

Some Pioneers of Mathematics: Biographical Accounts for the General Audience. Subodh Mahanti. Vigyan Prasar, A-50, Institutional Area, Sector-62, Noida 201 309. 2015. xiii + 239 pp. Price: Rs 200.

This book is a compilation of biographies of 22 mathematicians from Pythagoras to Harish-Chandra. These pieces have earlier appeared in Vigyan Prasar's *Dream-2047*, a monthly newsletter. Hence mathematical expressions have been kept to a minimum. Since each essay has been written to be complete in itself, there are some boxed relevant quotations as an introduction and a short list of references at the end of each of them. There is an exhaustive timeline of mathematics starting from geometric patterns on rocks to Andrew Wiles and Gregori Perelman. This runs to 47 pages and is a useful addition for ready reference. There is also a short bibliography on the history of mathematics.

The first three essays are on Pythagoras, Archimedes and Euclid. They are 'modern minds in ancient bodies' as E. T. Bell calls them. The foundations that these Greeks laid in physics and geometry are well documented. There is also a mention of several other scientists of this period.

We have essays on the Scotsman, John Napier – the inventor of logarithms, and the Irishman, William Rowan Hamilton – who discovered quaternions.

Mathematics flourished in Europe in the 18th and 19th centuries, and this is well covered by the essays on Euler, Laplace, Fourier, Gauss, Abel, Galois, Poincare, Hilbert and Minkowski. The addition of some other related photographs besides the standard portraits of the mathematicians would have enlivened the stories.

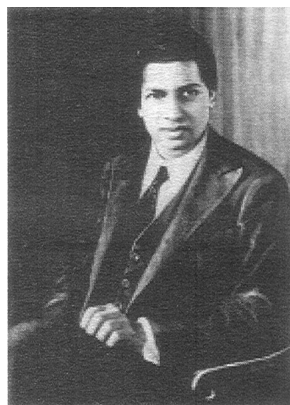
The nod to women mathematicians is in the inclusion of pieces on Sophie Germain and Emmy Noether. Sofia Kovalevskaya is not mentioned in this anthology. The stories of the lives of women mathematicians, their trials and tribulations are inspirational, particularly to young women interested in mathematics as a career. The myth that women and mathematics do not mix still persists. As late as 1935, Hermann Weyl in a memorial to Emmy Noether wrote 'the graces did not stand by her cradle!'. However Noetherian rings are here to stay.

Of particular interest to us here are the essays on Indian pioneers. The lives and contributions of Srinivasa Ramanujan, P. C. Mahalanobis and Harish-Chandra are well covered. The inclusion of Asutosh Mookerjee in this collection is a bit of a surprise.

The piece on Paul Erdos has many interesting details of this mathematical genius. Since the byline 'The man who loved only numbers' has been used in the heading, the omission of Paul Hoffman's 1998 biography with the same title, from the reference list is surprising.

In the preface, the author does explain the reasons behind this choice of 22 pioneers and says he will not be surprised by comments on certain inclusions and exclusions. However, exclusion of Isaac Newton is baffling. Laplace is included and rightly so; but his byline is 'who was second only to Isaac Newton'. There are multiple references to Newton and his photograph is given not only in the article on Leibniz as expected, but also on the cover. In passing I may add that the photograph of Alan Turing is also on the cover. He has only a mention in the Timeline.

The two volumes of *Men of Mathematics* by Bell have stirred the imagination



Srinivasa Ramanujan

of successive generations since they first appeared in 1937 and have endeared these mathematicians to us. Any book on mathematicians is welcome, for their lives, struggles and achievements always make compelling reading. As the author suggests, this book is ideal for a reader to dip into, and hopefully will inspire many a young reader to take to a life in mathematics. The general audience that the author targets will for the main part be high-school students. For this reason the book could be a welcome addition to school libraries. Many teachers of mathematics do not have adequate knowledge of the history of mathematics and mathematicians. They too could profit by reading this book.

SUCHARITA RANGANATHAN

85, 5th Cross, 3rd Main,
HIG Colony, RMV 2nd Stage,
Bengaluru 560 094, India
e-mail: sucharitar@yahoo.com



Nature and Nation: Essays on Environmental History. Mahesh Rangarajan. Permanent Black, Ranikhet. 2015. xiii + 346 pp. Price: Rs 795. ISBN 978-8178244594.

This book is a collection of nine essays published earlier (between 1998 and 2012) by the noted environmental historian, Mahesh Rangarajan, along with an introductory chapter. The introduction provides an overview of themes, approaches and key findings in India's environmental history studies. Scholars interested in new work in the field will find the overview and the recent literature