

Anne S. Young: Professor and Variable Star Observer Extraordinaire

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Abstract One of the original eight members of the AAVSO, but not well known today, was Professor Anne Sewell Young of Mount Holyoke College. Miss Young taught there for thirty-seven years, and trained many women astronomers during the first third of the 20th century. This paper will attempt to present her life as an inspiring teacher, as well as a contributor of more than 6,500 variable star observations to the AAVSO.

1. Biography

Anne Sewell Young was born in Bloomington, Wisconsin, on January 2, 1871, into a family with many connections to astronomy (see Hazen 1985). Her grandfather, Professor Ira Young, held the Chair of Natural Philosophy and Astronomy at Dartmouth College. The Shattuck Observatory at Dartmouth was built for him, and designed by his older brother Ammi B. Young, a well-known architect. Ira's wife Eliza Adams' father, Ebenezer Adams, also taught astronomy and mathematics at Dartmouth. Ira and Eliza Young had two sons. Charles Augustus Young became a well-known astronomer at Dartmouth and Princeton, where he taught such luminaries as Henry Norris Russell. The younger son, Albert Adams Young, a Congregational minister and Home Missionary, served as a pastor at various churches in Wisconsin, Iowa, and Indiana; he also had an interest in science (geology). Albert married Mary Sewell, who had come from Halstead, England, as a child in 1834. Their two daughters were Anne Sewell Young and Elizabeth Adams Young, who was four years older than Anne.

Anne Young attended public schools in New Lisbon, Wisconsin, and graduated in 1886. In the fall of 1888 she entered Carleton College in Minnesota, which had been founded by the General Conference of Congregational Churches in 1866. Its founder was Charles M. Goodsell, after whom their observatory, begun in 1887, was named. The Goodsell Observatory was quite active, and as early as 1882 began to publish *The Sidereal Messenger*, which in 1893 became *Popular Astronomy*. Although Anne Young completed a B.L. degree at Carleton, she took quite a bit of mathematics and astronomy as an undergraduate.

In the fall of that year she took up a post as Instructor in Mathematics at Whitman College in Walla Walla, Washington. The College had been founded as a secondary academy in 1859, in memory of Marcus Whitman and his wife

Narcissa, early Congregational missionaries to the Oregon territory who had been massacred in 1847. In 1883 it had become a full-fledged college, with sixty students and three senior faculty. By 1892 the faculty of about five all taught a wide range of subjects: Miss Young taught geometry, algebra, analytic geometry, German, elementary rhetoric, mid-prep English, and commercial law during her three years there, and in spring 1894 offered a course in Elementary Astronomy. She also served as Secretary of the Faculty, taking minutes of monthly faculty meetings, and during her first year she founded an Astronomical Club for students. President Stephen B. L. Penrose, who came to Whitman in 1894, described her as “highly admirable for her mathematical ability, her teaching skill and her personal character” (Penrose 1935).

In 1895, however, at the end of the school year, she resigned her position for reasons of ill health, and probably returned to her family. By September of 1896 she was back at Carleton, working on a Master’s degree, which she received in December 1897. She then spent the spring term at the University of Chicago’s newly opened Yerkes Observatory, where she worked with J. A. Parkhurst on photometric work. She continued this collaboration for many years, returning to Yerkes in summers as a volunteer research assistant. In the fall of 1898 she became principal of a high school in St. Charles, Illinois. But the turning point of her career came when she accepted an appointment as Head of the Department of Astronomy and Director of John Payson Williston Observatory at Mount Holyoke College, in South Hadley, Massachusetts. In September 1899 she arrived in South Hadley, where she was to spend the next thirty-seven years of her life (Figure 1). It seems possible that her uncle, Charles A. Young, was involved in her securing this post, as he was a Trustee of Mount Holyoke and a frequent lecturer there.

Mount Holyoke was a venerable and highly respected college for women, founded in 1837 by Mary Lyon. From its inception a brief course in astronomy had been included in the curriculum, and was required of all students until 1888. The Williston Observatory was dedicated in 1881, and provided with an 8-inch Alvan Clark refractor. A classroom was added in 1903; the observatory remains the oldest building on campus. Professor Elizabeth Bardwell taught astronomy from 1866 until her retirement in 1899. Her introductory course was by no means elementary, requiring trigonometry and physics as prerequisites; though in 1895 she added a one-credit non-mathematical course. Seniors could elect a history of astronomy course or a course in practical astronomy; an astronomy major was introduced in 1895. In 1896–1897, Mount Holyoke had 330 students, of whom 61 took astronomy. Thus when Anne Young arrived in 1899 to take Miss Bardwell’s place, she found a well-equipped observatory and a firmly established program awaiting her.

At first Miss Young offered the same courses as her predecessor. But in her second year she added an observational course, and she and the students observed Nova Persei 1901. In 1900 she also began keeping daily sunspot

records, an activity which was continued at Williston Observatory for at least the next sixty years (it was still being done when I was a student there in the late 1950s.) She soon added a course in celestial mechanics. And in 1902 she began observing variable stars for E. C. Pickering at Harvard College Observatory, an activity which she continued for many years.

In 1905 Miss Young decided to take a leave and pursue a Ph.D. degree; she attended Columbia University in 1905–1906, and worked under Harold Jacoby on the Double Cluster in Perseus, utilizing plates taken in the 1870s by Lewis M. Rutherford, a wealthy amateur astronomer and photographer. Her final result was a catalogue of 145 stars, giving right ascension, declination, precession and its secular variation, and magnitudes obtained from measures of star diameters. This dissertation earned her a Columbia Ph.D. in June of 1906.

Dr. Young then returned to Mount Holyoke, to a consistent pattern for the next several years of classes and observations during the academic year, and some time during the summer at Yerkes as a volunteer research assistant. In 1910 she held open houses at the observatory to show Halley's Comet to visitors. And in 1911, as an outgrowth of the variable star work done for Pickering, she was one of eight original members of the AAVSO, founded in that year by William Tyler Olcott. She contributed data to their monthly reports until 1935.

In 1913 a second full-time instructor position in astronomy was added to the department, and this gave Miss Young time to try a new course in General Astronomy, emphasizing recent developments. In its first year Irene Southworth (later Coulton; class of 1915) was the only student to sign up for it; but Miss Young wanted to try it out, so they did it together. Mrs. Coulton recalled in a letter that during the fall Miss Young was ill for some weeks, but gave her written assignments to do and progress reports to make in her absence. The course evidently became a success, as it was continued in subsequent years and expanded to two semesters (Coulton 1980).

The astronomy program remained unchanged during the war years, though Miss Young was in charge of Red Cross work at Mount Holyoke in 1918. She continued to attend meetings of the AAS and AAVSO (Figure 2), as she had done for years, and was elected AAVSO vice-president in 1919 and then President in 1922. In the fall of 1920 her former student Alice H. Farnsworth (class of 1916) joined the faculty as an instructor in astronomy; this marked the beginning of a long and happy association between the two.

In the late summer of 1923 the two of them, along with many other astronomers, traveled to southern California's Catalina Island to observe the total solar eclipse of September 10. Some seventy astronomers set up observing stations at Camp Wrigley, and made elaborate preparations for the much-vaunted good weather of California. But they were all doomed to disappointment, as eclipse day dawned completely cloudy and remained so all day.

However, at Mount Holyoke they soon were preoccupied with plans for the eclipse of January 24, 1925, which would be total in Connecticut, not far

from the college. The eclipse would occur during the final examination period, but no tests were scheduled for that day, so that all students could go observe it. Miss Young arranged for Mount Holyoke and Smith Colleges to use the golf links at Plymouth Meadow Country Club of Windsor, Connecticut, and she also arranged for a special train to take students there.

As soon as classes resumed after the Christmas holidays, Miss Young began preparing the students for what to expect. Their chances of clear weather were about 50%; the trip would go regardless of weather, since she knew of occasions where it had been pouring rain ten minutes before totality and yet was clear at the crucial moment. By January 16 about 700 students had signed up to go to Windsor, and another seventy planned to observe at some thirty other places in the path. Pieces of dark film to look through were sold at the college post office for five cents; the train ticket cost \$1.31.

On Saturday, January 24, the college was awakened at 5:15 a.m. by the fire alarm bells. An hour later, eight hundred students crowded into trolleys for Holyoke and then onto special trains to Windsor. The partial stages had begun before they arrived. Crowds toiled through the snow to the top of the hill, and stood in four below zero degrees weather to observe, under clear skies. The corona showed long streamers, out to a couple of solar diameters. Everyone saw planets, and some saw the stars of the Summer Triangle. They also remarked on the colors: the deep blue sky, with topaz yellow along the western horizon, and purple tints on the distant hills. Nearly a hundred students subsequently turned in written reports to Miss Young, and some also provided photographs. Helen Sawyer Hogg (class of 1926) remembered later the glorious spectacle and the careful training which Miss Young gave to her observers (Sawyer Hogg 1962).

After this excitement life continued more normally at Mount Holyoke. Miss Young and Miss Farnsworth went to Europe in the summer of 1927, hoping to see the solar eclipse of June 29 in England; but it was cloudy. Miss Young took a well-deserved sabbatical in 1928–1929, and spent it on the west coast as a research associate at the University of California at Berkeley. Her sister Elizabeth accompanied her, and they had a small apartment together. The two spent a few weeks at Christmas in southern California, visiting friends and Mount Holyoke graduates, and going to Mount Wilson. They met many AAVSO members during this year, especially in the San Francisco area, and noted in California considerable interest in astronomy, but not many regular observers.

After this the sisters settled back in at South Hadley, and continued their practice of entertaining students at tea. Miss Farnsworth was on leave in 1930–1931, and her place was taken by Helen Sawyer Hogg '26. Mrs. Hogg had started at Mount Holyoke as a chemistry major, but upon taking astronomy from Miss Young in her junior year she was converted, and she went on to a distinguished career in astronomy. In the 1930s Miss Young and Miss Farnsworth added some new observational courses, and continued observing occultations, variable stars and sunspots.

On August 31, 1932, a total solar eclipse crossed the state of Maine. This was during the summer holidays, so no major venture like that of 1925 was planned. But Miss Young, Miss Farnsworth, and several others went to an alumna's home in South Portland to see the event. Their chances for good weather were about 50%. Miss Farnsworth went to Douglas Hill, at the Perkins Observatory site, and was clouded out; Miss Young and those who stayed at South Portland had a clear sky and 93 seconds of totality. They saw prominences and a fine corona.

The next few years were Miss Young's last before retirement in 1936. She continued her usual routine of courses, carrying out observations and speaking to amateur astronomy groups. Her last annual departmental report lamented the fact that since students were no longer required to take mathematics, there was an increasing reluctance among many to take anything involving figures. And she concluded by modestly saying that though she had always fallen short of what she hoped to accomplish, what she had achieved was largely due to the support of her co-workers. She was delighted to be able to leave the department in the capable hands of Alice Farnsworth.

In June 1936 she retired, at the age of sixty-five, and became Professor Emerita. She and her sister then returned to the family home in Winona Lake. But in November of 1937, the Misses Young went to Claremont, California, for the winter. By March they had decided they liked it so well that they would move there. They spent the summer of 1938 at Winona Lake, and in the fall began to build in Claremont's Pilgrim Place, a settlement for retired missionaries and their relatives. In 1939 the Indiana house was sold, and they settled in Claremont, where they happily spent the rest of their lives (Figure 3).

Anne Young never did return east to Mount Holyoke. Even in 1948, when the AAVSO met at Mount Holyoke and there was a special ceremony in her honor, she could not attend, but sent a telegram. In 1955 Carleton College gave her an Alumni Award of Merit, for "unusual accomplishments in research and college teaching." But this too was awarded in absentia. In October of 1956 she suffered a stroke, and eventually she and Elizabeth gave up their house and moved into a nursing home at Pilgrim Place, where they had rooms across the hall from each other. Miss Young still kept up her correspondence, even when she had to dictate to others, and she continued to keep in touch with her former students and keep them up to date on each other. On August 15, 1961, at the age of ninety, she died in the nursing home.

2. Conclusion

Anne Young was a thorough, careful astronomer and an enthusiastic and dedicated teacher. Helen Sawyer Hogg (1962; class of 1926) has written that "she impressed me as being devoted to her astronomy students and eager to encourage young women to major in astronomy." Margaret W. Beardsley (1980; class of 1934) noted that she was "a good teacher, an interesting lecturer and

an enthusiastic astronomer,” and that she and Alice Farnsworth accomplished more in the small Williston Observatory than many other departments did in much better surroundings.

Her students also remembered her as one who took a personal interest in them and their welfare. In several cases when she heard of an illness of one of her students, she paid a visit and offered the services of her own doctor. She was reserved in manner, but warm and sympathetic to those she knew.

Her influence on the astronomy program at Mount Holyoke was profound, and lasted far beyond her own time there. In 1956 we were doing lab exercises (mapping the sunset point along the Mount Tom range, drawing constellations, timing star transits with the meridian circle) which Irene Southworth Coulton (class of 1915) described doing when she was in Miss Young’s class in 1913 (Coulton 1980). And students whom she trained have done much to further astronomy at Mount Holyoke and elsewhere. As Margaret Wallace (1980; class of 1916) wrote me, “for me, Miss Young was one of the real stars at Mount Holyoke.”

3. Postscript

Miss Young’s career and mine seem to have paralleled each other in a number of ways. I grew up in Claremont, California, where Miss Young lived in retirement; indeed, I visited her once there during my years in college. In the fall of 1956 I entered Mount Holyoke College, and took introductory astronomy from Miss Farnsworth. Unfortunately during the Christmas break she suffered a stroke, and was unable to teach thereafter; the college brought in various visiting lecturers to cover the spring semester for us. Two of these were Helen Sawyer Hogg and Dorrit Hoffleit, discussed in other papers in this issue. That spring of 1957 saw the visit of Comet Arend-Roland; I spent much extra time observing the comet, and that along with the exposure to several impressive women astronomers hooked me on majoring in astronomy. After I finished my graduate work at Indiana University, and taught for two years in southern California, I went to Whitman College in Walla Walla in the fall of 1967, and taught astronomy there for thirty-one years. My successor there is Andrea Dobson, one of my former students, as I was to Alice Farnsworth and she was to Anne Young. And so the dynasty continues, with Andrea being Anne Young’s academic great-granddaughter.

4. Acknowledgements

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Figure 1. Anne Sewall Young, during her early years at Mt. Holyoke College. The photograph, which hangs in the Williston Observatory at Mt. Holyoke, was first unveiled there during the spring meeting of the AAVSO, May 22, 1948.



Figure 2, Anne S. Young with S. A. Mitchell of Leander McCormick Observatory, about 1919.



Figure 3. Anne S. Young with astronomer Alfred H. Joy of Mt. Wilson Observatory, in the garden at Pilgrim Place, Claremont, California, where Anne Young and her sister, Elizabeth, resided. The occasion was a visit by Helen Sawyer Hogg and the Joys in 1956. Photo courtesy of Helen Sawyer Hogg to the author.