William Henry Pickering

William Henry Pickering, discoverer of Phœbe and expert observer of Mars and the Moon, was born in Boston, 1858 February 15, and died in Mandeville, Jamaica, a few weeks before his eightieth birthday.

The family of Pickering is an old and distinguished one in Massachusetts. The brother astronomers who have borne the name during the last ninety years each represented different phases of astronomy.

William Pickering was educated at the Massachusetts Institute of Technology, where his brother had been the first Professor of Physics. While still an undergraduate he went to Southern Colorado and made his first astronomical observation on the polarisation of the light of the corona during the total eclipse.

From 1880 to 1887 he was instructor in physics in the Institute of Technology. Part of the time he held also a position at the Harvard Observatory, where he later became Associate Professor. In 1889 he visited Southern California and selected a site for a temporary observing station on Mount Wilson. This visit led to the erection by the authorities of a telescope for public use. In 1891 he was concerned in the selection and setting up of the Arequipa station in Peru, and in the founding on Mount Chahocomam, at a height of 16,650 feet, of the highest meteorological station in the world. It was at this time that he discovered by photography the faint nebulosity in which nearly the whole of Orion is involved.

During 1892, with A. E. Douglass as an assistant, he observed Mars on every night, with one exception, from July 9 to September 24. They made 373 drawings of different features of the planet, also micrometric observations of the equatorial, polar and phase diameters, measurements of the apparent snow, of clouds and of minor features, and they located micrometrically ninety-two points on the planet, and studied different regions by polarised light. With his boldness of conjecture in regard to Mars and the Moon, Professor Pickering combined extreme accuracy and honesty, and his training in physics and engineering led him to employ every form of check and repetition. He rarely or never saw any of the appearances now classed as subjective.

In 1894 he selected the site of the present observatory at Flagstaff, Arizona, and helped in its establishment by Percival Lowell. In 1900 he founded an observatory in Mandeville, Jamaica, which was at first connected with Harvard Observatory, but after his retirement was carried on privately. He made the first complete photographic atlas of the Moon, using plates taken in Jamaica. Each region of the Moon was shown in four different phases. In his study of possible volcanic action on the Moon he visited Hawaii in 1905 and the Azores in 1907.

It was in 1888 that he first conceived the idea of the possibility of an undiscovered satellite of Saturn. A study of plates taken with the 13-inch telescope showed that there would be no satellite outside Enceladus unless it were more than a magnitude fainter than Hyperion. In planning the work of the Bruce 24-inch telescope he had asked that a further succession of plates of regions near to Saturn should be taken. On 1899 March 14, when he was examining plates taken on 1898 August 16, 17 and 18, he found the hoped-for satellite. Three plates taken in September 1898 were found to contain faint images of a similar object. They were not in the calculated place: this was due to the unexpectedly great eccentricity of the orbit, but it seemed unexplainable at the time.

Phœbe was difficult to find at this time because of the position of Saturn against the Milky Way. No suggested orbit was any help. "In 1900, even I," wrote Professor Pickering, "began to wonder if the four images of 1898 might not, after all, have been defects or

faint stars occurring by a curious coincidence." With lessened hope but with characteristic perseverance he took up his search on plates showing regions at a greater distance from Saturn.

Finally Phœbe was again found, and in 1904 he was in the midst of an account of the rediscovery, with an orbit and ephemeris in type, when at Arequipa they took photographs showing the satellite in an absolutely unexpected position. It seemed as if there might be two Phœbes, but Professor Pickering, with brilliance and a pioneer's originality, conceived the idea that the motion might be retrograde. Now that similar satellites of Jupiter have been found this does not seem so remarkable, but at that time the idea that a planet could have both direct motion satellites and retrograde satellites was revolutionary. With his spirit of testing everything he mapped out graphically all the observations on a retrograde orbit. To his surprise not only did the new places agree, but all earlier discrepancies were smoothed out.

Professor William Pickering often visited England, and had made friends with many Englishmen outside the British Isles. He took much interest in the work of British astronomers, both professional and amateur. He had a high opinion of the work of the British Astronomical Association, and had been a member since 1919. His many journeys, his constant interest in all forms of science and in new ideas, his love of the Nature he had seen under so many aspects, his mildness and benevolence, and his cheery nature all made him a delightful companion. It was appropriate that he died amid the tropical beauty he loved so much.—M. F. S.