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DALE, Julia. October 16, 1893–January 13, 1936.

Transylvania University (BA 1914), University of Missouri (MA 1921), Cornell University (PhD 1924).

Julia May Dale was born in Shelbyville, Kentucky, the second of six children of Ida May (Todd) (b. 1867) and James Harrison Dale (1861–1937). Her parents were both natives of Kentucky and married in 1888. Her siblings were James Todd (1891–1953), Martha King (b. 1896), Lilly B. (1897–1989), Mary Ida (b. 1903), and William Pratt (1909–1971). Her father was a farmer and moved with the family to Alabama in 1916. Julia Dale's nephew, William Hardin True, noted that both parents were graduates of Eminence College, a small coeducational college in Kentucky that closed in 1895. He also wrote that James H. Dale served as Kentucky's secretary of agriculture and later became a prominent breeder of shorthorn cattle in Alabama.

Julia Dale graduated from Shelbyville High School in 1910. She then attended Transylvania University in Lexington, Kentucky, where she was a class secretary and was an officer in the local YWCA and the literary club. She was in charge of costumes for the girls' glee club and was a member of Chi Omega, a social sorority. The senior class prophecy foresees "Julia Dale, as irrepressible as ever, though she was 'Math Professor' at Yale" (The Crimson Yearbook 1914, Transylvania University Special Collections).

After graduating cum laude from Transylvania in 1914, Dale taught for a year in the high school in Aberdeen, Mississippi. In 1916–18 she taught at William Woods College, then a junior college for women, in Fulton, Missouri. The dean of the graduate school at the University of Missouri, Walter Miller, wrote Cornell's Dean Creighton on February 18, 1922, that he had "discovered her [at William Woods] and brought her to the University of Missouri on a graduate scholarship" (Julia Dale Folder, Box 61, Graduate School Records, Rare and Manuscript Collections, Cornell University Library). After a year on scholarship, Dale spent the following three years, 1919–22, as an instructor in mathematics at the University of Missouri while receiving her master's degree in 1921.

Dale was admitted to the graduate school at Cornell University as a candidate for the PhD in September 1922. She was a graduate scholar in mathematics 1922–23 and an Erastus Brooks fellow in mathematics 1923–24. The address she used for the December 1924 membership list of the AMS was the Cornell chapter of Chi Omega, her sorority as an undergraduate at Transylvania University.

After receiving her PhD in 1924, having written a dissertation in analysis and with minors in geometry and physics, Dale was an instructor for a year at the University of Oklahoma. While there she also volunteered at nearby Native American reservations. From 1925 until 1930, Dale was head of the mathematics department at Delta State Teachers College (now Delta State University) in Cleveland, Mississippi. She was active in the MAA and was secretary-treasurer of the Louisiana-Mississippi Section in 1929. She was an avid bridge player, did needlepoint, was interested in athletics, and helped coach the women's basketball team at Delta State.

In 1930 Dale moved to Duke University, where she was an assistant professor and head of the women's division of mathematics at Duke University. "It is said

that her chief motive in reluctantly leaving Delta State was to accompany her brother, Billy, then convalescent from a serious illness, who had prepared at [Delta State] to enter upon graduate study at Duke" ("Recording the Life of Delta State Teachers College"). Her brother made his home with her and subsequently received his doctorate in history from Duke in 1941. While at Duke, Dale taught a variety of classes including some in the graduate school. For example, the announcements for 1934–35 indicate that she was scheduled to teach courses in Fourier's Series and Spherical Harmonics, Infinite Series, and Algebraic Geometry.

Julia Dale died in 1936 at age forty-two in the Duke University hospital of renal failure after suffering from chronic kidney disease for some time. It was reported in a letter of September 7, 1976, from W. M. Causey of the University of Mississippi to Professor Miller at Transylvania that she was to have been married to Dr. W. W. Elliot, a professor of mathematics at Duke University. (Transylvania University Special Collections) Elliot had been a fellow graduate student and Hurwitz advisee at Cornell. Dale was survived by her parents, two brothers, and three sisters. Her remains are interred in Greensboro, Alabama.

In the spring of 1938 friends and relatives established the Julia Dale Memorial Fund at Duke; the income from this fund supports the Julia Dale Prize awarded annually by the Department of Mathematics to a mathematics major (or majors) on the basis of excellence in mathematics.

Organizational affiliation: MAA.

Thesis and dissertation:
1921 Comparison of approximation methods. MA thesis, University of Missouri. Typescript.
1924 Some properties of the exponential mean. PhD dissertation, Cornell University, directed by Wallie Abraham Hurwitz. Typescript. Printed version, 1925, reprinted from *Amer. J. Math.* 47:71–90.

Publication:
1925 Some properties of the exponential mean. *Amer. J. Math.* 47:71–90. Published version of PhD dissertation. Reviews: *JFM* 51.0181.04 (E. Kamke); *Rev. semestr. publ. math.* 32, pt. 1: 2 (E. B. Cowley).

Presentations:
Application of the exponential mean to Fourier's series. Presented to a meeting of the MAA, Shreveport, LA, 4–5 Mar 1927.
Applications of the exponential mean to Fourier's series. Presented to a meeting of the MAA, Columbia, SC, 15–16 Apr 1927.

References to: AmMSc 5–6.
"Miss Julia Dale Is Claimed by Death." *Durham Morning Herald*, 14 Jan 1936.
"Miss Julia Dale Passes at Duke." *Durham Sun*, 14 Jan 1936.
"Recording the Life of Delta State Teachers College." *Miss Delta*, 20 Jan 1936. Includes "An Appreciation of Dr. Julia Dale," read 15 Jan 1936, at Assembly Memorial Exercises, Delta State Teachers College, Cleveland, MS, by William H. Zeigel, Dean of Faculty.
True, William Hardin. "A 'Remembrance' of Professor Julia Dale."

Other sources: Rare and Manuscript Collections, Cornell University Library; Duke University Archives; communications with Transylvania University Special Collections, University of Oklahoma Office of the Senior Vice President and Provost, and with Virginia Knight; US Census 1900, 1910 KY, 1920, 1930 AL; North Carolina death certificate; SSDI.

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