

BOOK REVIEWS

Jain, L. C., *Exact Sciences from Jaina Sources Vol. I, Basic Mathematics*, Rajasthan Prakrit Bharti Sansthan, Jaipur, Sitaram Bharti Institute of Scientific Research, New Delhi, p. 60, 1982, Rs. 15-00.

Studies on history of mathematics in ancient India, still continue, to proliferate with labels like 'Hindu mathematics', 'Jain mathematics' etc. Dutta and Singh appear to be the precursors to have attached a communal level in the titles of studies in this direction. Though none of such works seeks for a studied revival of some form of fundamentalism, it is totally anachronistic to have a connotation, however superficial it may be. This is not to denigrate what a particular sect or community did in good ancient days. Moreover, books with such titles do not bring to the fore if beliefs, ethos, tendencies, urges, aspirations etc. of a particular community have anything to do with the development of mathematical studies. The book under review falls under this category. It is a collection of what Jainas contributed in the area of mathematics. It is far from being a truly annotated book. It consists of six chapters, three of which specifically deal with achievements of Jaina Mathematics. Besides the introduction in the first chapter, it has something, somewhat in an unconnected manner, to say about world history of mathematics up to Mahaviracharya. A dispassionate and secular commentary of Jainas' contribution which is missing here, ought to bring out the interaction between various communities in the then India so far as mathematical achievements are concerned. A truly historical perspective ought to reckon how Jaina mathematics influenced similar achievements of believers of other religions. The extent of absorption by Jainas from others is not at all fully revealed although this has been attempted feebly in chapter six. The basic limitation of historians of mathematics of Indian brand continues in the sense that professionalism so characteristic of historians *per se* has not permeated the activity of Indian historians of mathematics. The meticulous way of source reading by historians is yet to take roots in the performance of historians of mathematics of the country, even though the bibliographies in the book under review mentioned source materials without being critical about them. An interested reader ought to benefit by the references given at the end of this book and a researcher ought to proceed along some of the directions suggested.

As implied by the caption of the book, the topics related to some basic and elementary stuff in mathematics, for example, similar measure, number measure, approach by exhaustion, place value, indices, logarithms, value of π , mensuration, permutation and combination, sequences etc. which with appropriate adaptations may well reinforce new teaching of mathematics at the school level and hence a possible relevance and use of the book. The Foreword by a distinguished mathematician is worth reading so as to provide the missing links between the chapters.

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Chandler Bruce and Magnus, Wilhelm. *The History of Combinatorial Group Theory: A Case Study in the History of Ideas* (Studies in the History of Mathematics and Physical Sciences), Vol. 19, Ed. G. J. Toomer, pp. 234+VIII, 1982, \$61.20, Springer Verlag, New York—Heidelberg—Berlin.

The statement that the modern scientist wants to know more and more about less and less is not far from truth even in a subject like Mathematics which is becoming unwieldy and fragmented. Granting that it is impossible for an individual mathematician to have a profound grasp of extensive areas in mathematics, one can at least ask for a history of ideas in a rather specific area, a history which not merely gives credit to the individual contributors, but places these ideas in their proper perspective and relevance. It was however a moot question for the reviewer whether such a specialised topic like "combinatorial group theory" deserved a history (or as the authors of the book term "a case study in the history of ideas"). This doubt with which the reviewer began to read this book disappeared as soon as he became aware of the wealth of information contained in it. Just to quote one example: —It is sheer delight to read about the "history" of the principal ideal theorem and how it led to the conjecture and the solution of the so-called class-field-tower problem. Such examples abound in this book.

In spite of the rather unattractive title, this book is very much worth going through for the valuable insight it offers into the history of group theory and the light it throws on the lives of various mathematicians who played a decisive role in the development of ideas in group theory and related fields.

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