

Ambassadors to the Heavens

Two New Jersey Women Authored Highly Influential Astronomy Books
by Barry D. Malpas

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For a relatively small state, New Jersey has a remarkably rich history when it comes to both professional and amateur astronomy. In addition, while women are poorly represented in the overall history of science, New Jersey can boast to having been home to two female authors who helped promote “the queen of the sciences” with two widely popular books. Indeed, their influence would inspire generations of both professional and amateur astronomers to come. Although both Bouvier and Martin worked in large cities (Philadelphia and New York, respectively), both were New Jersey residents.

Hannah Mary Bouvier (1811-1870) was the only child of John Bouvier (1787-1851), a French Quaker who had immigrated to the United States in 1802 with his parents. When Hannah was three her father moved the family from Philadelphia to Brownsville and then to Uniontown in western Pennsylvania following a newspaper and printing career. During these years she received most of her education from her father. With his interests later changing to law, he removed the family back to Philadelphia in 1823. There, John Bouvier found work as a lawyer and his daughter could better attain an education at a private school where she became a devoted student. As a child she showed a strong interest in learning, displaying an analytical mind. She was a linguist and was educated in painting and music, learning the bass which she played well. It has also been recorded that she was known to help her father draw up legal documents.

Hannah married Robert Evans Peterson (1812-1884), a lawyer and publisher, who was also interested and well educated in the sciences and many other fields. They had two children: Robert Evans, Jr., and Emma Bouvier Peterson. The Peterson family spent much of their time at their country summer home in Crosswicks, New Jersey where Hannah apparently did much of her writing.

Hannah worked with her husband in the family publishing business. Her interests in the sciences were originally derived from her husband who taught her applied mathematics, from which she later independently cultivated her own interest in astronomy. She wrote her first book in 1850 entitled “Familiar Science” which was published under her husband’s name. It was a popular treatise selling 250,000 copies. In 1857 she wrote and published the work to which she is best remembered, this time using her maiden name, “Bouvier’s Familiar Astronomy, or an Introduction to the Study of the Heavens.” This 500 page book with over 200 detailed engravings is written in the then popular question/answer format developed by Mrs. Marcet, although there is often the inclusion of reference paragraphs which discuss the topics in greater detail. The author divided the book into Physical, Descriptive, Sidereal, and Practical Astronomy. Also included is a treatise on globes, a section on the history of astronomy, a profuse glossary of detailed notes, an astronomical dictionary, and many tables, as well as an all inclusive index.

From her experience in the publishing business Hannah knew that to sell a book it must come highly recommended. To this end she sent copies to many well known astronomers in both the United States and England for review. Replying with letters of very favorable commendation were: George B. Airy (1801-1892), England’s Astronomer Royal; John F.W. Herschel (1792-1871), world famous English astronomer, mathematician, chemist, photographer and inventor; Matthew F. Maury (1806-1873), American astrophysicist, oceanographer and meteorologist; William C. Bond (1789-1859), astronomer, and first director of Harvard College Observatory; Benjamin A. Gould (1824-1896), astronomer, and creator of the *Astronomical Journal*, and many other well known astronomers such as: Dennison Olmsted (1791-1859), John R. Hind (1823-1895), W.H.C. Bartlett (1804-1893), and more than a dozen others of the period, the letters of which she included in the preface.

In the Review and Criticism section of *Presbyterian Magazine* (1856) the following was said of Bouvier’s Astronomy: “This work is regarded by many as the very best treatise on astronomy extant. It contains the results of profound knowledge, written down with great accuracy, and made clear to inquiring minds. As a text-book for institutions of learning, it must take high rank.” Other reviews were equally as positive and the book was adopted by many institutions of learning, especially in the northeast.

Hannah died at the home of her daughter and publisher son-in-law, George Childs (1829-1894) in Sea View Long Branch, New Jersey, on September 4, 1870.

Martha Evans Martin (1856 - 1925) was born in Terre Haute, Indiana on March 31, 1856 to John and Margaret Evans. She was one of five children. Little is known of her childhood other than she lived in the town of Sullivan before moving to the city of Richmond. She attended DePauw University, from which she later received an honorary A.M. degree in 1910.

Her earliest vocations were as a public school teacher in Wayne County, Indiana, and later as a court reporter in Richmond. She became involved in newspaper work and was associate editor of the Richmond Daily Telegram, a publication purchased by her husband Edwin Campbell Martin (1850 - 1915), a lawyer turned newspaperman. Together they successfully co-published the Telegram for about ten years. In 1890 she and her husband moved to New York City, with a home in Watchung, New Jersey.

Although throughout her career she collaborated with her husband in his many literary endeavors, she became a noteworthy author in her own right having contributions of a popular scientific nature accepted by the *New York Times* and other publications. She was also an editor of *McClure's*, and later, *Demorest's* magazines.

In 1907, with the support of Edwin and her older sister Elizabeth, Martha published "The Friendly Stars," a book for the young reader interested in astronomy. It dealt with the methodology for becoming familiar with the various stars and constellations in the night sky, and poetically emphasized the enjoyment gained in the endeavor. The book was very popular having several subsequent printings. In 1912 she published her second astronomy book, "The Ways of the Planets." Reviews of her works describe her writing style as making the young reader want to delve further into the subject and begin a personal relationship with the night sky.

Martha Evans Martin died in her home in Watchung, New Jersey on January 6, 1925 at the age of 68 from complications due to stroke.

Influences

With such a wide distribution in schools of "Bouvier's Astronomy," it would be difficult not to have had some impact on students who would become future astronomers. Although to what degree it will probably not be known. Unless specifically stated by someone in the field, it is usually very difficult to ascertain how influential such publications might have been. However, Martin's "The Friendly Stars" influenced at least two individuals. In 1964, her book was updated and co-authored by Donald H. Menzel which included a forward:

The Friendly Stars by Martha Evans Martin & Donald Howard Menzel.
Forward to the 1964 Dover
Publication Edition

This is a charming book that brings us close to the starry night and other aspects of Nature that appeal to our senses. It is a Nature book in the most popular sense; it is not a book for the technical student.

And yet, The Friendly Stars was an important influence in the decision of two boys (living in widely separated places) to become astronomers, some forty years ago. The interest and excitement it generated were among the principle causes for our deciding to devote our lives to discovering more about the stars and the universe.

In the past we have frequently recommended The Friendly Stars to other young people - and regretted that it has long been out of print - as well as in need of revision. This new, revised edition, we believe, fills a gap in the literature of elementary astronomy.

1963
Donald H. Menzel
Harvard College Observatory
William W. Morgan
Yerkes Observatory

Donald Howard Menzel [1901-1976] received his PhD from Princeton University, and was a theoretical physicist and a Harvard astronomer. He became the Director of Harvard Observatory and was also President of the American Astronomical Society. His main contributions were in solar research and studying gaseous nebulae, defining many of the fundamental principals of planetary nebulae known today.

William Wilson Morgan [1906-1994] was a Professor of Astronomy at the University of Chicago and a key figure in the

conception and development of the philosophy and practice of morphological classification techniques in Twentieth Century astronomy. His primary contributions were development of the modern classification of stellar spectra and isolation of peculiar stars, delineation of the spiral structure of the Milky Way Galaxy, and the Yerkes system of galaxy classification.

Barry Malpas was instrumental in the founding of The United Astronomy Clubs of New Jersey, Inc. (UACNJ). The organization was formed in 1988 as a loosely associated umbrella networking group for New Jersey area amateur astronomy clubs. The UACNJ itself is not a club, but a consortium of a dozen and a half clubs, united to better help support, coordinate, and communicate ideas among around 1,400 individuals who make astronomy their hobby, in and around the state.

The UACNJ helps promote and support amateur astronomy in the New Jersey area through public programs and support services for our member-clubs.

In addition to operating our dark sky observatory site at Jenny Jump State Forest, the UACNJ offers free lectures and observing (weather allowing) for the general public every Saturday evening between April and October. We also conduct special events, such as Astronomy Day and the UACNJ Symposium, which are also open to the public. All these events are free of charge. Please visit our website, www.uacnj.org, for schedules of our events.

Membership in the UACNJ is only available through our member-clubs as we don't want to compete with them for members. A list of area amateur astronomy clubs is on the other side of this brochure and on our website, www.uacnj.org.

The UACNJ Observatory at Jenny Jump is located at Latitude 40° 54' 26.8" North, Longitude 74° 55' 31.8" West, and 1,100 feet above sea level in Jenny Jump State Forest, near the town of Hope, New Jersey, in Warren County. The site is one of the few dark sky locations left in the state.

The facility has a 16-inch Newtonian telescope in its Greenwood Observatory and maintains an education center with a lecture hall and a modest New Jersey astronomy museum. Our member-clubs enjoy a research library, meeting room, sleeping accommodations and full bath and kitchen facilities.

Of the five other observatory buildings, three are run by member-clubs (AAAP, AAI and SSG). The UACNJ is presently building solar and research observatories. A seventh observatory is in the planning stages and will house the recently donated 28-inch Newtonian-Nasmyth Cassegrain instrument. A radio telescope is in the works as well.

The facility is always growing and evolving, thanks to many volunteers. All donations of money, supplies or services (which are tax-deductible) are gratefully accepted.

Visit www.uacnj.org for more information!