

BOOK REVIEWS

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Alex's Adventures in Numberland

by Alex Bellos

Bloomsbury Publishing, 2010

ISBN-13: 978-0747597162, hardcover, 448 pages, \$30.95

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Alex's Adventures in Numberland is a book about mathematics aimed at readers of all abilities. It was published in March 2010 in the UK by Bloomsbury. In the US the book appeared in June with the title Here's Looking at Euclid, published by Free Press. The editions have different covers. I have the UK edition (448 pages) and have not seen the US edition (320 + xi pages). Both are available in Canada via the usual retailers.

The US edition of the book only contains a brief bibliography. Thanks to the wonders of the internet, the author has been able to make available on his WEB site (alexbellos.com) the complete chapter-by-chapter bibliography, with comments and suggested further reading. It is enhanced with links!

Here are some of the difference between the two editions, gleaned from the WEB site:

1. The UK edition has a cartoon preceding each chapter.
2. Both the British and American publishers felt that their respective titles worked best for their respective audiences.
3. The American one is slightly shorter (the section on the British 50p piece is omitted, for example, since the shape means nothing in Arkansas or Wyoming) and it has less diagrams overall.
4. The British version also has a 12-page colour plate section.

The author, Alex Bellos (with degrees in Mathematics and Philosophy) is a writer, broadcaster, football (soccer) lover and self-proclaimed math geek, with a colourful career including several books and short films.

The book consists of mathematics (real mathematics) for the lay person. But yet, it is mathematics for the mathematics student and for the mathematics teacher at all levels. It covers a very broad range of topics, which are all related in an engaging narrative style.

For example, Bellos describes how Yorkshire shepherds count (his list agrees with the song by Jake Thackray); why business card origami is abhorrent to the Japanese; a mnemonic for the digits of π which is a remarkable modernist pastiche of Poe's The Raven; and why we most commonly x as the name of a variable. We meet fanatics, crackpots, anthropologists and gurus as well as a few mathematicians (such as Aitken, Brahmagupta, Cantor, Descartes, Euler and Fibonacci).

All of the mathematics (with one exception) is well explained and correct. It is a pity that he has an error in the penultimate paragraph of the book. Here, he describes infinite cardinals, and makes two claims: first, that the number of curves in the plane is larger than \mathfrak{c} , the cardinality of the continuum (this is false if curves must be continuous; there are only \mathfrak{c} of them); and second, that nobody has been able to come up with a larger set (Cantor proved that the set of subsets of any set is larger than the original set - perhaps Alex meant a larger “naturally-occurring” set).

Despite this, we have a book well worth reading. As I read it, I thought that it might well form the basis for an elementary course on the History of Mathematics. Now there is something that every student of mathematics should study. This book puts much of mathematics into context, and so, will encourage students to want to know more.

Editor’s note: the North American edition, *Here’s Looking at Euclid: A Surprising Excursion Through the Astonishing World of Math* (ISBN 978-1-4165-8825-2) retails at \$32.99.

Einstein, Albert (1879-1955) A human being is a part of the whole, called by us “Universe”, a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. Nobody is able to achieve this completely, but the striving for such achievement is in itself a part of the liberation and a foundation for inner security. In H. Eves “*Mathematical Circles Adieu*”, Boston: Prindle, Weber and Schmidt, 1977.
