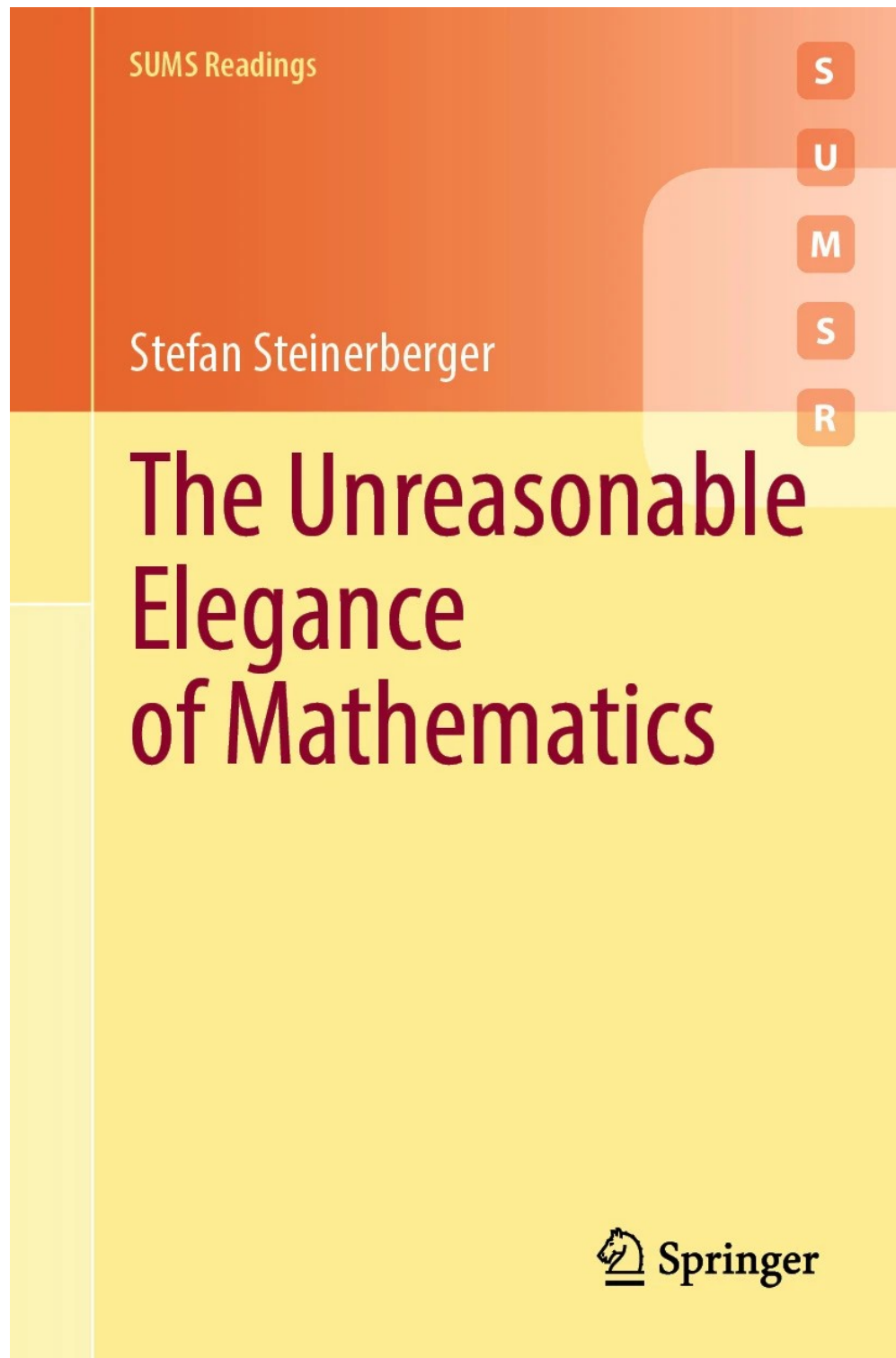


# The Unreasonable Elegance of Mathematics

 [maa.org/book-reviews/the-unreasonable-elegance-of-mathematics](https://maa.org/book-reviews/the-unreasonable-elegance-of-mathematics)

Sophie Bookheimer

September 4, 2026



- **Author:** Stefan Steinerberger

- **Series:** Springer Undergraduate Mathematics Series (Sub Series: SUMS Readings)
- **Publisher:** [Springer](#)
- **Publication Date:** 11/01/2025
- **Number of Pages:** 233
- **Format:** Paperback
- **Price:** \$49.99
- **ISBN:** 978-3-032-03814-2
- **Category:** gen

**[Reviewed by Frédéric Morneau-Guérin, on 09/04/2026]**

*The Unreasonable Elegance of Mathematics*, by Stefan Steinerberger, Professor of Mathematics and Professor of Applied Mathematics at the University of Washington, is an unusual book. Published in the SUMS series, which primarily offers undergraduates accessible yet serious introductions to topics of broad interest, this volume of roughly 230 pages ranges remarkably widely. Yet it is surprising in its depth; not so much in the theoretical treatment of the subjects it covers, which is clearly not its purpose, but in the author's erudition and his remarkable ability to draw together strands of thought originating in sometimes very distant places.

The origins of the book partly explain its character. Steinerberger recounts that someone pointed out to him that his department offered no introductory mathematics course for non-majors: a student interested in political science, biology, or architecture could thus go through university without any real opportunity to discover what mathematics actually is beyond service courses. The book grew out of a desire to fill this gap. Its technical level is therefore deliberately kept below calculus; large portions require little more than elementary high-school algebra. This does not, however, mean that the intellectual content is in any way slight.

The title captures the project admirably. The allusion to Eugene Wigner's celebrated essay *The Unreasonable Effectiveness of Mathematics in the Natural Sciences* (1960) is, of course, deliberate. Wigner marveled at the almost unreasonable ability of abstract mathematical constructions, often developed without any immediate practical purpose, to describe the physical world with astonishing precision. Steinerberger touches several times on this still very much alive question, but the substitution of *elegance* for *effectiveness* is equally significant. His primary concern is another source of wonder: the beauty of mathematics, its unexpected symmetries, unlikely correspondences, and the echoes between ideas that seemingly had no reason to be connected.

The book thus takes the form of nineteen short tableaux rather than a systematic treatise. Along the way, we encounter Pascal's triangle, factorials, induction, the pigeonhole principle, geometric series and Grandi's series, cellular automata and the *Game of Life*, logical paradoxes, the Monte Carlo method, the central limit theorem, the Galton board, chaos theory, Laplace's demon, the Turing test, game theory, Hilbert's program, Gödel's theorems, and Benacerraf's identification problem. Some excursions are more unexpected still: constructivism and finitism, matching problems going back to Monge, stock-market fluctuations, and questionable uses of quantification in the social sciences.

But such an enumeration hardly does justice to what gives the book its distinctive flavor. Steinerberger almost never presents a mathematical idea in isolation. He asks where it came from, what prompted it, how it came to be notated, named, understood, and reinterpreted, what applications it eventually found, and with what other ideas it resonates. Thus Ferdinand de Saussure, Jan Hus, Ludwig Wittgenstein, Sigmund Freud, Charles Darwin, Richard Feynman, and Diogenes Laërtius make appearances alongside mathematicians both famous and forgotten. We learn that Stanisław Ulam, emerging from a coma, reassured his physician in his own fashion by calculating a twentieth root; we encounter remarkably gifted amateurs such as Benjamin Franklin, James Garfield, M. C. Escher, and Édouard Zeckendorf, as well as a few colorful crackpots. Mathematics is continually placed back into its human history.

This richness rests on impressive scholarship: more than 300 references, ranging from old primary sources to specialized research articles, historical studies, and works written for general audiences. Dozens of figures, together with numerous reproductions of archival documents, give the book a visual identity unusual for an introductory text. These materials are more than mere ornament: they help present mathematics as a human activity with a history, a culture, and a memory.

The price to be paid, inevitably, is speed. Steinerberger favors wonder over exhaustiveness and intuition over extended formal development. A specialist reader may occasionally wish the book would linger precisely where it has already decided to move on. But that would be to fault the book for not becoming precisely the kind of book it sets out not to be. The exercises, often more reflective than computational, also give readers opportunities to slow down and get their own hands into the mathematical dough.

Ultimately, *The Unreasonable Elegance of Mathematics* accomplishes something difficult: it speaks simply about mathematics without making mathematics simplistic. It is certainly a book for curious non-mathematicians, but mathematicians too will read it with

pleasure—and probably with profit. Above all, it reminds us that mathematics can be taught not only by asking “How does this work?” but also “Where did this come from?”, “What is this connected to?”, and perhaps most importantly, “Why is this so unexpectedly beautiful?”

Frédéric Morneau-Guérin is a professor in the Department of Education at Université TÉLUQ. He holds a Ph.D. in abstract harmonic analysis.