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## I, mathematician.

Edited by Peter Casazza, Steven G. Krantz and Randi D. Ruden

[MAA Spectrum](#)

Mathematical Association of America, Washington, DC, 2015. xiv+273 pp.

**ISBN:** 978-0-88385-585-0

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## Review

This book is a collection of 25 essays each of which loosely describes the nature of a mathematician—the what's, the how's, and the why's—from the perspective of two dozen mathematicians and one spouse.

Stereotypes of various professions abound in popular culture for lawyers, dentists, politicians, morticians, movie stars, and so on. My favorite pop portrayal of the mathematician is from H.\,G.\,Wells's 1901 *The First Men in the Moon*. Here is his description of a typical member of a caste of moon creatures destined to become mathematicians: "His brain grows; his voice becomes a mere squeak for the stating of formulae; he seems deaf to all but properly enunciated problems. The faculty of laughter, save for the sudden discovery of some paradox, is lost to him; his deepest emotion is the evolution of a novel computation."

Is such characterization fair? In essay 6, Underwood Dudley argues, yes, illustrating his point with numerous anecdotes involving well-known mathematicians. He goes on to imply that perhaps some mathematicians may suffer from tinges of autism, and concludes, "We [mathematicians] are different. We can't help it." In support of Dudley's thesis, Peter Casazza—whose essay 4 is perhaps the most colorful in this collection, and in his own word "exaggerated"—cites the fictitious Nikolas Bourbaki as an instance of the mindset of the typical mathematician who said, "All my imaginary friends like me." However, reading Casazza's imaginative essay is like listening to a Sancho Panza soliloquy of a succession of odd platitudes that have little to do with the subject under discussion. That is, his essay is the very embodiment of his point—that mathematicians are a little strange. On the other extreme, in essay 9, Keith Devlin counters, saying, "Most stereotypes make little sense", and, "Mathematicians are mostly normal people who enjoy normal pleasures... just like real people." An inveterate optimist, Devlin concludes that he "detects a slight improvement in the public image of mathematics".

The perspective on the very definition of mathematician varies widely among the essays. In essay 7, Steven Krantz gives a narrow definition, so much so that this reader cannot help but wonder why this book was published by the Mathematical Association of America—for most of its membership according to his definition is excluded from the community of mathematicians:

"To call yourself a research mathematician, you must have proved some good theorems and written some good papers thereon. You must have given a number of talks on the work, and have... a job in the research infrastructure." To be fair, Krantz has defined a *research* mathematician. However, the tone of his article suggests to the reader that the research variety is the only real mathematician. Everyone else is just pretending. And indeed, a few essayists in this collection introduce themselves with apologies for not being real mathematicians. For example, Alan Schoenfeld in essay 8, entitled "What's a nice guy like me doing in a place like this?", explains to the reader that after earning a Ph.D. from Stanford in topology and measure theory, he became a mathematics educator and should perhaps not even be one of the essayists. Sol Garfunkel, in essay 15, echoes the same apology, saying, "For the past thirty years I honestly don't think that I could in

fairness call myself a mathematician", even though he is largely responsible for the success of COMAP and as such has made any number of pivotal decisions on what constitutes good mathematics for the undergraduate mathematical community at large. More so, Casazza claims that the typical research mathematician often doubts their own identity, "For most of us, all we can hope for is to become a *first rate-second rate mathematician*." That is, perhaps the real research mathematician exists but momentarily in time. Such gloomy introspection serves little purpose except to exacerbate one's eccentricity. A more wholesome attitude is summarized in the very title of Paul Halmos's autobiography, "I Want to Be a Mathematician"—in which he suggests always having an unsolved problem or two on which to work. And indeed, most of the essays concur with this view. For example in essay 16, Jane Hawkins's opening sentence is "What is a mathematician?" and her finishing statement is, "I have no answer. And I need to get back to my math."

Each essay in this collection includes glimpses of how each writer became a mathematician. Each essayist exhibited ability in math at an early age. And each of them had opportunities to choose other career paths. For example in essay 20, Harold Boas simply says, "With a push in the right direction, I may have become a [literary critic], a historian, or a linguist." But time and chance and ability and interest led each of the essayists to mathematics, sometimes despite the mathematics. The most charming of the essays, essay 19, vividly illustrates this point. Mei-Chi Shaw recounts her life as a young girl born to refugee parents on Taiwan in the aftermath of the 1949 communist takeover in China, her odyssey to a full graduate scholarship at Princeton, and her being "totally clueless" in much of her classwork during her first year there in 1977, and later on to her decision to write a complex variables text that would "be so clear that *we could explain it to someone on the street*", and her frequent visits to China to give mathematics talks.

Sometimes it seems as if the editors of these essays purposely sabotage their efforts. For example, in a foreword to the last group of essays in the book, the editors compliment their contributors for their ability to reflect on what mathematics means; then they go on to disparage other groups, saying, "It is unlikely that a carpenter would engage in similar cogitations." What madness is this? In his essay, Harold Boas says that his father, the well-known mathematician Ralph Boas, "took pride in being able to shingle a barn, to fell a tree, and to miter a joint". I myself am an amateur carpenter, and have worked in carpenter shops. From those that I have known, a typical carpenter's ability to reflect on life is just as robust as a typical mathematician's.

Any mathematician or prospective mathematician reading this book will find much to admire therein, much to question, and much about which to reminisce. As I read, I could not help but think about my early days learning how to add integers up through twenty, and later on in graduate school, the varieties of instruction encountered, the joy of collaboration with another like mind, and more recently, the many math manuscript rejections received, and a few that were accepted. All in all, this collection of essays will be a valued resource in the continuing discussion of characterizing mathematicians and mathematical communities.

**Reviewer:** [Simoson, Andrew James](#)

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