

# Undiluted Hocus-Pocus: The Autobiography of Martin Gardner

REVIEWED BY COLM MULCAHY

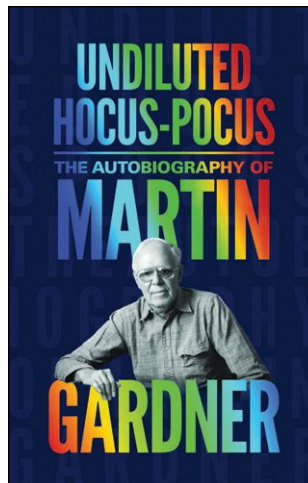
**M**artin Gardner is arguably the best friend mathematics ever had. The centenary of his birth, October 21, 2014, will be honored worldwide with Gathering 4 Gardner “Celebration of Mind” parties that anyone can attend or host (see [celebrationofmind.org](http://celebrationofmind.org)). He wrote more than 100 books on topics ranging from mathematics to magic to pseudoscience to physics to philosophy and religion. His last book, fittingly, is his autobiography, which we review below.

Why does his legacy matter? Consider “The Top 10 Things Every Mathematics Student Should Know about Martin Gardner”:

**10. He’s one of the most influential mathematicians of all time.** Don’t take my word for it. Here’s what some of the most important figures in mathematics and computer science have to say about him. Richard K. Guy wrote that Gardner “brought more mathematics to more millions than anyone else.” According to Donald Knuth, “More people have probably learned more good mathematical ideas from Gardner than from any other person in the history of the world.” And Persi Diaconis wrote, “Martin Gardner has turned dozens of innocent youngsters into math professors and thousands of math professors into innocent youngsters.”

**9. He introduced the general public to numerous fun mathematical topics.** These include hexaflexagons, tangrams, Fermat’s last theorem, the  $3n + 1$  problem, John H. Conway’s game of life, Newcomb’s paradox, the four-color map problem, Penrose tiles, RSA cryptography, and fractals. He did this mostly via the 300 “Mathematical Games” columns—25 years’ worth—that appeared in *Scientific American* and in spin-off books.

**8. His interest in mathematical magic inspired Mathematics Awareness Month 2014.** The theme “Mathematics, Magic, and Mystery” is named after his second book. The site [www.mathaware.org/mam/2014](http://www.mathaware.org/mam/2014) features 30 activities, many echoing favorite Gardner topics such as magic squares, Möbius bands, geometric vanishes, topological magic, card tricks, and Fibonacci numbers.



**6. Unlike many skeptics, he was neither an atheist nor an agnostic.** In a 2005 interview with the MAA’s Don Albers, he said, “I am a philosophical theist. I believe in a personal god, and I believe in an afterlife, and I believe in prayer, but I don’t believe in any established religion.”

**5. He was a mystifier.** In 1998 he wrote, “I belong to a group of thinkers known as the ‘mysterians.’ It includes Roger Penrose, Thomas Nagel, John Searle, Noam Chomsky, Colin McGinn, and many others who

“For those of us who have tried to make mathematics accessible to a wider audience, there is one giant who towers above everybody else: Martin Gardner.”

—Keith Devlin

believe that no computer, of the kind we know how to build, will ever become self-aware and acquire the creative powers of the human mind.”

**4. *The Annotated Alice* (1960) was his all-time best-seller.** It reflected his love of the works of 19th-century British fantasy writer Lewis Carroll (a.k.a. mathematician Charles Dodgson). Gardner’s annotation uncovered hidden logical and mathematical references in *Alice in Wonderland* and *Through the Looking Glass*.

**3. He published his first peer-reviewed mathematics paper at age 74.** His article with Fan Chung and Ron Graham appeared in *Mathematics Magazine* and won an MAA award for expository writing. Over the next two decades, many more articles appeared in MAA publications, including the award-winning *Math Horizons* article “The Square Root of Two = 1.41421 35623 73095...”

**2. He was a great believer in the role of play in mathematics.** In *Mathematical Carnival* (1975) he wrote, “Surely the best way to wake up a student is to present him with an intriguing mathematical game, puzzle, magic trick, joke, paradox, model, [or] limerick. . . . No one is suggesting that a teacher should do nothing but throw entertainments at students. Obviously there must be an interplay of seriousness and frivolity. The frivolity keeps the reader alert. The seriousness makes the play worthwhile.”

**1. He didn’t have an advanced degree in mathematics, or in anything else.** In fact, he never completed any mathematics classes past high school geometry, trigonometry, and algebra. His only college degree was a B.A. in philosophy from the University of Chicago (1936). He was not a professional mathematician in the traditional sense, yet he’s been cited as one of the most influential mathematicians of all time. (This Möbius-like twist loops us back to 10 above.)

Martin Gardner wrote *Undiluted Hocus-Pocus* in his mid-90s, completing it just months before his death in May 2010. The book’s style is informal and relaxed, reading more like a memoir than a blow-by-blow autobiography.

Gardner had an extremely long and productive life—his writings span the period 1930 to 2010. His friends and associates were from all over the creative arena,

“The biggest secret of my success as a columnist was that I didn’t know much about math.”

—Martin Gardner

including logicians and mathematicians Raymond Smullyan, Roger Penrose, and Piet Hein, writers Isaac Asimov and Vladimir Nabokov, and artists M. C. Escher and Salvador Dali. So it should come as no surprise that this volume covers a lot of ground.

His early days as a fledging magician and philosophy student are chronicled at length, as are his four “time out” years in the U.S. Navy. Next came his first steps as a freelance writer and journalist, his penning of his best-known science fiction yarn, “The No-Sided Professor,” which naturally had a topological twist, and his many years as contributing editor for a children’s magazine.

There’s only one chapter on his *Scientific American* days, but he includes plenty of details. He was already in his 40s when this life-changing career op-

portunity came his way, but he worked hard to learn mathematics and to communicate this difficult material in easy-to-understand language. In the process, he changed how generations of readers perceived mathematics and related areas. This work connected him with some of the biggest names in the field. For instance, he reveals, “I had the great pleasure of in-

“There is absolutely no question that [Gardner], more than anyone else in the world, was responsible for turning people of all ages on to the pleasures of mathematical recreations. Many have tried to emulate him—nobody has succeeded.”

—Ron Graham

roducing Conway to Benoit Mandelbrot, the ‘father of fractals.’”

In a chapter called “Math and Magic Friends,” we learn of his fascinating interactions with other stars at various points on the mathematics-magic spectrum, from Ron Graham and Persi Diaconis, to James Randi and Dai Vernon. He also tells entertaining tales of meeting Paul Erdős, Salvador Dali, and Lillian Oppenheimer, the woman who rescued origami from obscurity (in Japan as well as in the USA!).

Chapters on pseudoscience, his wife, religion, and his philosophy round out a volume written in a style reminiscent of physicist Richard Feynman’s autobiography, *Surely You’re Joking, Mr. Feynman!*

For all his fame, Gardner was a humble, generous man, always modest about his mathematical achievements. His humanity, humor, and sheer decency shine through every page. Reading this book is like chatting with him about his intellectually adventure-filled life for a whole weekend. ■

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