COPELAND, Lennie P. March 30, 1881–January 11, 1951.

Lennie Phoebe Copeland was born in Brewer, Maine, the only child of Emma (Stinchfield) (b. 1851) and Lemuel Copeland (1845–1927), both natives of Maine. Her parents married in 1867 and by 1900 were living in Bangor, Maine, where her father was engaged in manufacturing.

Copeland graduated from the Bangor high school before going to the University of Maine, from which she graduated in 1904. At the University of Maine, Copeland was a member of Phi Kappa Phi, an honor society for scholarship; in 1921 she was named an alumna member of Phi Beta Kappa at Maine. She also belonged to Alpha Omicron Pi social sorority.

Copeland taught mathematics from 1905 to 1910 in the Bangor high school. She then went to Wellesley College, where she earned a master's degree in 1911. She continued her graduate work at the University of Pennsylvania, where she was a Bennett fellow and a Pepper fellow 1911–13. She received her doctorate in 1913 with a dissertation in invariant theory directed by Oliver E. Glenn, who had earned a PhD from Pennsylvania in 1905.

Immediately after receiving her doctorate, Copeland was hired by Wellesley and spent the rest of her career there. She was instructor 1913–20, assistant professor 1920–28, associate professor 1928–37, professor 1937–46, and professor emeritus after her retirement in 1946. Colleagues in the Wellesley mathematics department included Helen Merrill, who was chair of the department 1916–32; Roxana Vivian; Mabel Minerva Young; Clara Eliza Smith; Marion Stark; and Helen G. Russell. All but Stark and Russell were on the Wellesley faculty when Copeland was a master's student there; Stark arrived in 1919 and Russell in 1928. Among Copeland's teaching responsibilities was a course she developed in the history of mathematics. In connection with this interest she collected rare books, particularly on mathematical recreations, for the Treasure Room of the library. Copeland wrote a descriptive catalogue of the rare mathematical books in the Wellesley library and spoke about them several times to the Wellesley mathematics club.

Copeland's appointments at Wellesley included terms on committees on long-term educational policy; reappointments, promotions and dismissals; curriculum and instruction; lectures, which she chaired; and the library. She spoke to Wellesley clubs and to various professional associations. Copeland was one of the six members of the Wellesley mathematics department who became members of the MAA before April 1, 1916, and, hence, were charter members. She often attended the annual and summer meetings of the association and served on the program committees for the annual meetings of 1922 and 1923, chairing the latter. She was the first woman president of the New England Association of Teachers of Mathematics 1925–27.

In the late 1930s, Copeland described herself as a Republican and as Congregational. She was on the Service Fund of the Christian Association and was treasurer at one time. Copeland's many interests included attending plays, reading, driving, hiking, and traveling. She was a member of the Appalachian Mountain Club and served as a counselor in natural history for the club. Her travels included trips to Europe 1930; Alaska 1931; Labrador 1934; Egypt, central Africa, and the Near East 1935; Scandinavia 1936; Mexico 1937; and Puerto Rico 1939. The trip in 1935

lasted from mid-February until early June and was made with Clara Eliza Smith, her close friend who had retired from the mathematics department at Wellesley the summer before. It included Egypt, Palestine, Syria, Uganda, Turkey, Greece, and Italy. In 1937, Copeland wrote to Helen Owens that she would be spending that summer on "Miss Smith's farm in the hills of Connecticut." Smith died suddenly of a cerebral hemorrhage in May 1943 in the home she shared with Copeland in Wellesley. At the time of Copeland's retirement three years later, it was noted in the Wellesley alumnae magazine that "her friendship with Clara E. Smith, a former member of our Mathematics Department, needs no elaboration to those who knew them both. And the courage shown by Miss Copeland, when after Miss Smith's death she picked up the shattered plans of her life and rebuilt them beautifully, has made a profound impression on all of us" (Wellesley College Archives).

Copeland was awarded an honorary Doctor of Science degree by the University of Maine in 1948. A February 1949 description of the occasion by Carol S. Scott (Mrs. Wm. C. Scott), a mathematics instructor at St. Petersburg Junior College in Florida who had graduated from Wellesley in 1911, noted that "the Maine citation especially stressed her making mathematics 'a joyous adventure' to her years of classes but after the speech she gave to the almost a thousand banqueting alumni the night before commencement it could have lauded her ability to 'steal the show' from formal lecturers" (Alumni Record Collection; Folder: Copeland, Lennie Phoebe; University of Pennsylvania Archives).

Following her retirement from Wellesley, Copeland made her home in St. Petersburg with Carol Scott, whom she had known at Wellesley. Lennie Phoebe Copeland died in St. Petersburg in January 1951 at age sixty-nine. The funeral was held in St. Petersburg and was followed by burial in Brewer, Maine. She was survived by several cousins.

Organizational affiliations: AMS, MAA (charter member), AAAS, Phi Beta Kappa, Sigma Xi.

Dissertation:

1913 On the theory of invariants of n-lines. PhD dissertation, University of Pennsylvania, directed by Oliver Edmunds Glenn. Printed version, 1914, New Era Printing Co., Lancaster, PA, reprinted from *Ann. of Math.* 2nd ser., 16:7–14.

Publications:

1914 On the theory of invariants of n-lines. *Ann. of Math.* 2nd ser., 16:7–14. Published version of PhD dissertation. Reviews: *JFM* 45.0225.01 (W. Fr. Meyer); *Rev. semestr. publ. math.* 23, pt. 2: 11 (W. A. Wythoff). Presented by title as "Concerning the theory of invariants of plane n-lines" to the AMS, New York City, 22 Feb 1913; abstract: *Bull. Amer. Math. Soc.* 19:391–92 #8.

1916 Review of *Solid Geometry*, by S. F. Richardson. *Amer. Math. Monthly* 23:383–84.

1921a The triangle of reference in elementary analytic geometry. *Amer. Math. Monthly* 28:250–53. Reviews: *JFM* 48.0716.05 (E. Salkowski); *Rev. semestr. publ. math.* 30, pt. 1: 4 (R. C. Archibald).

1921b Wellesley's rara mathematica. *Wellesley Alumnae Quarterly* (April).

1923a Mathematics club programs. *Math. Teacher* 16 (December).

1923b Note on certain semi-invariants of n-lines. *Ann. of Math.* 2nd ser., 25:137–41. Reviews: *JFM* 50.0408.01 (W. Fr. Meyer); *Rev. semestr. publ. math.* 31, pt. 2: 21 (W. A. Wythoff). Presented by title to the AMS, Chicago, 14 Apr 1922; abstract: *Bull. Amer. Math. Soc.* 28:291 #12.

1926 Review of *Plane Trigonometry with Tables*, 3d ed., by C. I. Palmer and C. W. Leigh. *Amer. Math. Monthly* 33:101–02.

1930a Matrix conditions for multiple points of a ternary cubic. *Ann. of Math.* 2nd ser., 31:629–32. Review: *JFM* 56.1168.02 (F. Schaale). Presented as "Matrix conditions that the ternary cubic locus may have multiple points" to the AMS, Boulder, CO, 29 Aug 1929; abstract: *Bull. Amer. Math. Soc.* 35:766 #30.

1930b Review of *A Source Book in Mathematics*, by D. E. Smith. *Amer. Math. Monthly* 37:310–12.

1934 Clara Eliza Smith – an appreciation. *The Wellesley Magazine* (June): 431–32.

1938 Review of *Calculus*, by J. V. McKelvey. *Amer. Math. Monthly* 45:113–14.

Abstract not listed above:

1933 On the theory of invariants of n-planes. *Bull. Amer. Math. Soc.* 39:871–72 #306. Presented to the AMS, Cambridge, MA, 27 Dec 1933.

References to: AMSc 3–8, AmWom 1935–40, BiDWSci, WhAm 3.

Harrison, Ida R., Carol S. Scott, and Marion E. Stark. "Lennie P. Copeland." *The Wellesley Magazine* July 1946, 319.

"Miss Lennie Copeland." (Obituary) *New York Times*, 13 Jan 1951.

"Lennie Phoebe Copeland, Wellesley Ex-Professor." (Obituary) *New York Herald Tribune*, 13 Jan 1951.

Other sources: Owens questionnaire 1937; Owens Papers; University of Pennsylvania Archives; Wellesley College Archives; US Census 1880, 1900, 1920 ME, 1930 MA.

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