NEWSON, Mary (Winston). August 7, 1869–December 5, 1959.
University of Wisconsin (BA 1889), Georg-August-Universität Göttingen (PhD 1897).

Mary Frances Winston was born in Forreston, Illinois, the fourth of eight children of Caroline Eliza (Mumford) (1836–1909), who was born in Pennsylvania, and Thomas Winston (1829–1928), who was born in Wales and immigrated to the United States when he was two years old. Mary Winston's parents married in Illinois in December 1861. Her father was a physician trained in a six-week course at Rush Medical School in Chicago, and her mother, who had taught French, art, and mathematics at various schools in the East and in Illinois, prepared the children for college. Her mother learned geology though a correspondence course with the Field Museum in Chicago and learned Greek on her own in order to teach it to her children. Winston's father, who had served in the Union army as a surgeon during the Civil War, had taken advantage of the government's offer to sell land to former officers and bought about 3000 acres, mostly in Nebraska, some of which he would sell when his income was not sufficient to pay for his children's college tuition. The family lived in Forreston, in northern Illinois, until 1892 when they moved to Chicago.

Winston's older siblings were Edward Mumford (1862–1948), Thomas Winfield (1865–1926), and Ambrose Paré (1867–1959). Her younger siblings were Eugenia (1871–1956), Milton (1873–74), Charles Sumner (1876–1928), and Alice (1878–1943). Edward, the eldest child, graduated from Harvard in 1884, received an LLB degree from Wisconsin in 1888, and became a lawyer who was in business in Chicago. Winfield was a graduate of the US Military Academy at West Point and was in the army at the Presidio in 1893–95, where he guarded the Southern Pacific Railway during the 1894 railroad strikes. He indicated then that he expected to take the bar exam. It appears that he made a career in the military; in 1910 he was an army officer living with has wife and five children in Virginia. Ambrose Paré received a bachelor's degree from Wisconsin in 1887 and studied at Johns Hopkins University and the University of Chicago before earning a PhD in political science in 1900 at Cornell University. He specialized in political economy and was later a professor of economics at the University of Texas in Austin. Eugenia received a BA from Wisconsin in 1890. During most of the 1890s the younger siblings, Eugenia, Charles, and Alice, all lived at home, and all did some studies at the University of Chicago. Charles and Alice earned bachelor's degrees in 1896 and 1898, respectively; and Eugenia and Alice earned master's degrees in 1897 and 1903, respectively. Eugenia was a teacher before her marriage; Charles became an engineer; and Alice taught English at the University of Kansas starting in 1909.

In 1884 Mary Frances Winston, known to her family and friends as May, and her older brother Paré enrolled at the University of Wisconsin in Madison, eighty-five miles from Forreston. She interrupted her studies to teach one year in a country school before returning to Wisconsin and graduating in 1889 with honors in mathematics. During at least her last year at Wisconsin, her younger sister Eugenia was also enrolled there, and both were members of one of the two campus ladies' literary societies. Mary Winston wrote a senior thesis on "Integrating factors of differential equations" and wanted to attend graduate school at Wisconsin. She was denied a fellowship, and so in 1889 she accepted a job teaching mathematics

at Wisconsin Female College in Fox Lake. That year the name of the college was changed to Downer College; in 1895 it took over the campus of Milwaukee College and changed its name to Milwaukee-Downer College. Her first year she applied to the mathematics program at Bryn Mawr College but was turned down for a fellowship, which was given instead to Ruth Gentry. However, when Gentry received a European fellowship from the Association for Collegiate Alumnae (ACA) for the following year, Scott telegraphed Winston to suggest she apply again. This time Winston was successful, and in 1891–92 she was a graduate fellow at Bryn Mawr where she studied with Scott and James Harkness. At the end of her year in Europe, Gentry returned to Bryn Mawr and its fellowship. Despite Scott's urging her to stay, Winston left because she could not afford a year without financial support.

Since her family was moving to Chicago, Winston applied for a fellowship at the newly opened University of Chicago. Although she was awarded only an honorary fellowship that paid her tuition, it was sufficient since she could live with her parents. At Chicago, Winston took courses from E. H. Moore, Oskar Bolza, and Heinrich Maschke. They encouraged her to stay at Chicago but she wanted to study in Germany, and in the spring of 1893, with their recommendations, she applied for the ACA European fellowship. She did not receive the fellowship, but in late August 1893 she met with Felix Klein of Göttingen who was in Chicago as the representative of German mathematics at the International Mathematical Congress held in connection with the World's Columbian Exposition. He encouraged her to come to Göttingen to study, although he could not promise her admission there. Christine Ladd Franklin, who had previously corresponded with Klein about the admission of women to Göttingen, heard of Winston's desire to study in Germany and sent her $500 to help finance her first year there. The following week Winston received an offer to teach at Vassar College, which she turned down.

At the end of September 1893 Mary Frances Winston sailed on the S. S. *Westerland* with Ida Hyde, the biologist who had received the ACA European fellowship. Much of the information about Winston's experiences in Europe comes from letters to her family that were transcribed by her daughter, Caroline Beshers, who gave copies of the transcriptions to one of the authors. The letters and transcriptions are now in the Sophia Smith Collection at Smith College.

By mid-October 1893 Winston had met with Klein, who told her to write a petition for admission and informed her that she could attend lectures while waiting for a response. She also met Grace Chisholm and Margaret Maltby, two women who had also come to Göttingen to try to enroll: Chisholm in mathematics, Maltby in physics. Upon first meeting Chisholm, May Winston wrote to her brother Charley October 17, 1893, "We are to have nearly the same work and I think we will work together a good deal. It is an opportunity which I have never enjoyed before–to work with someone who is my equal–or nearly so–for I do not consider her very much ahead of me." By December of that year Winston had realized that Chisholm's English mathematical education was more extensive than her own and realized that she would not get her degree as quickly as Chisholm would.

By the end of October 1893, Winston, Chisholm, and Maltby were all informed that their petitions had been accepted "ausnahm weise (as an exception)." That same week, Winston attended her first lectures: Klein's on hypergeometric series and Heinrich Weber's on function theory and on theory of algebraic numbers. She also expected to attend both Klein's and Weber's seminaries and expected to stop

attending one of Weber's courses. On December 20, 1893, Winston became the first woman to give a *Vortrag* (read a paper) at the university at Göttingen when she outlined a paper that had appeared in the *Mathematische Annalen.*

Winston remained in Europe, studying at Göttingen and occasionally traveling. She and Chisholm were close friends and "they called one another Julius and Pompey, [presumably] because they had crossed the Rhine to victory" (Caroline Beshers to one of the authors, February 24, 1977). Winston decided against applying for the ACA European fellowship for her second year since she had not done any original research by the time the application was due. Her family supported her during 1894–95. Winston's first original work was done during the summer of 1894 and appeared in the *Mathematische Annalen* in 1895. With that paper she was able to secure the ACA fellowship for 1895–96, her third and final year at Göttingen. Her dissertation, written under Klein's supervision, was completed by the middle of that year, and she passed her examination in July 1896. Winston received her PhD magna cum laude in 1897 after finally finding a publisher for her dissertation in Germany. Chisholm and Maltby had both received their PhD's in 1895, and so Winston was the second woman, and the first American woman, to receive a doctorate in mathematics from Göttingen as an enrolled student; Sofia Kovalevskaya had received a PhD from Göttingen in 1874 but had never attended classes there.

While in Göttingen May Winston was part of an American community that included many students of mathematics. She met and became friends with Annie MacKinnon (Fitch), who was the ACA European fellow for the year 1894–95. Two other mathematicians who had been at Cornell University and were studying at Göttingen during this time were Virgil Snyder, who received his PhD from Göttingen in 1895, and J. H. Tanner. Both returned to Cornell and spent the remainder of their careers there. In March 1897 Tanner wrote to the University of Minnesota that Winston "impressed me as an unusually strong mathematician; I should place her certainly in the first group of half a dozen women mathematicians in this century. Few of our people, whether men or women, have had so good a training as has this young women, added to this she has an especially good mathematical mind. She has thoroughly saturated herself with the spirit of modern ideas in mathematics" (private collection).

Winston returned to the United States in 1896 without a job, but at the beginning of September she found a position for the year 1896–97 teaching at St. Joseph High School in St. Joseph, Missouri. In December 1896 she read a paper at a conference held in Chicago; the conference, which had been called by local members of the AMS, adopted a resolution that resulted in the formation of the Chicago Section of the AMS. In 1897 Winston was appointed professor of mathematics at Kansas State Agricultural College (now Kansas State University) in Manhattan. Soon after her appointment, H. B. Newson of the mathematics department of the University of Kansas wrote a review of her dissertation stating: "This publication by Miss Winston ... is in all respects worthy of that lady's reputation as a mathematician.... Although this work was written before its author became a Kansan, it reflects credit upon the state and the state institution which she represents" (*Kansas Univ. Quart.* 7 (1898): 40).

Winston stayed at Kansas State for three years before resigning in order to marry Henry Byron Newson on July 21, 1900. H. B. Newson was born July 10, 1860, in Mt. Gilead, Ohio, and was educated at Ohio Wesleyan University (which

later conferred an honorary doctorate on him) and at Johns Hopkins University. He also studied in Heidelberg and with Sophus Lie 1887–88 in Leipzig. Newson taught at Central Tennessee College 1884–86 and at Western Normal College in Bushell, Illinois, 1888–90 before going to the University of Kansas in 1890. At the University of Kansas, nepotism regulations prevented Mary Winston Newson from teaching during the year, but she was able to teach during the summers. Also during this period, with David Hilbert's permission, she translated his famous "Mathematical Problems" paper for the *Bulletin* of the AMS.

The Newsons had three children: Caroline (1901–1998), Josephine (1903–1994), and Henry Winston (1909–1978). Her eldest daughter, Caroline Newson Beshers, later reported in a letter to one of the authors that Henry B. Newson "was trying very hard to encourage [May] to be a mathematician. May's mother wrote her urging that she set aside a few hours every day for study, as she herself had done, and she also wrote Henry encouraging him to encourage [May]" (August 3, 1977). In Lawrence, Mary W. Newson became friends with Helen Brewster (Owens), who earned her master's degree in 1901 under the supervision of H. B. Newson. In 1937 Owens organized a luncheon to honor women pioneers in mathematics, and Newson was one of the honored guests.

On the night of February 17, 1910, Henry Byron Newson died in his sleep. Not yet fifty, he had been unable to purchase life insurance because of a bad heart and had taught only nineteen and a half years of the twenty years required in order for his widow to receive payments from his retirement pension. Thus, Mary W. Newson was left with only the income from two houses they rented, an income insufficient to support her and her three children. Although the University of Kansas mathematics department hired three new faculty members that year, including Marion Ballantyne White, they could not have hired Newson because her sister Alice Winston had just accepted a position in the English department. When the 1910 census was enumerated in April, Mary Newson, her three small children, and a sister-in-law were listed together. Mary Newson's recently widowed father, her late mother's sister, her sister Alice, and a housekeeper were also living in Lawrence; the latter were still living there in January 1920. Newson remained in Lawrence for a few years after her husband's death. During that period she and Helen Owens, who had returned from New York to Kansas to work on the 1911–12 suffrage campaign, helped produce a Votes for Women Pageant there.

In 1913 Newson accepted a job as an assistant professor at Washburn College in Topeka, Kansas, close enough so that she could come back to Lawrence to spend weekends with her children, who were at first living at her father's house. In 1915 only the youngest child was enumerated with Mary Newson's father, aunt, and sister in Lawrence. While at Washburn, Newson joined the MAA as a charter member and was one of the fifteen original members of the Kansas Section. She often attended the Kansas Section meetings, leading a discussion on a paper of J. N. Van der Vries one year and presenting a paper of her own another year. She was also active in the Kansas Association of Teachers of Mathematics, serving as its chairman in 1915. She was an assistant professor when she left Washburn College at the end of the 1920–21 academic year.

In 1921 Newson became head of the department of mathematics at Eureka College in Eureka, Illinois. During the spring of 1921 she had been looking actively

for a new position, applying at least to Eureka, the University of Texas, and Montana State. Her son later reported that she was offered a position at Texas, but that it was withdrawn because her brother was a professor of economics there. Her daughter Caroline reported that she wanted to leave Washburn because she was "dissatisfied with her subordinate position under a man with much less knowledge" (letter to author February 24, 1977). In addition, Newson had signed a petition supporting a faculty member, Dr. Kirkpatrick, who had been fired for expressing his political opinions to students. The incident was investigated by the AAUP at the time. All those who signed the petition left Washburn within a few years.

Newson remained at Eureka the rest of her career. She taught courses in both mathematics and astronomy and shared the leadership of a combined mathematics and science division from 1928 until 1934 when she became chairman of that division. She was forced to retire from full-time teaching in 1937 when the college instituted a mandatory retirement policy. She continued teaching part time and remained chair of the division another two years. Newson finally retired from teaching at the end of the 1941–42 academic year.

At Eureka, Newson was active in the Illinois Section of the MAA and was particularly active in the AAUW. She was instrumental in the founding of the local chapter of AAUW and served as chairman of the International Relations Round Table of the Eureka branch of the AAUW from 1928 until 1938. In 1940 Newson was honored by the Women's Centennial Congress as one of one hundred women who held positions that were not open to them a hundred years earlier. Her daughter later reported that "it was characteristic of her that when a reporter called the college no one there knew she had received the invitation. She had declined because the dinner came on the same day as her first classes of that semester" (letter to author February 24, 1977). The local paper, *The Daily Pantograph* in Bloomington, Illinois, quoted her as saying, "The trip is out. In my 33 years of teaching, I've always opened my classes on the first day. Any professor knows that he should introduce his own work himself." Instead the Eureka chapter of the AAUW and the local international relations group, two groups with which Newson was involved from the start, honored her with a dinner in April 1941.

In 1913 the University of Wisconsin elected Newson as an alumni member of Phi Beta Kappa. She was a long-standing member of AAUW, having attended meetings as early as her student days at the University of Chicago when it was still the ACA. She was also a member of the Women's Christian Temperance Union, was raised a Unitarian and kept that affiliation as an adult, and in 1914 reported that she was a political independent.

After her retirement Newson moved to Lake Dalecarlia in Lowell, Indiana, where she had previously spent vacations. In 1956 she moved to a nursing home in Poolesville, Maryland, near where her daughter Caroline Beshers lived. She died at the nursing home at age ninety and was buried in Lawrence, Kansas. In 1977 Caroline Beshers wrote that her "mother was probably the most modest and unassuming person alive" but that she had "had the energy and courage to face up to Kaiser Wilhem II and to win, Magna cum Laude."

After Newson's death her children endowed a Mary Newson lecture series on international relations at Eureka College. In March 2007 Newson was named one of Eureka College's "Matrons of Distinction"; in connection with that honor she was described on the web page for March 3rd as "a champion of academic freedom, of

the centrality of international studies to the liberal arts, and of the belief that one individual can (and must) make a difference, even in spite of overwhelming odds."

Organizational affiliations: AMS, MAA, AAUW, Phi Beta Kappa.

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Thomas Winston Papers, 1845–1915. Modern Manuscripts Collection, History of Medicine Division, National Library of Medicine, USA. Finding aid.

Other sources: PhD dissertation vita 1897; Owens questionnaire 1937; Owens Papers; Williams Papers; Center for Research Libraries College Catalog Collection; Green and LaDuke, "Contributors to American Mathematics"; Grinstein, "Some 'Forgotten' Women of Mathematics"; Maltby, *History of the Fellowships*; Whitman, "Women in the American Mathematical Society before 1900," pt. 3; Kansas State Census 1905, 1915; US Census 1870, 1880, 1900 IL, 1910, 1920 KS, 1930 IL.

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