

## OLD STARS

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On the top of Mt. Lookout in the City of Cincinnati stands a National Historic Landmark. The Cincinnati Observatory was awarded this honor at an impressive Designation Ceremony held on May 17, 1998. A marker erected on the Observatory site describes the Observatory as being the "Birthplace of American Astronomy." Immediately after its founding the Observatory acquired an international reputation as being the first significant working observatory in the United States. It initiated observational astronomy in this country.

The Observatory owes its existence to the foresight, energy, and persistence of one of Cincinnati's most charismatic and colorful citizens, Ormsby MacKnight Mitchel, a resident of the city from 1832 to 1860. In addition to founding the Observatory, Mitchel has been honored by having three different towns in three different states named after him. In an obituary notice announcing Mitchel's death, the Royal Astronomical Society described his life as resembling a romance rather than a biography. During his lifetime, Mitchel was a soldier, a professor, an attorney, an astronomer, a railway engineer, and, for some years, made his living by giving public lectures.

Ormsby MacKnight Mitchel was born on July 28, 1809, in a cabin in Union County, Kentucky. When Ormsby was about three years old, his father died. His Mother freed their two slaves and moved with Ormsby to live with a married daughter in Lebanon, Ohio. Ormsby's brother ran a school in Lebanon and his brother-in-law was a secondary school teacher. The two of them taught Ormsby, who was quickly recognized as being an outstandingly brilliant student. He readily mastered the classics in Latin and Greek, developing a special love of Latin. Later in life, in times of stress, Ormsby would seek relaxation by reading from the Latin classics. He also acquired a lifelong love of the theatre and always relished lecturing and performing.

At that time in the west, a boy of about twelve would start to prepare for his future work. When he was twelve, Ormsby told his family that they were released from any further responsibility for his affairs. This was not said in anger; he always maintained a close and friendly relationship with his family. He left home and, after a false start or two, he obtained a job as clerk in a general store in Xenia.

His life took a dramatic turn in the fall of 1824. He chanced upon an ad that announced that one could get an outstanding education at West Point Military Academy while at the same time being paid twenty-eight dollars a month. He applied for admission, was accepted, traveled alone to the academy, and arrived at the age of fifteen years and eleven months.

The academic program at West Point was by far the most advanced, progressive, and rigorous in the country for mathematics, science, and engineering. The graduates were skilled in engineering as well as in the military arts. About 146 men entered the Academy with him and only 46 graduated four years later. Mitchel ranked fifteenth in the class, Robert E. Lee ranked second and Joseph E. Johnston ranked thirteenth. Jefferson Davis was in the class ahead of him.

Second Lieutenant Mitchel's first assignment after graduation was to remain at West Point to teach mathematics. While he was teaching, he also studied law so that he could have a skill in case he decided not to remain in the military. He and a group of colleagues formed a Literary Society, where debates were held and papers read.

Most importantly he fell in love with a young widow, Louise dark Trask. Louise's family objected to the romance because they considered Ormsby to be too irresponsible, impulsive, and unpredictable. In the spring of 1831, she was considering his proposal of marriage. Knowing of her family's objections, discouraged, and downhearted, he turned to a second love, reading a Latin classic. He recorded in his diary.

"Rose at half past five and read Tacitus' de Moribus Germanorum, the first reading of any interest for a week. Tomorrow, I opine will bring something decisive unless *la dama* concluded to consult her friends, in which case they will send me *au diable*..."

Actually he had to wait several more weeks for something decisive. The two were married in September, 1831, and his wife, Louise, was a continual source of stability, support, and encouragement.

In 1831, Mitchel was ordered to Fort Marion, near St. Augustine, on Florida's eastern shore. Bored with the idle life of an officer on a lonely outpost, he served the required year, resigned his commission, and made preparations to move to Cincinnati with no real plan for his future.

Shortly after arriving in Cincinnati, he was admitted into the Ohio bar and opened a law office with another West Point graduate, Edward B. Mansfield. The practice did not thrive. Mansfield later became a prominent journalist and wrote of their experience, "We were really literary men and our thoughts wandered off to other subjects. The scene in our office was often a remarkable one...Mitchel was fond of classics, and instinctively fond of eloquence. Mitchel sat in one corner reading Quintilian, a Latin author on oratory... He would turn to me and read passages from it. I sat at my desk in the other corner of the room writing my political grammar." Their law careers were short-lived.

Mitchel was invited to join an informal literary organization called the "Semi-Colon Club". Many of the most prominent Cincinnati citizens were members and he acquired influential friends. Mitchel was a teetotaler all his life and a member of the local temperance society. He was a true religious believer and joined the Reverend Lyman Beecher's Presbyterian Church, described by residents as "probably the most elect congregation that could be assembled in Cincinnati." He also became a founding member of The Society for the Promotion of Useful Knowledge.

Cincinnati College which opened in 1819 was closed in 1825 after a fire leveled its main building. In 1836, the trustees reopened the academic departments and appointed Ormsby Mitchel as the Professor of Mathematics, Civil Engineering, Mechanics, and Machinery. During the first summer vacation after his appointment, he made a survey for the Little Miami Railroad. His experience with the railroad familiarized him with the structure of a joint-stock corporation, knowledge that later proved very useful.

He also formed and trained a Citizen's Guard in Cincinnati to serve as an adjunct to the sheriff in times of emergency. It was called only one time, at a bank riot in 1837. Mitchel, with a band of about twelve men, used fixed bayonets to disperse a mob of several thousand. Mitchel was a small man, less than five feet six inches tall, and he never weighed more than 130 pounds. He had a firm-set face, a determined

look, and was fearless. As he strode thorough the threatening mob, a way was opened for him.

Mitchel's duties in the classroom included giving lectures on astronomy. His oratorical skills and his interest in astronomy made the astronomy lectures so exciting and popular that the Cincinnati Society for the Promotion of Useful Knowledge invited him to give a series of public lectures on astronomy.

The lectures he gave were always very polished and were delivered in a sophisticated language and style. He illustrated his lectures with a home made apparatus that served as a kind of slide projector. The light source was whale oil and the slides were thin metal foils appropriately cut so the projected light portrayed comets, nebulae, stars, and other astronomical phenomena. The size of his audience grew steadily. He was asked to repeat the final lecture in the Wesley Chapel in downtown Cincinnati. He repeated the lecture in the Wesley Chapel in the spring of 1842. It is said, and he reported in his diary, that 2000 people attended the talk; at the time the population of the city was 50,000. One may assume that many gentlemen in the audience of 2000 had their laps occupied during the lecture as the official capacity of the Wesley Chapel was 1200.

After the lecture, Mitchel begged the indulgence of the audience for one more moment. He proposed that the citizens of Cincinnati form an Astronomical Society and purchase a telescope, pointing out that not a single world class observatory existed in the New World. He estimated the cost of a telescope of the quality of the world's best as being \$7500. He proposed establishing the Astronomical Society as a kind of joint-stock Corporation modeled after what he had learned while an engineer for the Little Miami Railroad. The Society would raise the necessary \$7500 by selling 300 shares at \$25 each. The shareholders would forever enjoy the privilege of examining the sky through one of the finest glasses in the world.

In a little over three weeks, Mitchel had sold 300 shares of stock. He always focused on the democratic nature of the society stating that "Individuals from every circle in society became stockholders and members of the Society." Among the original list of stockholders, one sees a few common laborers and some small shopkeepers as well as such prominent citizens as Bumet, Rev. Lyman Beecher, Findlay, McAlpin, Peebles, Probasco, Riddle, Shillito, Springer, Strader, Taft, and Yeatmen.

The Cincinnati Astronomical Society held its first meeting on May 23, 1842, and elected Jacob Bumet to be President. In June the board authorized Mitchel to go to Europe and charged him with three missions: to locate and purchase a quality telescope; to establish scientific contacts; and to learn how to construct, set up, and run an observatory.

Two days after receiving this authorization, Mitchel was on his way to Europe. He first stopped in Washington where he received letters of introduction from Secretary of State, Daniel Webster, and from former President John Quincy Adams. President John Tyler granted him an interview but did not write a letter for him.

Very quickly after his arrival in London in July, 1842, Mitchel learned that there was no suitable lens available there and that none could be made available in the foreseeable future. He was invited to spend an evening at the Greenwich Observatory and was able to look through a good telescope for the first time. He was thrilled to see that the heavens really resembled the pictures he was projecting with his home made slides during his lectures.

After a week in London, he went to Paris, where there was also no worthwhile lens. Francois Arago, the director of the Paris Royal Observatory, assured him in true Parisian fashion that if a suitable lens could not be found in Paris it could not be found anywhere.

Nevertheless he continued on to Munich where he visited the Fraunhofer Optical Institute. The Institute's director was George Mertz and the lenses were constructed under the guidance of Mertz and Mahler. Mertz had several excellent lenses and one had already been tested and found to be perfect. It was slightly less than twelve inches in diameter, somewhat smaller than the world's largest lens in the Pulkova Observatory in Russia. The price of the lens was \$9500 and Mitchel was authorized to spend only \$7500. He made conditional arrangements to purchase the lens and secured assurances from Mertz that the glass would not be sold until he would hear from Mitchel after his return to Cincinnati.

On his way home, Mitchel stopped in London once more. George B. Airy, the Astronomer Royal and the Director of the Greenwich Observatory, invited Mitchel to spend a few weeks with him as an assistant and a student. In return for providing some computational help, Mitchel would be taught the fundamentals of astronomical computations, the operation and maintenance of the telescope and other equipment appropriate for an observatory, and would be given copies of all the forms and charts that the Greenwich Observatory used. As far as is known, this represents the total extent of the formal training Mitchel ever received in astronomy.

Back home in the fall of 1842, Mitchel thought that his enthusiasm may have outpaced his judgment. He was about \$3500 short of purchasing the telescope, he had no location for an observatory, and he had no funds to build one or to purchase the other equipment an observatory needed. But he had promised the shareholders an observatory and had promised to direct it without pay for ten years and he was determined to make good his promises.

After additional solicitations of stockholders and friends he was able to raise the funds needed to purchase the telescope and he made the final payment in May, 1843, for delivery about a year later.

Mitchel now decided on a site on the top of Mt. Ida, the highest hill in the city. Legend has it that the hill was named after Ida Martin, a washerwoman who lived near the hollow of a sycamore tree on a steep hillside. Nicholas Longworth, the owner of Mt. Ida and one of the wealthiest men in the city, donated four acres of land on top of Mt. Ida to the Observatory. He cleverly stipulated that, if the Observatory were not completed in two years or if the site would ever not be used for astronomical purposes, its ownership would revert to him or to his heirs.

In a little over a year, Mitchel had acquired a telescope and a site for his observatory. To keep the momentum moving he decided to have a memorable ceremony for the dedication of the building. He would invite John Quincy Adams to lay the cornerstone. It was well known that former President and now Congressman John Quincy Adams had been trying unsuccessfully for years to get Congress to build a national observatory. Adams was at first reluctant to accept the invitation, citing his age of seventy-seven and his frailty. However, he pictured the pride he would have standing before the country as an orator on the occasion of inaugurating a great observatory founded by the people without government assistance. So, he accepted.

On November 9, 1843, Adams was escorted from his hotel in Cincinnati to the observatory site by

Jacob Bumet and Ormsby Mitchel together with a long procession of Cincinnati citizens. Unfortunately, before they arrived, the heavens opened and down poured a heavy deluge of rain. Adams laid the cornerstone before a crowd of umbrellas. He foreshortened his address as his manuscript was defaced by rain and barely legible. His concluding words invoked "the blessing of Him, in whose presence we all stand, upon the building which is here to rise, and to all the uses to which it will be devoted." After his foreshortened address, Judge Bumet announced that Adams would give a longer presentation the next day at the Wesley Chapel.

At the Chapel the next day, Adams gave a two hour presentation in which he reviewed the development of astronomy. He later wrote that the audience listened without a symptom of impatience or inattention. After his talk the audience passed resolutions thanking him and expressing their appreciation of the great effort he had put forth. They voted unanimously to change the name of the hill upon which the observatory was to be built from Mt. Ida to Mt. Adams. Today there is an Ida street on Mt. Adams.

Mitchel now had two years to build the Observatory and practically no funds. His chief assets were his civil engineering training, his determination, and his energy. He had pledges from some residents payable in materials or in labor. He called them in, sold the material, and used the labor in plastering, carpentry, and other building needs. The first week of actual work he hired two masons and a laborer; he doubled the work force each week until he was employing a hundred. He cut costs at every opportunity. He bought horses to pull necessary supplies up the hill, he quarried stone on the hilltop, he built his own kiln, he obtained water by throwing a dam across a ravine. The building was completed in December, 1844, and Mitchel reported to the Board that the cost in cash of the building was not more than two thousand dollars.

The 11.5 inch telescope arrived early in 1845 and was first used in April of that year. Following advice he received from George Airy, the Astronomer Royal of Great Britain, Mitchel undertook a long series of measurements to study the motion of double stars, nebulae, comets, planets, and their satellites. In so doing, Mitchel joined a distinguished list of colleagues who had been pursuing research among the double stars for about thirty years.

In the center of the constellation Scorpio in the southern sky is a very bright red star, Antares. Mitchel was the first to discover that Antares had a companion star and was a double star system. A very faint green star revolves about the readily seen red star. He also observed a patch of frost near the polar cap of Mars, an area of Mars now called the "Mountains of Mitchel." Mitchel published only forty-three of his double star observations. It was later discovered that Mitchel had made copious notes of observable double stars. Credit for his double star work has eluded him, not because he failed to conceive and undertake a promising field, but because he never completed the last step of scientific research - publishing the results.

Mitchel also invented a useful device called an "electro chronograph". It recorded some astronomical events automatically and transmitted the records instantaneously by telegraph to distant observatories. The device was soon found in observatories throughout the world.

A short time before finishing work on the building, Mitchel received another blow. Cincinnati College caught fire again and burned to the ground. Mitchel was left without income, with a family to support, and with his word that he would work at the observatory without pay for ten years. At that time,

one of the chief pleasures, amusements, and modes of entertainment in the country was to attend lectures. Mitchel decided he would attempt to earn a living by giving public lectures.

His first public lecture, given in Boston in the winter of 1846, was attended by 100 persons. The audience heard one of the most brilliant lectures Mitchel ever gave. They sat enchanted and urged him to return, promising that he would always have an audience. From that time on his audiences and popularity grew - in Boston, in New York, in New Orleans, and in other major centers. He became well known in the country as a lecturer and popularizer of astronomy and earned more money than he had ever earned before. He lectured only in the winter and did astronomy in the summer, perfectly complimentary endeavors. This lifestyle also suited his love of the stage.

In 1846, Mitchel started publication of the "Sidereal Messenger", the first astronomical journal published in the United States. It was designed to be both a scientific journal and a popular magazine. The Sidereal Messenger survived only two years. Although it was never a financial success, the Messenger kept Mitchel current with recent events in astronomy. For a brief time it was the voice of the American astronomical community as it was heard abroad.

Mitchel began receiving recognition and honors for his work. He received offers of Professorships at prestigious Universities as well as honorary degrees. In 1850 he was elected a member of the Royal Astronomical Society of England, the third American so honored. He was elected to the American Philosophical Society at Philadelphia. Yet he never received his deserved measure of recognition by the other astronomers in the country. The most likely reason for this was the dramatic success he earned as a lecturer. In the opinion of his peers in the scientific community, his popularity with the public overshadowed the value of his research.

Mitchel supplemented his income from lecturing by working as a surveyor and consulting engineer for the Ohio and Mississippi Railroad. In 1848 he surveyed a site for an important rail intersection and depot. A new town was erected at the site and named Mitchell, Indiana, after the surveyor - inexplicably a second "l" was placed at the end of his name.

In 1853 he sailed for Europe with his family to convince a well known American investor and acquaintance, George Peabody, to purchase stock in the railroad company. After attempting for three months, Mitchel finally succeeded in selling Peabody three million dollars worth of securities. His son later wrote that the commission from the sale "rendered him more than comfortable".

In the 1850's the clouds of smoke blowing over Mount Adams began increasingly to block the view through the telescope. Along the Ohio River there was an increase in the number of slaughterhouses, steamboats, locomotives, factories and foundries, all burning soft coal with accompanying pollution that fouled the air and blotted out all but the brightest stars. Mitchel tried unsuccessfully to move the Observatory to a location in College Hill.

Louise Mitchel suffered a stroke in 1858 which left her partially paralyzed. She longed to return to the banks of the Hudson River, her girlhood home. The growing difficulty with the atmosphere in Cincinnati and his wife's health induced Mitchel to accept the position as Director of the Dudley Observatory in Albany. The family moved to Albany in 1860.

Mitchel finally possessed an outstanding observatory, financial independence, free time, and a definite focus for his work. He planned to produce a great catalogue of all the stars in the Northern heavens to the 10<sup>th</sup> magnitude. Unfortunately fate prevented him from even beginning this catalogue. For then came the shelling of Ft. Sumter by Confederate forces.

Mitchel immediately offered his services to the Union cause. He wrote to President Lincoln requesting a rank high enough that, as he put it, he would not find "my superior in rank my inferior in ability and achievement." In August, 1861, Lincoln responded by granting Mitchel a commission as Brigadier General of Volunteers. Mitchel asked to serve because he was an ardent supporter of Lincoln and believed strongly in the preservation of the union. This contrasts with Mitchel's attitude during the Mexican War when he did not volunteer his services.

Mitchel's first substantive assignment was to go to Cincinnati to organize its defense from a threatened attack by a Confederate army, an attack which never materialized. At one of the locations in Kentucky where Mitchel set up fortifications, a town developed and named itself Ft. Mitchell, honoring him but again mysteriously adding a second "l" at the end of his name.

At the camp, Mitchel was a strict disciplinarian. The men were kept busy, drilling, training, learning construction techniques, and maintaining a strict regimen of both behavior and hygiene. Using methods similar to those he learned aligning his telescopes, he tested his artillery pieces to determine their ranges accurately. Before long, the men were at a high state of preparedness and eager for action. They knew that Mitchel had trained them well and he was admired by and very popular with the troops. They saw him working, often with them, from early morning to late evening. They saw that he was a teetotaler who never touched hard spirits and that he was a religious church-goer. They observed that he never swore nor used bad language, although he was heard by them to utter an occasional "Confound it." Out of love and respect, the men started to call him "Old Stars", a reference both to his astronomical interests and to his military rank. The troops were ready and anxious to follow him and he was ready to lead them.

In January, 1862, the union forces in the west were under the commands of General Don Carlos Buell in Ohio and Henry W. Halleck in Missouri and later Halleck was put in overall command. These two suffered from the same problem as did the other important federal generals in the early years of the war. They were very stubborn and overly cautious and President Lincoln knew it. He had difficulty having them initiate offensive operations. During this period, Mitchel realized that the Confederacy had not yet formed and trained their army and that this was the ideal time for the union forces to advance. Buell restrained Mitchel who impatiently watched the opportunities for achieving military advantage slip by.

When finally in the spring of 1862, Mitchel was allowed to move forward, he did so with such speed that he captured Nashville five days after leaving Bowling Green, Kentucky. The Confederates left so precipitously that Mitchel's men slept in the tents they left behind. Buell cut himself off from sending reinforcements by burning the bridges between him and Mitchel. In a letter to his family, Mitchel complained that "Buell is the slowest person I ever had the misfortune to be associated with."

After some months, Mitchel was allowed to go beyond Nashville. This time he did not stop at the point specified by Buell but went all the way to Huntsville, taking Huntsville literally without losing a man. He captured Huntsville in April, 1862, at almost the same time that Grant had won the Battle of Shiloh in a very bloody engagement. In recognition of Mitchel's victory, Lincoln promoted him to the rank of Major

General.

While at Huntsville, Mitchel initiated the boldest adventure undertaken by either side during the war. He authorized a civilian, James J. Andrews, and nineteen volunteer soldiers to infiltrate Northern Georgia in civilian clothes and steal a locomotive. They traveled to a station just north of Atlanta and successfully stole a steam engine called the "General". The plan was to drive the stolen train to Chattanooga, cutting telegraph lines and destroying the track and bridges along the way. This would isolate east Tennessee and block supplies from Georgia, Alabama, and the West from reaching Virginia. If they succeeded, which they almost did, the course of the war could have been changed. They were foiled by the General's conductor, William Fuller, who saw them drive the locomotive out of the yard. He chased them by foot about two miles, jumped on a handcar, and later boarded a locomotive, the "Texas" on which he chased and finally caught the General. The Great Locomotive Chase captured the imagination of both the North and South during and after the Civil War. Its story has been romanticized and retold in articles, speeches, books, paintings, and movies. Despite its failure as a mission and whatever its merits as a military operation may have been. Secretary of War Stimson awarded the raiders the first Medals of Honor ever awarded by the United States.

In July, 1862, Mitchel was ordered to Washington. President Lincoln recognized that the two most aggressive and successful commanders in the army were Mitchel and Grant. He planned to form a new army of the Mississippi with Mitchel in command and drew the necessary orders. Before the orders could take effect, Lincoln decided to bring General Halleck, the commanding general of both Grant and Mitchel, to Washington and give him overall command of the federal forces. Unfortunately for Mitchel, Halleck was extraordinarily jealous of the success of Grant and Mitchel. Previously, he had interfered with and slowed down Grant's progress in the western theater. Now, he turned on Mitchel. He had already mendaciously written to the War Department that Mitchel had made some serious tactical blunders for which, in fact, Halleck himself was responsible. He refused to sign the orders sending Mitchel into the field as the commander of a significant army. After a long delay, Halleck assigned Mitchel to his new command. It was with the Department of the South, with headquarters in Hilton Head, South Carolina, near the recently captured Port Royal Naval Station.

Port Royal was a naval storage facility used to service the ships that blockaded the eastern seaboard. There was little to do there, the forces stationed in the facility were too small for an offensive campaign. On his arrival at Port Royal, Mitchel was greeted by an old friend from Cincinnati, the Reverend Strickland, who asked him what brought him there. Referring to his military career, Mitchel replied, "I came to be buried."

When Mitchel arrived at Port Royal there were about 1000 ex-slaves living inside the Union camps in wooden barrack-like structures built especially for them, and many more former slaves were on their way. To better their lives, Mitchel removed the ex-slaves from the camps and developed a town for them nearby in what was formerly a cotton plantation owned by a confederate General. He laid out neatly arranged streets, built houses on one-quarter acre lots, had the new residents elect officials, organized a church, saw to the passage of laws governing community behavior and sanitation, and made education compulsory for children. This was probably the first opportunity for voting, for self governing, and for children's education for African-Americans that formally existed in the country. The town was named after him, Mitchelville - this time with only one "I". Today, the town no longer exists, the owners of and visitors to the luxury hotels and condominiums on Hilton Head Island are unaware that their property was once the

home of freed slaves.

During a minor military operation, Mitchell's staff was stricken with yellow fever, a disease that was rampant in the South at the time of the Civil War. He had the staff cared for in his quarters at the camp. One evening he fell ill with the disease and he prepared for his death. He organized a chain of command, wrote a will, and with his old friend, Reverend Strickland, attending him, he died on October 30, 1862 at the age of 53. His wife had died earlier while he was on his way to Washington to accept his first military assignment. To his children he left a bequest which closed with the injunction "Love God supremely and each other most deeply."

The Reverend Strickland described Ormsby MacKnight Mitchel. "It is indeed a marvel how General Mitchel could wind himself so deeply into the confidence and affection of the army here in so short a time. There was a strange witchcraft about the man in his prompt eloquence, his admirable tact, and his rare combination of modesty and assurance, that enabled him to carry all before him..."

But what happened to the Cincinnati Observatory? During the Civil War the Observatory on Mt. Adams lay dormant and was occupied by a man variously described as a sewing machine dealer, an optician, and a professor. He permitted the Observatory and its instruments to fall into rot and decay. Alphonso Taft reported to the Cincinnati Astronomical Society in June 1867, as its recently elected president, that it would take four thousand dollars to repair the building and refurbish the instruments.

Cleveland Abbe, a well trained and experienced astronomer was appointed Director of the Observatory and arrived in Cincinnati in February, 1868. He recognized immediately the impossibility of making useful observations on Mt. Adams even if the Observatory were repaired. He turned to meteorology, issued daily weather forecasts, and two years later moved to Washington to found the United States Weather Bureau.

The year that Abbe left, the University of Cincinnati was re-established. A three way agreement was reached which permitted the continuation of the Observatory. Firstly, John C. Kilgour donated four acres of land on top of Mt. Lookout together with \$10,000 towards the construction of a new building. Secondly, John Longworth, for the heirs to the Nicholas Longworth estate, agreed to convey their rights to the land on Mt. Adams as an endowment to the UC School of Drawing and Design. Finally the University of Cincinnati agreed to manage the Observatory in return for receiving all its instruments and all its records.

The old Observatory building was purchased in 1870 by the Passionate Fathers of the Holy Cross for \$50,000. The Observatory was demolished in the 1890's and replaced with a monastery. Today this monastery has been converted into an office building. The site is visited by pilgrims every Good Friday when they ascend to the Holy Cross-Immaculata church located next door.

There are now two buildings at the site on Mt. Lookout, the main Observatory building and the O.M. Mitchel building. The main building was designed by Samuel Hannaford. The cornerstone was laid in a magnificent ceremony on August 28, 1873. The original cornerstone from the old observatory was re-cut and moved to the new site where it is still to be seen on the northeast corner of the building, bearing the inscription:

**This stone was laid by John Quincy  
Adams Nov. 9,1843 Removed and  
Relaid MDCCCLXXIII**

The small second building, the O. M. Mitchel building, was designed by the firm of Tietig and Lee and built on the site in 1904. The O.M. Mitchel building is now the home of the original Mertz and Mahler lens. The main building houses a 16 inch refractor telescope that was purchased from the American firm, Alvin dark and Sons, in 1904.

It may be that one of us is fortunate enough to have inherited an original share of stock issued in the name of the Cincinnati Astronomical Society. The Cincinnati Observatory Center, that manages the Observatory today, will gladly grant holders of the shares free access to and views through the Mitchel telescope.

**Suggestions for Further Reading:**

- 1) Ormsby MacKnight Mitchel, Astronomer and General by Frederick Augustus Mitchel, Houghton Mifflin Press, 1887. This is a biography of Mitchel written by his son. It uses largely autobiographical documents and his own experiences as one of his father's lieutenants during the Civil War.
- 2) Stellar Impact: Ormsby MacKnight Mitchel and Astronomy in Antebellum America by Philip Stanley Shoemaker, the University of Wisconsin-Madison, 1991. This is a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy.