the telescope, through which man may be said to have taken possession of a considerable portion of the heavens. The application of a newly-created organ—an instrument possessed of the power of piercing the depths of space—calls forth a new world of ideas. Now began a brilliant age of astronomy and mathematics; and in the latter, the long series of profound inquirers, leading us on to the "all transforming" Leonhard Euler, the year of whose birth (1707) is so near that of the death of Jacques Bernouilli.

A few names will suffice to give an idea of the gigantic strides with which the human mind advanced in the seventeenth century, especially in the development of mathematical induction, under the influence of its own subjective force rather than from the incitement of outward circumstances. The laws which control the fall of bodies and the motions of the planets were now recognized. The pressure of the atmosphere; the propagation of light, and its refraction and polarization, were investigated. Mathematical physics were created, and based on a firm foundation. The invention of the infinitesimal calculus characterizes the close of the century; and, strengthened by its aid, human understanding has been enabled, during the succeeding century and a half, successfully to venture on the solution of the problems presented by the perturbations of the heavenly bodies; by the polarization and interference of the waves of light; by the radiation of heat; by electro-magnetic re-entering currents; by vibrating chords and surfaces; by the capillary attraction of narrow tubes; and by many other natural phenomena.

Henceforward the work in the world of thought progresses uninterruptedly, each portion continually contributing its aid to the remainder. None of the earlier germs are stifled. With the abundance of the materials to be elaborated, strictness in the methods and improvements in the instruments of observation are simultaneously increased. We will here limit ourselves more especially to the seventeenth century, the age of Kepler, Galileo, and Bacon, of Tycho Brahe, Descartes, and Huygens, of Fermat, Newton, and Leibnitz. The labors of these distinguished inquirers are so generally known, that slight references will be sufficient to point out those portions by which they have most brilliantly contributed to the enlargement of cosmical views.

We have already shown* how the discovery of telescopic vision gave to the eye—the organ of the sensuous contempla-

* See *Cosmos*, vol. i., p. 83.