

HENNEL, Cora B. January 21, 1886–June 26, 1947.

INDIANA UNIVERSITY (BA 1907, MA 1908, PhD 1912).

Cora Barbara Hennel was born in Evansville, Indiana, the second of three daughters of Anna M. (Thuman) (1854–1925), born in Indiana, and Joseph Hennel (1842–1934), born in Ohio. Her parents married in 1882; it was a second marriage for her father. In early years he was a teacher, served for three years on the Union side in the Civil War, and later was in business. In 1900 three children (of five born) were living: Cecilia Barbara, born in 1883; Cora Barbara, born in 1886; and Edith Amelia, born in 1891. They lived on a farm near Evansville.

Cora Hennel and her older sister went to grade school together and both graduated from Evansville (now Central) High School in 1901. They then taught in country grade schools to save money for college and entered Indiana University in Bloomington together in the fall of 1903. The following year they convinced their parents and sister to move to Bloomington.

All three daughters received bachelor's and master's degrees from Indiana; Cora and Cecilia received BA's in 1907 and MA's in 1908 (Cora in mathematics and Cecilia in English), and Edith received a BA in 1911 and an MA in 1912 (both in botany) and stayed an additional year as a teaching fellow. Cora was a member of Mortar Board; all three were elected to Phi Beta Kappa. Both of Hennel's sisters were on the faculty at Indiana before their marriages; her older sister, Cecilia Hennel Hendricks, returned to the English department in 1931 after homesteading with her husband in Wyoming. She remained on the faculty until her retirement in 1953.

Cora Hennel continued her studies and began teaching at Indiana University immediately after receiving her bachelor's degree. She was a teaching fellow 1907–09, earned her master's degree in 1908, and was appointed instructor of mathematics in August 1909. At the suggestion of Professor David Rothrock, she continued her work toward the doctorate, and wrote her dissertation during the year 1911–12 under the direction of R. D. Carmichael. Carmichael received his PhD at Princeton as a student of G. D. Birkhoff in 1911 and was at Indiana briefly before he moved to the University of Illinois in 1915. Hennel's diaries in the Indiana University Archives describe her time as a student. Her entry of January 22, 1912, records, "Now as for this term . . . the most remarkable thing is that I'm not teaching at all – just studying." On April 14 she wrote, "I'm simply cutting out everything this term and working . . . thesis coming all right, but when I think of the cramming I'll have to do between now & June I feel desperate. Dr. C. has been very encouraging tho: he told me the other day my knowledge of math is as broad as that of half the men in the math faculty at Princeton. Gracious!" On June 9, after her examination, she wrote, "Well, it's over. And Dr. Carmichael said I passed a 'brilliant examination.'" Hennel's PhD in June 1912 was the first in mathematics and the first to a woman awarded by Indiana University. It was only the second doctorate in mathematics granted in the state of Indiana, the first having been awarded by Purdue to James Byrnie Shaw in 1897.

Hennel continued to hold a faculty position at Indiana until her death. She remained an instructor until 1916, was assistant professor 1916–23, associate professor 1923–36, and became professor in 1936. In about 1907 Hennel was instrumental in helping to start the Euclidean Circle, a mathematics club for mathematics majors, upperclassmen, graduate students, and faculty in the department. An article on

the Euclidean Circle in the winter 2006–07 department alumni newsletter notes the topics of some presentations Hennel made to the club. In 1925 she and a colleague, Harold T. Davis, produced notes that were used in a general mathematics course. The notes were not published, but were bound and distributed by the bookstore.

Hennel was extremely active on the campus, serving, for example, as president of the Indiana University chapters of AAUP, AAUW, the YWCA Board, the Corda Fratres Association of Cosmopolitan Clubs (dedicated to fostering understanding between foreign and American students), and the Women's Faculty Club. She was foreign student advisor, and, in 1920, was chairman of a committee on friendly relations among foreign students. She chaperoned student events, was a member of the university's student affairs committee, and was on the advisory board of the Association of Women Students. She regularly participated in local, state, and national meetings of mathematical and scientific organizations. She attended the organizational meeting of the MAA at Ohio State University in December 1915 and was vice chairman 1939–40 and chairman 1940–41 of the Indiana Section. She was also chairman of the mathematics division of the Indiana Academy of Science for 1940, and she and her sister attended the Harvard Tercentenary Conference of Arts and Sciences in Cambridge, Massachusetts in 1936.

The obituary in the *Proceedings of the Indiana Academy of Science* records that Hennel was “well known throughout the State, having addressed numerous Indiana University alumni groups, and various educational, professional and civic organizations” (p. 4). It notes further that “Dr. Hennel's chief contributions were in her excellent teaching and her influence on many students, both native and foreign. . . . In her quiet and unobtrusive way she encouraged and helped many of them not only through counseling but financially as well” (p. 4). In 1995 the Indiana mathematics department named its faculty/student lounge the Cora B. Hennel Room; the department also annually awards Cora B. Hennel memorial scholarships to outstanding undergraduate majors.

Hennel's main hobby was writing poetry, and some of her poems appeared in various publications including *The Columbia Anthology of Verse* and *School and Society*. She was affiliated with the First Methodist Church in Bloomington.

Cora Hennel had undergone major surgery several weeks before her death in Bloomington in 1947 at age sixty-one of colon cancer. She was survived by her two sisters, four nieces, and a nephew. She was cremated.

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

Dissertation:

1912 Certain transformations and invariants connected with difference equations and other functional equations. PhD dissertation, Indiana University, directed by Robert Daniel Carmichael. Printed version, 1913, reprinted from *Amer. J. Math.* 35:431–52.

Publications:

1913a Transformations and invariants connected with linear homogeneous difference equations and other functional equations. *Amer. J. Math.* 35:431–52. Published version of PhD dissertation. Reviews: *JFM* 44.0395.02 (G. Wallenberg); *Rev. semestr. publ. math.* 22, pt. 1: 3 (E. B. Cowley). Presented to the AMS, Cleveland, OH, 1 Jan 1913; abstract: *Bull. Amer. Math. Soc.* 19:299 #44. Review of abstract: *JFM* 44.0395.02 (G. Wallenberg).

1913b Review of *A Brief Course in Analytic Geometry*, by J. H. Tanner and J. Allen. *Bull. Amer. Math. Soc.* 20:156–57.

1913c Review of *Elements of Plane and Spherical Trigonometry*, by J. G. Hun and C. R. MacInnes. *Bull. Amer. Math. Soc.* 20:99–100.

1913d Review of *Elements of Plane Trigonometry*, by D. A. Murray. *Bull. Amer. Math. Soc.* 20:156.

Abstract not listed above:

1941 And gladly teach. *Amer. Math. Monthly* 48:509 #1. Presented to the MAA, Indianapolis, IN, 3 May 1941.

References to: AmWom 1935–40, BiDWSci, [BioWMath](#).

“Cora B. Hennel.” (Obituary) 1947. *Proceedings of the Indiana Academy of Science* 57 (1947): 3–4.

Obituary. *Indianapolis Star*, 27 Jun 1947.

[“Indiana University’s First Mathematics Ph.D.”](#)

Related manuscript material:

Cecilia Hennel Hendricks Papers Box #16: All Cora B. Hennel Documents [includes diaries, scrapbooks, and other material]. Indiana University Archives.

Other sources: Owens questionnaire 1937; Indiana University Archives; Cecilia Hennel Hendricks, *Letters From Honeyhill: A Woman’s View of Homesteading 1914–1922*, comp. and ed. Cecilia Hendricks Wahl (Boulder, CO: Pruett Publishing Co., 1986), 2nd ed. 1990; Gwenette Gaddis Goshert, “Roots – square and circular: The Euclidean Circle as the root of the Math Club,” [Indiana University Department of Mathematics Alumni Newsletter 12 \(Winter 2006–07\)](#), 1-2; US Census 1880, 1900, 1910, 1920 IN; Indiana death certificate.

Last modified: March 7, 2009.