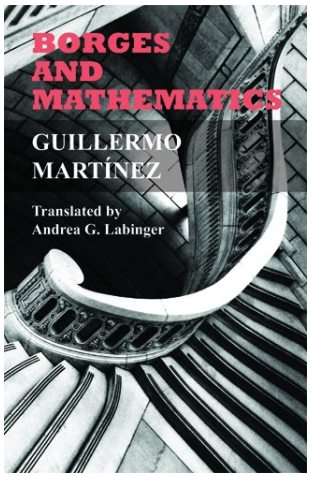
BOOK REVIEWS

Robert Bilinski

Borges and Mathematics by Guillermo Martinez
ISBN: 9781557536327
Purdue University Press, 2012, 140 pages, $16.95 (paperback)

Reviewed by ***Robert Bilinski****, Collège Montmorency.*

The book under review is a study of the work of Argentinian author Jorge Luis Borges, whose life spanned the 20th century. His work transcends borders and is recognized as pivotal in world literature by its unique style and its variety. As such, he has won many prizes, even sharing one with Beckett and being on the Nobel's short list many times (without, sadly, ever winning it). This book's author, Guillermo Martinez, is an Argentinian mathematician who has a PhD in mathematics and writes successful mystery novels, one of which has been adapted to the big screen (*The Oxford Murders*, 2008). Mathematics plays an integral role in his plots and he recognizes, like a lot of people, that mathematics plays an important role in the plots of Borges' work. Yet he goes beyond this and conjectures that Borges' work IS mathematics. He believes that the structure of his work itself is a proof.



He starts by expounding on the common observation that there is mathematics in a lot of the novels and short stories of Borges. There's actually a large number of articles on this and some editors have published works of Borges annotated by mathematicians (OUP's "The Unimaginable Mathematics of Borges' Library of Babel" from 2008 is only one example). In appendix A of the book, Martinez groups Borges' works by mathematical ideas present in the plot: there are 19 themes from infinity to Occam's Razor. We also learn that Borges has mastered a high level of mathematics even if he has not practised mathematics, and we learn he has either written or has claimed to have read the works of around 40 mathematicians. So it is an established fact that mathematics in Borges' work is not "intuitive" as in Escher's work (who has no mathematical training) but "constructed by design". Then the main thesis of Martinez is presented with a mix of his ideas backed by excerpts of Borges' work and interviews he has given. I won't spoil the book more than I already have, but I will just say that I was enthralled by the dissertation. The whole approach is completely different from pretty much all the other books I've read about mathematics (maybe an exception would be Denis Guedj's "La gratuité ne vaut plus rien") and it pushes one to think outside the box about what we do as mathematicians. Which is a bit what we try to achieve

in ***Crux*** , with our problem solving slant to mathematics.

And then, suddenly, you notice that this book is not only about Borges or Martinez, but about mathematical thought and culture, and most of all, the different kinds of passions the subject can waken in us. Apart from a few examples of mathematical reasoning to illustrate that Borges writes his works as a mathematician writes his proofs (a few of Cantor's proofs), this book is surprisingly devoid of Mathematics. Yet, it is full of mathematical history, sociology, psychology even. Ironically, about that point, the book itself stops treating Borges exclusively and expands a bit to other authors (Fermat, Oliver Sacks, Hans Enzensberger, Stephen Hawking, etc). In Chapter 9, Martinez even recounts an interview he did with Gregory Chaitin where they expound on the foundations and the nature of mathematics.

This book of Martinez's has many other levels. In its own right, it resembles his mystery novels, but the characters battling in it are the ghosts of history and the plot centers around Borges' writing. It is as though Borges' work constitutes the proof that mathematics exists and that great minds were called to stand witness. The text is full of anecdotes about mathematicians like Fermat, Andrew Wiles, Beppo Levi, Hawking, Chaitin. Martinez seems to have been at the right time and the right place to meet some of the great mathematicians of the end of the 20th century.

The book is a quick read at 140 pages from cover to cover. It is organized into 13 chapters. The first 4 of them treat Borges' works and take up half the book. The rest is a mix of everything I mentioned with chapters unequal in length. In sum, this book is full of goodies for the mathematician and the passionate about mathematics who want to learn about the culture, the history, the problems facing real-life mathematicians, the dilemmas, the biology, the limits and the beauty of mathematics. A fascinating little paperback book that I am sure to reread when I am on vacation and a bit more rested and, above all, a bit freer to explore all the side dishes of mathematics that are served up to the reader. Reading the book, I often had flashes about subjects or problems I wanted to explore, mathematicians I wanted to read about; mostly, it gave me a thirst to read more Borges. Guillermo Martinez truly has a passion for mathematics and the skills to communicate it.

Good reading!

P.S. You can find a sizeable excerpt at `http://guillermomartinezweb.blogspot.ca/2011/06/borges-and-mathematics.html`