ence of observation through the improvement of instruments and methods. The discovery of this motion was first rendered practicable when the telescope was combined with *graduated instruments;* when, from the accuracy of within a minute of an arc (which after much pains Tycho Brahe first succeeded in giving to his observations on the island of Hven), astronomers gradually advanced to the accuracy of a second and the parts of a second; and when it became possible to compare with one another results separated by a long series of years. Such a comparison was made by Halley with respect to the positions of Sirius, Arcturus, and Aldebaran, as determined by Ptolemy in his Hipparchian catalogue, 1844 years before. By this comparison he considered himself justified (1717) in announcing the fact of a *proper* motion in the three above-named fixed stars.* The high and well-merited attention which, long subsequent even to the observations of Flamstead and Bradley, was paid to the table of right ascensions contained in the *Triduum* of Römer, stimulated Tobias Mayer (1756), Maskelyne (1770), and Piazzi (1800) to compare Römer's observations with more recent ones.† The proper motion of the stars was in some degree recognized as a general fact, even in the middle of the last century; but for the more precise and numerical determination of this class of phenomena we are indebted to the great work of William Herschel in 1783, founded on the observations of Flamstead,‡ and still more to Bessel and Argelander's successful comparison of Bradley's "Positions of the Stars for 1755" with recent catalogues.

The discovery of the proper motion of the fixed stars has proved of so much the greater importance to physical astronomy, as it has led to a knowledge of the motion of our own solar system through the star-filled realms of space, and, indeed, to an accurate knowledge of the direction of this motion. We should never have become acquainted with this fact if the proper progressive motion of the fixed stars were so small as to elude all our measurements. The zealous attempts to investigate this motion, both in its quantity and its direction, to determine the parallax of the fixed stars, and

* Halley, in the *Philos. Transact.* for 1717–1719, vol. xxx., p. 736. The essay, however, referred solely to variations in latitude. Jacques Cassini was the first to add variations in longitude. (Arago, in the *Annuaire pour* 1842, p. 387.)

† Delambre, *Hist. de l'Astron. Moderne*, t. ii., p. 658. Also in *Hist de l'Astron. au 18ème Siècle*, p. 448.

‡ *Philos. Transact.*, vol. lxxiii., p. 138.