Abstracts

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The purpose of this department is to give sufficient information about the subject matter of each publication to enable users to decide whether to read it. It is our intention to cover all books, articles, and other materials in the field.

Books for abstracting and eventual review should be sent to this department. Materials should be sent to Duncan J. Melville, Department of Mathematics, Computer Science and Statistics, St. Lawrence University, Canton, NY 13617, U.S.A. (e-mail: dmelville@stlawu.edu).

Readers are invited to send reprints, autoabstracts, corrections, additions, and notices of publications that have been overlooked. Be sure to include complete bibliographic information, as well as transliteration and translation for non-European languages. We need volunteers willing to cover one or more journals for this department.

In order to facilitate reference and indexing, entries are given abstract numbers which appear at the end following the symbol #. A triple numbering system is used: the first number indicates the volume, the second the issue number, and the third the sequential number within that issue. For example, the abstracts for Volume 40, Number 1, are numbered: 40.1.1, 40.1.2, 40.1.3, etc.

The initials in parentheses at the end of an entry indicate the abstractor. In this issue there are abstracts by Francine Abeles (Union, NJ), Chris Baltus (Oswego, NY), Timothy B. Carroll (Ypsilanti, MI), Christopher Hammond (New London, CT), Patti Wilger Hunter (Santa Barbara, CA), Laura Martini, Kim Plofker, and Duncan J. Melville.

General

Barnes, John. *Gems of Geometry*. New York: Springer, 2012, xiii+325 pp. Aimed at a general audience, this richly-illustrated volume covers a variety of topics in geometry from golden ratios to relativity, with excursions into sphere packing and projective geometry. The amount of historical content varies with topic. (DJM)   #40.3.1

Beauzamy, Bernard. *Archimedes' Modern Works* (*Real Life Mathematics*). Paris: Société de Calcul Mathématique, 2012, 220 pp. An intriguing look at using Archimedean techniques to solve modern problems, principally via comparison techniques, and use of *The Method*. See the review by Aleksandar M. Nikolić in *Mathematical Reviews* 2962726. (DJM)   #40.3.2

Bečvářová, Martina. *Czech Roots of Bulgarian Mathematics* [in Czech] (*Dějiny Matematiky/History of Mathematics* **40**). Prague: Matfyzpress, 2009. This book, based on a study of archival materials, letters, and

http://dx.doi.org/10.1016/j.hm.2013.04.002

primary sources, is devoted to four Czech mathematicians, Teodor Monin (1858–1893), Vítězslav Splítek (1855–1943), Vladislav Šak (1860–1941), and Antonín Václav Šourek (1858–1926) who succeeded in obtaining positions at Bulgarian high schools and at the newly established university in Sofia, playing a key role in the development of Bulgarian mathematics. See the review by Antonín Slavík in *Zentralblatt MATH* 1250.01001. (LM) #40.3.3

Behrens, Heinrich; and Luksch, Peter. Mathematics 1868–2008: A bibliometric analysis. *Scientometrics* **86** (1) (2011), 179–194. On the basis of the zbMATH data base some really reliable figures and interesting conclusions on the development of mathematical publications are given. See the review by Bernd Wegner in *Zentralblatt MATH* 1252.01024. (TBC) #40.3.4

Benson, Donald. *The Ballet of the Planets. A Mathematician's Musings on the Elegance of Planetary Motion*. Oxford: Oxford University Press, 2012, 192 pp. The author discourses on the mathematical underpinnings of theories of planetary motion from Archimedes to Newton, exploring the interplay between physical models and mathematical techniques. (DJM) #40.3.5

Bjarnadóttir, Kristín; Furinghetti, Fulvia; Matos, José Manuel; and Schubring, Gert, eds. *"Dig Where You Stand" 2. Proceedings of the Second International Conference on the History of Mathematics Education, October 2–5, 2011, Universidade Nova, Lisbon*. Lisbon: Unidade de Investigação, Educação e Desenvolvimento, 2012, 535 pp. The papers from the proceedings of this conference on the history of mathematics education are abstracted or listed separately as: #40.3.23; #40.3.57; #40.3.60; #40.3.62; #40.3.75; #40.3.76; #40.3.77; #40.3.80; #40.3.83; #40.3.87; #40.3.90; #40.3.92; #40.3.94; #40.3.95; #40.3.97; #40.3.103; #40.3.109; #40.3.110; #40.3.120; #40.3.125; #40.3.127; #40.3.132; #40.3.137; #40.3.139; #40.3.141; #40.3.143; #40.3.146; #40.3.153; #40.3.160; and #40.3.163. The volume also includes a useful index of names, spanning all papers in the volume. (DJM) #40.3.6

Brechenmacher, Frédéric. Une histoire de l'universalité des matrices mathématiques [A history of the universality of mathematical matrices], in #40.3.8, pp. 569–603. A study of the development of what is now the standard notation and terminology associated with matrices, with particular emphasis on the scholarly networks through which mathematicians corresponded. See the review by Albert C. Lewis in *Zentralblatt MATH* 1225.15003. (CH) #40.3.7

Brian, Éric, ed. Histoire sociale des mathématiques [Social History of Mathematics] (*Revue de Synthèese* **6** (4), Série **131**). Berlin: Springer, 2010, ii+489–669. The four research articles from this volume are abstracted separately as: #40.3.7; #40.3.46; #40.3.59; and #40.3.85. (DJM) #40.3.8

Buchwald, Jed Z., ed. *A Master of Science History. Essays in Honor of Charles Coulston Gillispie* (*Archimedes* **30**). Dordrecht: Springer, 2012, xix+439 pp. A wide-ranging collection of essays in honor of Charles Coulston Gillispie (1918–). Those with the most connection to history of mathematics are listed or abstracted separately as: #40.3.42; #40.3.69; #40.3.70; #40.3.71; #40.3.88; #40.3.119; #40.3.133; #40.3.145; and #40.3.147. (DJM) #40.3.9

Crandall, Richard. *Scientific Reflections: Selected Multidisciplinary Works*. Portland, OR: Perfectly Scientific Press, 2011, vi+385 pp. A selection of the author's papers ranging from physical experiments to computer science and mathematics. The author introduces and expands upon each paper. (DJM) #40.3.10

de Villiers, Michael. *See* #40.3.17.

De Young, Gregg. Nineteenth century traditional Arabic geometry textbooks. *International Journal for the History of Mathematics Education* **7** (2) (2012), 1–34. Along with printed European style textbooks, in vernacular languages, there were 19th century geometry texts in Arabic, with the appearance of manuscripts, most produced by the recently developed lithograph. The main body was a medieval work— al-Tusi's redaction of Euclid's *Elements* in four of the six texts examined—with traditional commentary. They were used in some madrases. (CB) #40.3.11

Ellis, George F.R. *See #40.3.20*.

Emmer, Michele, ed. *Mathematics and Culture III*. New York: Springer, 2012, viii+128 pp. Proceedings of a "Mathematics and Culture" conference in Venice in 2002, this is a translation of the original Italian proceedings published by Springer in 2003. The articles with more historical interest are cited separately as: #40.3.13; #40.3.15; #40.3.33; #40.3.36; #40.3.37; #40.3.58; and #40.3.61. (DJM)   #40.3.12

Emmer, Michele; and Todesco, Gian Marco. Labyrinths, in #40.3.12, pp. 167–176.   #40.3.13

Felgner, Ulrich. Das Induktions-Prinzip [The induction principle]. *Jahresbericht der Deutschen Mathematiker-Vereinigung* **114** (1) (2012), 23–45. An historical examination of the principle of induction, from the time of the ancient Greeks to the twentieth century. See the review by Pierre Kerszberg in *Mathematical Reviews* 2911977. (CH)   #40.3.14

Furinghetti, Fulvia. *See #40.3.6*.

Gallavotti, Giovanni. Theory of motion from Hellenistic time to the XX Century, in #40.3.12, pp. 11–16.   #40.3.15

Grabiner, Judith V. Why proof? A historian's perspective, in #40.3.17, pp. 147–167. An overview of the role of proof in mathematics from its origins in ancient Greece, through evolving standards of rigor, and the uses of visual as well as textual argumentation. The author argues that an engagement with the history of proof can improve mathematical learning. (DJM)   #40.3.16

Hanna, Gila; and de Villiers, Michael, eds. *Proof and Proving in Mathematics Education*. *The 19th ICMI Study* (*New ICMI Study Series* **15**). New York: Springer, 2012, xii+475 pp. A collection of papers on the role of proof in mathematics education. The papers with historical content are abstracted separately as: #40.3.16; #40.3.24; and #40.3.32. (DJM)   #40.3.17

Iurato, Giuseppe. On the history of differentiable manifolds. *International Mathematical Forum* **7** (9–12) (2012), 477–514. Central aspects of the history of the concept of an affine differentiable manifold are discussed. See the review by Anatoliy Milka in *Zentralblatt MATH* 1253.01010. (TBC)   #40.3.18

Jardine, Dick. Alden Partridge and practical mathematics education in 19th century America. *International Journal for the History of Mathematics Education* **7** (2) (2012), 35–46. The career of Alden Partridge (1785–1854). He established the mathematics curriculum at West Point, then went on to start more than 15 preparatory schools and colleges, aiming to form productive citizens and military officers. The application of mathematics was at the core of the curriculum. Graduates from his schools became education leaders throughout the US. (CB)   #40.3.19

Krasinski, Andrzej; Ellis, George F.R.; and MacCallum, Malcolm, eds. *Golden Oldies in General Relativity. Hidden Gems. Reprinted from the Journal General Relativity and Gravitation*. Berlin: Springer, 2013, xii+438 pp. This volume presents a selection of 14 rarities among the Golden Oldies—a series of the journal *General Relativity and Gravitation* reprints important papers in general relativity theory that were published 30 or more years ago and are either hard to get hold of, or were originally printed in a language other than English—grouped in three categories ("Basic results in differential geometry and general relativity", "Discussion of physical effects" and "Basic exact solutions and their interpretation"). (LM)   #40.3.20

Lolli, Gabriele. Infinitesimals and infinites in the history of mathematics: A brief survey. *Applied Mathematics and Computation* **218** (16) (2012), 7979–7988. The author reviews the main episodes of the history of the infinite in mathematics, highlighting the asymmetry between infinitesimals and infinites. The main characters of the narration are Aristotle, Archimedes, Cavalieri, Euler, and Cantor. (LM)   #40.3.21

Luksch, Peter. *See #40.3.4*.

MacCallum, Malcolm. *See* #40.3.20.

Matos, José Manuel. *See* #40.3.6.

Plofker, Kim. Mathematics and its worldwide history. *Nieuw Archief voor Wiskunde* (5) **13** (2012) (1), 45–53. This article is based on the Brouwer Lecture that Kim Plofker of Union College in Schenectady, USA, who received the Brouwer Medal, delivered on 14 April 2011 during the annual Dutch Mathematical Congress. She discusses changing aims and current priorities in the history of mathematics, with special reference to comparisons between "western" and "non-western" traditions of mathematical knowledge. (LM)   #40.3.22

Schlimm, Dirk. *See* #40.3.27.

Schubring, Gert. *See* #40.3.6.

Schubring, Gert. From the few to the many: Historical perspectives on who should learn mathematics, in #40.3.6, pp. 443–462. A survey of who learned mathematics, and why, across history. (DJM)   #40.3.23

Siu, Man Keung. Proof in the Western and Eastern traditions: Implications for mathematics education, in #40.3.17, pp. 431–440. The author focuses on the "algorithmic" and "dialectic" aspects of argument in the Western and Eastern traditions, showing that both aspects are used in both traditions in the construction of proofs. (DJM)   #40.3.24

Swetz, Frank J. *Mathematical Expeditions: Exploring Word Problems across the Ages*. Baltimore: Johns Hopkins University Press, 2012, xii+192 pp. An anthology of over 500 mathematical word problems, spanning numerous centuries, geographical areas, and cultures. Due to certain technical limitations, this book may be more appropriate as a resource for teachers than as an actual textbook for students. See the review by Victor J. Katz in *Mathematical Reviews* 2952821. (CH)   #40.3.25

Todesco, Gian Marco. *See* #40.3.13.

Wardhaugh, Benjamin, ed. *A Wealth of Numbers: An Anthology of 500 Years of Popular Mathematics Writing*. Princeton: Princeton University Press, 2012, xviii+370 pp. A compilation of 100 excerpts from a wide variety of mathematical works, the oldest dating back to 1481. The articles are expository in nature and are appropriate for a general audience. See the review by E.J. Barbeau in *Mathematical Reviews* 2906064. (CH)   #40.3.26

Widom, Theodore Reed; and Schlimm, Dirk. Methodological reflections on typologies for numerical notations. *Science in Context* **25** (2) (2012), 155–195. A discussion of various typological frameworks for classifying different notational systems for the natural numbers. (CH)   #40.3.27

Mesopotamia

Chambon, Grégory. Numeracy, metrology and mathematics in Mesopotamia: Social and cultural practices, in Emmer, Michele, ed., *Imagine Math. Between Culture and Mathematics* (Milano: Springer, 2012), pp. 227–239. The author describes current trends in the investigation of what is usually called "Babylonian mathematics" and illustrates this by comparing two translations of the same text, one from 1954 and one from 2002. See the review by Hermann Hunger in *Zentralblatt MATH* 1255.01002. (LM)   #40.3.28

India

Anand Tularam, Gurudeo. Investigating the development of arithmetic and algebra in Vedic India: Tribute to Swami Dayananda Saraswati. *International Journal of Mathematics, Game Theory, and Algebra* **20**

(2) (2011), 163–187. Invoking G.H.F. Nesselmann's classic division of the development of algebra into "rhetorical", "syncopated" and "symbolic" forms, the author argues that symbolic algebra first emerged in ancient India as "deep rooted in Vedic philosophy". (KP)   #40.3.29

Sar, Satyabachi. A glimpse on contribution of Indian mathematicians towards development of calculus (with a special reference to Kerala school). *Review Bulletin of the Calcutta Mathematical Society* **19** (1) (2011), 83–90. Focuses on the work of the school of Mādhava in southwest India dealing with infinite series and infinitesimal analysis between about the fourteenth and sixteenth centuries. See the review by Girish Kumar Ramaiah in *Zentralblatt MATH* 1254.01012. (KP)   #40.3.30

Singh, Shweta. *See* #40.3.31.

Sinha, Anand Mohan; and Singh, Shweta. On the ancient Hindu geometry with geometrical algebra. *The Mathematics Education* **42** (3) (2008), 221–224. Explores the geometrical knowledge preserved in pre-Common Era Indian texts on constructions for religious rituals. (KP)   #40.3.31

China

Chemla, Karine. Using documents from Ancient China to teach mathematical proof, in #40.3.17, pp. 423–429. The author argues that the kind of algorithmic algebraic proof used in the ancient commentaries on the *Nine Chapters* was unique to China, but could lead to new approaches to teaching proof. (DJM)   #40.3.32

D'Arelli, Francesco. The "Lack of Foundation" of Chinese astronomy: A *Communis Opinio* of XVII Century Europe, in #40.3.12, pp. 217–226.   #40.3.33

Jami, Catherine. *The Emperor's New Mathematics. Western Learning and Imperial Authority During the Kangxi Reign (1662–1722)*. Oxford: Oxford University Press, 2012, 496 pp. On Kangxi's appropriation of Jesuit science and knowledge for imperial purposes in order to consolidate early Qing dynasty rule. (DJM)   #40.3.34

Lim, Tina Su-lyn; and Wagner, Donald B. The Grand Astrologer's platform and ramp: Four problems in solid geometry from Wang Xiaotong's 'Continuation of ancient mathematics' (7th century AD). *Historia Mathematica* **40** (1) (2013), 3–35. This paper gives translations and analysis of four solid geometrical problems from Wang Xiaotong's *Jigu suanjing*. While the precise problems were not themselves practical, the mathematical methods they require would have been useful to administrators. (DJM)   #40.3.35

Martzloff, Jean-Claude. Is Chinese Mathematics Chinese?, in #40.3.12, pp. 193–202.   #40.3.36

Qu, Anjing. Why Mathematics in Ancient China?, in #40.3.12, pp. 203–216.   #40.3.37

Wagner, Donald B. *See* #40.3.35.

See also #40.3.24.

Islamic/Islamicate

Bellosta, Hélène. De l'usage des Coniques chez Ibrāhīm ibn Sinān [On the use of the Conics in Ibrāhīm ibn Sinān]. *Arabic Sciences and Philosophy* **22** (1) (2012), 119–136. Examines the influence of classical conics theory (in Arabic translation) on the work of the tenth-century mathematician Ibn Sinān. (KP)   #40.3.38

El-Rouayheb, Khaled. Post-Avicennan logicians on the subject matter of logic: Some thirteenth- and fourteenth-century discussions. *Arabic Sciences and Philosophy* **22** (1) (2012), 69–90. The article discusses

the impact of the thirteenth-century logician al-Khūnajī's divergence from Avicenna's identification of the subject of logic as "second intentions" or "second meanings", i.e., properties of concepts relating to their use in attaining knowledge. Al-Khūnajī's opposing assertion that logic studies "the objects of conception and assent" was intensely debated. (KP) #40.3.39

Ighbariah, Ahmad. Between logic and mathematics: al-Kindī's approach to the Aristotelian categories. *Arabic Sciences and Philosophy* **22** (1) (2012), 51–68. Devoting "special attention to the function of the categories of Quantity and Quality as mediators between logic and mathematics", the paper investigates the function of logic and its relation to mathematics in the work of the ninth-century philosopher and mathematician al-Kindī. (KP) #40.3.40

Linden, Sebastian. 'Umar Ḥayām: Abhandlung über die Teilung eines Viertelkreises [Omar Al-Khayyam: Treatise on the division of a quadrant of a circle]. *Mathematische Semesterberichte* **59** (1) (2012), 103–125. The first German translation of al-Khayyam's use of conics to solve a cubic equation generated by the problem of dividing a circle quadrant in a given ratio, with a brief introduction to his mathematical work in general. (KP) #40.3.41

Rashed, Roshdi. Founding acts and major turning-points in Arab mathematics, in #40.3.9, pp. 253–271. An exploration of the emergence and development of algebraic and analytical reasoning in classical mathematics. (DJM) #40.3.42

Rashed, Roshdi. L'angle de contingence: un problème de philosophie des mathématiques [The angle of contact: A problem in the philosophy of mathematics]. *Arabic Sciences and Philosophy* **22** (1) (2012), 1–50. Discusses the concept of angle and particularly contact angle in Arabic translations of Greek mathematics and original works by medieval Islamic mathematicians. (KP) #40.3.43

Other Non-Western

Aboulfotouh, Hossam M.K. The geometric grids of the hieratic numeral signs. *Mediterranean Archaeology and Archaeometry* **12** (1) (2012), 129–138. The author argues that Egyptian hieratic numeral signs were not derived from their hieroglyphic counterparts, but rather based on a grid. (DJM) #40.3.44

Antiquity

Ambrosi, Gerhard Michael. Pre-Euclidean geometry and Aeginetan coin design: Some further remarks. *Archive for History of Exact Sciences* **66** (5) (2012), 557–583. Coins from Aegina after 404 BCE carry a design of a subdivided square on the reverse. The author argues that the subdivision reflects the diagram in *Elements* II.4, and the subsquares have an area ratio of 2:1, claims of which the reviewer is sceptical. See the review by Jens Høyrup in *Mathematical Reviews* 2957009. (DJM) #40.3.45

Bernard, Alain. The significance of Ptolemy's *Almagest* for its early readers, in #40.3.8, pp. 495–521. An analysis of the reception of Ptolemy's *Almagest* within the classical world, with particular emphasis on the relationship between ethics and the mathematical arts. See the review by Victor V. Pambuccian in *Zentralblatt MATH* 1217.01005. (CH) #40.3.46

Castelnérac, Benoît; and Marion, Mathieu. Arguing for inconsistency: Dialectical games in the academy, in Primiero, Giuseppe, et al., eds., *Acts of Knowledge. History, Philosophy and Logic. Essays Dedicated to Göran Sundholm* (*Tributes* **9**) (London: College Publications, 2009), pp. 35–71. An analysis of the logical structure of disputes in ancient Greek philosophy, drawing chiefly from Platonic dialogues and tracing their connections to the later development of formal logic. See the review by Gregor Nickel in *Zentralblatt MATH* 1255.01003. (KP) #40.3.47

Catton, Philip; and Montelle, Clemency. To diagram, to demonstrate: To do, to see, and to judge in Greek geometry. *Philosophia Mathematica* (3) **20** (1) (2012), 25–57. The authors of this paper propose yet another interpretation the role of the diagram in Greek geometry, agreeing only with some aspects of the explanations previously presented by K. Manders and R. Netz but disagreeing mainly with these authors' position on the function of the diagram as aiding a proof. See the review by Victor V. Pambuccian in *Mathematical Reviews* 2889174 (**2012m**:01001). (TBC) #40.3.48

Jones, Alexander. *See* #40.3.52.

Le Meur, Guy. Le rôle des diagrammes dans quelques traités de la «Petite Astronomie» [On diagrams in the *Little Astronomy*]. *Revue d'Histoire des Mathématiques* **18** (2) (2012), 157–221. The collection of treatises known as the *Little Astronomy* forms a basis of elementary spherical astronomy. In this paper, the author shows how the diagrams are used to give structure to the astronomical aspects of the proofs. (DJM) #40.3.49

Lee, Alexander. Goals and scope of the Archimedes Palimpsest transcriptions. *British Society for the History of Mathematics Bulletin* **28** (1) (2013), 1–15. The author, who designed the digital format and coordinated the production of the digital transcriptions of the Palimpsest, describes the editorial decisions and principles behind the process. Going beyond the particular context of this document's reproduction, he examines the complexity of providing an accurate and useful transcription that faithfully represents the physical artefact itself. (PWH) #40.3.50

Marion, Mathieu. *See* #40.3.47.

Marx, Christian. Investigations of the coordinates in Ptolemy's *Geographike Hyphegesis* Book 8. *Archive for History of Exact Sciences* **66** (5) (2012), 531–555. The author investigates the conversions of the coordinates between the location catalogue (in Books 2–7 of Ptolemy's *Geography*) and Book 8. See the review by Eberhard Knobloch in *Zentralblatt MATH* 1254.01011. (TBC) #40.3.51

Montelle, Clemency. *See* #40.3.48.

Pedersen, Olaf. *A Survey of the Almagest*. With annotation and new commentary by Alexander Jones. New York: Springer, 2010, 480 pp. A reprint of Pedersen's classic 1974 guide to the *Almagest*, with over 20 pages of additional comments by Alexander Jones reflecting the latest scholarship. See the review by Nathan Sidoli in *Historia Mathematica* **40** (1) (2013), 92–93. (DJM) #40.3.52

See also #40.3.2; and #40.3.43.

Middle Ages

Galuzzi, Massimo; Maierù, Luigi; and Santoro, Nadia. *La tradizione latina dell'algebra, Fibonacci, le scuole d'abaco, il Cinquecento* [*The Latin Tradition of Algebra, Fibonacci, the Abacus Schools, the Sixteenth Century*] (*Matematiche Complementari* **2**). Rome: Aracne, 2012, 204 pp. This book is the second of a series [see *La nascita dell'algebra e la riflessione dei matematici arabi*, Rome: Aracne, 2010]. It discusses the origin of European Medieval algebra, from Fibonacci's books, through the schools of abacus between the low Middle Ages and Renaissance, the Italian algebraists in the 16th century, Rafael Bombelli's work, to the last texts before the emergence of symbolic algebra at the beginning of the 17th century. (LM) #40.3.53

Maierù, Luigi. *See* #40.3.53.

Raynaud, Dominique. Les débats sur les fondements de la perspective linéaire de Piero Della Francesca à Egnatio Danti: un cas de mathématisation à rebours [The debates about the foundations of linear perspective from Piero della Francesca to Eqnatio Danti: A case of reverse mathematization]. *Early Science*

and Medicine **15** (4–5) (2010), 474–504. This article discusses the debates about the foundations of linear perspective which opposed the supporters of an artificial geometrization of sight to those who were praising the qualities of the drawing according to nature, or were invoking some arguments on a physiological basis in the Quattrocento and Cinquecento. (LM)   #40.3.54

Santoro, Nadia. *See* #40.3.53.

Speiser, David. Arab and Pisan mathematics in the Piazza dei Miracoli, in Speiser, David, *Crossroads. History of Science, History of Art. Essays by David Speiser*, Volume II, edited by Kim Williams (Basel: Birkhäuser, 2011), pp. 9–27. The author analyzes the building history of Piazza dei Miracoli's constructions, where the interior and the various levels of the exterior exhibit different and clashing rotational symmetries, drawing on an earlier study of the symmetries of the Baptistery and the Leaning Tower of Pisa. See the review by Jens Høyrup in *Zentralblatt MATH* 1250.01008. (LM)   #40.3.55

Ulivi, Elisabetta. Su Leonardo Fibonacci e sui maestri d'abaco pisani dei secoli XIII–XV [On Leonardo Fibonacci and on masters of the abacus in Pisa from the thirteenth to the fifteenth century]. *Bollettino di Storia delle Scienze Matematiche* **31** (2) (2011), 247–286. The historical reconstruction of Pisa's mathematical environment from the beginning of the 13th century to the end of the 15th based on documents from the State Archives of Florence and Pisa. See the review by Luigi Borzacchini in *Zentralblatt MATH* 1254.01044. (TBC)   #40.3.56

Williams, Kim. *See* #40.3.55.

Renaissance

Ausejo, Elena. Juan de Icíar's *Practical Arithmetic* (1549): Writing and reckoning in Spanish Renaissance, in #40.3.6, pp. 45–59. Juan de Icíar is known primarily as a calligrapher. However, he also wrote an arithmetic textbook for training the young bourgeoisie during the Spanish Renaissance. (DJM)   #40.3.57

Fazzini, G. Luca Pacioli and Venice, in #40.3.12, pp. 153–158.   #40.3.58

Gessner, Samuel. Bons procédés entre érudits: Un mésolabe pour l'édition de l'*Architecture* de Vitruve (1567) [Friendly services between scholars: A mesolabe for the edition of Vitruvius' *De Architectura* (1567)], in #40.3.8, pp. 523–541. A discussion of a particular scholarly correspondence in 16th century Italy and its significance within the broader intellectual culture. In his 1556 Italian translation of Vitruvius' *De Architectura*, Daniele Barbaro included a commentary on the classical problem of doubling the cube. One of the constructions he mentioned required a particular instrument that Barbaro did not believe could actually be built. Several years later, Barbaro received such an instrument, called a mesolabe, from Antonio Maria Pazzi, a fact that Barbaro discussed in his 1567 edition of the same work. See the review by Victor V. Pambuccian in *Zentralblatt MATH* 1217.01015. (CH)   #40.3.59

Paradinas Fuentes, Jesús Luis. The teaching of mathematics in the Jesuit *Ratio studiorum*, in #40.3.6, pp. 165–179. How opposition by many members of the Society of Jesus lead to a diminution of the role of mathematics in the *Ratio studiorum*. (DJM)   #40.3.60

Phillips, Anthony. The romance of double-entry bookkeeping, in #40.3.12, pp. 177–190.   #40.3.61

Rogers, Leo. Practical mathematics in 16th century England: Social-economic contexts and emerging ideologies in the new Common Wealth, in #40.3.6, pp. 421–441. The author analyzes the way in which belief in the utility of mathematics spread in England during the later 16th century. (DJM)   #40.3.62

Tsayger, Mark A. *Arithmetic in Sixteenth-Century Muscovy*. Beersheba: Berill, 2010, xx+246 pp. This book is dedicated to the *soshny* fractions, an open research topic in the history of Russian mathematics.

Starting with a description of the archaic "alphabetical" numerals and then discussing the original Russian method of denoting numbers "in grids", the author reconstructs the specifics of the Russian soshny arithmetic from the 16th century. See the review by Rem Aleksandrovich Simonov in *Aestimatio* **9** (2012), 268–279. (LM)   #40.3.63

See also #40.3.53.

17th century

Blåsjö, Viktor. The rectification of quadratures as a central foundational problem for the early Leibnizian calculus. *Historia Mathematica* **39** (4) (2012), 405–431. The author attempts to demonstrate how much of Leibniz's research was driven by the attempt to reduce quadratures to rectifications. See the review by Charlotte Wahl in *Zentralblatt MATH* 1253.01004. (TBC)   #40.3.64

Bradley, Robert E. De l'Hôpital, Bernoulli, and the genesis of *Analyse des infiniment petits*. *British Society for the History of Mathematics Bulletin* **28** (1) (2013), 16–24. Compares some elements of l'Hôpital's textbook with a manuscript of Johann Bernoulli's lessons on differential and integral calculus. The lessons formed the basis of l'Hôpital's text and the comparison examines claims that l'Hôpital failed to give Bernoulli sufficient credit for its contents. (PWH)   #40.3.65

Clark, Kathleen M.; and Montelle, Clemency. Priority, parallel discovery, and pre-eminence. Napier, Bürgi and the early history of the logarithm relation. *Revue d'Histoire des Mathématiques* **18** (2) (2012), 223–270. Both John Napier (1550–1617) and Joost Bürgi (1552–1632), more or less simultaneously, and independently, introduced the logarithmic relation, $\log(ab) = \log(a) + \log(b)$, and produced logarithmic tables. However, their approaches were quite different. Here, the authors analyze and contextualize the texts of Napier and Bürgi. (DJM)   #40.3.66

Guicciardini, Niccolò. John Wallis as editor of Newton's mathematical work. *Notes and Records of the Royal Society of London* **66** (1) (2012), 3–17. This article explores John Wallis's role as editor of Newton's mathematical work. The author's objective is to understand how two mathematicians who held different views concerning mathematical method could nonetheless cooperate with one another quite effectively. (LM)   #40.3.67

Katz, Mikhail G.; and Sherry, David M. Leibniz's laws of continuity and homogeneity. *Notices of the American Mathematical Society* **59** (11) (2012), 1550–1558. The authors consider that Leibniz's calculus was "robust and free of contradiction." They study in particular the laws of continuity and homogeneity using his later work, the *Cum Prodiisset*, to expose Leibniz's views on foundational questions. (DJM)
                                                                                                                    #40.3.68

Knobloch, Eberhard. The notion of variation in Leibniz, in #40.3.9, pp. 235–251. This article is an exploration of Leibniz' ideas on combinatorics and a discussion of his *Dissertatio de arte combinatoria* of 1666. (DJM)   #40.3.69

Montelle, Clemency. *See* #40.3.66.

Sherry, David M. *See* #40.3.68.

Swerdlow, N.M. *Urania Propitia, Tabulae Rudophinae faciles redditae a Maria Cunitia* [*Beneficent Urania*, the *Adaptation of the Rudolphine Tables* by Maria Cunitz], in #40.3.9, pp. 81–121. A study of Maria Cunitz's 1650 work *Beneficent Urania*, written to explain difficulties with Kepler's *Rudolphine Tables*. (DJM)   #40.3.70

Wilson, David B. Simplicity in the Copernican Revolution: Galileo, Descartes, Newton, in #40.3.9, pp. 123–133. The author studies the non-empirical evidence for Copernican theories during the 17th century, emphasizing the role of simplicity in its gradual acceptance. (DJM)   #40.3.71

See also #40.3.33; and #40.3.74.

18th century

Alexanderson, Gerald L. About the cover: Maria Gaetana Agnesi—A divided life. *Bulletin of the American Mathematical Society* **50** (1) (2013), 147–152. The cover of the issue shows a portrait of Maria Agnesi (1718–1799); the article gives a succinct biography. (DJM)   #40.3.72

Alfonsi, Liliane. *Étienne Bézout (1730–1783) Mathématicien des Lumières* [*Étienne Bézout Mathematician of the Enlightenment*] (*Collection Histoire des Sciences. Série Études*). Paris: L'Harmattan, 2011, 414 pp. A biography of the French mathematician Étienne Bézout, tracing his life and career (he was deeply involved with reforming mathematical eduction for naval officers and the artillery) with extensive use of archival resources. See the review by Catherine Goldstein in *Historia Mathematica* **40** (1) (2013), 93–96. (DJM)   #40.3.73

Arianrhod, Robyn. *Seduced by Logic. Émilie Du Châtelet, Mary Somerville and the Newtonian Revolution*. Oxford: Oxford University Press, 2012, 352 pp. On the reception of Newtonian theory, and two of its champions. Émilie Du Châtelet (1706–1749) translated into French Newton's *Principia Mathematica*, while Mary Somerville (1780–1872) became an authority on Newtonian physics and published *Mechanism of the Heavens*, rendering Laplace's *Mécanique Céleste* accessible. (DJM)   #40.3.74

Bjarnadóttir, Kristín. Values and virtues of a rural society reflected in 18th and 19th century arithmetic textbooks in Iceland, in #40.3.6, pp. 77–95. A survey of six Icelandic textbooks from the 18th, 19th, and early 20th centuries, and their cultural visions. (DJM)   #40.3.75

De Young, Gregg. Geometry textbooks in the Dars-i-Niẓāmī educational reform in 18th century India, in #40.3.6, pp. 129–140. The Dars-i-Niẓāmī educational reform was an attempt to counter foreign influences on the Islamic community. However, its backward-looking nature doomed it to failure. (DJM)   #40.3.76

Krüger, Jenneke H.J. Mathematics education for poor orphans in the Dutch Republic, 1754–1810, in #40.3.6, pp. 263–280. A wealthy 18th-century philanthropist, the Baroness of Renswoude, endowed three foundations for teaching poor, but talented, orphans, with an emphasis on mathematics. The author considers the foundation in Utrecht, its curriculum, and its outcomes. (DJM)   #40.3.77

Moretto, Antonio. Kästner und Kant über die Grundlagen der Geometrie und das Parallelenproblem [Kästner und Kant on the foundations of geometry and the parallels problem (Parallelenproblem)], in Hykšová, Magdalena, et al., eds., *Eintauchen in die mathematische Vergangenheit. Tagung zur Geschichte der Mathematik in Pfalzgrafenweiler im Schwarzwald, Deutschland, 20.5.–24.5.2009* (*Algorismus* **76**) (Augsburg: ERV Dr. Erwin Rauner Verlag, 2011), pp. 141–153. This philosophical paper discusses the foundation of geometry and the theory on the parallel lines. See the review by Grozio Stanilov in *Zentralblatt MATH* 1254.01014. (LM)   #40.3.78

Wardhaugh, Benjamin. *Poor Robin's Prophecies: A Curious Almanac, and the Everyday Mathematics of Georgian England*. Oxford: Oxford University Press, 2012, 256 pp. *Poor Robin's Almanac* ran from 1662 to 1828 and, along with quirky details of 18th-century life, provides insight into the social uses of mathematics in everyday life, and of mathematical instruction in the 18th century. (DJM)   #40.3.79

19th century

Astola, Jaakko. *See* #40.3.101.

Barbin, Evelyne. Teaching of conics in 19th and 20th centuries in France: On the conditions of changing (1854–1997), in #40.3.6, pp. 61–76. In 19th century France, textbooks for the secondary schools taught conics as defined by foci, or focus and directrix, while texts written to prepare students for entrance to the Polytechnic School defined conics by the general equation of second degree. The author traces the various reforms and ups and downs of the teaching of conics in France from the 19th through 20th centuries. (DJM)
#40.3.80

Brian, Éric. *See* #40.3.84.

Buckley, Benjamin Lee. *The Continuity Debate: Dedekind, Cantor, du Bois-Reymond, and Peirce on Continuity and Infinitesimals*. Boston: Docent Press, 2012, v+169 pp. On the struggle to find an appropriate definition for the continuum. The author provides historical background, and then devotes individual chapters to the work of Richard Dedekind, Georg Cantor, Paul du Bois-Reymond, and Charles Sanders Peirce. (DJM)
#40.3.81

Chocholová, Michaela; and Štoll, Ivan. *Wilhelm Matzka (1798–1891)* [in Czech] (*Dějiny Matematiky/History of Mathematics* 49). Prague: Matfyzpress, 2011, 245 pp. The life and activities of German scientist Wilhelm Matzka who taught at the University of Prague from 1850 to 1871. See the review by V.N. Saliĭ in *Zentralblatt MATH* 1250.01002. (TBC)
#40.3.82

Christiansen, Andreas. A controversy about geometry textbooks in Norway 1835–36, in #40.3.6, pp. 117–128. The (bitter and public) controversy was between Bernt Michael Holmboe (1795–1850) and Christopher Hansteen (1784–1873) over whether geometry should be taught in the Euclidean style. (DJM)
#40.3.83

Ehrhardt, Caroline. *Évariste Galois. La fabrication d'une icône mathématique* [*Évariste Galois. The Making of a Mathematical Icon*]. *With a preface by Éric Brian* (*En Temps & Lieux* 29). Paris: Éditions de l'École des Hautes Études en Sciences Sociales (EHESS), 2011, 301 pp. This book is on the life and activity of Évariste Galois and his relation with the French Academy of Sciences. It also includes a comprehensive bibliography. See the review by Youcef Guergour in *Zentralblatt MATH* 1254.01030. (LM)
#40.3.84

Ehrhardt, Caroline. La naissance posthume d'Évariste Galois (1811–1832) [The posthumous birth of Évariste Galois (1811–1832)], in #40.3.8, pp. 543–568. A discussion of the publication and public reaction to Galois' works, including the heated disagreements between Joseph Liouville and Guillaume (Guglielmo) Libri, in the context of the development of modern algebra. See the review by V.N. Saliĭ in *Zentralblatt MATH* 1223.01012. (CH)
#40.3.85

Frejd, Peter. Old algebra textbooks: A resource for modern teaching. *British Society for the History of Mathematics Bulletin* 28 (1) (2013), 25–36. Compares five Swedish algebra texts from the late 18th, early 19th centuries, considering, among other topics, their treatments of negative and imaginary numbers and infinity. Suggests some ways such a comparison exercise might be used in a mathematics classroom at the secondary classrooms. (PWH)
#40.3.86

Furinghetti, Fulvia. Secondary teachers in the unified Italy: A group portrait with a zoom, in #40.3.6, pp. 181–201. A general survey of teacher training and the profession of mathematics teaching in Italy after unification, with a special focus on Alberto Conti (1873–1940), founder and editor of the journal *Il Bollettino di Matematiche e di Scienze Fisiche e Naturale. Giornale per la Coltura dei Maestri delle Scuole Elementari e degli Alunni delle Scuole Normali*. (DJM)
#40.3.87

Grattan-Guinness, Ivor. On the role of the Ecole Polytechnique, 1794–1914, with especial reference to mathematics, in #40.3.9, pp. 217–234. Grattan-Guinness considers the organisation and national role of the Ecole Polytechnique, from its founding in 1794, through to 1914. He concentrates on the place of the mathematical courses in the school. (DJM)   #40.3.88

Maritz, Pieter; and Mouton, Sonja. Francis Guthrie: A colourful life. *The Mathematical Intelligencer* **34** (3) 2012, 67–75. Francis Guthrie (1831–1899) is best known for his statement of the Four Colour Problem in 1852. The authors present an overview of Guthrie's interests and the life he lived in South Africa from 1861 until his death. (FA)   #40.3.89

Menghini, Marta. Rational approaches to arithmetic and real numbers in the Italian textbooks and programmes for the classical and the scientific curricula, in #40.3.6, pp. 317–331. In the classical curriculum in Italian secondary education after unification, rational arithmetic was paired with Euclidean geometry to demonstrate that all of mathematics was a deductive science. However, in the scientific curriculum of the Technical Institutes, the term "rational" does not appear in the context of arithmetic and algebra. (DJM)
#40.3.90

Mollon, J.D. The origins of the concept of interference. *Philosophical Transactions of the Royal Society of London. Series A Mathematical, Physical and Engineering Sciences* **360** (1794) (2002), 807–819. This paper discusses the origins of the concept of interference from Newton's explanation of the anomaly of the tides in the Gulf of Tongkin, through Thomas Young's work and courses of lectures. (LM)   #40.3.91

Moussard, Guillaume. The notion of method in 19th-century French geometry teaching: Three textbooks, in #40.3.6, pp. 333–349. The author considers three 19th-century French textbooks. All of them asserted the importance of the notion of "method" in geometry, but their approaches were very different. (DJM)
#40.3.92

Mouton, Sonja. *See* #40.3.89.

Patergnani, Elisa; and Pepe, Luigi. Insegnamenti matematici e istruzione tecnica dalla legislazione del Granducato di Toscana alla legge Casati [Mathematical teaching and technical training from the legislation of the Grand Duchy of Tuscany to the Casati act]. *Bollettino di Storia delle Scienze Matematiche* **31** (2) (2011), 167–176. A discussion of the awakening of the technical education in Tuscany culminating in the "Regulations of the Tuscan Technical Institute" in 1857. See the review by Luigi Borzacchini in *Zentralblatt MATH* 1254.01017. (TBC)   #40.3.93

Pepe, Luigi. *See* #40.3.93.

Picado, Miguel. Historical research in mathematics education: The case of the metric system in Spain, in #40.3.6, pp. 351–368. The metric system was introduced into Spain in the second half of the 19th century. Here, the author considers the impact this had on the teaching of weight and measures. (DJM)   #40.3.94

Pineau, François. On a missed attempt to introduce history of science in curricula. An analysis of Paul Tannery's program for the secondary school, in #40.3.6, pp. 369–382. In 1892, at the request of the Ministry of Public Instruction, Paul Tannery prepared a draft for a curriculum in history of science, but ultimately it was not adopted. (DJM)   #40.3.95

Porubský, Štefan. Jakob Philipp Kulik – eine Mathematikerlaufbahn durch die Kronländer [Jakob Philipp Kulik – a mathematician's path through the crownlands], in Hykšová, Magdalena, et al., eds., *Eintauchen in die mathematische Vergangenheit. Tagung zur Geschichte der Mathematik in Pfalzgrafenweiler im Schwarzwald, Deutschland, 20.5.–24.5.2009* (*Algorismus* **76**) (Augsburg: ERV Dr. Erwin Rauner Verlag, 2011), pp. 154–167. The author discusses life and activity of Jacob Philipp Kulik, Professor of Mathematics in Prague for more than 30 years. See the review by Grozio Stanilov in *Zentralblatt MATH* 1254.01018. (LM)   #40.3.96

Preveraud, Thomas. *A Course of Mathematics* (1798–1841): The American story of a British textbook, in #40.3.6, pp. 383–397. Charles Hutton's *A Course of Mathematics* was first published in 1798, and circulated widely in the United States, as well as Britain. In 1812, an American version appeared, by Robert Adrain. Both versions then enjoyed complex histories, passing through numerous editions. (DJM)   #40.3.97

Reich, Karin; and Roussanova, Elena. Visualising geomagnetic data by means of corresponding observations. Alexander von Humboldt, Carl Friedrich Gauss and Adolph Theodor Kupffer. I. *GEM – International Journal on Geomathematics* **3** (1) (2012), 1–16. The paper tells about the beginnings of visualising geomagnetic data by means of observations. See the review by Roman Murawski in *Zentralblatt MATH* 1254.01001. (TBC)   #40.3.98

Roussanova, Elena. *See* #40.3.98.

Shields, Paul. *Charles S. Peirce on the Logic of Number*. Boston: Docent Press, 2012, vii+134 pp. Peirce's paper, "On the Logic of Number", was published in 1881. Here, the author gives the background to and historical and philosophical perspective on the paper, provides a proof of the equivalence of the Peirce and Dedekind axioms for the natural numbers, and includes some letters by Max Fisch on Peirce. (DJM)   #40.3.99

Sørensen, Henrik Kragh. What's Abelian about abelian groups? *British Society for the History of Mathematics Bulletin* **28** (1) (2013), 37–51. Explains some connections between Abel's ideas and later group-theoretic results, placing them in the larger context of the evolution of mathematics in the nineteenth century. (PWH)   #40.3.100

Stankovic, Radomir S.; and Astola, Jaakko. *From Boolean Logic to Switching Circuits and Automata* (*Studies in Computational Intelligence* **335**). Berlin: Springer, 2011, xvii+212 pp. This book presents a brief account of the developments of Switching Theory and highlights some less known facts in its history. (LM)   #40.3.101

Štoll, Ivan. *See* #40.3.82.

Turner, Laura E. The Mittag-Leffler Theorem: The origin, evolution, and reception of a mathematical result, 1876–1884. *Historia Mathematica* **40** (1), 36–83. The author traces the development of Mittag-Leffler's theorem on meromorphic functions from its first formulation in 1876 through to its full published version in 1884. Her investigation illuminates Weierstrass' framework for analysis and the introduction of Cantor's set-theoretic results. (DJM)   #40.3.102

Valente, Wagner Rodrigues. North American influence in mathematics teachers' education for primary school in Brazil, in #40.3.6, pp. 477–484. The author analyzes the influence of the US in the development of mathematics education in Brazil in the late 19th and early 20th centuries. (DJM)   #40.3.103

Verhulst, Ferdinand. Aspects of Poincaré's program for dynamical systems and mathematical physics. *Acta Applicandae Mathematicae* **120** (1) (2012), 299–315. An examination of certain works by Henri Poincaré, with emphasis on his theory of critical exponents and his contributions to mathematics physics. See the review by Alan S. McRae in *Mathematical Reviews* 2945639. (CH)   #40.3.104

Verhulst, Ferdinand. *Henri Poincaré. Impatient Genius*. New York: Springer, 2012, xi+260 pp. A scientific biography of Henri Poincaré, the first in English. The book is divided into two sections. The first hundred pages, "The Life of Henri Poincaré", is biographical; the second section, "Scientific Details and Documents", is more technical, delving deeper into his work. (DJM)   #40.3.105

Walsh, Alison. *Relations between Logic and Mathematics in the Work of Benjamin and Charles S. Peirce*. Boston: Docent Press, 2012, ix+313 pp. On Benjamin Peirce (1809–1880) and his son Charles Sanders Peirce (1839–1914). The author starts with a consideration of Benjamin Peirce's *Linear Associative Algebra*

(1870), and then investigates the background to, and development of, Charles Peirce's ideas in algebraic logic, centered on his *Description of a Notation for the Logic of Relatives*. Then the author considers the connections of Peirce's logic to the later work of Ernst Schröder (1841–1902). (DJM)   #40.3.106

See also #40.3.3; #40.3.11; #40.3.19; #40.3.74; and #40.3.162.

20th century

Alladi, Krishnaswami, ed. Srinivasa Ramanujan: Going strong at 125, Part I. *Notices of the American Mathematical Society* **59** (11) (2012), 1522–1537. In honor of Ramanujan's 125th anniversary, an article celebrating his life, work and mathematical legacy. Besides a section from the editor, this article includes contributions from George E. Andrews, Bruce C. Berndt, and Jonathan M. Borwein. (DJM)   #40.3.107

Alladi, Krishnaswami, ed. Srinivasa Ramanujan: Going strong at 125, Part II. *Notices of the American Mathematical Society* **60** (1) (2013), 10–22. A continuation of #40.3.107, this article contains sections by Ken Ono, K. Soundararajan, R.C. Vaughan, and S. Ole Warnaar on aspects of Ramanujan's work. (DJM)   #40.3.108

Almeida, Mária Cristina. The making of mathematics curriculum: The case of Telescola in Portugal in the middle 1960s, in #40.3.6, pp. 11–22. How the Modern Mathematics movement penetrated the Telescola (classes supported by television) curriculum in Portugal during the 1960s. (DJM)   #40.3.109

Amaral, Ana; Gomes, Alexandra; and Ralha, Elfrida. Reforming mathematics education in the early 20th century: Implications on "measuring", as presented in a Portuguese textbook, in #40.3.6, pp. 23–43. An analysis of the approach to measurement and the metric system in a Portuguese primary school textbook adopted in the early 20th century. (DJM)   #40.3.110

Baaz, Matthias; Papadimitriou, Christos H.; Putnam, Hilary W.; Scott, Dana S.; and Harper, Charles L., Jr., eds., *Kurt Gödel and the Foundations of Mathematics: Horizons of Truth*. Cambridge: Cambridge University Press, 2011, xxiii+540 pp. A wide-ranging volume of essays commemorating the life and work of Kurt Gödel. The frontmatter includes a short biography of Gödel. The chapters with more historical content are listed or abstracted separately as: #40.3.123; #40.3.130; #40.3.131; #40.3.135; #40.3.140; #40.3.142; #40.3.144; #40.3.151; and #40.3.159. (DJM)   #40.3.111

Beck, Dietrich. *Der Mathematiker Heinrich Tietze 1880–1964* [*The Mathematician Heinrich Tietze*] (*Algorismus* **75**). Augsburg: ERV Dr. Erwin Rauner Verlag, 2011, xvi+357 pp. A biography of the Austrian-German topologist Heinrich Tietze. See the review by Reinhard Siegmund-Schultze in *Zentralblatt MATH* 1251.01003. (TBC)   #40.3.112

Bečvář, Jindřich; and Slavík, Antonín, eds. *Jan Vilém Pexider (1874–1914)* (*Dějiny Matematiky/History of Mathematics* **38**). Prague: Matfyzpress, 2009, 110 pp. This is the English version of the Czech original work. It includes the same material as the original edition except for some minor changes, i.e., the reprints of three short articles by Pexider published in 1905 that are omitted. See the review by Albert C. Lewis in *Zentralblatt MATH* 1250.01005. (LM)   #40.3.113

Bečvářová, Martina. *The Forgotten Mathematician Henry Lowig (1904–1995)* [in Czech] (*Dějiny Matematiky/History of Mathematics* **52**). Prague: Matfyzpress, 2011, 279 pp. A biography of the German-Czech mathematician Heinrich (Henry) Lowig. See the review by Reinhard Siegmund-Schultze in *Zentralblatt MATH* 1251.01004. (TBC)   #40.3.114

Bonifant, Araceli. *See* #40.3.149.

Bostock, David. *Russell's Logical Atomism*. Oxford: Oxford University Press, 2012, 320 pp. A detailed study of Bertrand Russell's work from 1900 to 1924, with a special focus on the latter half of the period,

when Russell developed his theory of "logical atomism", applying his logic to the theory of knowledge and metaphysics. (DJM) #40.3.115

Bozhinovski, Stevo. Professor Cupona and the first lecture on abstract automata in Macedonia. *Mathematica Macedonica* **8** (2010), 79–94. On the influence of Gorgi Cupona on the development of computer science and cybernetics in Macedonia from 1968 onwards. (DJM) #40.3.116

Broekman, Harrie; and Verhoef, Nellie. Pierre Marie van Hiele (1909–2010): "Lifelong mathematical thinking" [in Dutch]. *Nieuw Archief voor Wiskunde* (5) **13** (2) (2012), 121–124. An appreciation of Dutch mathematician and educational theorist Pierre Marie van Hiele. (DJM) #40.3.117

Bryc, Wlodzimierz; and Wesolowski, Jacek. Professor Agnieszka Plucińska's paths in and around probability. *Demonstratio Mathematica* **45** (2) (2012), 215–225. A biographical article on Polish probabilist Agnieszka Plucińska heading a special issue of the journal celebrating her 80th birthday. (DJM) #40.3.118

Buchwald, Jed Z. Publications by Charles Coulston Gillispie, in #40.3.9, pp. 3–13. A bibliography of Gillispie. (DJM) #40.3.119

de Carvalho, João Bosco Pitombeira. Ernst Breslich and his influence in Brazil: The debate on fusion of the branches of school mathematics, in #40.3.6, pp. 97–115. Euclides Roxo introduced a new secondary curriculum in Brazil in 1931, removing the separation of arithmetic, algebra, and geometry. He was strongly influenced by the work and textbooks of the American educator, Ernst Breslich (1874–1966), director of mathematics department of the Laboratory Schools, and a recent Chicago PhD. (DJM) #40.3.120

Catellier, Rémi; and Mazliak, Laurent. The emergence of French probabilistic statistics. Borel and the Institut Henri Poincaré around the 1920s. *Revue d'Histoire des Mathématiques* **18** (2) (2012), 271–335. The paper concerns the development of mathematical statistics, especially the introduction of probabilistic methods in France in the 1920s. The focus is on the work of Emile Borel, Maurice Fréchet, and Georges Darmois, and structural developments including the founding of the Institut de Statistiques de l'Université de Paris and the Institut Henri Poincaré. (DJM) #40.3.121

Cheng, Zhao. Historical notes on some basic concepts in graph theory [in Chinese]. *Mathematics in Practice and Theory* **41** (21) (2011), 1–9. On the origins of certain terms and concepts in graph theory, from graphs and subgraphs to trees, planar graphs, and coloring. (DJM) #40.3.122

Cohen, Paul J. My interaction with Kurt Gödel: The man and his work, in #40.3.111, pp. 435–448. #40.3.123

van Dalen, Dirk. *L.E.J. Brouwer. Topologist, Intuitionist, Philosopher. How Mathematics Is Rooted in Life*. Berlin: Springer, xii+875 pp. An updated revision of the two-volume biography *Mystic, Geometer, and Intuitionist. The Life of L.E.J. Brouwer, 1881–1966* published by Oxford University Press in 1999/2005, it remains, to quote an earlier reviewer, "the main secondary source of information on L.E.J. Brouwer". See the review by Volker Peckhaus in *Zentralblatt MATH* 1255.01024. (KP) #40.3.124

De Bock, Dirk. *See* #40.3.163.

d'Enfert, Renaud. Doing math or learning to count? Primary school mathematics confronting the democratization of access to secondary education in France, 1945–1985, in #40.3.6, pp. 149–164. How reforms in secondary education in France had an impact on the content, methods and aims of primary mathematics education. (DJM) #40.3.125

Desmet, Ronny. Putting Whitehead's theory of gravitation in its historical context. *Logique et Analyse* (NS) **54** (214) (2011), 287–315. The author puts Whitehead's reformulation of general relativity in its

historical context. See the review by Horst-Heino von Borzeszkowski in *Zentralblatt MATH* 1254.01020. (TBC)   #40.3.126

Dias, André Luis Mattedi. Martha Dantas at Centre International d'Études Pédagogiques (Sèvres, 1953): A contribution for the history of Mathematics Education in Brazil, in #40.3.6, pp. 141–148. Martha Dantas was a Professor of Didactics of Mathematics at Bahia from 1952 to 1968. In 1953, she made a tour of educational institutions in Europe, including the Centre International d'Études Pédagogiques at Sèvres. The author considers the importance of the meetings she had in Europe for her later career and mathematics education in Brazil. (DJM)   #40.3.127

Dyson, Freeman. A walk through Johnny von Neumann's garden. *Notices of the American Mathematical Society* **60** (2) (2013), 154–161. Based on a talk given at Brown University in May 2010. Dyson revisits several of von Neumann's papers on different topics, explaining the background and context to von Neumann's work as well as his contributions and later developments in the relevant topics. (DJM)   #40.3.128

Eschenburg, Jost-Hinrich. Wilhelm Klingenberg, 1924–2010 [in German]. *Jahresbericht der Deutschen Mathematiker-Vereinigung* **114** (3) (2012), 163–170. A sketch of the life of the German geometer and his work in areas including Riemannian geometry and geodesics. (KP)   #40.3.129

Feferman, Solomon. Lieber Herr Bernays!, Lieber Herr Gödel! Gödel on finitism, constructivity and Hilbert's program, in #40.3.111, pp. 111–135.   #40.3.130

Friedman, Harvey M. My forty years on his shoulders, in #40.3.111, pp. 399–433.   #40.3.131

Giacardi, Livia. The emergence of the idea of the mathematics laboratory at the turn of the twentieth century, in #40.3.6, pp. 203–225. An analysis of competing models of mathematics laboratory with a focus on the work of Giovanni Vailati. (DJM)   #40.3.132

Gillispie, Charles Coulston. A professional life in the history of science, in #40.3.9, pp. 15–24. Gillispie describes his long career. Reprint of an article in *Historically Speaking: The Bulletin of the Historical Society* **5** (3) (2004), 2–6. (DJM)   #40.3.133

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Mazliak, Laurent. *See* #40.3.121.

Milnor, John. *Collected Papers of John Milnor. Vol. 6. Dynamical Systems (1953–2000).* Edited by Araceli Bonifant. Providence, RI: American Mathematical Society, 2013, 546 pp. This volume of Milnor's *Collected Papers* includes his papers on real and complex dynamical systems. In some cases there are correction, clarifications, and notices of later work inspired by Milnor's research. (DJM)   #40.3.149

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#40.3.154

Retakh, Vladimir, ed. Israel Moisevich Gelfand. *Notices of the American Mathematical Society* **60** (1) (2013), 24–49. An appreciation of the life, times, and work of Israel Gelfand (1913–2009) in his centenary year. The article includes contributions from the editor, I.M. Singer, David Kazhdan, Anatoly Vershik, Bertram Kostant, Simon Gindikin, Peter Lax, and Andrei Zelevinsky. (DJM)   #40.3.155

Retakh, Vladimir, ed. Israel Moisevich Gelfand, Part II. *Notices of the American Mathematical Society* **60** (2) (2013), 162–171. A continuation of #40.3.155, this article includes contributions from Dusa McDuff, Vladimir Retakh, Serge Tabachnikov, and Mark Saul. (DJM)   #40.3.156

Roquette, Peter. *Contributions to the History of Number Theory in the 20th Century* (*Heritage of European Mathematics* **7**). Zürich: European Mathematical Society, 2012, 289 pp. A collection of essays, largely using the Göttingen archives, on the history of number theory, including the work of Abraham Adrian Albert, Emil Artin, Richard Brauer, Helmut Hasse, Emmy Noether, and others. (DJM)   #40.3.157

Rowe, David E. Mathematics in wartime: Private reflections of Clifford Truesdell. *The Mathematical Intelligencer* **34** (4) 2012, 29–38. Truesdell (1919–2000) was the founding editor in of both the *Archive for Rational Mechanics and Analysis*, and of the *Archive for History of Exact Sciences*. Using Truesdell's private notes from when he was a graduate summer school student at Brown University in 1942, the author discusses the building of the applied mathematics program at Brown where many European émigré mathematicians had come to work. (FA)   #40.3.158

Scherbak, Inna. *See* #40.3.152.

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Sigmund, Karl. "Dozent Gödel will not lecture", in #40.3.111, pp. 75–94.   #40.3.159

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Speiser, David. *Gruppentheorie und Quantenmechanik*: The book and its position in Weyl's work, in Speiser, David, *Crossroads. History of Science, History of Art. Essays by David Speiser*, Volume II, edited by Kim Williams (Basel: Birkhäuser, 2011), pp. 79–99. This paper discusses Weyl's understanding of quantum mechanics and, after reporting on early mathematical papers, analyzes Weyl's book "Gruppentheorie und Quantenmechanik". Starting from its origin, the author goes through the topics giving indications of what is new in it with respect to physics and chemistry. (LM) #40.3.161

Stillwell, John. Poincaré and the early history of 3-manifolds. *Bulletin of the American Mathematical Society* **49** (4) (2012), 555–576. Modern topological techniques, such as those used in the proof of the Poincaré conjecture, are very different from those of Poincaré and his contemporaries. In this article, the author "revisits the world of the early topologists" at the close of the 19th and beginning of the 20th centuries. Along with Poincaré himself, the work of Poul Heegaard, Wilhelm Wirtinger, Heinrich Tietze, Max Dehn, and James Alexander is explained. (DJM) #40.3.162

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See also #40.3.3; #40.3.87; and #40.3.101.

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