Scientific Instrument Commission Bibliography 17

Seventeenth bibliography of books, pamphlets, catalogues, articles on or connected with historical scientific instruments.

This bibliography covers the year 2000, but also contains earlier publications which only came to the compiler's notice after publication of the Sixteenth Bibliography in June 2000. The compiler wishes to thank those who sent titles for inclusion in this bibliography. Publications, or notices of publication (please with ISBN) for the forthcoming bibliography, covering the year 2001, may be sent to:

Dr. P.R. de Clercq
Secretary of the Scientific Instrument Commission
13 Camden Square
London NW1 9UY
United Kingdom
E-mail: peter@declercq.homechoice.co.uk

ABGRALL, P., 'La géometrie de l'astrolabe au X^{e} siècle', *Arabic Sciences and Philosophy* 10 (March 2000), 7-78

AKPAN, Eloise, *The story of William Stanley: a self-made man* (London: published by the author, 2000). 128 pages, illustrated. Available from the author at rm.dawson@virgin.net Stanley was a scientific instrument-maker, but also engaged in many other activities, described in this book.

ALDINGER, Henry and CHAMBERLAIN, Ed, 'Gilson Slide Rules - Part I - The Small Rules' and 'Gilson Slide Rules - Part II - The Large Rules', *Journal of the Oughtred Society* 9, nr. 1 (Spring 2000), 48-60 and nr. 2 (Fall 2000), 47-58. The Gilson Slide Rule Co. was formed by Claire Gilson in Michigan in 1915.

ARIVALDI, Mario, 'Medieval monastic sundials with six sectors: an investigation into their origins and meaning', *British Sundial Society Bulletin* 12 (2000), 109-115

BAGIOLI, Mario, 'Replication or Monopoly? The Economies of Invention and Discovery in Galileo's Observations of 1610', *Science in Context* 13, vol. 3/4 (2000), 547-590. Contains much detailed information on the pioneer telescopists. This issue of *Science in Context* is devoted entirely to Galileo, and several other papers may equally be of interest to instrument historians.

BARNES, Colin A., *Otis King Calculators. A History of Production 1919-1977* (Offset, 1999, published by the author: 189 Mildenhall Road, Fordham, Ely, Cambs., CB7 5NW, UK, models@claranet.com). 22 pages excl. many illustrations and appendices. ISBN 0 9535039 0 9.

BEDINI, Silvio A., 'David Rittenhouse (1732-1796)', *Rittenhouse* 51 (June 2000), 1-12

BENNETT, Jim, 'Epact Unpacked: A Self-Orienting Crucifix Dial', *Sphaera* 11 (Spring 2000), p. 5. On a dial by Adriaan Zeelst, Louvain, dated 1588, in the Museum of the History of Science, Oxford.

BENNETT, Jim, 'Sphere No. 11: Christopher Wren's Lunar Globe', *Sphaera* 11 (Spring 2000), p. 8. A globe seen on a large portrait in oil of Wren in the Sheldonian Theatre in Oxford is not, as previously held, a terrestrial globe, but his lunar globe, completed in 1661, and long since lost.

BENSCHOT, Ruth and DRAAISMA, Douwe, 'In Pursuit of Precision: The Calibration of Minds and Machines in Late Nineteenth-century Psychology', *Annals of Science* 57 (2000), 1-25. On 'mental chronometry', the measurement of the duration of psychological processes. Includes a discussion of apparatus used.

BERETTA, Marco, 'At the Source of Western Science: The Organisation of Experimentalism at the Accademia del Cimento (1657-1667)', *Notes and Records of the Royal Society* 54 (2000), 131-151

BRACEGIRDLE, Brian, 'Microscopical mounts and mounters. Addenda 3', *The Quekett Journal of Microscopy* 38, 6 (Summer 2000), 457-463. Discusses the Bourgogne dynasty, F.R. Brook, S.J. Fisher, McCrone/Cargille and P.K. Sartory.

BRADBURY, Savile, 'E.M. Nelson (1851-1938), A Notable English Microscopist', *The Quekett Journal of Microscopy* 38, 7 (Winter 2000), 547-572. Includes a photographic reproduction of annotated auction sale catalogue of Nelson's apparatus and photomicrographic equipment (some 150 items), sold at Stevens's Auction Room, London, in 1939.

BRENNI, Paolo, 'Instruments in South America: the Collection of the Museu de Astronomia e Ciencias afins of Rio de Janeiro', *Bulletin of the Scientific Instrument Society* 65 (June 2000), 25-28.

BRENNI, Paolo, *Gli strumenti di fisica dell'Istituto Tecnico Toscano. Elettricita e Magnetismo* (Firenze: Le Lettere, 2000). 319 pages. ISBN 88 71166 502 3. This catalogue describes and illustrates over 500 pieces of laboratory electrical apparatus preserved in the Fondazione Scienza e Tecnica at Florence. Available at: Fondazione Scienza e Tecnica, Via Giusti 29, 50100 Florence, e-mail: fst.fi@tin.it

BRENNI, Paolo, 'Les instruments électriques des XVIIIe et XIXe siècles, histoire, évolution, design', *TECHNE* 12 (2000), 9-17.

BRENNI, Paolo, 'Les outils des électriciens', *La Revue* 31 (December 2000), 10-19. This issue of *La Revue*, the journal of the Museé des Arts et Métiers, is entirely devoted to their temporary exhibition 'Volt(a)' and to electricity in the 18th and 19th centuries.

BRISTOW, H.R., ‘Elliott Telegraph Instruments in Portugal. Elliott Brothers' Trade with Portugal', *Bulletin of the Scientific Instrument Society* 64 (March 2000), 28-29.

BROMLEY, Allan G., 'Babbage's Analytical Engine Plans 28 and 28a - The Programmer's Interface', *IEEE Annals of the History of Computing* 22, nr. 4 (Oct-Dec 2000), 5-19. This issue contains more material on Babbage and on Babbage engine specialist Bromley, who is attached to the University of Sydney.

BROOKS, Randall C., 'A Canadian Time Ball/Un ballon horaire canadien', *Material History Review* 52 (Fall 2000), 72-74

BROOKS, Randall C., 'A Problem of Provenance: A Technical Analysis of the "Champlain" Astrolabe', *Cartographica* 36 (1999), 1-16.

BROWN, Neil C., 'The Ferraris Motor and the Electricity Meter', in *Galileo Ferraris and the Conversion of Energy. Developments of electrical engineering over a Century. Proceedings of the International Symposium, 27-29 October 1997, Torino* (Torino, 2000), 369-385. Overview of the history of early electricity meters.

BRYDEN, D.J., 'Early Printed Ephemera of London Instrument Makers: Trade Catalogues', *Bulletin of the Scientific Instrument Society* 64 (March 2000), 13-16: 'Part 1: Joseph Moxon, 1673'; 65 (June 2000), 4-6: 'Part 2: John Seller, 1685/6'; 66 (September 2000), 6-8: 'Part 3: Philip Lea, 1699'.

BURCHARD, Ulrich, *History of the Development of the Crystallographic Goniometer*. Special issue of the *Mineralogical Record* (Nov-Dec 1998), vol. 29, nr. 6. Published by Mineralogical Record Inc., 7413 N. Mowry Place, Tucson, AZ 85741, USA. 83 pages, ISBN 0026-4628. Text also available in the original German. Reviewed in *Bulletin of the Scientific Instrument Society* 67, p. 36.

BURNETT, Charles, 'Addendum to 'King Ptolemy and Alchandreus the Philosopher': The Earliest Texts on the Astrolabe and Arabic Astrology at Fleury, Micy and Chartres', *Annals of Science* 57 (2000), 187. New information on the *Compositio Astrolabii* by Ascelinus of Augsburg; see also under KUNITZSCH, Paul.

CALISI, Marinella, *Storia e strumenti del Museo Astronomico e Copernicano di Roma. Guida alla collezioni* (Roma: Osservatorio Astronomico di Roma, 2000). 167 pages. Describes 341 objects, but is disappointing, according to review in *Nuncius* XV (2000), p. 798.

CALLEDA, Dino, and PROVERBIO, Edoardo, *La Stazione Astronomica di Carloforte. Immagini e strumentazione storica* (Cagliari: Cooperativa Universitaria Editrice Cagliaritana C.U.E.C., 2000). 158 pages. ISBN 88-87088-87-X. Collection of instruments at the astronomical station Carloforte and the Observatory of Cagliari. Review in *Nuncius* XV (2000), p. 801-802.

CASI, Fausto, 'Francesco Redi e gli strumenti scientifici del suo tempo' (Arezzo: Accademia Petrarca di Lettere Arti e Scienze, 1999), 231-284; 391-407. To judge from review in *Nuncius* XV (2000), p. 799, this is an offprints from *Francesco Redi Aretino*.

CATAMO, Mario, LANCIANO, Nicoletta, LOCHER, Kurt, LOMBARDO, Manuel, and VALDÉS, Manuel, 'Fifteen Further Greco-Roman Sundials from the Mediterranean Area and Sudan', *Journal for the History of Astronomy* 31 (2000), 203-221.

CHEIFETZ, Simon, 'Market Place. Instruments of Electrical Technology', *Bulletin of the Scientific Instrument Society* 65 (June 2000), 35-37.

CHINNICI, Ileana, '19th century spectroscopic instruments in Italian astronomical observatories', *Nuncius. Annali di Storia della Scienza* XV (2000), 671-680. Further evidence that the Italian instrument-making industry was behind those of England, France and Germany.

CHRISTIANSON, John Robert, *On Tycho's Island. Tycho Brahe and his Assistants, 1570-1601* (Cambridge: Cambridge University Press, 2000). 463 pages. ISBN 0 521 65081 X. One reviewer called it "a charming book that illuminates the first great research center of the modern era".

CHU, Pingyi, 'Trust, Instruments, and Cross-Cultural Scientific Exchanges: Chinese Debate over the Shape of the Earth, 1600-1800', *Science in Context* 12, 3 (Autumn 1999), 385-411

CLEEMPOEL, Koenraad van, 'L'école louvaniste des constructeurs d'instruments au XVIe siècle', pp. 217-228 in Robert Halleux, Carmélia Opsomer, Jan Vandersmissen, eds., *Histoire des Sciences en Belgique de l'Antiquité à 1815* (Bruxelles: Crédit Communal, 1998. 463 pages, ISBN 2-87193-258-1). Massive volume, well illustrated, on the history of the natural sciences in Belgium (the Southern Netherlands) before 1815. Van Cleempoel discusses the 16th c. Louvain makers Mercator, Gemini, Arsenius, Descrolières and Zeelst.

CLEEMPOEL, Koenraad van, and TURNER, A.J., 'A Master-work of Mathematical Art from 16th Century Louvain', *Bulletin of the Scientific Instrument Society* 66 (September 2000), 9-14. A unique astrolabe and scaphe dial compendium by Gualterus Arsenius, 1563, sold by Sotheby's on 21 September 2000. For some corrections and additional information see G.L'E. Turner, 'A Note on the Astrolabe of the Arsenius Composite Instrument', *ibidem* 67 (December 2000), p. 2.

CLERCQ, Peter de (ed.), *Scientific Instruments: Originals and Imitations. The Mensing Connection. Proceedings of a symposium, held at the Museum Boerhaave, Leiden, 15-16 October 1999* (Leiden: Museum Boerhaave Communication 286, 2000). 144 pages, ISBN 90 6292 129 9. To be ordered from the Museum Boerhaave, Postbox 11280, 2301 EG Leiden, The Netherlands. Main contents: Willem Mörzer Bruyns, 'The Anton Mensing Scientific Instrument Project. An Introduction' (15-20), Anthony Turner, 'Paris, Amsterdam, London: The Collecting, Trade and Display of Early Scientific Instruments' (23-47), Gerard Turner, 'An Inquiry into the Imitation of Scientific Instruments' (49-60), Owen Gingerich, 'Why Make Fakes?' (63-72), Peter Hallebeek, 'Examination of Materials for Dating or Authentication' (75-81), Karel Citroen, 'The Faking Feeterses. A Study in Silver' (87-96), Jan Deiman, 'Imitations among the Mensing Instruments' (99-112), Martin Brunold, 'Replicas: Practical Aspects' (115-121) and a plenary discussion chaired by Jim Bennett (123-132).

CLERCQ, Peter de, 'Lewis Evans and the White City Exhibitions', *Sphaera* 11 (Spring 2000), p.3. Discusses the contribution of instrument collector Lewis Evans (1853-1930) to science sections in two popular exhibitions held in London in 1910 and 1911.

CLERCQ, Peter de, 'The Trip to Russia, A Report on the 18th Scientific Instrument Symposium', *Bulletin of the Scientific Instrument Society* 64 (March 2000), 20-25. With visits to museums and collections in Moscow and St. Petersburg.

CLERCQ, Peter de, 'Study Afternoon on Electroforming in the British Museum: 20th October 1999', *Bulletin of the Scientific Instrument Society* 64 (March 2000), 30-31. On making and recognizing electrotype copies.

CLERCQ, Peter de and MOOIJ, Charles de, 'A Remarkable Family Piece. A Hand-Held Telescope from the Musschenbroek Workshop', *Bulletin of the Scientific Instrument Society* 66 (September 2000), 15-17. On a refracting telescope acquired from private ownership by the Museum Boerhaave, Leiden.

COENEN, Wiel, *Zonnewijzers in Nederland : supplement* (Soest: De Zonnewijzerkring, 1999) 30 pages. Supplement to J.G. van Cittert-Eymers's book on sundials on and near buildings in the Netherlands, first published in 1972. .

COHEN, Montague, 'Collection Profile: The Rutherford Museum at McGill University', *Rittenhouse* 52 (December 2000), 95-106

CONLIN, Michael F., 'The Popular and Scientific Reception of the Foucault Pendulum in the United States', *ISIS* 90, 2 (June 1999), 181-204

COWHAM, Mike, 'The Gatty Family', *British Sundial Society Bulletin* 12 (2000). Part I, pp. 76-80, is a biography of Margaret Gatty, Part II, pp. 149-153, describes the 'Book of Sun-Dials' in its various editions.

COWHAM, Mike, 'Calendar Systems and Perpetual Calendars. Part 3 : Descriptions of Calendars' , *Bulletin of the Scientific Instrument Society* 64 (March 2000), 7-12. The first two installments appeared *ibidem* 61 (June 1999), 20-23 and 62 (September 1999), 11-16.

CULBERTSON, Brenda, '100 years and still counting. Crane Observatory of Washburn University', *Journal of the Antique Telescope Society* 18 (Winter 1999), 10-15. Restoration of a Warner & Swasey refractor at Washburn University of Topeka, Kansas USA, which received a medal when on display at the 1900 Paris Exhibition.

DAHL, Edward H. and GAUVIN, Jean-François, *Sphaerae Mundi. Early Globes at the Stewart Museum*. ([Sillery (Québec)]: Editions du Septentrion; [Montreal]: McGill-Queen's University Press, 2000) 208 pages. ISBN 0-7735-2166-6. French edition*: Sphaerae Mundi. La collection de globes anciens du Musée Stewart* (Sillery (Québec): Editions du Septentrion, 2000). 208 pages. ISBN 2-89448-157-8

DANIEL, Christoph St.J.H., 'Sundials - instruments of time', *The Proceedings of the Oxford 2000 Convention 14-15 April 2000*, published as *A Supplement to Antiquarian Horology* 25, nr. 4 (2000), 28-34

DEKKER, E. and LIPPINCOTT, K., 'The Scientific Instruments in Holbein's *Ambassadors*: a Re-examination', *Journal of the Warburg and Courtauld Institutes* LXII (1999), 93-125

DICK, Wolfgang R., and FRITZE, Klaus (eds.), *300 Jahre Astronomie in Berlin und Potzdam. Eine Sammlung von Aufsätzen aus Anlass des Gründungsjubiläums der Berliner Sternwarte* (Acta Historica Astronomiae, vol. 8) (Frankfurt-am-Main: H. Deutsch, 2000). 252 pages. ISBN 3-8171-1622-5. Includes two instrumental papers by Jörg Zaun: 'Optici und Mechanici der Berliner Akademie und ihrer Sternwarte' (pp. 86-90) and 'Pistor & Martins, die Erbauer der Berliner Meridiankreise' (pp. 91-106).

DOBSON, R.D., *De slinger als tijdmeter : een nieuwe visie op de ontwikkeling van de slinger als tijdmeter in de periode 1602-1660 : Galileo Galilei, Ahasuerus Fromanteel, Christiaan Huygens* (Bocholt; Bredevoort; Aalten, 1999) VII + 96 pages. ISBN 90-70017-32-6. Dutch study presenting "a new vision on the development of the pendulum as time measuring device". Cf. Dobson's paper in *Antiquarian Horology* 24, 5 (Spring 1999), 432-442, noted in the previous bibliography.

DORIKENS, M., 'Gentse instrumentmakers', series of three articles in *Het Ingenieursblad*, the monthly journal of the Belgian Royal Society of Engineers, vol. 69. Discusses Ghent instrument makers Jacques Bernaert (nr. 3, March 2000), Vanhese and Schubart (nr. 4, April 2000) and Theodore Schubart (nr. 5, May 2000).

DUFFIN, Jacalyn and HAYTER, Charles R.R., 'Baring the Sole: The Rise and Fall of the Shoe-Fitting Fluoroscope', *ISIS* 91, 2 (June 2000), 260-282. From the mid 1920s to the 1950s, shoe-fitting fluoroscopes were a prominent feature of shoe stores in North America and Europe.

DUPRÉ, Sven, 'Mathematical instruments and the "Theory of the concave spherical mirror": Galileo's optics beyond art and science', *Nuncius. Annali di Storia della Scienza* XV (2000), 551-588. Analysis of Galileo's "Theoria speculi concavi sphaerici", stressing that for a proper understanding of this treatise, one needs to take into account Galileo's involvement with a tradition of mathematical and optical instrument designing.

EDELL, Stephen, 'An 18th Century Yeoman-polymath and a Pair of Manuscript Globes "intended for the wife of his son"', *Bulletin of the Scientific Instrument Society* 65 (June 2000), 10-13. Globes signed 'John Dovaston fecit c. 1786'.

EDMUNDS, Mike and MORGAN, Philip, 'The Antikythera Mechanism: still a mystery of Greek astronomy?', *Astronomy & Geophysics. The Journal of the Royal Astronomical Society* 41, nr. 6 (December 2000), 10-17

ELLIOTT, Paul, 'The Birth of Public Science in the English Provinces: Natural Philosophy in Derby, c. 1690-1760', *Annals of Science* 57 (2000), 61-100. Discusses among others John Whitehurst FRS and his controversy with John Ellicott over a pyrometer design.

EVANS, Rand B., 'E.C. Sandford's Vernier Chronoscope', *Rittenhouse* 50 (December 1999), 73-85. Devised in 1890, it stayed in active use in psychology laboratories for half a century.

FERMOR, J. and STEELE, J.M., 'The design of Babylonian waterclocks: astronomical and experimental evidence', *Centaurus* 42 (2000), 210-222

FOLKERTS, Menno and LORCH, Richard, eds., *Sic Itur ad Astra. Studien zur Geschichte der Mathematik und Natuwissenschaften. Festschrift für den Arabisten Paul Kunitzsch zum 70. Geburtstag* (Wiesbaden: Harrassowitz Verlag, 2000). More than 600 pages. ISBN 3-447-04290-7. Instrument-oriented contributions are Elly Dekker, 'A Close Look at two Astrolabes and their Star Tables', David King, 'The Star-Names on Three 14th-Century Astrolabes from Spain, France and Italy', David Pingree, 'A Greek List of Astrolabe Stars', Julio Samsó, 'Maslama al-Majriti and the Star Table in the Treatise *De mensura astrolabii'*, Anne Thion, 'Un texte byzantion sur une horloge persane', A.J. Turner, 'The Anaphoric Clock in the Light of Recent Research', G.L'E. Turner, 'A Critique of the Use of the First Point of Aries in Dating Astrolabes'.

FOX, Robert and GUAGNINI, Anna, 'Laboratories, workshops, and sites. Concepts and practices of research in industrial Europe, 1800-1914', *Historical Studies in Physical & Biological Sciences* 29(1) (1998), 55-139 and *ibidem* 29(2) (1999), 191-294

FRANCIS, Jay, 'The Back-Light Screen Projection Slide Rule', *Journal of the Oughtred Society* 9, nr. 1 (Spring 2000), 27-31

FRERCKS, Jan, 'Creativity and Technology in Experimentation: Fizeau's Terrestrial Determination of the Speed of Light', *Centaurus* 42, vol. 4 (2000), 249-287. Fizeau used mechanical devices commissioned from Gustave Froment in Paris. This paper is partly based on experiences with a replica of that apparatus.

GALISON, Peter, *Image and Logic: A Material Culture of Microphysics* (Chicago: University of Chicago Press, 1997). 955 pages. ISBN 0-22627-917-0. A far reaching inquiry into the history of 20th century experimental physics and the role of instrumental traditions in shaping that science. Focuses on detectors like cloud chambers, bubble chambers and spark chambers. Instrumentation is more central in this book than in Galison's earlier *How Experiments End* (1987).

GAMET, Joëlle and TURNER, Anthony, *The Earth & Time*. 8-page newspaper-format catalogue of a permanent exhibition opened in June 2000 in the Chapel of the Visitandines in Sisteron, France. Many of the 106 objects exhibited, including instruments, are illustrated.

GIERSBERGEN, Wilma van, 'Een unieke collectie bedreigd. De verzameling van het MNi Museum IJkwezen te Delft', *Gewina* 23 (2000), 123-139. On the national museum of weights and measures in Delft, The Netherlands, which faces an uncertain future. With detailed inventory

lists of the 19th-century objects from Delft Technical University in the museum. No English summary.

GIRODET, Pierre, 'Mounters, collectors and sellers of microscopical mounts in France in the 19th and 20th centuries. Part I: A-L', *The Quekett Journal of Microscopy* 38, 7 (Winter 2000), 573-592

GLASEMANN, Reinhard, *Erde, Sonne, Mond & Sterne. Globen, Sonnenuhren und astronomische Instrumente im Historischen Museum Frankfurt am Main* (Frankfurt: Verlag Waldemar Kramer, 1999). 166 pages. ISBN 37829 05040. Well-illustrated catalogue of the collection of globes, sun-dials and astronomical instruments in this German museum.

GOLINSKI, Jan, 'Barometers of Change: Meteorological Instruments as Machines of Enlightenment', in William Clark, Jan Golinski, and Simon Schaffer (eds), *The Sciences in Enlightened Europe* (University of Chicago Press, 1999), 69-93

GREEN, Alex E.S., 'Operations Analysis and the 20th AF Slide Rules of WW II - August 1944 to September 1945', *Journal of the Oughtred Society* 9, nr. 1 (Spring 2000), 11-22

GREENSLADE, Thomas B., Jr., 'Collection Profile: Visits to Apparatus Collections I: Kenyon College', *Rittenhouse* 50 (December 1999), 115-122. Describes some of the 25 pieces of early apparatus used by the author in lecture and laboratory settings in Kenyon College, Gambier, Ohio.

GREENSLADE, Thomas B., Jr., 'Collection Profile: Visits to Apparatus Collections II. Transsylvania University', *Rittenhouse* 52 (December 2000), 107-114

GUEDI, Denis, 'Le mètre et le circle répétiteur', *La Revue* 30 (June 2000), 56-59. On the Borda circle.

HACKMANN, Willem, 'Guglielmo Marconi and the Transition from Telegraphy to Wireless Telegraphy', *Bulletin of the Scientific Instrument Society* 65 (June 2000), 29-32.

HAMOU, Philippe, *La Mutation du Visible. Essai sur la portée épistémologique des instruments d'optique au dix-septième siècle. Volume 1: Du Sidereus Nuncius de Galilée à la Dioptrique artésienne* (Paris: Presses Universitaire du Septentrion, 1999). 320 pages. ISBN 2-85939-601-2. According to (highly critical) review in *Journal of the History of Astronomy* 2000 (p. 274), Volume 2 will deal with "microscopes and telescopes in experimental England from Bacon to Hooke".

HARTLEY, Gilbert, 'Some thoughts on the Mikrochromar', *The Quekett Journal of Microscopy* 38, 7 (Winter 2000), 593-597. Introduced by Zeiss in 1933.

HEERING, P. , RIESS, F. and SICHAU, C. (editors), *Im Labor der Physikgeschichte. Zur Untersuchung historischer Experimentalpraxis* (Oldenburg: Bibliotheks- und Informationssystem der Universität Oldenburg, 2000). 221 pages. ISBN 3-8142-0735-1. A

survey of historical experiments and instruments and their reconstruction made at the University of Oldenburg

HEILBRON, J., *The Sun in the Church. Cathedrals as Solar Observatories* (Cambridge Mass., London, Harvard UP,1999). 366 pages. ISBN 0674854330

HEITZLER, M., 'An Early Roberval Counter Scale by Béranger', *Equilibrium* 2000, nr. 3, p. 2479-88. Signed 'Béranger et Cie. à Lyon, 1844'.

HESSENBRUCH, A.,'Rutherford's 1901 experiment on radiation energy and his creation of a stable detector', *Archive for History of Exact Sciences* 54, 5 (2000), 403-420

HOGENDIJK, Jan (ed.), *Die Schrift des Ibrahim B. Tabir über die Schatteninstrumente. Islamic Mathematics and Astronomy* vol. 101 (Frankfurt am Main, 1999). 286 pages. ISBN 3-8298-4109-4

HOLLAND, Julian, 'Charles Wheatstone and the representation of waves, Part 1' and 'Part 2', *Rittenhouse* 50 (December 1999), 86-106 and 51 (June 2000), 27-46.

HOLLAND, Julian, 'Our first metrologist?', *The Australian Metrologist* No. 21 (May 2000), 3-4. Sydney instrument maker and brass founder James Blanch (1784-1841) supplied sets of weights and measures.

HOLLAND, Julian, 'A.L Franklin - Manufacturer of Precision', *The Australian Metrologist* No. 22 (August 2000), 3-5. An immigrant from Birmingham, his firm operated in Sydney from 1919 to 1999.

HOLLAND, Julian, 'Cutting It Fine', *Antiques in New South Wales*, December 2000-May 2001, pp. 8 and 17. Illustrated note on the collection of microtomes in the Macleay Museum, University of Sydney.

HOLMES, Frederic L. and LEVERE, Trevor H., *Instruments and Experimentation in the History of Chemistry* (Cambridge MA / London: The MIT Press, 2000). 415 pages. ISBN 0-262-08282-9. This volume in the series Dibner Institute Studies in the History of Science and Technology contains 14 papers, including Robert G.W. Anderson, 'The Archaeology of Chemistry' (5-34); Trevor H. Levere, 'Measuring Gases and Measuring Goodness' (105-135, among others on eudiometers); Frederic L. Holmes, 'The evolution of Lavoisier's chemical apparatus' (137-152); Bernadette Bensaude-Vincent, '"The Chemist's Balance for Fluids": Hydrometers and their multiple identities' (153-183); Jan Golinsky, '"Fit Instruments": Thermometers in Eighteenth-Century Chemistry' (185-210) and Collin A. Russell, 'Chemical Techniques in a Preelectronic Age: the Remarkable Apparatus of Edward Frankland' (311-334).

HOPP, Peter M., 'Mystery Pocket-Watch Calculators', *Journal of the Oughtred Society* 9, nr. 1 (Spring 2000), 44-47. Boucher UK Patent 4,310 in the name of H.E. Newton, 1876, is recognized as the originator of the pocket-watch slide rule. This article looks at other similar calculators in pocket-watch format.

HÜTTIG, Manfred, 'The Conical Sundial from Thyrrheion - Reconstruction and Error Analysis of a Displaced Antique Sundial', *Archive for History of Exact Sciences* 55 (2000), 163-176

HURST, Michael, 'Early English Pendulum Clocks. Some Further Reflections and Examples made during the First Twelve Years', *Antiquarian Horology* 25, 3 (March 2000), 278-292

INGENSAND, H., 'Entwicklungsgeschichte des geodätischen Instrumentenbaus in Kontext der Schweizerischen Industrialisierung', pp. 39-49 in Gugerli, David (ed.*), Vermessene Landschaften. Kulturgeschichte und technische Praxis im 19. und 20. Jahrhundert* (Zürich: Chronos, 2000). 302 pages. ISBN 3-905313-12-X. Evolution of surveying instruments in the context of Swiss industrialization.

ITALY: 'Scientific Instrument Society Conference: Como, Milan and Pavia, Italy 9th - 12th May 2000', *Bulletin of the Scientific Instrument Society* 65 (June 2000), 19-24. Visits to Museo Poldi Pezzoli, Osservatorio della Specola di Brera, Museo Nazionale della Scienza e della Tecnica Leonardo da Vinci, University of Pavia, Cabinet of Liceo Foscolo, Liceo Volta, Istituto Carducci and Volta's Temple.

ITALY: *Laboratorio Gattoni. Un gabinetto di scienze del XVIII secolo per la didattica di oggi*, by various authors (Como: Centro di cultura scientifica "A.Volta", 2000). 111 pages. Descriptions and illustrations of 18th-century instruments (several of them related to Volta) and their reconstruction for an historical-didactic laboratory.

ITALY: *Atti del Convegno "L'ottica in Italia tra Otto e Novecento. Un contributo alla storia della scienza e della tecnica". Firenze 22-23 aprile 1999*. Special issue of *Atti della Fondazione Giorgio Ronchi*, LV, 4-5, 2000. Almost 1000 pages on the history of optics in Italy during the 19th and 20th centuries. Several articles deal with Italian instruments, instrument makers and firms and with the life and work of Vasco Ronchi, the leading Italian optician of the first half of the 20th century.

JACOMY, Bruno, 'L'anémomètre de Pajot d'Ons-en-Bray', *La Revue* 30 (June 2000), 39-46. On the earliest surviving self-registering instrument which recorded both wind direction and speed, invented by Louis-Léon Pajot, Count of Ons-en-Bray, published in 1734. This issue of *La Revue*, the journal of the Museé des Arts et Métiers, is entirely devoted to metereology to coincide with their temporary exhibition 'Mesurer l'atmosphère' and includes a list of the 185 exhibits.

JEZIERSKY, Dieter von, *Slide Rules, a Journey Through Three Centuries* (Astragal Press, 2000). 126pp. ISBN 1-879335-94-8. Updated translation of *Rechenschieber - eine Dokumentation* (ISBN 3-00-001503-5)

JONKERS, A.R.T., *North by northwest : seafaring, science, and the earth's magnetic field (1600-1800)* (2000, 2 vols.). 1002 pages. ISBN 90-9013825-0. There is much instrumental information in this massive Amsterdam PhD dissertation, of which a copy is in the Museum Boerhaave Library.

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