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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 30, Number 1, are numbered: 30.1.1, 30.1.2, 30.1.3, etc.

The initials in parentheses at the end of an entry indicate the abstractor. In this issue there are abstracts by Janet L. Beery (Redlands, CA), Larry D'Antonio (Mahwah, NJ), Laura Martini, Kim Plofker, and Duncan J. Melville.

General

Ackerberg-Hastings, Amy; and Shell-Gellasch, Amy. Online museum collections in the mathematics classroom. *MAA Convergence* (Dec. 2014), 14 pp., electronic only. Ideas for replicating and using historical objects from the Smithsonian Institution to help teach mathematics. (JLB) #43.4.1

Ackerberg-Hastings, Amy. Early modern computation on sectors, in #43.4.30, pp. 51–61. From the abstract: "This paper uses 27 sectors in the Smithsonian's National Museum of American History mathematics collections to trace the history of the instrument". (DJM) #43.4.2

Bennett, Deborah. Origins of the Venn diagram, in #43.4.30, pp. 105–119. A summary of the history of Venn diagrams and their precursors, especially in Euler and Leibniz. (DJM) #43.4.3

Bernardi, Gabriella. *The Unforgotten Sisters. Female Astronomers and Scientists Before Caroline Herschel* (*Popular Astronomy*). Cham: Springer; Chichester: Praxis, 2016, xxvi+179 pp. This book tells the

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lives of twenty-five female scientists, with a specific focus on astronomers and mathematicians, spanning a period of about 4000 years. Among them are Hypatia of Alexandra, Hildegard of Bingen, Elisabetha Hevelius, and Maria Gaetana Agnesi. (LM) #43.4.4

Biggs, Norman. *Quite Right. The Story of Mathematics, Measurement, and Money*. Oxford: Oxford University Press, 2016, viii+176 pp. A popular interweaving of the history of mathematics and finance, from early arithmetic and taxation to cybersecurity. See the review by Thomas Sonar in *Zentralblatt MATH* 1332.01001. (DJM) #43.4.5

Blanco Castañeda, Liliana. Breve historia de la probabilidad y la estadística [A short history of probability and statistics theories], in González-Barrios, José M., et al., eds., *Modelos en estadística y probabilidad. II* (*Aportaciones Matemáticas. Comunicaciones* **44**) (México: Sociedad Matemática Mexicana; México: Instituto de Matemáticas, UNAM; México: Cinvestav, 2011), pp. 69–82. A brief history with numerous capsule biographies concerning probability and statistics from classical to modern times. See the review by R.W. van der Waall in *Zentralblatt MATH* 1328.01007. (DJM) #43.4.6

Capecchi, Danilo. Historical and epistemological point of view of mathematical physics. *Mathematics and Mechanics of Solids* **20** (10) (2015), 1263–1273. Historical case studies illustrating applications of mathematics to physics, the emergence of modern mathematical physics and examples of rational mechanics. (DJM) #43.4.7

Ceccarelli, Marco, ed. *Proceedings of EUCOMES 08. The Second European Conference on Mechanism Science. Selected Papers Based on the Presentations at the Conference, Cassino, Italy, September 17–20, 2008*. With CD-ROM. Dordrecht: Springer, 2009, xxvi+625 pp. Proceedings from the Second European Conference on Mechanism Science. The papers with historical content are abstracted separately as: #43.4.28; #43.4.56; #43.4.66; #43.4.67; and #43.4.69. (LM) #43.4.8

Corry, Leo. *A Brief History of Numbers*. Oxford: Oxford University Press, 2015, xiii+309 pp. A history of number from Mesopotamia to modernity, including Greek, Arabic and Western approaches, but not Indian, East Asian, or Latin American. See the review by Robert W. van der Waall in *Zentralblatt MATH* 1335.01001. (DJM) #43.4.9

Courtebras, Bernard. *Mathématiser le hasard. Une histoire du calcul des probabilités* [*Mathematizing Chance. A History of the Calculus of Probability*]. Paris: Vuibert, 2008, vii+209 pp. This book gives a general and accessible history of the development of understanding and theory of probability from early times, through the emergence of mathematical calculations of chance in the work of Pascal and Fermat and on to modern times. (DJM) #43.4.10

D'Ambrosio, Ubiratan. In memoriam: Paulus Gerdes (1952–2014). *Historia Mathematica* **43** (2) (2016), 129–132. A memorial tribute to Paulus Gerdes, best known for his work in ethnomathematics and mathematics education. (DJM) #43.4.11

Debnath, Lokenath. A brief history of the most remarkable numbers π, g and δ in mathematical sciences with applications. *International Journal of Applied and Computational Mathematics* **1** (4) (2015), 607–638. This paper presents a brief history of the numbers π, g and δ in mathematical sciences along with many examples of their applications. (LM) #43.4.12

Doyle, Tim; Kutler, Lauren; Miller, Robin; and Schueller, Albert. Proofs without words and beyond. *MAA Convergence* (Aug. 2014), 7 pp., electronic only. History and philosophy of visual proofs, together with dynamic, interactive "proofs without words 2.0." (JLB) #43.4.13

Dry, Sarah. *The Newton Papers. The Strange and True Odyssey of Isaac Newton's Manuscripts*. New York, NY: Oxford University Press, 2014, xi+238 pp. The long saga of Newton's manuscripts, their loss,