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H. R. Morgan, Astronomer

The death of Herbert Rollo Morgan at his home in Washington, D.C., 11 June 1957, brought to a close a life of sincere devotion to his family and to astronomy. His last illness extended over a period of 2 months; however, he had suffered considerably, prior to this, from frequent spells of bad health during the last few years.

He was the son of Henry D. and Olive Smith Morgan and was born on 21 March 1875, near Medford, Minnesota. By the time he was 9, the rigors of the Minnesota winters proved to be so trying to his health, which was somewhat impaired by an asthmatic condition, that his mother sought relief for him in the milder climate of Tennessee, where he grew up and received his early education.

He received his A.B. and Ph.D. degrees from the University of Virginia in 1899 and 1901, respectively. While a student at the university, he held one of the prized Vanderbilt fellowships at the Leander McCormick Observatory. During the last year of his graduate work he commenced teaching mathematics at the Pantops Academy and continued there until he received an appointment to the U.S. Naval Observatory as a computer, in 1901. Four years later he decided to try teaching again and accepted a professorship in astronomy and mathematics at Pritchett College, where he also served as director of the Morrison Observatory.

In 1907 he returned to the Naval Observatory as assistant astronomer on the staff of the 9-inch transit circle. In 1913 he was placed in charge of the instrument and at once began a series of fundamental observations which lasted until 1926. The catalog of final results for this program is a typical example of the thoroughness and painstaking care which he devoted not only to the major problems arising in his work but to those small details as well, which, if not properly attended to, sometimes ruin an otherwise excellently planned project. This program was followed by two others—the first, a differential determination of the positions of the reference stars for the Yale zone $-10°$ to $-20°$, and the second, another fundamental program which was not entirely completed at the time of his retirement in 1944.

Retirement to Morgan merely meant more time for his researches. These he carried on privately for a while and later, from 1947 to 1950, as research associate of Yale University. Even up to the time of his last illness he was busily engaged in computing the proper motions of a group of O and B spectral type stars.

Morgan's principal contributions were in the field of fundamental astronomy. His philosophy that good observations should be put to use, combined with a thorough knowledge of how to use them, brought forth during his life many papers and publications of the first order of importance. His earliest papers were concerned mainly with the orbits of comets and asteroids. These were followed by a number of articles in which he ably treated problems and questions that come up during a transit circle program. By the time he reached his middle years his attention began to focus on the fundamental quantities upon which astronomy is built. He analyzed hundreds of thousands of observations for the purpose of obtaining a better knowledge of the position of the equator, the motion of the equinox, the constants of aberration and nutation, the motion of the perihelion and corrections to the orbital elements of the planets. In his late years he compiled his N30 catalog, in which are given the definitive positions and motions of 5268 stars. The fundamental coordinate system established by the N30 and the proper motions based on it have formed the starting point for several recent investigations, among which may be mentioned a correction to the precession, the luminosities of the nearest Cepheids, and other researches related to the structure of the galaxy. Without doubt, the N30 and its associated papers represent the greatest achievement of his career.

Morgan's capacity in his field of specialization won him many recognitions. In 1952 the National Academy of Sciences awarded him the Watson medal for his contribution to fundamental astronomy and, by invitation, he presented a report on the astronomical constants at the Paris conference in 1950. He also presented a discussion of the basis on which the reference system of stellar positions rests at the symposium on the Fundamental Properties of the Galactic System conducted by the New York Academy of Sciences in 1941.

He was a member of the National Research Council, the Washington Academy of Sciences, and the Geophysical Union. He served as vice president of the American Astronomical Society from 1940 to 1942 and as chairman of Section D of the American Association for the Advancement of Science in 1936. He attended his first meeting of the International Astronomical Union in 1928 and served as president of the commission on meridian astronomy of that organization from 1938 to 1948. He was an associate editor of the *Astronomical Journal* from 1942 to 1948.

A humble man, Morgan conducted his life in a very unpretentious manner. His high sense of honor made personal dealings with him a pleasure. His associates at the Naval Observatory and his colleagues in the astronomical world respected him, and will remember him, as a valued friend and faithful worker.

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