

## REVIEWS

*Edited by* JUDY V. GRABINER

All books, monographs, journal articles, and other publications (including films and other multisensory materials) relating to the history of mathematics are abstracted in the Abstracts Department. The Reviews Department prints extended reviews of selected publications.

*Materials for review should be sent to the editor of the Abstracts Department, Dr. Albert C. Lewis, McMaster University, Hamilton, Ontario L8S 4M2, Canada.* Publishers who wish to accelerate the process of abstracting and subsequent reviewing may send a copy directly to the editor of the Book Review Department: Professor Judy V. Grabiner, 424 West 7th Street, Claremont, CA 91711. Russian-language publications should be submitted to Professor Esther R. Phillips, Herbert H. Lehman College, Bedford Park Blvd. West, Bronx, NY 10468.

Most reviews are solicited. However, colleagues wishing to review a book are invited to make known their wishes. Comments on books, articles, or reviews should be submitted to the Correspondence Department. We also welcome retrospective reviews of older books. Colleagues interested in writing such reviews should consult first with the editor to avoid duplication.

**Numbers: Their History and Meaning.** By Graham Flegg. New York (Schocken Books). 1983. x + 295 pp. \$14.95. (Also in paperback: London (André Deutsch), 1983, £ 8.95.)

*Reviewed by* Phillip S. Jones

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The preface and brief concluding chapter of this book make it clear that the author did not intend to write either a textbook or a treatise, but primarily an exposition for teachers, general readers, and parents. In the last chapter he presents his view of the role of history in mathematical pedagogy. As the director of the history of mathematics program in the Open University in Great Britain he has given much thought to this. He stresses the importance of teaching for *understanding*; he sees it as being developed in the course of historical studies in which mathematics is often shown to begin with real world problems whose solutions are later made into abstract systems, generalized, and applied to new problems. He also urges the use of historical materials and alternative algorithms as a part of creative student activities which can lead to "discovery," deeper understanding, and improved motivation.

The major portion of the book provides a history of the symbolism, definitions, and algorithms associated with real numbers as taught in the elementary and secondary schools. Brief mentions are made of further extensions of the number

concept to complex and transcendental numbers, quaternions, determinants, and matrices. Brief mention is also made of Peano, Frege, and the axiomatization of the natural numbers; and of Cantor, Dedekind, and the problem of defining the real numbers. The book is strong on detailed numerical examples of such things as the rules of false position, square and cube root algorithms. These are followed by theoretical and symbolic expositions of the rules and their history.

One of the nine chapters deals with the history of algebra, stressing symbolism, linear and quadratic equations, but also including discussions of higher-degree equations and the fundamental theorem of algebra. Another chapter deals with "Recreational Numbers"—magic squares, palindromes, etc. All in all, the book fulfills its objectives quite well. It can be breezed through fairly readily by a parent or general reader with at least a moderate (secondary school) background in algebra. It can be used for enrichment and project ideas by teachers, and substantial segments can be read by secondary school students—at least the better ones. It has some eccentricities. For example, the Index is in three parts, "Names Quoted," "Works Quoted," and "General." This division probably facilitates access by a teacher using it as a handbook. However, there are some gaps in the Index (e.g., "Aztec"), and the lack of footnotes or specific references (there is a twelve-book general bibliography) is frustrating to a person seeking additional sources or documentation for a statement.

A few problems or specific suggestions for projects or additional reading might have led busy and undertrained teachers to make more and better use of the book, which is a good source of ideas. In view of the fact that this version was published in the United States, it would have been improved if a few Britishisms had been Americanized (e.g., "valve" could be "tube," the raised dot decimal point could have been lowered, and dollars cited rather than pounds where the item was not a historical one). The book is singularly free of typographical errors, although the "Austrian" method for subtraction was labeled "Australian."

**Introduzione all'aritmetica mercantile del Medioevo e del Rinascimento.** By Raffaella Franci and Laura Toti Rigatelli. Published for the University of Siena. Quattro Venti (Urbino). 1982. 126 pp. 8 illustrations. Lire 12,000.

*Reviewed by Silvio A. Bedini*

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An interesting new view of mercantile arithmetic in the Middle Ages and the Renaissance is projected in this work, which is based on extracts from unpublished manuscripts of a 16th-century master of the abacus from Siena. Mercantile arithmetic of the Middle Ages and Renaissance derived from the time that cipher digits were first introduced into Italy at the beginning of the 13th century. The commercial revolution that took place in Europe in the 12th century was accom-

Numbers. : Graham Flegg. Schocken Books,1983- Science - 295 pages. 1 Review. Extremely readable,jargon-free book for general readers traces the evolution of counting systems,from the primitive techniques of antiquity to computers. Text examines the earliest endeavors to count and record numbers. But what exactly is a number?3.6/5(8) Numbers: Their History and Meaning - Graham Flegg - Google These and many other questions about numbers are answered in this engrossing, clearly written book. Written for general readers by a teacher of mathematics, the jargon-free text traces the evolution of counting systems, examines important milestones, investigates numbers, words, and symbols used around the world, and identifies common roots. New York (Schocken Books). 1983. x + 295 pp. \$14.95. (Also in paperback: London (Andr  Deutsch), 1983,   8.95.) By. Get PDF (145 KB). Cite. (2.4MB) Bard - Encyclopedia of the Archaeology of Ancient Egypt.pdf (14.3MB) Bauer - Smith (eds) - Gamboas History Of The Incas.pdf (9.7MB) Beattie - Policing and Punishment in London 1660-1750.pdf (4.6MB) Beck - A Brief History of Ancient Astrology.pdf (1.4MB) Bederman - International Law in Antiquity.pdf (1.7MB) Benjamin (ed) - Encyclopedia of. Western Colonialism.pdf (41.7MB) Berend - At the gate of Christendom.pdf (116.6MB) Birley - Marcus Aurelius.pdf (6.6MB) Bonner - Jihad in Islamic History.pdf (2.1MB) Bonney - Jihad.pdf (5.6MB) Bressler -The Universalist Movement in America 1770 1880.p Originally published: London : Deutsch, 1983. Includes bibliographical references (page 291) and index. Access-restricted-item. true. No suitable files to display here. 14 day loan required to access PDF files. IN COLLECTIONS. Books to Borrow. Books for People with Print Disabilities. Internet Archive Books. Uploaded by station40.cebu on November 26, 2020. SIMILAR ITEMS (based on metadata). Terms of Service (last updated 12/31/2014).