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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 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 Laura Martini, Kim Plofker, and Duncan J. Melville.

General

Clegg, Brian. *Are Numbers Real? The Uncanny Relationship of Mathematics and the Physical World*. New York: St. Martin's Press, 2016, x+288 pp. This book is about mathematics as a whole, its relationship to reality and its role for science that the author presents through the whole history of mathematics and science. See the review by Peeter Müürsepp in *Mathematical Reviews* 3616161. (LM) #45.2.1

Corry, Leo. *A Brief History of Numbers*. Oxford: Oxford University Press, 2015, xiii+309 pp. A history of number and numbers from Mesopotamia to modernity, including Greek, Arabic and Western approaches, but not Indian, East Asian, or Latin American. See the review by Robert E. Bradley in *Historia Mathematica* **44** (4) (2017), 423–424. (DJM) #45.2.2

Gerbino, Anthony, ed. *Geometrical Objects. Architecture and the Mathematical Sciences 1400–1800* (*Archimedes: New Studies in the History and Philosophy of Science and Technology* **38**). Cham: Springer, 2014, xiv+318 pp. A collection of papers on the intersection of architecture and mathematics that grew

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out of a conference at Oxford in 2007. Apart from the introduction by the editor, the individual papers are abstracted or indexed as: #45.2.21; #45.2.27; #45.2.30; #45.2.31; #45.2.32; #45.2.36; #45.2.40; #45.2.47; #45.2.48; #45.2.50; and #45.2.52. (DJM) #45.2.3

Shockey, Tod. Confluence. *Revista Latinoamericana de Etnomatemática* **10** (1) (2017), 112–127. From the summary: "This position paper argues that ethnomathematics, while not a curriculum (nor a discipline, that is why D'Ambrosio calls it a program), is a confluence of ideas and concepts that may lead to different mathematics engagement of our students [...] The definition of ethnomathematics, as coined by D'Ambrosio in 1985 sets the foundation. Scholarship from other disciplines is included, as these areas motivate new thinking, new questions, and new perspectives." (LM) #45.2.4

Mesopotamia

Friberg, Jöran; and Al-Rawi, Farouk N.H. *New Mathematical Cuneiform Texts* (*Sources and Studies in the History of Mathematics and Physical Sciences*). Cham: Springer, 2016, xvii+553 pp. This large, complicated, and dense volume publishes many new mathematical cuneiform texts and re-examines interpretations of previously published texts. The new texts were mostly found and copied by Al-Rawi and include tablets ranging from the Seleucid to Old Babylonian periods discovered in the British Museum; Old Babylonian tablets from the Iraq Museum, and some early reciprocal tables from the Suleimaniyah Museum. The chapters are organized thematically rather than chronologically and pre-suppose a familiarity with Mesopotamian mathematics on the part of the reader. See the reviews by Victor J. Katz in *Mathematical Reviews* 3617990 and Franz Lemmermeyer in *Zentralblatt MATH* 1370.01002. (DJM) #45.2.5

Hajossy, Rudolf. *Plimpton 322*: A universal cuneiform table for Old Babylonian mathematicians, builders, surveyors and teachers. *Tatra Mountains Mathematical Publications* **67** (2016), 1–40. Re-examination of the famous cuneiform clay tablet from early second-millennium BCE Mesopotamia listing numbers relating to Pythagorean triples. See the review by Victor J. Katz in *Mathematical Reviews* 3632499. (KP) #45.2.6

Mansfield, Daniel F.; and Wildberger, N.J. Plimpton 322 is Babylonian exact sexagesimal trigonometry. *Historia Mathematica* **44** (4) (2017), 395–419. The authors read the famous Old Babylonian tablet Plimpton 322 as a trigonometric table. (DJM) #45.2.7

Proust, Christine. BM 110450, a scratch pad on a clod of clay? *Nouvelles Assyriologiques Brèves et Utilitaires* **2017** (2) #33. Based upon the particular graphical forms of notation, the author concludes that, "BM 110450 might be the scratch pad of an administrative text, possibly from the Ur III period". (DJM) #45.2.8

Shnider, Steven. Britton's theory of the creation of column Φ in Babylonian system A lunar theory. *Archive for History of Exact Sciences* **71** (3) (2017), 279–318. In a series of technical papers spanning a 20-year period, John Britton proposed a detailed model for the development of the System A columns and parameters of Babylonian mathematical astronomy, including the mysterious Column Φ. In this expository paper, the author first details the background to the problem and the contributions towards its solution of the early pioneers before giving a comprehensive explanation of Britton's model, its sources, and its explanatory power. This material was previously only available scattered throughout Britton's original publications. Shnider's paper is sufficiently detailed and self-contained that the interested reader can gain a full understanding of the model and the remaining issues and criticisms. See the review by Duncan J. Melville in *Mathematical Reviews* 3636555. (DJM) #45.2.9

Wildberger, N.J. *See* #45.2.7.

See also #45.2.13; and #45.2.23.