another, measured by Swanberg, in Lapland, and the result, that a degree in Lapland is longer than one in Peru, gave Newton's theory a notable triumph. Cassini's great name is connected with this celebrated calculation. The triangulation in Peru was made under Bouguer, between 1746 and 1753, and its comparison with the Lapland arc has ever since given us the astronomical and geometrical standards, thus being the basis of the principal constants in the mathematics of the solar system.

If (a) be the semi-axis major of an ellipse, and (b) the semi-axis minor, the flattening is defined by $x = \frac{a-b}{a}$. The Quito or Peruvian observations, combined with Swanberg's, gave a compression of $\frac{1}{300.4}$, but a revision gave $\frac{1}{320.25}$. Then came some measurements in France made by Delambre and Mechain, who calculated on the basis of an arc between Paris and Barcelona, and compared it with the Peruvian and Lapland arcs, and brought out as a result $\frac{1}{322.04}$. Laplace, from the lunar motions, made the compression $\frac{1}{314}$. From the theory of gravity, combined with observations by Burg and Maskelyne, $\frac{1}{309.05}$ results. Dr. Robison, assuming the variation of gravity at $\frac{1}{190}$, makes the compression $\frac{1}{319}$. The computation from the precession of the equinoxes, and the nutations of the earth's axis, gives $\frac{1}{304}$ as the maximum limit. But since the date of these calculations Europe has been further triangulated, arcs having been measured in Hanover, Sweden, and elsewhere. England is connected with France, and France, through Spain, with Algiers. The figures denoting the flattening have been successively changed to $\frac{1}{308}$, to $\frac{1}{299}$ which is Bessel's, to $\frac{1}{292}$ which is Fayes'. Clarke, the Englishman, made it $\frac{1}{293.46}$, which is