GRAUSTEIN, Mary F. (Curtis). April 12, 1884–July 18, 1972.
Wellesley College (BA 1906), Radcliffe College (MA 1915, PhD 1917).

Mary Florence Curtis was born in Westminster, Massachusetts, the eldest of five children of Jennie Esther (Lucas) (1857–1945) and Frank Abbott Curtis (1857–1937), both of Massachusetts. Her parents married in 1883. She grew up on a land-grant farm of 1790 in Westminster, in north central Massachusetts. Her siblings were brothers, Wolfred Abbott (1885–1979), Herman Nelson (1888–1963), and Henry Lucas (1891–1930), and a sister, Esther Jane (1896–1956), who was a member of the Wellesley class of 1917. Her brother Herman graduated from Harvard in 1911.

Mary Curtis attended Fitchburg High School in Massachusetts 1899–1902 before entering Wellesley College in 1902. She was a Wellesley honors scholar 1904–05 and 1905–06 and received her bachelor's degree in 1906. The two years after her graduation she taught German, algebra, and geometry at Leominster High School, a short distance from her family's home in Westminster, while also traveling in Europe in summer 1907. The following two years, from September 1908 until March 1910, she taught German and natural science at Cushing Academy in Ashburnham, also near her family's home. She had spent the summer semester of 1909 at Cornell studying botany and pedagogy. For three semesters, from May 1910 until August 1911, she studied mathematics and natural science at the university in Leipzig, Germany.

Upon her return from Leipzig, she joined the Wellesley College faculty as an instructor of mathematics. She was instructor from September 1911 to June 1914. In the meantime, she had begun her graduate studies in mathematics at Radcliffe College in September 1913. At Radcliffe she held a Mary E. Horton fellowship from Wellesley 1914–15 and earned her master's degree in 1915 and her doctorate in 1917 with a dissertation in differential geometry. Charles L. Bouton, associate professor, and Julian L. Coolidge, assistant professor, signed as faculty reviewers, and it is likely that she worked most closely with Coolidge. Curtis spent the year 1917–18 at the College for Women, Western Reserve University, in Cleveland, Ohio, as instructor and acting head, replacing a faculty member who was on leave. She returned to Wellesley, where she was instructor 1918–20 and assistant professor 1920–21. She was in Leipzig in the summer of 1920. In a November 1920 letter extracted in the *Bulletin* of the AMS, the Italian geometer and historian of mathematics Gino Loria wrote to the American historian of mathematics D. E. Smith that "Mary F. Curtis had established [a] remarkable result, that every rectifiable skew parabola is a helix" (27 (1921): 201). The extract from Loria's letter referred to Curtis's 1918 paper "On the rectifiability of a twisted cubic" and motivated her 1921 paper "On skew parabolas."

On June 10, 1921, at age thirty-seven, Mary F. Curtis married William Caspar Graustein in Wellesley. Graustein, born on November 15, 1888, in Cambridge, Massachusetts, had earned both his BA in 1910 and his MA in 1911 from Harvard. He was a traveling fellow from Harvard and earned his PhD in mathematics from Bonn in 1913. He returned to Harvard in 1913 as instructor of mathematics, and it was at Harvard that Mary Curtis was one of his students. He was at Rice Institute in Houston from 1914 to 1918. In 1919, after serving with the Ordnance Department of the US Army, Graustein again joined the faculty at Harvard.

After her marriage, Mary C. Graustein took a leave of absence for two years before she returned to Wellesley in 1923 as assistant professor. She remained at Wellesley until 1929, with a leave of absence in her final year, 1928–29. From 1926 until 1941 Graustein and Rachel Blodgett Adams were both tutors at Radcliffe, although Graustein was in Europe with her husband during the years 1928–29 and 1937–38. Graustein's 1931 report to the Wellesley alumnae magazine gives an indication of her activities. She wrote that they were in Lugano for the winter of 1928–29, where her husband finished his textbook, *Introduction to Higher Geometry*. During the summer of 1930 she "helped with the proof reading of the book, corrected papers for a course in the Summer School, and copied the manuscript for the second half of a mathematical text (in German)." She also described her work at Radcliffe in the *Wellesley Magazine*: "My tutorial work at Radcliffe consists of eleven 'tutees.' I see each of them for an hour every other week. Three of them are Seniors; they and their theses on 'Infinite Series,' 'Curve Fitting' and 'The Number System of Algebra' do their bit to keep me busy. I enjoy the work and the girls" (Wellesley College Alumnae Office). Mary Graustein was a member of the AMS committee on arrangements for its meetings at the Harvard Tercentenary in 1936. The Grausteins had no children.

The Grausteins spent every other summer in the Dolomites until prevented by World War II. William C. Graustein was professor of mathematics and assistant dean at Harvard when he was killed in an automobile accident, at the age of fifty-two, on January 22, 1941. In 1945 his older brother Archibald established the William Caspar Graustein Memorial Fund, which endowed a named professorship at Harvard, and in 1993 Archibald's son, William C. Graustein, a geochemist, enlarged the fund by $50 million and extended its focus to include preschool programs and elementary and secondary schools in Connecticut.

Mary C. Graustein eventually resumed full-time teaching after her husband's death. She was at Hunter College as instructor in the summer session 1941 and then held both substitute and part-time positions at Connecticut College and Abbott Academy in October and November 1941 and at Hunter College the rest of 1941–42. She was assistant professor at Oberlin College 1942–44 but had a leave of absence 1943–44 to care for her mother who was ill. She began teaching at Tufts College (now University) as assistant professor in 1944. In 1949 she wrote for the Wellesley alumnae magazine that she had come to Tufts to teach the Navy navigation and calculus and that she stayed on to teach the veterans after the war. She indicated that she maintained an apartment in Cambridge and kept her family's farm in Westminster. She also reported in the *Wellesley Magazine*, "Last summer in the midst of much needed painting and repairing at the farm, and at the end of Summer School, I flew to Germany for a month–my first trip by air. I had waited all the previous summer for a Military permit to go to Göttingen to finish some of my husband's papers and had little hope of getting a permit. I could have gone to Frankfurt in 1947 for a year as Mathematical Consultant at our Army Center; I would have enjoyed it for the summer but not for the winter" (Wellesley College Alumnae Office).

Graustein was promoted to associate professor at Tufts in 1950 and remained there until her retirement in 1955. From 1946 until 1954, she was also faculty resident of Paige Hall, a dormitory associated with Jackson College, the women's

coordinate college that is now fully integrated into the university. After her retirement she lived at her family home in Westminster. She continued to travel and to go to Cambridge for the symphony concert series. She described herself in the early 1940s as a Congregationalist and a Republican.

Mary Curtis Graustein died at eighty-eight in Heywood Memorial Hospital in Gardner, Massachusetts, and was buried in Mount Auburn Cemetery in Cambridge. She was survived by her brother Wolfred.

Organizational affiliations: AMS, Phi Beta Kappa, Sigma Xi.

Theses and dissertation:

1916a [Curtis, M. F.] The functions of the elliptic cylinder. Minor thesis, Radcliffe College.

1916b [Curtis, M. F.] The gyroscope. Minor thesis, Radcliffe College.

1917 [Curtis, M. F.] Curves invariant under point transformations of special type. PhD dissertation, Radcliffe College. See also **1922**.

Publications:

1918a [Curtis, M. F.] The existence of the functions of the elliptic cylinder. *Ann. of Math.* 2nd ser., 20:23–34. Reviews: *JFM* 46.0586.01 (M. Plancherel) 46:586; *Rev. semestr. publ. math.* 27, pt. 2: 13 (W. A. Whythoff). Presented as "A proof of the existence of the functions of the elliptic cylinder" to the AMS, Cleveland, OH, 5 Sep 1917; abstract: *Bull. Amer. Math. Soc.* 24:71 #29.

1918b [Curtis, M. F.] On the rectifiability of a twisted cubic. *Bull. Amer. Math. Soc.* 25:87–88. Reviews: *JFM* 47.0678.01 (W. Fr. Meyer); *Rev. semestr. publ. math.* 27, pt. 2: 7 (D. J. Korteweg). Presented by title as "Note on the rectifiability of a space cubic" to the AMS, New York City, 27 Apr 1918; abstract: *Bull. Amer. Math. Soc.* 24:469 #9. Review of abstract: *JFM* 46.1014.02 (G. Szegö).

1920 [Curtis, M. F.] On the rectifiability of a twisted cubic. *Bull. Amer. Math. Soc.* 26:275–77. Reviews: *JFM* 47.0678.02 (W. Fr. Meyer); *Rev. semestr. publ. math.* 28, pt. 2: 5 (D. J. Korteweg). Presented as "Note on the rectifiability of a twisted cubic" to the AMS, New York City, 31 Dec 1919.

1921 [Curtis, M. F.] On skew parabolas. *Bull. Amer. Math. Soc.* 27:437–38. Reviews: *JFM* 48.0761.03 (L. Neder); *Rev. semestr. publ. math.* 30, pt. 1: 6 (D. J. Korteweg).

1922 [Curtis, M. F.] Curves invariant under point-transformations of special type. *Trans. Amer. Math. Soc.* 23:151–72. Published version of PhD dissertation. Reviews: *JFM* 48.0393.02 (G. Faber); *Rev. semestr. publ. math.* 31, pt. 2: 11 (P. Mulder). Presented to the AMS, Hanover, NH, 5 Sep 1918; abstract: *Bull. Amer. Math. Soc.* 25:57 #15.

References to: AmMSc 3–8, 9P.

Obituary. *Boston Globe*, 19 Jul 1972.

Other sources: Owens questionnaires 1937, 1940; application for social security account number 1950; Wellesley College Alumnae Office; communications with Harvard University Archives, Schlesinger Library (Radcliffe Institute), and Tufts University Archives; "Dr. Graustein Killed as Auto Hits Pillar," *New York Times*, 23 Jan 1941; Kathleen Teltsch, "Family Uses Legacy to Aid Connecticut Schoolchildren" *New York Times*, 8 Dec 1993; US Census 1900, 1910, 1920, 1930 MA.

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