

PROF. E. C. PICKERING.—Edward Charles Pickering was born on Beacon Hill in Boston, on July 19, 1846, and died on February 3, 1919, at Harvard College Observatory, Cambridge, Mass. When but 21 he became Thayer Professor of Physics in the Massachusetts Institute of Technology, and two years later he opened the first laboratory for physical research in the United States. In 1876 he was appointed Director of the Astronomical Observatory of Harvard College, an appointment that occasioned surprise, if not opposition, at the time in that a physicist was to direct an astronomical observatory, for the two branches of science then seemed quite distinct.

The fundamental characteristic of a star is its position relative to other stars; it is by this that its identity is traced throughout the ages, and the chief work of the astronomy of precision is to make a series of catalogues of stars whereby their proper motions may be derived. But besides their position, stars have what may be called their personal characteristics, and though the Harvard College Observatory did not take much part in the task of cataloguing star places, yet under Prof. Pickering its annals became the great catalogues of what may be called the personal characteristics of a star—its magnitude, its variability and type of spectrum. When Prof. Pickering entered on the directorate of the observatory on February 1, 1877, he devised a photometer, by means of which the magnitude of a star was compared with that of some bright star near, and attached it to the large equatorial, and from 1884 onward there appeared the *Harvard Photometry*, giving the magnitude of all the stars visible to the naked eye in Cambridge, the *Photometric Durchmusterung of Stars to the Magnitude 7.5*, the *Photometric Observations of Variable Stars* and the *Revised Harvard Photometry*, superseding all previous catalogues for stars of the magnitude

6.5 and brighter. In the observations for these catalogues he himself took a large part.

In 1882 he appealed to visual observers of variable stars over the world that they should co-operate in making their observations according to a uniform system, but at this date his appeal was ignored or met with active opposition, and indeed it was reserved for the Variable Star Section of our own Association to convince by value of their Memoirs the opponents of co-operation in this work. Both Col. Markwick and Mr. Brook have testified to the services rendered to the Section by Prof. Pickering; in *Popular Astronomy* for March 1919, Miss Cannon testifies to the high value Prof. Pickering placed on the work of the Section. His own three methods of search—by the spectrum, by superposing a positive and a negative, and by multiple exposures over the entire night—have resulted in the discovery of 3,435 variables, or more than two-thirds of the total number known.

But the third and fourth methods of cataloguing for the stars appeal perhaps most to the imagination, and have proved on occasion of the first importance. In May 1885 Prof. Pickering commenced his spectroscopic survey of the sky by placing a 30° prism in front of an object-glass of 2½ inches in aperture, and in 1886 he laid before the American Academy a plan for mapping the whole sky by having two stations and keeping the telescopes employed all night. It was to this continual survey that the early history of novæ—Nova Aquilæ is perhaps the most important instance—could be learned before their detection by the naked eye.

Prof. Pickering was a wealthy man, and a "General Note" in *Popular Astronomy* for March 1919 states that each year he gave back to Harvard College his salary as Director of the Observatory. While still a very young man in the Institute of Technology, he wrote "Science is an ennobling pursuit only when it is wholly unselfish," and he practised this, his own precept.

The funeral service was held in Appleton Chapel on February 6 and was conducted by the Rev. Joel Metcalf, himself a discoverer of comets and minor planets, and among the pall bearers were the Englishman, Prof. E. W. Brown of Yale University, and the Canadian, Prof. Otto Klotz, Director of the Dominion Observatory at Ottawa.