

Underwood Dudley, A Prolific Writer
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Spring 2019

Underwood “Woody” Dudley retired from the faculty at DePauw University in 2004 after thirty-seven years of service to DePauw and the mathematical community. Woody was a prolific writer, eventually completing eight books, each of which went through many editions and were printed in multiple languages. [2]

The most infamous of these publications were a series of three books about “mathematical cranks” and their efforts to solve mathematical problems. *The Trisectors* (1996), *Mathematical Cranks* (1996), *A Budget of Trisections* (1997), and *Numerology: Or What Pythagoras Wrought* (1997) each give brief biographies of these individuals and describe their efforts to prove mathematical impossibilities, such as the trisection of an angle using only a straight-edge and compass. Interestingly, Woody was sued by a William Dilworth for defamation because *Mathematical Cranks* included an analysis of Dilworth's “A correction in set theory,” an attempted refutation of Cantor's diagonal method. The suit was eventually dismissed and then the dismissal was upheld upon appeal. In the appeal decision, Judge Richard Posner, among other things, wrote that “a crank is a person inexplicably obsessed by an obviously unsound idea—a person with a bee in his bonnet.” [1]

This writing won Woody the Trevor Evans Award for expository writing from the Mathematical Association of America (MAA) in 1996. But, as I implied above, he wrote many other volumes, including *Elementary Number Theory* (1978), *A Guide to Elementary Number Theory* (2009), *Readings for Calculus: Resources* (1993), and *The Magic Numbers of the Professor* (2007). [2]

A wonderful review, written for the American Mathematical Monthly, of “The Golden Section” by Hans Walser (MAA 2001) shows his wit and engaging writing style. From that review,

“For example, the idea that a rectangle with dimensions ϕ and 1 is the one that is aesthetically most pleasing seems to have gotten a start in the 1860s, though too many authors repeat this as if it were part of the wisdom of the ages. Back then, one Gustav Fechner presented subjects with ten rectangles and asked them which they thought was the nicest. The rectangles varied from a square to one whose sides had the ratio of 2 to 5. That is, with aspect ratios from 1 to .4. The three rectangles in the middle, those with aspect ratios .57, .62, and .67, were chosen by 76% of the subjects ... Well, of course. Squares are dull, long flat rectangles look as if they had been stepped on, and tall skinny rectangles make us nervous – they look as if they may fall over any minute – so naturally something in the middle gets picked. But the golden section has nothing to do with it.” [2]

Woody also thought deeply about the nature of mathematics and mathematics education. His anthology *Is Mathematics Inevitable? A Miscellany* (2008) is a wide-ranging collection of essays covering the nature of mathematics, the work that mathematicians do, commentary on the public perception of mathematics, and the teaching of mathematics from grade school through the university. In the introduction to a satiric essay about the difficulty of mathematics, Woody notes that Euclid is alleged to have said that there is no royal road to geometry. He then adds his

own estimation that, even if Euclid did not actually say this, “the truth expressed is independent of who said it: learning mathematics is hard, except for that fraction of humanity for whom it is not, and there is no way around it.” [7]

Similarly, Woody’s 2010 essay in the *AMS Notices*, *What is Mathematics For*, offers an insightful critique of the argument that everyone should study algebra because of its usefulness in job situations. Rather, Woody argues, it is valuable because it develops deductive reasoning skills. [4]

Woody was born in New York City in 1937 and earned bachelor's and master's degrees from the Carnegie Institute of Technology before receiving his Ph.D. degree (in number theory, of course) at the University of Michigan in 1965. In addition to DePauw University, Woody taught at the Ohio State University. [1]

Over his long career, Woody has maintained memberships in the MAA, the American Mathematical Society, and the Society for Industrial and Applied Mathematics. He served as Indiana Section chair twice, first from 1979 to 1980, and again from 1997 to 1999. Woody was also editor of the *College Mathematics Journal* (1999-2003), the *Pi Mu Epsilon Journal* (1993-1995) and two of the MAA's book series. He served as one of the MAA's Polya lecturers (1995-1997) and received its Distinguished Service Award in 2004. [6]

In 1987, Woody defined what became known as the Dudley Triangle as a problem in the *Mathematics Magazine*. [5]

Woody currently lives in Tallahassee, Florida and continues to write book reviews for the MAA, an organization that he has been a member of for more than sixty years.

[1] https://en.wikipedia.org/wiki/Underwood_Dudley, accessed on January 3, 2019

[2] <https://www.maa.org/press/maa-reviews/the-golden-section>, accessed on January 3, 2019

[3] <https://worldcat.org/identities/lccn-n86-73778/> accessed on January 3, 2019

[4] Dudley, Underwood. “What is Mathematics For?”. *AMS Notices*. **57** (5): 608.

[5] Dudley, Underwood. “Problem 1277”. *Mathematics Magazine*. **60** (5): 328.

[6] <https://www.maa.org/> accessed on January 3, 2019

[7] Dudley, Underwood. “Is Mathematics Inevitable? A Miscellany.” Mathematical Association of America, 2008.