

## BOOK REVIEWS

Edited by ANDY LIU

### *Vita Mathematica*

edited by Ronald Calinger,

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Reviewed by **Maria de Losada**, Bogotá, Colombia.

This collection of papers read at the August 1992 Quadrennial Meeting of the International Study Group on the Relations between History and Pedagogy of Mathematics at the University of Toronto and the Seventh International Congress on Mathematical Education at Université Laval in Quebec, edited and refereed, begins with a somewhat ponderous reflection on the different tendencies in research in the history of mathematics, contrasting the approaches of cultural and mathematical historians.

Looking at the role of problems in the history and teaching of mathematics, Evelyne Barbin reminds us that “one of the perverse effects of education . . . [is] that answers are given to questions that have not been asked. The history of mathematics shows us that questions must come first, and [that] it is through questions that we make sense of mathematical concepts.”

In the historical studies (from antiquity to the Scientific Revolution) can be found intriguing material that is not of easy access. Swetz's paper on the enigmas of Chinese mathematics is informative as it strives to provide a balanced presentation and Katz's treatment of medieval Hebrew and Islamic mathematics provides useful and little known information in a concise and well ordered manner.

Noteworthy among the more recent historical studies is Judith Grabiner's paper which contrasts historical perspectives of the calculus, the geometric (McLaurin) and algebraic (Lagrange), linking these naturally with education and culture and suggesting that “progress in mathematics is made by those who sharpen their thinking by exercising the courage of their sometimes idiosyncratic convictions”. On an entirely different note, the detailed history given by Ronald Calinger of the University of Berlin Mathematics Seminar examines every facet of that paradigmatically successful structuring of a research tradition, in which many of the recurrent themes of this book, such as starting from problems and learning from the masters, were put into practice.

The third section of the collection, devoted to the integration of history with mathematics teaching recounts many valuable experiences, two titles of note being **Mathematical Masterpieces: Teaching with Original Sources** and **A History of Mathematics Course for Teachers, Based on Great Quotations**.

Although they are presented as summaries and have catchy titles, these articles refer to teaching experiences that are both substantive and well structured. In the first of these, Reinhard Laubenbacher and David Pengelley reveal not only a polished list of original sources that can be used with undergraduates, but also aspects of their pedagogical approach. In the second, Israel Kleiner begins with quotations addressing the question “What is mathematics?” that are arranged in “antagonistic” pairs to bring across the underlying message of mathematics as an activity whose history is susceptible to chronological, thematic, topical and biographical study, as long as sight is not lost of Lakatos’ remark: “The history of mathematics, lacking the guidance of philosophy [is] blind, while the philosophy of mathematics, turning its back on the most intriguing phenomena in the history of mathematics, [is] empty.”

It is unfortunate that the book has so many typos! Not only are footnote numbers routinely formatted incorrectly, but there are also plenty of errors in the text.

In general, this is good formative reading for those with an appetite for historical material, but especially useful in its treatment of interrelations between history and pedagogy.



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