

“Martin Gardner: Impresario of Mathematical Games”

by Rudy Rucker

This article first appeared in Science 81, Vol 2. No. 6, July/August 1981, pp. 32-37, and is copyright 1981 (c) American Association for the Advancement of Science. Rucker posted it as a memorial after Martin Gardner’s death on May 22, 2010.

On the table is a drinking glass with a rubber membrane stretched across the top, taut as a drumhead. Resting on the membrane is a quarter from Martin Gardner’s pocket.

“Watch,” he says and pushes on the quarter with one finger.

POP! The quarter passes through the membrane and rattles in the bottom of the glass. I peer at the rubber sheet, looking for a hole, but there is none.

“It went through the fourth dimension,” Gardner says with a smile. “I have another fourth dimension trick. It’s called Card Warp. I make a little hyperspace tunnel that turns a card inside out.”

Martin Gardner knows a lot about magic. He knows a lot about other things, too. He has published books on logic, relativity, and particle physics. He has written books on magic, and books on mathematics. He is perhaps the world’s leading expert on *Alia in Wonderland*, *Through the Looking Glass*, and other works by Lewis Carroll. He has annotated the classic American baseball saga, “Casey at the Bat.” A few years ago he published an engaging and realistic novel about the intricacies of Protestant theology.

But among scientists, Martin Gardner is best known and loved as the dean of puzzeldom, the ringmaster of mathematical games. Each month for the last 24 of his 66 years, Gardner has taken some abstruse branch of mathematics and transformed it into a series of profoundly entertaining puzzles and games in a column for *Scientific American*.

His column is a place where the most serious of mathematicians come to play. He serves as impresario, often presenting problems as part of a larger discussion of a mathematical concept, adding twists and special effects to puzzles devised by others and creating many of his own.

Gardner’s topics have ranged from numerology to knot theory, from probability to plane geometry. Recently he wrote a pair of columns called “Nothing” and “Everything.” The collected columns fill nine volumes now, all but one volume in print. Meticulously researched

and brilliantly written, each column stands as a permanent royal road into some region of mathematics.

Although he has earned the respect of professional mathematicians, Gardner is the quintessential amateur, casting his intelligence and wit toward whatever catches his eye, learning (and inviting his readers to learn) as he proceeds.

One would suppose that he has a strong background in mathematics—at the very least a master's degree and probably a doctorate. Not so. He has never taken a college level course in mathematics.

“I was half bluffing when I told Gerry Piel, publisher of *Scientific American*, that I had enough material for a regular column. At that time I don't think I owned a single book on mathematics.”

Although Gardner may have had no mathematics books in 1956, he did have 10 years of experience in the rough-and-tumble world of free-lance writing. His career as a professional writer started in 1946, shortly after he returned from four years on a destroyer escort in World War II. Still flush with his mustering-out pay, Gardner was hanging around his alma mater, the University of Chicago, writing and taking an occasional GI Bill philosophy course. His break came when he sold a humorous short story called “The Horse on the Escalator” to *Esquire* magazine, then based in Chicago. The editor invited the starving writer for lunch at a good restaurant.

“The only coat I had,” Gardner recalls, “was an old Navy peajacket that smelled of diesel oil. I remember the hatcheck girl looking askance when I handed her the filthy rag.”

Over the next few years *Esquire* bought a dozen of Gardner's stories, but early in the 1950s the magazine moved to New York, changed editors, and left Gardner without a market. He decided to go to New York, too, and settled in Greenwich Village. By regularly eating lunch with a circle of fellow magicians, he soon made a number of interesting contacts—from card sharps to mathematicians. A literary agent talked him into writing his first book, *Fads and Fallacies in the Name of Science*.

This book (still in print from Dover Publications) surveys more than 50 different pseudoscientific belief systems on subjects like UFOlogy, phrenology, sight without glasses, orgone energy, dianetics, and ESP. Its debut was not auspicious; the first edition was remaindered after nine months, but it focused attention on the young writer. “I would hear myself being

attacked on radio talk shows,” Gardner recalls. “One night I turned on the radio and the first thing I heard was, ‘Mr. Gardner is a liar.’ That was John Campbell, editor of the old *Analog* magazine. He was mad at me for attacking dianetics.”

Gardner still takes delight in puncturing the claims of those he calls “psychic hustlers.” He tells the story of his friend The Amazing Randi, a magician who recently unmasked a young psychic who claimed to be able to turn the pages of a phone book by the sheer force of his will.

Randi offers \$10,000 to anyone who can perform one paranormal feat under “mutually agreed upon observing conditions.” He got in touch with the young psychic and offered him the reward if he could repeat his demonstration on the television show *That’s My Line*.

“The kid’s gimmick was to blow a thin stream of air at the phone book,” Gardner explains. “I remember when Randi figured it out. He was delighted. Phoned me up and said, ‘All you have to do is fold up the edge of the page a little bit. It’s beautiful.’”

So Randi came to the show with a pocket full of Styrofoam particles. “The kid didn’t suspect a thing. At the last minute Randi scattered the Styrofoam all around the phone book.” Gardner is laughing with an infectious delight. He loves the play of hoax and counter-hoax.

“The kid didn’t know what to do. He kept pacing around and doing karate kicks, trying to dislodge the Styrofoam without being obvious. Finally, the time was up, and the kid said it was impossible. He explained the heat of the lights was building up static electricity on the Styrofoam, and that the static electricity disturbed his *Field*. No one believed him. And then just before the credits Randi blew away the Styrofoam and did the trick. It was beautiful.”

The 1952 preface of that *Fads and Fallacies* book ends with a note of special thanks to Charlotte Greenwald for help in proofing and revising. Marriage soon followed. They are a *karass*, in Kurt Vonnegut’s terminology, a couple one cannot imagine apart.

Their first son was born in 1955 and their second three years later. Gardner needed a regular income in those years and with his usual serendipity found a job that was just right for him: contributing editor for *Humpty Dumpty’s Magazine*. He designed features and wrote stories for *Humpty*, *Children’s Digest*, *Piggity’s*, and *Polly Pigtales*.

“Those were good years at *Humpty*,” he muses. “Eight good years. In terms of actual page count I did half the pages of each issue. I’d write a story and some doggerel, but my main thing was the activities that damage the page.”

Damaging the page is a key concept for Gardner. Coloring, pasting, folding, cutting

out-these are activities that damage the page. “Librarians hate it. A magazine like *Cricket* would never think of having you cut the page. I doubt if anyone besides the Parents’ Institute owns an undamaged run of *Humpty*. Fittingly, Gardner’s first article for *Scientific American* involved damaging the page. The article, called “Logic Machines,” featured a bound-in cardboard sheet with pieces for the reader to punch out and manipulate. After Gardner’s next *Scientific American* article, called “Hexaflexagons” (about paper folding), Piel suggested the column to Gardner. In January 1957 he started with a game column on magic number squares and went on from there.

The fact that Gardner started with little mathematical knowledge probably worked to his advantage. Reading his columns one feels the wonder and excitement of the explorer-not the condescension and unconscious omissions of the expert. “The later columns are much more sophisticated because I was teaching myself math doing the research. I accumulated stuff faster than I could write columns.” Despite this wide mathematical experience, Gardner holds to his amateur status. “I’m like a person who loves music and enjoys listening to it, but who doesn’t compose or even play very well.” Looking at a recent book of mathematical essays collected in his honor, he remarks matter-of-factly, “A lot of the articles are a little beyond my mathematical ability.”

Gardner will retire from *Scientific American* at the end of this year. He will be replaced by Douglas Hofstadter, Pulitzer Prize-winning author of *Gödel, Escher, Bach: an Eternal Golden Braid*. Hofstadter plans to change the name of the column from “Mathematical Games” to its anagram, “Metamagical Themas.”

Gardner is looking forward to his new freedom. In turning down a chance to accept an honorary degree he recently wrote, “I have no desire to be in *Who’s Who* or to go about the country making speeches. I just want to live quietly and anonymously in the mountains of western North Carolina and write the sort of books I wanted to write before I got sidetracked.” With some 30 books in print, *the* book Gardner wants to write is a series of linked philosophical essays, tentatively entitled *The Whys of a Philosophical Scrivener*. “Scrivener” is a self-deprecatory sort of word meaning something like “scribbler,” and the “whys” correspond to chapters ranging from “Why I am Not a Solipsist” to “Why I do Not Think Immortality Impossible.”

Those who have watched Gardner parry and thrust at the ESP crowd may be surprised to learn that he has had a lifelong fascination with religion. He describes himself as a Platonist and

a theist.

Why then is he so suspicious of those who claim to have psychic powers? Gardner smiles and shakes his head. “What does a belief in the vastness of the universe have to do with whether or not Uri Geller can bend a spoon?”