

*The Best Writing on Mathematics 2011*

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Princeton University Press, 2012, 383 pages.

ISBN 978-0-691-15315-5

2000 Mathematics Subject Classification. 00B15

This book is an anthology of very well selected articles about very different aspects of mathematics. Using the words of Barry Mazur about *The Best Writing on Mathematics 2010*, “A delight to read. This is a fine volume with lots of terrific articles that are as enticing as they are varied. The sum total is simply great”.

It seems to me inefficient to describe each article individually, but I should say that all of them are really interesting because they are very well written, they are not too long and they explain clever ideas. The longest one occupies 30 pages, but the average is about 12 pages. Some of them are devoted to didactics of mathematics from the viewpoint of mathematicians and not from the viewpoint of pedagogues. Among them it seems worthwhile mentioning the articles by Underwood Dudley, John Mason, Douglas Fisher, Nancy Frey and Heather Anderson, and Francis Edward Su. As a professor of mathematics I split my time into teaching and learning, and the reading of these manuscripts has helped me to improve in both tasks.

The rest of papers have a pure mathematical character, but they concern a very ample range of interests. I enjoyed a lot the elementary and very nice article of Freeman Dyson about recreational mathematics. But it has been also a pleasure to study the not at all elementary article by Marianne Freiberger entitled *Hidden Dimensions* concerning curvature and gravity in which it is explained the Calabi conjecture and Yau’s answer. Roughly speaking Calabi’s conjecture states that a compact Kähler manifold with a vanishing first Chern class could be endowed with a geometry with zero Ricci curvature. Yau’s answered this question affirmatively. The kind of manifolds that fit this bill, and they exist in all dimensions, have since become known as Calabi-Yau manifolds.

Also the reader shall find in this book a precious work of Dana Mackenzie about the Apollonian Problem concerning how to find a circle tangent to three given circles in general position, a beautiful article of Rik van Grol about the best algorithm to bring back Rubik’s Cube from any random position to its solved state, and a difficult but exciting paper of Doris Schattschneider entitled *The mathematical Side of M.C. Escher*.

But if I continue describing the contents this way I shall contradict myself. Hence I stop here and invite the reader of this review to read the book; it contains many more interesting aspects of the interplay between mathematics and the real life than the ones I can explain.