

Mumbo Math

How Mumbo-Jumbo Conquered the World: A Short History of Modern Delusions. By Francis Wheen, *Fourth Estate (A Division of Harper-Collins), London, 2004, 338 pages, £16.99.*

I asked for a review copy of this book under the mistaken impression that it contained a section on the current gambling mania. The spread of gambling is a *bête noire* of mine, and I had recently passed a billboard promoting a lottery with the words “You can win multi-millions. Buy a ticket.” Yes, you can win, I thought; it doesn’t contravene the laws of physics or of mathematics that you can win. But I’ve often wondered why the theorems of probability do not discourage people from laying out sums on the lottery, week after week, month after month. I’ve wondered about the mania that grips the sad sacks who clog the casinos and shove bucketsful of coins into the slots. I wanted to see what Francis Wheen, one of the top-notch debunkers currently writing, had to say about the situation. I didn’t find what I was looking for, but Wheen’s book does have other

BOOK REVIEW

By Philip J. Davis

things to say.

Mumbo-Jumbo concentrates on economics, business, politics, international relations, dire predictions, dianolotry (remember Princess Diana?), and the empty pretentious rhetoric of some academics, but a few of its pages are in some way related to mathematics, and these pages gave me a good reason for proceeding with a review.

Francis Wheen, author, journalist, “Columnist of the Year” for the (UK) *Guardian*, skeptic, satirist, wit, liberal, radio and TV personality, has for years been describing and exploding the follies, the delusions, the madneses, the contradictions, the scams, the lies, the hypocrisies, the manias that overtake humankind. The number of well-known personalities that Wheen has trashed or mocked is large. On the other hand, he quotes with approval and references the many authors who have cut through the fog and given him grist for his reportorial mill. You might think that a book consisting of a long litany of current stupidities would be depressing. Not at all—

Wheen’s satiric pen makes this book a delightful read. I recommend it to one and all. At the bottom line, Wheen’s message is that the Age of Enlightenment, the age that promoted rational investigation and argument as the road to truth and the foundation of objective knowledge, is being supplanted by an Age of the Irrational, the Mystic, and the Sensational.

Let’s first consider the familiar pigeon’s nest of ideas that embraces 666, i.e., the “number of the beast” in the Book of Revelation, the sayings of the apocalyptic catastrophists, Y2K, the recent book *The Bible Code*, spiritualism, and all that sort of thing. Did you know that the sum of the squares of the first seven primes totes up to 666? Did you know that the fourth root of π is 1.331 335 363 . . . and that $331 + 335 = 666$?

If these facts thrill you, if they send a frisson up your spine, then you are a bit of a numerologist, a neo-Pythagorean. If you attribute arcane or transcendental potency to individual numbers, if you read into these relations more than mere arithmetic, or more than that the prepared mind finds coincidences easily, then you, along with thousands of others, have a numerological gene. Not to worry. You are in good company: A number of modern cosmologists have such genes. And so did John Napier. If you look for secret messages in the Bible by taking every other letter, you are a gematria freak and are in a plentiful company that once included Mozart.

Consider next a pronouncement of Luce Irigaray,

“a high priestess of the [postmodern feminist] movement [who] denounced Einstein’s $E=mc^2$ as a ‘sexed equation . . . since it privileges the speed of light over [less masculine] speeds that are vitally necessary to us. . . . Whereas men have sex organs that protrude and become rigid, women have openings that leak menstrual blood and vaginal fluids.’”

Irigaray goes on to imply that the problems of turbulence in fluid theory cannot be solved with the traditional masculine mathematical methodologies. Admittedly—as G.I. Barenblatt has pointed out elsewhere—very little pure theory of turbulence, closed in itself, has emerged since the days of Prandtl, von Kármán, G.I. Taylor, Kolmogoroff, et alii, but I think I know how the ghosts of these men would react to Irigaray’s protest.

I move next to a statement of Jacques Lacan, a psychoanalyst and one of the high priests of structuralism:

“Thus the erectile organ comes to symbolize the place of *jouissance* [ecstasy], not in itself, or even in the form of an image, but as a part lacking in the desired image: that is why it is equivalent to the $\sqrt{-1}$ of the signification produced above.”

Wheen calls this the “tyranny of twaddle,” and I agree. Without defending Lacan’s use of the imaginary unit in this instance, I point out that we mathematicians do not have patent rights on the symbol $\sqrt{-1}$. It’s in the public domain, and the various uses to

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which it is put become dissertations of semioticians. I've noticed that certain other mathematical terms have in recent years gone public. Consider the word "matrix." Formerly the property of anatomists, geologists, and printers, it entered mathematics in the 1800s. In my parochialism, I consider the noun "matrix" to be so mathematical that I attribute its current prominence in products—from hair care to movies—to students who took Math 106 and upon graduation found themselves on Madison Avenue. I imagine that they imported this term to add solemnity, scientific verisimilitude, and mystery to the products they were hawking.

Texts like Irigary's and Lacan's are wide open for parody. I suppose that every academic, every scientist has now heard of the article "Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity," the spoof that physicist Alan Sokal wrote and succeeded in getting published in a professional journal (1996), much to the chagrin of the journal's editors. When has this to say:

"Sokal's article was littered with scientific howlers and absurdities. He claimed that Jacques Lacan's Freudian speculations had now been proved by quantum theory, and that [philosopher of deconstructionism] Jacques Derrida's thoughts on variability confirmed Einstein's general theory of relativity."

One sentence of Sokal's spoof suffices for my purposes here:

"In mathematical terms, Derrida's observation relates to the invariance of the Einstein field equations $G_{\mu\nu} = 8\pi T_{\mu\nu} G_{\mu\nu}$. . . under nonlinear space-time diffeomorphisms. . . ."

What reader in her right mind would fall for "such tosh as this?" When points out a twist that is relevant to the Sokal story. Recently, Andrew Bulhak, of Monash University in Australia, produced a "post-modernism generator" that produces "random, meaningless and yet quite realistic text in genres defined using recursive transition networks." You can find a sample document at <http://www.elsewhere.org/cgi-bin/postmodern/>, along with directions for generating additional documents of your own. Actually, this kind of thing has been done for at least twenty-five years and is easy to do. Well—perhaps not so easy in the mathematical field—where, according to a computer scientist correspondent of mine,

"It would be difficult to do so that it was funny. For the joke to work, it has obviously to be nonsense. Mathematical nonsense is too hard to tell from mathematical sense."

When I first heard of the Sokal "scandal," I thought that Sokal's point was to unmask the absurdity of pretentious pseudo-mathematical invasions of humanistic fields. I said to myself: "It's about time someone did it."

Much to my embarrassment, I learned many years ago (in the pre-computer-on-the-desktop age) of the danger in writing spoofs. Under the impact of the class action suits that were then multiplying, I wrote a spoof in which I said that a certain left-handed person had instituted a suit in the New York courts on behalf of the lefties of the country claiming discrimination in that they had to drive on the right side of the road. I laid my narrative on quite thick and put in a few legalistic phrases and pointed out, of course, that the question of left/right orientations attracts a bit of attention in mathematics and physics.

My spoof delighted the editor of a national magazine, and he ran it. The article—or at least its title—then got placed in some database (yes, there were searchable databases before Google got into the act). A few years after the article appeared, I got a phone call from a young researcher at one of the TV networks. She told me she was working on a show relating to the problems of the disabled, and wanted to have more of the legal details of the suit that I had described. After a moment's hesitation, I broke down and confessed the truth of the matter. Moral: If you write a spoof, no matter how preposterous it is, there's always someone out there who will believe it.

I end with a few remarks about Paul Feyerabend (1924–1994), mathematician and philosopher of science (UC Berkeley). When is a bit rough on Feyerabend, calling him "one of the founding fathers of post-modern, anti-scientific relativism." He quotes Feyerabend as saying that the scientific method consists of "anything goes." Now, I have been quoted as saying that the scientific method consists of "trying everything that isn't stupid." Like the smell of coffee in the morning, Feyerabend's ideas are both stimulating and astringent, but I would not want the aroma to persist all day. You might like to look at my review of his autobiography ("Paul Feyerabend: Philosopher or Crank?," *SIAM News*, December 1995).

"What fools those mortals be," observed Puck in *A Midsummer Night's Dream*. Reader: Can you imagine what it would be like to live in a world free of bunkum, scams, stupidities, rigidities, misconceptions, and misrepresentations? Measure the heartbreak it would save against the laughter that would be exiled.

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