circumference of the sphere, and the distance being 5,000 stadia, it followed that the earth's circumference was 250,000 stadia, which is about 1,800 of our standard miles too much. Poseidonius made another measurement, on the same principle, between Alexandria and Rhodes, and brought out 5,580 geographical miles as his result, which is only about 800 miles in excess of the truth. Very little more light was thrown upon the subject for a millennium, but in A.D. 1525 a new method of computation was resorted to by Fernet, who measured the distance between Paris and Amiens by the rotations of his carriage wheel, observed the solstitial altitude of the sun at each place and brought out an estimate of the length of a degree surprisingly accurate, considering the imperfection of his astrolabe or whatever other goniometer he used. In 1615 one Snell, or Snellius, a Dutchman, invented the system of triangulation, and in 1666 Picard measured by this means the length of an arc of one degree, between Amiens and Malvoisine, thinking he had thus arrived at an absolutely correct measurement of the circumference, and therefore of the diameter of our world.

## Shape of the Earth

But then came Newton, with his law of gravitation, explaining that by reason of centrifugal force the figure of the earth could not be spherical, but must be flattened at the poles—a hypothesis confirmed by Huyghens in theory and by Richer through pendulum observations at Cayenne, which is less than 10° north of the equator. The French Academy, which had taken issue with Newton, then prevailed on the Government to measure an arc in Peru, to compare with