Archives of American Mathematics Spotlight: The Paul R. Halmos Papers
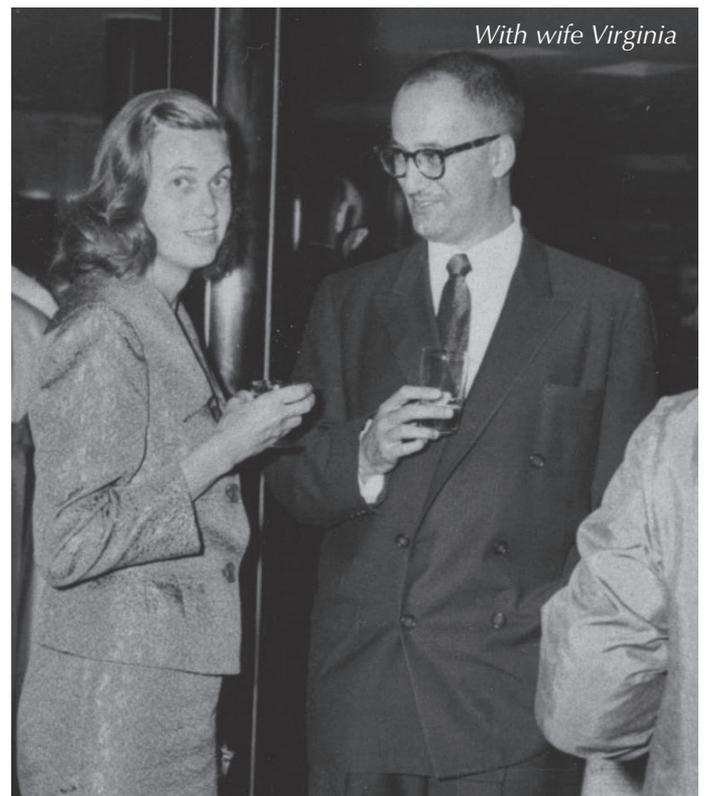
By Beth Nettels

c. 1939

The Archives of American Mathematics has recently processed and made available the papers of prominent American mathematician Paul R. Halmos, known for his work in operator theory, ergodic theory, and functional analysis, as well as for mathematical exposition and teaching. The papers consist of Halmos's notes, publications, manuscripts, lectures, correspondence, course materials, and personal records. They document his career as a mathematician, teacher, author, and editor. The portions of the collection concerning Halmos's work as editor of the *American Mathematical Monthly* were donated by Halmos himself in 1989. Later gifts were made in 2007 and 2008 by his wife, Virginia.
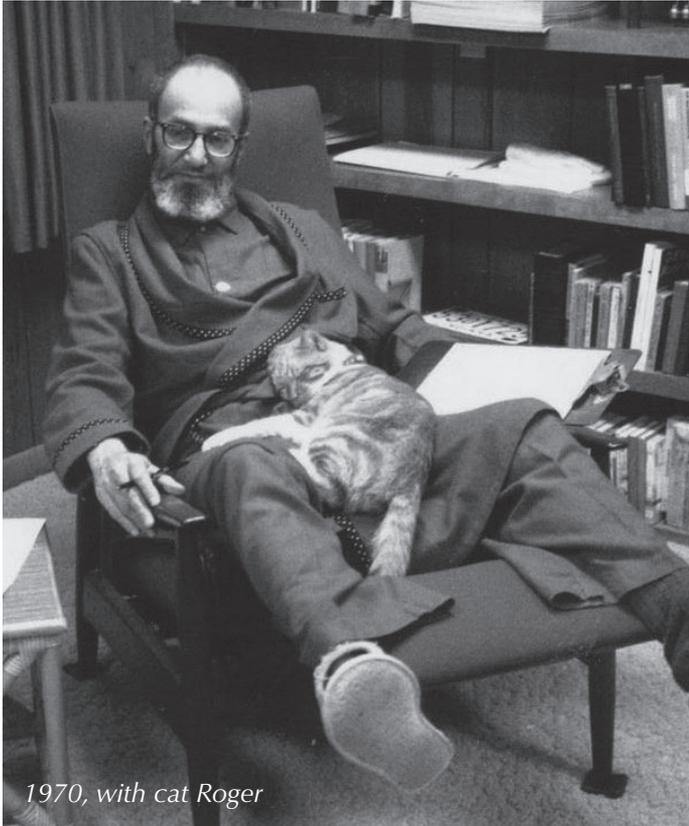
Halmos was born in Budapest, Hungary, in 1916. In 1929 he immigrated to the United States and lived with his family in Chicago. As the result of confusion about the Hungarian school system, Halmos entered the American school system at a level somewhere between a junior and a senior in high school. In 1931, at the age of fifteen, he left Chicago to attend the University of Illinois, intending to study chemical engineering. He graduated three years later (1934) with a bachelor's degree in mathematics and philosophy. Halmos then entered graduate school at the University of Illinois to pursue a Ph.D. in philosophy. After failing the oral comprehensive exam for the master's degree, he changed the focus of his

graduate studies and registered as a student in the department of mathematics. Halmos earned his doctorate in mathematics under Joseph L. Doob in 1938.

Following the completion of his doctorate, Halmos served as John von Neumann's assistant at the Institute of Advanced Study (1939–1942), a post that led to the publication of his first book, *Finite Dimensional Vector Spaces*, in 1942. After leaving the IAS, Halmos taught soldiers in the Army's Specialized Training Program at Syracuse University before moving to the University of Chicago, where he stayed from 1946 to 1960, and the University of Michigan (1961 to 1967). After one year as the mathematics department chair at the University of Hawaii, he began a professorship at Indiana University, where he would stay until 1985, with the exception of two years spent at the University of California, Santa Barbara (1975–77). In 1985, he moved to Santa Clara University where he taught until his retirement in 1996. In addition to these posts, Halmos held visiting appointments at the University of Montevideo, Uruguay (1951–52), the University of Miami (1965–66), and the University of Washington (1959), among others.

Halmos served as editor of several publications, including the Mathematical Association of America's *American Mathematical Monthly* (1982–86) and the *Proceedings of the American Mathematical Society* (1958–63). For the Van Nostrand publishing company he edited the University Series in Undergraduate Math-

With wife Virginia

ematical community. The correspondence contains communications with publishers, former students, celebrated mathematicians, and even well-known poets.

The Archives of American Mathematics is located at the Research and Collections division of the Dolph Briscoe Center for American History on the University of Texas at Austin campus. Those interested in conducting research or donating materials or who have general questions about the Archives of American Mathematics should contact Carol Mead, Archivist: *carolmead@ mail.utexas.edu*, (512) 495-4539. The Archives web page is at *http://www.cah.utexas.edu./collections/math.php.*

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1970, with cat Roger

ematics. Halmos also served as editor for the *Ergebnisse der Mathematik und ihrer Grenzgebiete* series and *Graduate Texts in Mathematics* series, both published by Springer-Verlag.

Halmos was and still is celebrated for his work in mathematical exposition. His love of and talent for language is evidenced in his expository works. Halmos himself claims in his autobiography *I Want to be a Mathematician* that he was, in "decreasing order of quality, a writer, an editor, a teacher, and a research mathematician." He is credited with creating "iff," for "if and only if," and with introducing the use of the "tombstone" (also called a "halmos") symbol to signify the end of a proof. He received the Chauvenet Prize from the MAA in 1948 and the Steele Prize for Mathematical Exposition from the American Mathematical Society in 1983.

Other honors and awards bestowed upon Halmos include the Distinguished Teacher Award from the Mathematical Association of America in 1993. Halmos was a Fellow of the Royal Society of Edinburgh and a Guggenheim Fellow. In 2000, he was awarded the Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics by the Mathematical Association of America. In addition to his legacy of mathematical exposition, research, and teaching, Halmos and his wife donated $3 million for the renovation of the MAA Carriage House in Washington, D.C.

Some of the highlights of the Halmos papers include his notes and mathematical diaries, manuscripts and drafts for his publications and lectures, and his correspondence, which illuminate Halmos's long life as a member of the American and international math-

The UNC Asheville REU team (LM)

Jake Christiansen and Ben Lewis, first and second place, respectively, at the MathFest 2010 5k Fun Run/Walk. (LM)