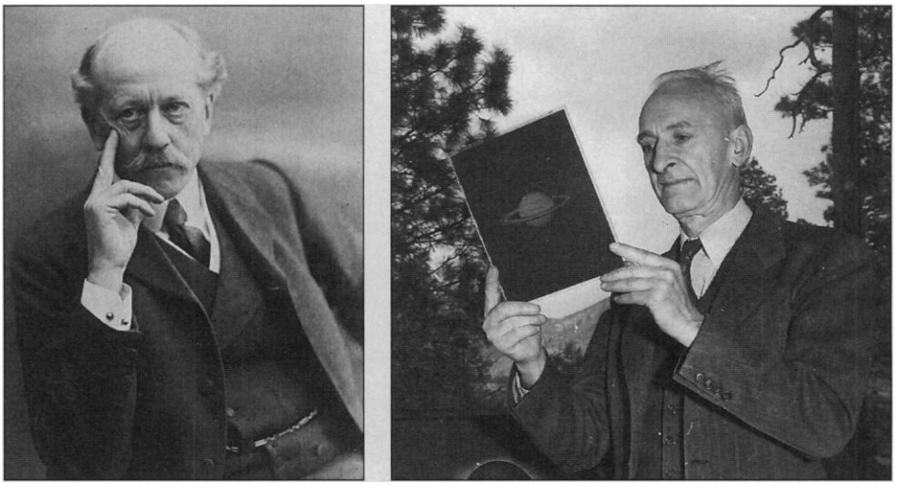
Lowell's Venture

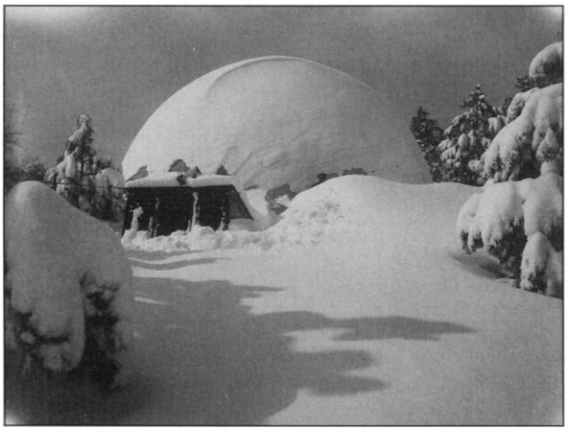
The Explorers of Mars Hill. A Centennial History of Lowell Observatory, 1894–1994. WILLIAM LOWELL PUTNAM and others. Published for Lowell Observatory by Phoenix Publishing, Canaan, NH, 1994. xxii, 289 pp., illus. $30.



Left, Percival Lowell. *Right*, "E. C. Slipher examines negatives by the north light of the [Lowell] observatory reading room in 1953." [From *The Explorers of Mars Hill*; Lowell Observatory photograph]

The Arizona observatory founded by Percival Lowell celebrates its centennial in 1994. Orientalist and successful entrepreneur, Lowell turned to astronomy in the 1890s. He was convinced of the existence of civilized life on Mars. A stream of books and popular essays flowed from his pen, and in time the reading public came to identify Lowell and his observatory with life on Mars. Long after Lowell's observations of canals on the red planet were discredited, many amateur astronomers in Europe and the United States remained true believers.

Lowell is one of the most enigmatic figures in the history of American science. He was a generalist in an age of growing specialization. Perhaps influenced by romantic *Naturphilosophie* imbibed from his Harvard mentor, the mathematician Benjamin Peirce, Lowell saw nature as a whole. At a time when astrophysics was moving toward ascendancy in American astronomy, he dedicated his observatory to the study of objects in the solar system. Brilliant and arrogant, Lowell ruled the institution on Mars Hill with an iron hand. Staff research projects were subordinated to the proprietor's interest in solar system astronomy. In part, Lowell maintained his power by selecting staff members who were, in comparison to astronomers at institutions like the Lick, Yerkes, or Mount Wilson observatories, marginal. Lowell's scientific staff, made up mostly of graduates from Indiana University, had not been trained in a first-rate astronomy program such as those at Chicago or Berkeley.



"The 40-inch dome [at the Lowell Observatory] shows its strength after heavy snow in 1916." [From *The Explorers of Mars Hill*; Lowell Observatory photograph]

Perhaps the most exciting work done at the Lowell Observatory in its early years was the measurement by V. M. Slipher (1912) of the radial velocities of nebulae. This opened the way for others to develop the model of the expanding universe. Aside from the early observational work of Slipher, however, Lowell astronomers took no further part in these exciting developments. The Slipher story is recounted by historian Robert Smith in chapter 4 of this centennial history, compiled by the Lowell Observatory trustee, William Lowell Putnam.

Between the wars, the observatory was financially decimated by a bitter struggle with Lowell's grasping widow, Constance, who attempted to break her husband's will. The discovery of Pluto, whose existence was the subject of protracted mathematical investigations by Lowell, is the observatory's single claim to fame in the inter-war years. Only after 1950, as a consequence of generous federal patronage, did the Lowell Observatory move into the mainstream of American science.

With the exception of the chapter by Smith, this volume does not represent the work of professional historians of science. Only a few of the scientist contributors seem aware of the rich archival collections at the Lowell Observatory. None attempt to place the history of the institution in the larger context of 19th- and 20th-century science or society. However, historians of science will find in this book a number of topics worthy of careful consideration. Readers will be grateful to Putnam for assembling a fascinating collection of photographs. Few scientific research institutions have iconography collections that can rival the treasures stored in the vault on Mars Hill.

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Other Books of Interest

The History of Modern Mathematics. Vol. 3, Images, Ideas, and Communities. EBERHARD KNOBLOCH and DAVID E. ROWE. Academic Press, San Diego, CA, 1994. xvi, 301 pp., illus. $55.

Five years ago there appeared a two-volume work entitled *The History of Modern Mathematics*, edited by David E. Rowe and John McCleary (see *Science* **248**, 1561 [1990]). A "groundswell of activity" on the themes of the earlier volumes has led to the publication of this complementary collection of nine papers. Like its predecessors, the new volume represents a variety of approaches, technical, philosophical, and social. The papers (though the intended connection is somewhat obscured by an apparent production error) form three groups. The first consists of