HAYNES, Nola (Anderson). January 9, 1897–December 21, 1996.
University of Missouri (BS 1922, MA 1926, PhD 1929).

Nola Lee Anderson was the second of five children of Mary Estella (Swan) (1866–1946) and Edward Lee Anderson (1867–1945), a farmer. Her mother was born in Michigan, while her father, she, and her siblings were born in or near Bucklin in Linn County in north-central Missouri. Both parents had an elementary school education; they were married in 1894. Nola Anderson's older sister, Mary Ellen (1895–1918), had contracted polio when an infant. Her only brother, Morton Albert (1899–1967), received a high school education and became a farmer. Her younger sisters, Selma Lucille (1909–1996) and Elma Peach (b. 1911), both received bachelor's degrees from the University of Missouri. Selma Anderson became a teacher and homemaker, while Elma Anderson received a second bachelor's degree in library science from the University of Illinois and was a librarian.

Nola Anderson received her early education in a one-room schoolhouse and graduated from the high school in Bucklin in 1915. In 1981 she described her early education. "My father would buy corn and ship cattle. He had me do a lot of the adding and figuring . . . and I liked it. I liked, of course, the arithmetic at school. I went to a very small town high school that was just a two-year high school when I started. But they added on the junior year and the senior year . . . and I was in the first [four-year] graduating class. . . . Then the pattern of the day was you took examinations to get certificates and you could go out and teach in the rural schools. So I did that and taught for four years at a rural school" (Smithsonian meeting tapes).

Anderson enrolled at the University of Missouri in the fall of 1919, at the age of twenty-two, and graduated three years later with a BS in education. She taught mathematics for two years at the high school in St. Charles, Missouri; the following year she had charge of the mathematics department at Central College for Women, a junior college in Lexington, Missouri. She then returned to the University of Missouri to study mathematics and astronomy and received her MA after one year. She continued her graduate studies as a university scholar in mathematics in 1926–27, as a Gregory scholar in 1927–28, and as an instructor in 1928–29. Her dissertation committee consisted of her advisor, Louis Ingold, a 1907 Chicago PhD, and W. D. A. Westfall, G. E. Wahlin, and E. S. Haynes, who represented her minor field of astronomy. Anderson remained at the University of Missouri as an instructor for one more year after receiving her doctorate in 1929.

In 1930 Anderson joined the faculty at H. Sophie Newcomb College, Tulane University, in New Orleans as associate professor and acting chair of the department. She remained for the next eight years as associate professor 1930–36 and as professor 1936–38; she also served as department chair during her years at Newcomb. In her first years at Newcomb College, Anderson supervised a master's thesis in geometry. She became active in the Louisiana-Mississippi Section of the MAA and served as secretary 1931–32 and vice chairman for Louisiana 1937–38.

When Anderson went to Newcomb in 1930, Anna Mayme Howe had just left after eleven years as an assistant professor, and Marie J. Weiss had just arrived as an assistant professor. During 1934–35 Weiss was on leave to spend the year at Bryn Mawr College working with Emmy Noether, and Anderson hired Vera Ames (Widder) as her replacement for the year. In 1936 Weiss left for an assistant

professorship at Vassar College, and Anderson hired M. Gweneth Humphreys as an instructor to replace Weiss. When Anderson left Newcomb in 1938, Marie Weiss returned as professor and mathematics department head.

While at Newcomb, Anderson remained in contact with E. S. Haynes, who had served on her dissertation committee. Eli Stuart Haynes, born in Missouri in 1880, received his bachelor's and master's degrees from the University of Missouri in 1905 and 1907, respectively, and his PhD in astronomy from the University of California in 1913. After nearly a decade at Beloit College he returned to the University of Missouri in 1923 as professor of astronomy and director of the Laws Observatory. After nearly twenty-six years of marriage and with two grown sons, Haynes was widowed in 1934. Nola Anderson left Newcomb College at the end of the 1937–38 school year and married Haynes on July 9, 1938. Her marriage was announced in the October 1938 issue of the *Monthly*.

Nola Anderson Haynes then moved to Columbia, Missouri. She described her expectations and experiences there in 1981.

> When I left Newcomb College I left to get married to the chairman of the astronomy department of the University of Missouri. There was a very strict nepotism law and I was giving up my career for marriage, thinking I would never teach again. Then when the Second World War came on ... I was the first person called back into teaching. At that time they didn't set any salaries and they gave me the name of acting instructor or something like that because of the nepotism law. I thought it was a temporary sort of thing and then after the war the boys came back and I was still an acting associate professor ... because of my husband. It was not until my husband retired that I got the appointment of associate professor. ... There was a very strict nepotism law at the University of Missouri; not only did it include wives, but if you had a niece or a cousin on staff - only one could be on the staff. (Smithsonian meeting tapes)

In 1943–44 she was a special instructor; from 1946 to 1951 she served as acting associate professor; and in 1951, after her husband's retirement in 1950, she became the first woman at the University of Missouri to hold the title of associate professor of mathematics. In 1952 she was elected to a one-year term as secretary-treasurer of the Missouri Section of the MAA. She served again as secretary-treasurer of the section 1960–63 and chairman 1963–64.

E. S. Haynes died in 1956, and Nola Haynes continued teaching until her retirement as emeritus associate professor in 1967, at age seventy. During her last years of teaching at Missouri she taught honors sections and, in 1959, participated in a panel discussion at a joint meeting of the NCTM and NEA on "Helping the better pupil toward higher goals." After her retirement she served one year, 1967–68, as professor at Randolph-Macon Woman's College (now Randolph College), where her former colleague M. Gweneth Humphreys chaired the department.

Nola Haynes was a member of Pi Lambda Theta, an education honor society. She was also a member of the National Society of Colonial Dames of America and was listed on their Honor Roll in 1980. Locally, she served as president of the Boone County League of Women Voters and was a member of the Fortnightly Club and Readers' Club of Columbia. She was also a member of the First Christian Church in Columbia, where she was an honorary deaconess. She established the Eli Stuart

Haynes and Nola Anderson Haynes Scholarship Fund at Missouri and in 1995 was awarded the first College of Arts and Science Silver Chalk Award for contributions in teaching.

Nola Haynes died in Brookfield, Missouri, in December 1966, less than three weeks before her hundredth birthday. She was survived by her youngest sister, of nearby Marceline, Missouri, and a stepson of Port Angeles, Washington. She was buried in Memorial Park Cemetery, Columbia, Missouri.

Organizational affiliations: AMS, MAA, Sigma Xi, Sigma Delta Epsilon, Pi Mu Epsilon.

Thesis and dissertation:
1926 [Anderson, N. L.] Invariants in four-dimensional space. MA thesis, University of Missouri. Typescript.
1929 [Anderson, N. L.] An extension of Maschke's symbolism. PhD dissertation, University of Missouri, directed by Louis Ingold. Typescript. Printed version, 1929, reprinted from *Amer. J. Math.* 51:123–38.

Publications:
1929a [Anderson, N. L.] An extension of Maschke's symbolism. *Amer. J. Math.* 51:123–38. Published version of PhD dissertation. Reviews: *JFM* 55.0439.02 (W. Fr. Meyer); *Rev. semestr. publ. math.* 35:2 (W. G. J. ten Pas). Presented as "An extension of Maschke's symbolic method" to the AMS, Lincoln, NE, 27 Nov 1926; abstract: *Bull. Amer. Math. Soc.* 33:163 #4.
1929b [Anderson, N. L.] The trigonometry of hyperspace. *Amer. Math. Monthly* 36:517–23. Review: *JFM* 55.0429.02 (G. Feigl). Presented to the MAA, St. Louis, MO, 26 Nov 1927; abstract: *Amer. Math. Monthly* 35:52 #2.
1936 [Anderson, N. L.] with L. Ingold. Normals to a space V_n in hyperspace. *Bull. Amer. Math. Soc.* 42:429–35. Reviews: *JFM* 62.0865.01 (J. Haantjes); *Zbl* 015.12603 (D. J. Struik). Presented as "First normal spaces in Riemannian geometry" by N. L. Anderson to the AMS, Lawrence, KS, 1 Dec 1928; abstract: *Bull. Amer. Math. Soc.* 35:145–46 #2. Also presented as "Invariant normals to a space S_n contained in a function space" to the AMS, Des Moines, IA, 31 Dec 1929; abstract: *Bull. Amer. Math. Soc.* 36:210 #165.

Abstract not listed above:
1951 An attempt to broaden the background of prospective teachers of mathematics. *Amer. Math. Monthly* 58:594 #4. Presented to the MAA, Fayette, MO, 6 Apr 1951.

Presentation not listed above:
Trigonometry in a space of n-dimensions. Presented to the MAA, Natchitoches, LA, 13 Mar 1931.

References to: AmMSc 6–8, 9P–12P; BioWMath; WhoScEn 1.
Moen, Nancy. "Better at Math 'Than the Boys.'" *Critical Points*, Spring 1996, Mathematics Department, University of Missouri, Columbia.
Obituary. *Kansas City Star*, 23 Dec 1996.
"Remembering Nola Haynes." *Critical Points*, Summer 1997, Mathematics Department, University of Missouri, Columbia.

Other sources: PhD dissertation vita 1929; Owens questionnaires 1937, 1940; Smithsonian questionnaire 1981; Smithsonian meeting tapes 1981; WhAm 3 (Haynes, Eli Stuart); US Census 1900, 1910, 1920 MO.

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