

**Fibonacci's rabbits** by Adam Hart-Davis, pp. 176, £12.99 (paper), ISBN 978-1-91282-703-9, Modern Books (2019)

The full title of this book is “Fibonacci's Rabbits and 49 other discoveries that revolutionised mathematics”. Every one of the 50 discoveries is clearly written, beautifully illustrated and succinctly and carefully explained.

The book is divided into seven sections. 20,000 to 400 BCE features counting, the sexagesimal system, Egyptian fractions, Pythagoras and infinity. 399 BCE to 628 CE reveals the delights of Euclid, pi, algebra and zero. From 629 to 1665 we are treated to the square root of -1, integration, probability theory and Napier's bones. Section four spans 1666 to 1796 and introduces Euler, Lagrange and Gauss; this is followed by 1797 to 1899 and we meet Fourier, Babbage, Möbius and Poincaré. And then we reach last century, in two pieces, firstly 1900 to 1949 with Ramanujan, Gödel and Nash, and then the final section with computing care of Turing, chaos thanks to Lorenz, and Riemann surfaces and the scutoid.

Each section is written compactly on three pages, beautifully illustrated and with an intriguing headline and introduction. For example, the section about Euler is headed “Can you cross the bridges? The game that gave us graph theory”. The writing is clear, carefully planned and written in a way to be accessible to all without being too simplistic. The author demonstrates his understanding in the excellent explanations. This is probably one of the best maths books that I've read.

An interested year 11 student would find this easy to pick up and would be enthused and gripped. As I think of my A-level students I need to find a way to force them to read this—it puts much of their course in context and places their learning in history, brings the mathematicians to life but also goes so much wider and deeper than even an A-level can manage.

This book is amazingly good – it brings such inspiration and enthusiasm. I defy anyone to read this and not enjoy it.

10.1017/mag.2022.55 © The Authors, 2022

Published by Cambridge University Press on  
behalf of The Mathematical Association

PETER HALL

Beacon Academy,  
Crowborough TN6 1LP  
e-mail: [mathsast@gmail.com](mailto:mathsast@gmail.com)

**Number and letter puzzles** by Des MacHale, pp. 98, £9.21 (paper), ISBN 978-0-24423-100-2, Logic Press (2019)

Des MacHale, emeritus professor of mathematics at University College, Cork, is familiar to *Gazette* readers as the author of recently-reviewed biographical works on George Boole, but has published widely. This little paperback consists of 330 questions, of two types: What do the following combinations of letters and numbers stand for? and What do you think should be the next term in each of these series, and why? Some are mathematical (414, 732, 000, 236, 449, 645, ...), some are definitely not ( $3 = M$  in a B by J K J). The standard of difficulty and the range of contexts are both wide. There are separate sections of one-word hints ('Roots' and 'Literature' for those two examples), and answers with full explanations. I found that the questions produced a variety of reactions – “been there”, “very nice”, “good one for mathematicians”, “I'd never have thought of that” and “Y C N B S” (as in John McEnroe). Good entertainment, and, in line with the author's advocacy of lateral thinking, educative – an excellent stocking-filler.

10.1017/mag.2022.56 © The Authors, 2022

Published by Cambridge University Press on  
behalf of The Mathematical Association 48 Trinity Church Road, London SW13 8EJ

OWEN TOLLER

4 Caldwell House,  
e-mail: [owen.toller@btinternet.com](mailto:owen.toller@btinternet.com)