A History of the Stephens Observatory and Telescope

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Now on this hill apart
  we watch
The future through
  the stars astream
Far from the towns we
  therefore see
In special forms
  Ezekiel's dream.
We see the colors
  of his mind
In maple sugar groves
  turned red;
In autumn winds through
  chestnut boughs
Hear special words
  the prophet said.

-- from "The Ezekiel Chant"
by Vachel Lindsay, Hiram '02[1]

It would be a difficult task to pinpoint the date at which the formal study of astronomy was first undertaken at Hiram College. The clear, brilliant stars in the sky above this remote village were no doubt a source of beauty and inspiration to Hiram's earliest settlers and students. The means to closely study the stars--a telescope--was unfortunatly not available to students during the first fifty years of the College. And though there may have been smaller telescopes in Hiram operated by faculty members who had some interest and training in celestial observation, the acquisition of a fine telescopic instrument in 1901 eclipsed the facts that would have told us about earlier astronomical studies on Hiram Hill.

The first large-scale endeavor towards supplying the College with a permanent observation facility (indeed, an endeavor which has not been surpassed at Hiram to this day) was due to the generosity of a long-time trustee of Hiram: Lathrop Cooley. In 1900 a new library building was built for the College, paid for by Abram Teachout.[2] The library was planned with a four-story circular brick tower, and on top of this was situated the observatory dome. Mr. Cooley purchased and donated to Hiram College a new, high quality telescope on his 80th birthday, and it was installed in the observatory facility in 1901. This telescope, now over eighty years old, is still the main instrument for astronomical observation on the Hiram College campus.

Lathrop Cooley had by 1901 been a Disciples preacher and businessman in Ohio and elsewhere for nearly sixty years. His affiliation with Hiram began in 1871, when he was elected

Financial Agent of the College at the beginning of the administration of B. A. Hinsdale.[3] "He had a wide acquaintance with the membership of the church, and a business sagacity which had its influence among businessmen."[4] Mr. Cooley became a trustee of Hiram College in 1872; he served in this capacity (with a short break for travel in 1874) until the early years of the twentieth century.[5]

Lathrop Cooley first came to the Western Reserve in 1829, from New York. He was nine years old. Taking up the ministry when he was twenty, Cooley spent most of his life travelling and preaching in what was at that time highly unsettled, rough country in Ohio and Illinois. He earned a reputation as an influential minister in this area, and his achievements in building up the Disciples Church in Ohio are many.[6]

The charactor of Lathrop Cooley is revealed in the speech he gave upon the occasion of presenting the telescope to Hiram College. His remarks also give us an idea of why he chose to provide the College with a scientific instrument, rather than some means of Biblical study. Said he: "This instrument is erected here so that you may climb the steep of heaven and walk among the stars..."[7] But, Victorian preacher that he was, he warned that all learning must be tempered and shaped by the teachings of Christ. He also expressed his supreme confidence in the promise of science, and in the value of man: "And now, my young friends, I say to you what I want you to write down and remember, that a greater object than any you can see in the upper deep is at the small end of the telescope."[8]

The telescope supplied by Rev. Cooley was manufactured in Cleveland by the Warner and Swasey Company, a firm that specialized in telescope mountings and precision tool and die work during the period before World War II. The telescope is of the refracting variety, and has a lense diameter of nine inches. It is a twin of one that was in the observatory of the Case School of Applied Science in Cleveland. The lense, or "object glass," was made by John Brashear of Pittsburgh, a noted maker of telescopic lenses during the latter part of the nineteenth century. The telescope has been described as being "one of the finest of its kind, affording excellent facilities for both elementary and advanced work."[9] It was valued in 1939 at $7500.[10]

The tube of the Cooley telescope is of riveted steel, but most of the fixtures are of brass. It came provided with 5 eye lenses of several magnitudes, also mounted in brass. A smaller "finder" telescope is attached to the side of the main tube and is used much like a rifle scope to spot objects for observation. When the telescope was originally installed in the tower of the old library, its mounting was anchored firmly on two steel beams set in the thick masonry of the tower.[11] The telescope is mounted equatorially, meaning that it swings on one axis perpendicular to the equator of the celestial sphere. The advantage of this is that the telescope moves on the same path as the stars, making the task of tracking them through the course of an evening easier. The telescope also has a gear driven, hand-wound clock drive mechanism that moves the telescope at the

same rate as the earth revolves, but in the opposite direction; this, too, is a tracking aid for star observation. The whole tube can be made to swing freely, though, to view any object above the horizon.

The observatory of Hiram College operated above the library until 1939, when a fire necessitated that the telescope be moved to a new location. During the period before the fire, however, the campus' astronomical facility was used extensively by the Hiram community. Dr. E. H. Clarke, professor of mathematics and astronomy at Hiram from 1917 to 1957,[12] directed the activities involving the Cooley telescope for many of those years. He used the cupola atop the four-story library tower to make weather observations and predictions, the results of which he made known to village residents on a daily basis. The College daily news bulletin routinely carried notices from Dr. Clarke announcing the day's celestial wonders and the times at which they could be viewed. These announcements stimulated interest in astronomy in Hiram, so much so that a Stargazer's Club evolved. Students gathered nightly on the open-air observatory porch on the library roof to learn the various constellations and wait their turn at the telescope. When the night sky was overcast, Clarke would lecture, using slides and films of the heavens.[13]

An interesting description of astronomical study at Hiram, given in a prospective student publication of 1928, describes some advantages of Hiram's environment:

> "Hiram has natural advantages for the study of Astronomy. The village is located in the country where there is no industrial smoke or haze to cover the sky, and in the neighborhood of the Observatory there is little interference from street illumination. The altitude is about 1300 feet above sea level. In a careful study made by Professor Clarke of the comparative visibility of certain stars as seen from the residential part of Chicago and from Hiram it was found that stars are at least three times brighter in Hiram than in Chicago."[14]

By 1939, however, several factors had combined to make the library building a less-than-desirable place in which to study the stars. Light from the village tended to obscure the faintest stars, and the horizon had become blocked in several places by growing trees. Furthermore, the telescope's location on top of a boiler-heated building caused problems. Smoke dirtied the lense and fogged the view, and rising heat convections from the library muddled the starlight, much like heat rising off an asphalt road causes a shimmering effect.[15] Consequently, the fire of February, 1939, that caused great damage to the library, can be seen to have served to advantage the study of astronomy at Hiram College, because it provided an excuse for the removal of the telescope to new surroundings.

The library fire incident was not, however, without its headaches for Dr. Clarke and his astronomy enthusiasts. They watched with great concern as flames rose toward the observatory cupola early on a cold Sunday morning. Early newspapers like The Cleveland Plain Dealer and The Niles Daily Times reported in sensational stories that the telescope had sustained considerable damage, that the lens had been cracked, and even that it had

been destroyed. Dr. Clarke climbed a ladder into the observatory room the day after the fire, though, and found that his worst fears had not been realized. Flames had not penetrated into the observatory room, and the worst of the damage to the telescope was superficial. The telescope was covered with "a thick, tarry substance deposited by the smoke."[16] Dr. Clarke's main concern was that some of the sooty residue from the smoke had lodged itself between the crown and the flint of the telescope's two-piece lens.[17] Shortly afterward the telescope and mounting were removed from the library tower and sent back to the Warner and Swasey Company. There they were cleaned and readjusted in anticipation of being placed in a new location, a possibility that E. H. Clarke strongly advocated.[18]

The desired construction of a new observatory building was made possible by a gift from Miss Ella M. Stephens of East Cleveland.[19] The present building, named The Stephens Memorial Observatory, was built in memory of Miss Stephens' family. Her father, Thomas Stephens, had been born in Cornwall, England, in 1799. He came to America in 1836, eventually settling in Cleveland.[20]

Ground was broken for the new building in the spring of 1939, and it was completed that summer. Photographic evidence suggests that the dome used in the Stephens Memorial was the same one that came from the old library tower, though this is not a certainty. The new observatory was built a block south of the campus on State Route 82, "set on a green lawn from which trees are forever barred."[21] The facility has a circular

observation room that holds the main telescope, and two wings, which are an office and a storage room for the observatory's other optical devices.

This brings the history of the Cooley Telescope and the Stephens Observatory to its current situation; little change has occured at the observatory in the last forty-odd years, but a great many students have seen and learned a wealth of new things by frequenting the place. For nearly two decades, students of the College have been contributing to the larger body of scientific knowledge by reporting observations of variable stars. These observations are compiled by professional astronomers and are helpful in furthering their understanding (and, consequently, ours) of the heavens. In 1971 the College celebrated the 70th anniversary of the Cooley Telescope with a dinner and observing party. Dr. Gordon Wepfer and Mr. Robert Andress, the current faculty members who teach astronomy and look after the observatory, look forward to the 50th anniversary celebration of the Stephens Memorial coming up in 1989. If nothing earth-shattering occurs, the telescope,which is still in good shape, can be expected to be around for another century, and a few more goes at Halley's Comet!

Endnotes

1. Hiram College annual calendar, 1944, p. 2.

2. Mary Bosworth Treudley, Prelude to the Future; The First Hundred Years of Hiram College (New York: Association Press, 1950) p. 226.

3. F. M. Green, Hiram College and Western Reserve Eclectic Institute; Fifty Years of History, 1850-1900 (Cleveland, Ohio: O. S. Hubbell Printing Co., 1901) p. 282.

4. Ibid.

5. Ibid., p. 371.

6. Ibid., p. 283-284.

7. Alanson Wilcox, A History of the Disciples of Christ in Ohio (Cincinnati: The Standard Publishing Company, 1918) p. 99.

8. Ibid., p. 102.

9. "Colton Laboratory," Bulletin of Hiram College Vol. XX No. 2, last page.

10. "Telescope Believed Untouched," Hiram College Advance 14 February 1939, p. 1.

11. Ibid.

12. Hiram College Alumni Directory 1958 ed., p. 12.

13. "New Observatory Will Crown Hill," Hiram College Advance 10 April 1939, p. 1.

14. "Colton Laboratory," last page.

15. Treudley, p. 227.

16. "Telescope Believed Untouched," Hiram College Advance 14 February 1939, p. 1.

17. Ibid.

18. Ibid.

19. "New Observatory Will Crown Hill," Hiram College Advance p. 1.

20. Ibid.

21. Treudley, p. 27.

Bibliography

1. Green, F. M., Hiram College and Western Reserve Eclectic Institute: Fifty Years of History, 1850-1900. Cleveland, Ohio: O. S. Hubbell Printing Company, 1901.

2. Treudley, Mary Bosworth, Prelude to the Future: The First Hundred Years of Hiram College. New York: Association Press, 1950.

3. Wilcox, Alanson, A History of the Disciples of Christ in Ohio. Cincinnati: The Standard Publishing Company, 1918.

4. Hiram College Alumni Directory, 1958 ed.

5. "Colton Laboratory," Bulletin of Hiram College. Vol. XX, No. 2.

6. "New Observatory Will Crown Hill," Hiram College Advance, 10 April 1939.

7. "Telescope Believed Untouched," Hiram College Advance, 14 February 1939.