EDISON PETTIT
1889–1962

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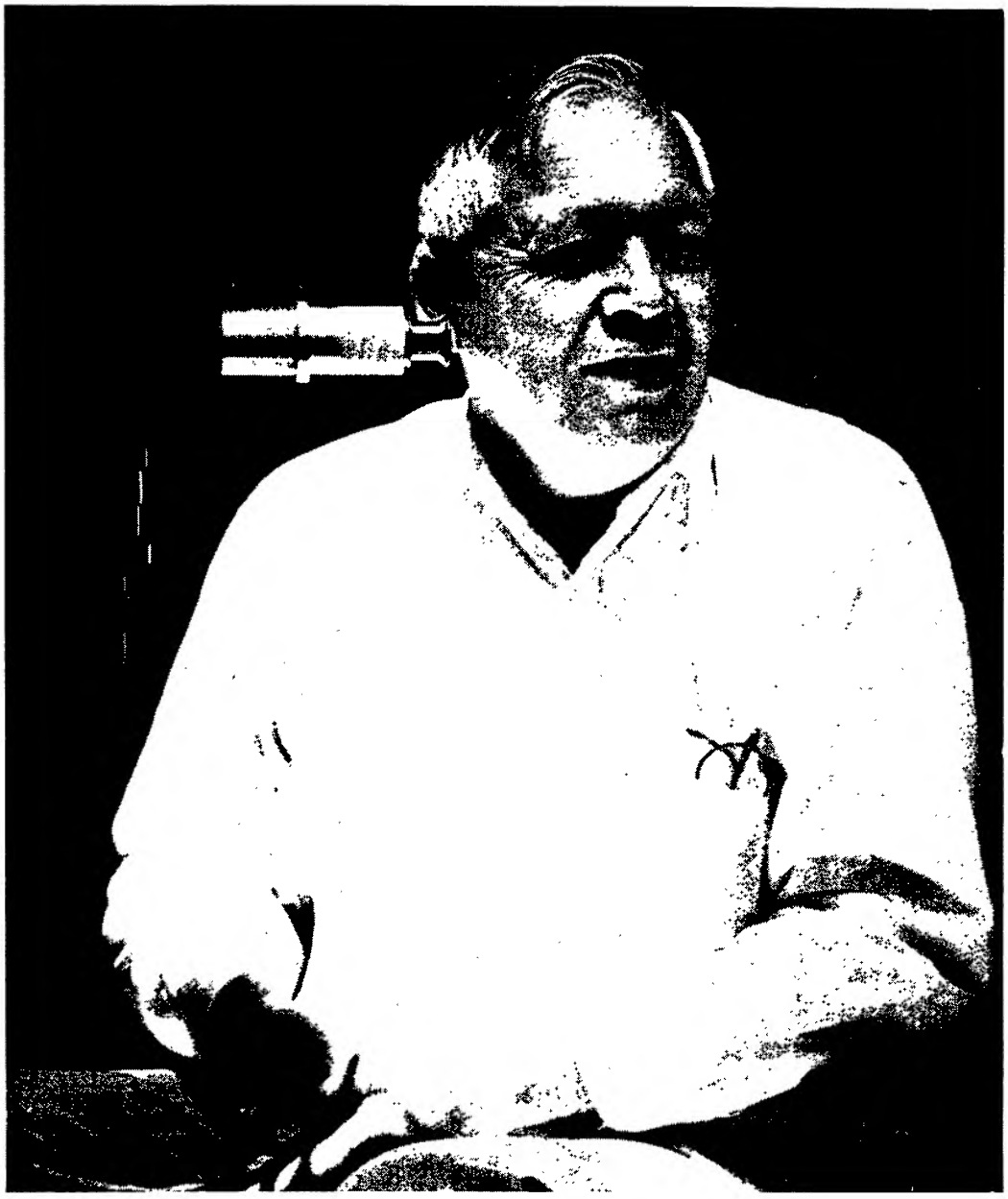
Edison Pettit, who retired from the staff of the Mount Wilson and Palomar Observatories in 1955, died on May 5, 1962, in Tucson, Arizona, after an illness of a few months. Early in January he suffered a stroke which necessitated his moving to Tucson, where his daughter, Mrs. Aden Meinel, lives. He recovered partially from the first stroke but did not survive a later one.

Pettit was born in Peru, Nebraska, on September 22, 1889, and his early education was in the schools of that small city. After receiving his bachelor's degree from the Nebraska Normal School in Peru, he taught science in the high school at Minden, Nebraska, from 1911 through 1914. In 1914 he went to Washburn College in Topeka, Kansas, where he taught astronomy until 1918. Pettit began his scientific astronomical observing with the 11.5-inch telescope of the Washburn College Observatory and, in 1917, published micrometer measures of 138 double stars made there. He spent the summer months at the Yerkes Observatory photographing the sun with the spectroheliograph and observing occasionally at night with the 40-inch refractor.

In 1917, he also published some short articles concerning the total solar eclipse of June 8, 1918, the path of which passed diagonally across the United States from Washington to Florida. In January 1918, he went to the Yerkes Observatory and was placed in charge of one of the three expeditions from that observatory to different points on the path of the eclipse.

His station was at Matheson, Colorado, where the objective from the Washburn College telescope was used successfully to photograph the corona. One of the observers assigned to the Colorado station was Miss Hannah Steele, a graduate student at the University of Chicago and an assistant at the Yerkes Observatory. The account of the results at Matheson was published jointly by Edison Pettit and Hannah Steele. Later that year,



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Miss Steele became Mrs. Pettit, and together they continued their graduate studies at the University of Chicago. Dr. Hannah Steele Pettit received her Ph.D. degree in 1919; Dr. Edison Pettit received his in 1920. His thesis, "The Forms and Motions of Solar Prominences," concerned a subject that held his interest throughout his career.

Shortly after receiving his degree, Dr. Pettit was appointed to the staff of the Mount Wilson Observatory, and he and Mrs. Pettit moved to Pasadena, where they made their home for the rest of their lives. At Mount Wilson, Dr. Pettit continued his study of solar prominences, giving special attention to those that erupted. He published a catalog of all well-observed eruptive prominences, discussing the forms of their apparent paths, their velocities, and their accelerations. He also developed a system of classifying prominences according to their forms and types of activity and was one of the pioneers in the use of motion pictures to study prominences.

The expedition to observe the solar eclipse of 1918 was the first of several in which Dr. Pettit took an active part. I had the privilege of working with him at the eclipse in 1923 at San Diego, California; in 1925 at Middletown, Connecticut; in 1930 at Honey Lake, California; and in 1932 at Lancaster, New Hampshire. The most successful of these expeditions was the one in 1925, when we obtained good photographs of the corona for photometry and made measures with a thermopile of the brightness of the corona. Dr. Pettit was an especially valuable man on such expeditions because of his skill in mechanical things and his ingenuity in making instruments function under adverse conditions.

In the early 1920's, Dr. Pettit wished to measure the radiation temperature of sunspots with a thermocouple, and, since the thermocouples he wanted could not be purchased, he began making them. He was so successful that his thermocouples, when operated in a vacuum, were sensitive enough to measure the heat from stars and planets. In those days even the very fine wires of bismuth and an alloy of bismuth and tin, used in the thermocouples, had to be made by hand. With these thermocouples he and I observed the radiation from stars of all spectral types in different wavelengths, obtaining their radiometric magnitudes,

temperatures, and angular diameters. With the same instruments the temperatures of the planets and of the moon were determined. Dr. Pettit was one of the first to measure the rate of cooling of the lunar surface and its subsequent rate of heating during a lunar eclipse. These data were used to determine the heat capacity and conductivity of the surface material on the moon.

Dr. Pettit supervised a long series of measures with a thermopile designed to study the variability of ultraviolet solar radiation, but discontinued when it appeared that the effects of varying ozone in the earth's atmosphere were not being adequately eliminated. He also studied the ultraviolet spectral-energy curve of solar radiation at Mount Wilson and at Tucson.

In his student days at the Yerkes Observatory and at Topeka, Dr. Pettit had made drawings of Jupiter, which he published in *Popular Astronomy,* and his interest in planetary details continued during his career at the Mount Wilson Observatory. He made many drawings of Mars at various oppositions with a 20-inch reflector on Mount Wilson and with a six-inch refractor at his own well-equipped observatory in the backyard of his home in Pasadena. These drawings, which showed the canal system of Mars, were described and discussed in detail in these *Publications*. He also made many planetary photographs with the larger telescopes on Mount Wilson.

Dr. Pettit made photometric observations with a visual photometer on his six-inch telescope and on the larger telescopes on Mount Wilson. Perhaps the best example of his results in this field is the light curve of Nova Puppis. He discovered Nova Puppis independently, and immediately began a series of measures of its brightness, which he continued even after his retirement. He also made extensive measures of the magnitudes of selected faint galaxies with a photoelectric photometer that he designed and built.

Dr. and Mrs. Pettit enjoyed their home life very much and took many automobile trips with their two daughters, Helen and Marjorie. Mrs. Pettit, while mother and housewife, continued her interest in astronomy and translated several astronomical articles and books. They shared the backyard observatory with friends and with groups of children and adults. Boy Scouts and

Girl Scouts were always welcome, and their enjoyment of the visit was intensified by Dr. Pettit's patient explanation of the things they saw and by the refreshments that Mrs. Pettit always served.

Dr. Pettit's principal hobby was making things, and his garage was a completely equipped machine shop. The family car was left at the observatory office three blocks away or stood in the driveway at home. After his retirement, this machine shop became a busy place, where Dr. Pettit designed and built spectrographs for several observatories. These spectrographs were professionally built, and Dr. Pettit was justly proud of their appearance and performance.

The years after retirement were sad ones for Dr. Pettit because Mrs. Pettit suffered a severe stroke which left her an invalid for some years. Working in his machine shop and visiting Mrs. Pettit at the hospital was his daily routine. His spirit and wonderful sense of humor never failed, and one of his pleasures in those years was to have dinner or lunch with the astronomers with whom he had worked and to recall details of the early days at the Observatory. Mrs. Pettit died in 1961, less than a year before Dr. Pettit's stroke. All their lives they shared common interests in science, in their family, and in their contributions to the education and improvement of the community.