'Aus den Augsburger optischen Werkstätten des 17. Jahrhunderts'; G. OESTMANN, 'Uhren- und Instrumentenbau in Norddeutschland: die Dynastie der Hager in Braunschweig-Wolfenbüttel'; A. VOSKUHL, 'Schein und Strahlung: die Anfänge der Messung von Sonnenstrahlung im 19. Jahrhundert und ihre Replikation'].

MESCHIARI, Alberto, 'Sul circolo di riflessione a prismi nella spedizione antartica di James Clark Ross', pp. 181-196 in E. Schettino, ed., *Atti del XX congresso nazionale di storia della fisica e dell'astronomia (Napoli 1-3 giugno 2000)* (Napoli, 2001). [Retraces the history of the Amici's reflection circle and in particular the circle of this type used by Captain Ross].

MESCHIARI, Alberto, 'Il Libro de'Conti di Laboratorio di Giovanni Battista Amici', in *Atti della Fondazione Giorgii Ronchi*, Anno LVI, nr. 1 (Jan-Feb 2001), 55-114. [Detailed analysis (clients, instruments, prices) of 'account book' of the workshop of the famous Italian optician G.B. Amici].

MESCHIARI, Alberto, 'Schede tecniche e istruzioni per l'uso di 160 microscopi di Giovanni Battista Amici. Parte prima 1819-1827', in *Atti della Fondazione Ronchi*, Anno LVI, nr. 6 (Nov-Dec 2001), 1135-1166. [After an introduction on Amici's microscopes, the author gives tables of magnification (for different eyepieces) of microscopes sold to various European clients].

MESCHIARI, Alberto, 'Le Carte del "Fondo Giovanni Battista Amici" e della "Raccolta Amici Grossi" nella Bibliotheca Estense di Modena, *Nuncius. Annali di Storia della Scienza XVI* (2001), 237-300. [Catalogue of Amici's documents in this Italian library. Letters (items 1-1134, alphabetical by correspondent) and various documents (items 1135-1275)].

MESKENS, Ad, 'Een familie herenigd met haar instrument', *Scientiarum Historia* 27 (2001), 73-81. [Astrolabe by Michiel Coignet, dated 1601, in Museum Boerhaave was owned by the Antwerp cloth merchant Antonio Anselmo. His father in law, the ship-owner Gillis Hoofman, played an important role in the intellectual life of Antwerp].

MEURER, Peter H., 'De jonge Nicolaes van Geelkerken', *Caert-Thresoor* 20 (2001), 41-47; sequel to HEIJDEN, Henk van der, 'Wie was Arnoldo di Arnoldi?', *Caert-Thresoor* 18 (1999), 37-40. [Map engraver Arnoldo di Arnoldi = Arnold van Scherpenseel (c. 1570-1602) also made mathematical instruments, among others for Giovanni Antonio Magini of Bologna; quadrants by him are in the Stockholm Observatory and the Museum für Kunst und Gewerbe in Hamburg. The authors provide detailed biographical information and show that he was the brother of the map engraver Nicolaes van Geelkerken (c. 1585-1656)].

MILLBURN, John R., 'Some English Military Instrument Makers of the Late 17th Century', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 2-5. [Makers discussed are Richard Whitehead, John Seller and Joseph Hone].

MILLS, Alan A., 'The 'Baghdad Battery'', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 35-37. [Two-thousand year old pottery jar found during archaeological excavations in 1936 in connection with some copper, iron and bitumen has erroneously been regarded as a voltaic cell].

MILLS, Alan A., 'Charles Vernon Boys: The Invention and Application of Fused Silica Fibre', *Bulletin of the Scientific Instrument Society* 70 (September 2001), 14-18. [Charles Vernon Boys (1855-1944) used a 'bow and arrow' device to produce filaments of vitreous silica, which he applied in highly sensitive instruments such as the radio(micro)meter and in equipment to determine the Newtonian constant of gravitation].

NESSI, Luigi (ed.), *Strumenti di lavoro: oggetti d'arte della Collezione Nessi di Lugano* (Milano: Skira, 2000). 172 pages, no ISBN. [Catalogue of exhibition held in the Castello Sforzesio in Milan of some seven hundred tools dating from the 16th to the 19th centuries from a private collection. The sixty exceptionally fine full-page colour illustrations of (groups of) tools include dozens of mathematical and surgical instruments].

OESTMANN, Günther, 'On the History of the Nocturnal', *Bulletin of the Scientific Instrument Society* 69 (June 2001), 5-9. [History and literary tradition (manuscripts, textbooks) of this

device to find time by night from the observation of the fixed stars, which was very popular until the 18th century].

OPTICAL INSTRUMENTS: various authors, *Musée de l'Instrumentation Optique* (Biesheim, 2000). 71 pages, no ISBN. [Fully illustrated catalogue of private museum of optical instruments in this small Alsatian town. For sale at the museum, Le Capitole, Place de la Mairie, 68600 Biesheim (France)]

ORCHISTON, Wayne, 'Stephen Carkeek and New Zealand's Oldest Surviving Observatory', *Journal of the Antique Telescope Society* 20 (Winter 2001), 19-24. [Established in 1867 by Captain Stephen Carkeek, this mostly wooden structure survives in a very dilapidated state].

ORCHISTON, Wayne, "'Sentinel of our Southern Heavens": The Windsor Observatory of John Tebbutt', *Journal of the Antique Telescope Society* 21 (Summer 2001), 11-23. [Australian astronomer John Tebbutt (1834-1916) in 1863 established Windsor Observatory near Sydney].

OSTERBROCK, Donald E., 'Don Hendrix, Mount Wilson and Palomar Observatories. Master Optician of Schmidt Cameras and Large Telescopes', *Journal of the Antique Telescope Society* 21 (Summer 2001), 2-10. [Biography of Don Hendrix (1905-1961)].

OTNESS, Bob, 'Keuffel & Esser - 1880 to 1899', and 'The 30th Edition of the Keuffel & Esser Catalogue - 1900-01', *Journal of the Oughtred Society* 10, 1 (Spring 2001), 18-28 and 2 (Fall 2001), 38-44. [Discusses and illustrates catalogues of these New York slide rule manufacturers].

OWEN, Dawn, 'The Constant Battery and the Daniell-Becquerel-Grove Controversy', *Ambix* 48 vol. 1 (March 2001), 25-40

PALTRINIERI, Giovanni, *La meridiana della basilica di San Petronio a Bologna* (Bologna: Centro Editoriale S.Stefano, 2001) 80 pp. [Detailed history of large sundial in Bologna].

PANTALONY, David, 'H.S.M. Coxeter's Unusual Collection of Geometric Models', *Rittenhouse* 53 (Vol. 15, nr. 1; 2001), 11-20. [Polyhedra models accumulated by mathematician / geometer Coxeter (born 1907) in the University of Toronto].

PANTALONY, David A., 'Analyzing Sound in the Nineteenth Century. The Koenig Sound Analyzer', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 16-21. [The University of Toronto bought many Koenig instruments in 1878; see the remainders at www.chass.utoronto.ca/utmusi].

PFAU, Werner, 'Astrometrie - vom Diopter zum Meßsatelitten', pp. 157-168 in Reinhard E. Schielicke, Klaus-Dieter Herbst und Stefan Kratochwil, eds., *Erhard Weigel - 1625 bis 1699. Barocker Erzvater der deutschen Frühaufklärung. Beiträge des Kolloquiums anlässlich seines 300. Todestages am 20. März 1999 in Jena*. Acta Historica Astronomiae, vol. 7 (Thun and Frankfurt am Main: Verlag Harri Deutsch, 1999). ca. 170 pages, ISBN 3-8171-16xy-z.

QUINN, Paul, 'The Early Development of Magnetic Compass Correction', *The Mariner's Mirror* Vol. 87 nr. 3 (August 2001), 303-315.

RASMUSSEN, Nicolas and CHALNESS, Alan, 'The role of theory in the use of instruments; or, how much do we need to know about electrons to do science with an electron microscope?', pp. 467-501 in Jed Z. Buchwald and Andrew Warwick, eds., *Histories of the Electron. The Birth of Microphysics* (London/Cambridge Mass.: MIT Press, 2001), no ISBN. [Last of 16 essays that originate in discussions at two meetings held in 1997 to celebrate the centenary of the electron's discovery].

REID, William, 'Binoculars in the Air', *Bulletin of the Scientific Instrument Society* 70 (September 2001), 19-27. [Binoculars used in British military aeroplanes]. .

REID, William, '*We're certainly not afraid of Zeiss*': *Barr & Stroud Binoculars and the Royal Navy* (Edinburgh: NMS Publishing Ltd, 2001). 170 pages, ISBN 1-901663-66-3.

ROTH, G.D., 'Carl August von Steinheil: Astronom, Mathematiker und Ingenieur (1801-1870)', *Sterne und Weltraum*, vol. 40 (2001), 846-852.

SAMHABER, Friedrich, *Die Zeitzither. Georg von Peuerbach und das helle Mittelalter* (Raab: Verlag Wambacher, 2000). 285 pages. ISBN 3-85360-003-4. [Detailed study on the mathematician, astronomer and humanist Georg Aunpech from Peuerbach, Austria (1423-1461). Includes descriptions and colour photographs of his three surviving instruments (sundials in Innsbruck and Graz, an astrolabe in Nuremberg) and of those of his pupils Regiomontanus and Hans Dorn].

SATTERTWAITE, Gilbert E., 'Airy and positional astronomy' and 'Airy's transit circle', *Journal of Astronomical History and Heritage* Vol. 4, nr. 2 (2001), 101-113 and 115-141 [The Greenwich instruments conceived by Airy and their use, followed by a detailed history of his meridian circle].

SCHALDACH, Karlheinz, *Römische Sonnenuhren. Eine Einführung in die antike Gnomonik* (Frankfurt am Main: Verlag Harri Deutsch, 2001, third revised edition). 123 pages. ISBN 3-8171-1649-7. [Introduction to Roman sundials].

SCHECHNER, Sara, 'The Material Culture of Astronomy in Daily Life: Sundials, Science and Society', *Journal for the History of Astronomy* 32 (2001), 189-222. [Looks at the demand side of the sundial trade. Illustrated from the holdings of the Adler and the Harvard collections].

SCHRÖDER, Wilfried and WIEDERKEHR, Karl Heinrich, 'Die erste photographische Aufzeichnung erdmagnetischer Pulsationen', *NTM (=International Journal of History and Ethics of Natural Sciences, Technology and Medicine)*, 9 (2001), 15-28. [Continuing in the line of self-registering apparatuses for geomagnetism and meteorology developed at Greenwich and Kew, Max Eschenhagen (1851-1901) developed a sensitive magnetograph which allowed for the precise recording of geomagnetic pulsations].

SCHULZE, Fritz, 'Carl Reichert, Microscope Maker: A Short History of the Reichert Optische Werke', *The Quekett Journal of Microscopy* 39, 1 (Summer 2001), 59072. [History of Viennese company, established in 1876, written by a life-long employee].

SHANNON, J.M. and G.C., and BURCHARD, U., 'Blowpipe-Set Balances', *Equilibrium* 2001, nr. 4, 2623-2627. [Blowpipes were used to determine the quantity of a mineral in a given sample, and with these special balances, one could perform quantitative tests. The best known types were those developed by Plattner and Lingke in the 19th century].

SIC IN SWEDEN: 'Meeting in Stockholm. Report of the 20th Scientific Instrument Symposium', *Bulletin of the Scientific Instrument Society* 71 (December 2001), 28-32. [Illustrated report of the symposium, 15-19 October 2001, with excursions in Stockholm (Observatory Museum, Tekniska Museet, Nobel Museum) and to Uppsala (Gustavianum) and Skokloster Castle].

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SKERRIT, William H., 'The Surveying Instruments of Andrew Meneely', *Rittenhouse* 53 (Vol. 15, 1; 2001), 1-10. [Successful business established in Troy, NY, around 1830].

SOBEL, Barry J., 'The story of the Orrery and the Trippensee Company', *Rittenhouse* 54 (Vol. 15, 2; 2001), 83-92. [American Trippensee Company, in business since 1905, still makes these astronomical demonstration devices].

SORRENSON, Richard, 'Dollond & Son's Pursuit of Achromaticity, 1758-1789', *History of Science* 39 (2001), 31-55. [Fresh look at the dispute over who was the true inventor of the achromatic lens, Dollond or Chester Moor Hall].

SPEK, Trienke van der, 'Jan Willem Giltay: An Instrument Maker at Work in the Early 20th Century', *Bulletin of the Scientific Instrument Society* 70 (September 2001), 28-32. [The Dutchman J.W. Giltay (1851-1929) took over the Delft firm of Kipp & Sons in 1887. His own instrumental research included the improvement of the selenium cell].

STAUBERMANN, Klaus, 'Making stars: projection culture in nineteenth-century German astronomy', *British Journal for the History of Science* 34 (2001), 439-451. [On Zöllner, his astrophotometer and his use of magic lantern projection].

STIRLING, Linda, *Miller's Collecting Science & Technology* (London: Octopus Publishing Ltd. 2001). 160 pages, ISBN 1 84000 079 1. Consultant editor George Glastris. [Illustrated guide includes many instruments, arranged by category, with price indications].

SUMNER, James, 'John Richardson, saccharometry and the pound-per-barrel extract: the construction of a quantity', *British Journal for the History of Science* 34 (2001), 255-273. [Brewing theorist John Richardson designed an improved hydrometer, which was manufactured by John Troughton, London].

TALBOT, Stuart, 'Browning's New Miniature Microscope c. 1880', *Bulletin of the Scientific Instrument Society* 69 (June 2001), [p. 57]. [A rare example of this ingenious pocket microscope].

TRIARICO, Carlo, 'About newly discovered pieces by Boscovich on optics and on the finding of a Vitrometrum', *Nuncius. Annali di Storia della Scienza* XVI (2001), 546-561

TURNER, Anthony, ed., *The archives of scholars, collectors and dealers: their place in the study of the history of scientific instruments. Papers from the XIXth Symposium of the Scientific Instrument Commission. Nuncius. Annali di Storia della Scienza* XVI (2001), 673-765.

[This first SIC-section in *Nuncius* contains the following: Anthony TURNER, 'Introduction' (677-679), Mara MINIATI, 'About the Strozzi manuscripts' (681-686), William J.H.

ANDREWES, 'The legacy of David Wheatland' (687-701), Willem F.J. MÖRZER BRUYNS, 'Alain Brioux, dealer and scholar in Paris: his archive on scientific instruments' (703-709), Silke ACKERMANN, 'Dormant treasures. The Zinner-archive at Frankfurt University' (711-722), Peter DE CLERCQ, 'The papers of the instrument dealer, collector and researcher Thomas Henry Court (1868-1951)' (723-731), Koenraad VAN CLEEMPOEL, 'Henri Michel, a gentleman scholar' (733-738), Bruce STEPHENSON, 'The Derek Price archive at the Adler Planetarium' (739-746), Anthony J. TURNER, 'The archives of Derek Price in the Médiathèque Spécialisée en Histoire des Sciences, Cité des Sciences et de l'Industrie at La Villette in Paris' (747-761) and Inge KEILL, 'The papers of Maximilian Bobinger' (763-765)].

TURNER, Anthony J., 'Maurice Daumas: les instruments scientifiques', *La Revue du Musée des Arts et Métiers* 32 (June 2001), 22-31. [Historiographical essay, based on paper delivered in 1997 in the Maison Française in Oxford, entitled 'What is the history of scientific instruments? Reflections on Maurice Daumas' *Les instruments scientifiques aux XVIIe et XVIIIe siècles*].

TURNER, Anthony, *L'Heure en Egypte Ancienne. Présentation d'une acquisition récente: La statuette égyptienne de Huy, dédiée à Rê, dieu-soleil* (Paris: Musée des Arts et Métiers, 2001). 16 pages, ISSN 1167 - 4806. [French/English booklet to accompany small exhibition on the hour in ancient Egypt. Occasioned by the acquisition by the museum of an Egyptian statuette (c. 1400-1200 B.C.), formerly in the Time Museum, Rockford, Illinois, USA, it also illustrates ancient Egyptian time-telling devices from the Louvre].

TURNER, Anthony, 'Instruments mathématiques en Egypte ancienne', *La Revue du Musée des Arts et Métiers* 34 (December 2001), 16-23. [Occasioned by the exhibition *L'Heure en Egypte Ancienne* (see previous entry), this paper discusses mathematical instruments in ancient Egypt].

TURNER, Anthony, *Le Temps et la Musique / Music and Time*, Catalogue - Journal (English and French versions) of exhibition held in the Théâtre du Vésinet, Le Vésinet, France, 3-23 January 2001. 8 pages, b/w illustrations. [The 79 exhibits include a remarkable variety of metronomes].

TURNER, Gerard L'E. and Koenraad van CLEEMPOEL, 'A Tudor astrolabe by Thomas Gemini and its relationship to an astrological disc by Gerard Mercator of 1551', *The Antiquaries Journal* 81 (2001), 400-409. [The authors compare this (incomplete) astrolabe from the National Maritime Museum, Greenwich (formerly collection George Gabb) to a Mercator disc recently discussed by Steven vanden Broecke, on which see next entry].

VANDEN BROECKE, Steven, 'Dee, Mercator, and Louvain Instrument Makers: an Undescribed Astrological Disc by Gerard Mercator', *Annals of Science* 58 (2001), 219-240. [Only known example of an astrological disc published by Mercator in May 1551, in the Historisches Museum in Basel].

VANDER MEULEN, Pierre, 'Sikes's Hydrometer and Related Slide Rules', *Journal of the Oughtred Society* 10, 1 (Spring 2001), 30-34. [Case containing ivory slide rule, brass hydrometer, thermometer and some weights, as in G.L'E. Turner's *Nineteenth-century scientific instruments*, p. 92].

VETRANO, Flavio, ed., *La Scienza del Ducato di Urbino/The Science of the Dukedom of Urbino* (Urbino: Accademia Raffaello, 2001). ISBN 88-87573-07-7. [Four contributions, in Italian and English: Silvio A. BEDINI, 'La dinastia Barocci: Artigiani della scienza in Urbino 1550-1650/The Barocci Dynasty: Urbino's Artisans of Science 1550-1650' (7-98); David A. KING, 'L'Astrolabio raffigurato nelle tarsie dello Studiolo del Duca Federico in Urbino/The Astrolabe Depicted in the Intarsia of the Studiolo of Archduke Federico in Urbino' (101-139) [Identifies two astrolabes of similar basic design which inspired the intarsia illustration, one a Renaissance Italian astrolabe made in Urbino in 1462 and the other a medieval Italian astrolabe from ca. 1300, and shows that these are in turn based on astrolabes made in Marrakesh ca. 1200.]; Silke ACKERMANN & Robert H. VAN GENT, 'La Meridiana di Sant'Agostino in Urbino/The Meridian Line of Sant'Agostino in Urbino' (141-174); Roberto MANTOVANI, 'Antichi Strumenti Scientifici dell'Università di Urbino. Un "Case Study": l'uovo Elettrico di Arthur Auguste de la Rive/Antique Scientific Instruments at the University of Urbino. A "Case Study": Arthur Auguste de la Rive's Electric Egg' (177-216)].

WALL, John, 'Old Father Time', *British Sundial Society Bulletin* 13 (September 2001), 92-96. [Three stone statues of Father Time in Britain sculpted by John Nost each incorporate a sundial made by Thomas Heath (fl. 1714, died 1773). The author has identified eleven Heath dials at country houses].

WILLACH, Rolf, 'The Development of Lens Grinding and Polishing Techniques in the First Half of the 17th Century', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 10-15.

WILLACH, Rolf, 'James Short and the Development of the Reflecting Telescope', *Journal of the Antique Telescope Society* 20 (Winter 2001), 3-18

WILLACH, Rolf, 'The Development of Telescope Optics in the Middle of the Seventeenth Century', *Annals of Science* 58 (2001), 381-398.

WILSON, Robert G., 'Charles Potter: Toronto Optician and Mathematical Instrument Maker', *Photographia Canadiana*, 26, nr. 5 (2001), 8-10.

WINTERBURN, Emily, 'Sealing Wax Science: The Herschels' Cabinet of Curiosities', *Bulletin of the Scientific Instrument Society* 68 (March 2001), 22-27. [Discusses Herschel material that came into the possession of the National Maritime Museum in Greenwich in 1971 after the

demolition of Observatory House in Slough, where the Herschel family had lived on and off since 1786].

WOLFSCHMIDT, Gudrun, SEEMANN, Agnes and KUEHL, Dieter, eds., *Hamburger Sternwarte - Geschichte und Erhaltung*. (Hamburg: Förderverein Hamburger Sternwarte e.V., vol. 1, 2001). 60 pages, ISBN 3-8311-2159-1. [On the history and preservation of the Observatory at Bergedorf, Hamburg. Contributions by K.-J. Schramm, M. Huensch and E. Bollweg. Produced by Libri Books on Demand. Available from bookshops supplied by Libri, and from www.amazon.de. Online: <http://www.hs.uni-hamburg.de/german/persons/kuehl/brosch/buch.PDF>].

WYMAN, Tom, 'Kilderkins, Hogsheads & Dipping Rods: A Brief History of the Slide Rule', *Journal of the Oughtred Society* 10, nr. 2 (Fall 2001), 2-9. [Slightly modified version appeared in *Imprint* 2000/2001].

ZOLLER, Paul and Sheila, 'Seeking L'Ingénieur Chevallier', *Bulletin of the Scientific Instrument Society* 69 (June 2001), 31-33. [The shop of this 19th-century Parisian instrument-maker was located in the tower of l'Horloge near Pont-Neuf].