universe prepared the way for these discoveries. Nicholas Copernicus was engaged in making observations with the astronomer Brudzewski at Cracow when Columbus discovered America. Ideal connection between the sixteenth and seventeenth centuries, by Peurbach and Regiomontanus. Copernicus never advanced his system of the universe as an hypothesis, but as incontrovertible truth—p. 301–313. Kepler and the empirical planetary laws which he discovered—p. 313–317. Invention of the telescope; Hans Lippershey, Jacob Adriaansz (Metius), and Zacharias Jansen. The first fruits of telescopic vision: mountains of the moon; clusters of stars and the Milky Way; the four satellites of Jupiter; the triple configuration of Saturn; the crescent form of Venus; solar spots; and the period of rotation of the sun. The discovery of the small system of Jupiter indicates a memorable epoch in the fate and sound foundation of astronomy. The discovery of Jupiter's satellites gave rise to the discovery of the velocity of light, and the recognition of this velocity led to an explanation of the aberration-ellipse of the fixed stars—the perceptive evidence of the translatory movement of the earth. To the discoveries of Galileo, Simon Marius, and Johann Fabricius followed the discovery of Saturn's satellites by Huygens and Cassini, of the zodiacal light as a revolving isolated nebulous ring by Childrey, of the variation in brilliancy of the light of the fixed stars by David Fabricius, Johann Bayer, and Holwarda. A nebula devoid of stars in Andromeda described by Simon Marius—p. 317–331. While the seventeenth century owed at its commencement its main brilliancy to the sudden extension of the knowledge of the regions of space afforded by Galileo and Kepler, and at its close to the advance made in pure mathematical science by Newton and Leibnitz, the most important of the physical problems of the processes of light, heat, and magnetism, likewise experienced a beneficial progress during this great age. Double refraction and polarization; traces of the knowledge of the interference of light in Grimaldi and Hooke. William Gilbert separates magnetism from electricity. Knowledge of the periodical advance of lines without variation. Halley's early conjecture that the polar light (the phosphorescence of the earth) is a magnetic phenomenon. Galileo's thermoscope, and its employment for a series of regular diurnal observations at stations of different elevation. Researches into the radiation of heat. Torricellian tubes, and measurements of altitude by the position of the mercury in them. Knowledge of aërial currents, and the influence of the earth's rotation on them. Law of rotation of the winds conjectured by Bacon. Happy, but short-lived, influence of the Accademia del Cimento on the establishment of mathematical natural philosophy, as based on experiment. Attempts to measure the humidity of the atmosphere; condensation hygrometer. The electric process; telluric electricity; Otto von Guericke sees, for the first time, light in induced electricity. Beginnings of pneumatic chemistry; observed increase of weight in metals from oxydation; Cardanus and Jean Rey, Hooke and Mayow. Ideas on the fundamental part of the atmosphere (*spiritus nitro-aëreus*), which enters into all metallic calxes, and is necessary to all the processes of combustion, and the respiration of animals. Influence of physical and chemical knowledge on the development of geognosy (Nicolaus Steno, Scilla, Lister); the elevation of the sea's bottom and of littoral districts. In the greatest of all geognostic phenomena—the mathematical figure of the earth—we see perceptibly reflected all the conditions of a primitive age, or, in other words, the primitive fluid state of the rotating mass and its consolidation into a terrestrial spheroid. Meas-