tion of the universe—a power from whose limits we are still far removed, and which, in its first feeble beginning, when scarcely magnifying thirty-two linear diameters,* was yet enabled to penetrate into depths of space which until then had remained closed to the eyes of man. The exact knowledge of many of the heavenly bodies which belong to our solar system, the eternal laws which regulate their revolution in their orbits, and the more perfect insight into the true structure of the universe, are the characteristics of the age which I am here delineating. The results produced by this epoch determine the principal outlines of the great natural picture of the Cosmos, and add to the earlier investigated contents of terrestrial space the newly-acquired knowledge of the contents of the celestial regions, at least with reference to the well-organized arrangement of one planetary group. In my desire of assuming only general views, I will confine myself to the consideration of the most important objects of the astronomical labors of the seventeenth century. I would here refer to their influence in powerfully inciting to great and unexpected mathematical discoveries, and to more comprehensive and grander views of the universe.

I have already remarked that the age of Columbus, Gama, and Magellan—the age of great maritime enterprises—coincided in a most wonderful manner with many great events, with the awakening of a feeling of religious freedom, with the development of nobler sentiments for art, and with the diffusion of the Copernican views regarding the system of the universe. Nicolaus Copernicus (who, in two letters still extant, calls himself Koppernik) had already attained his twenty-first year, and was engaged in making observations with the astronomer Albert Brudzewski, at Cracow, when Columbus discovered America. Hardly a year after the death of the great discoverer, and after a six years' residence at Padua, Bologna, and Rome, we find him returned to Cracow, and busily engaged in bringing about a thorough revolution in the astronomical views of the universe. By the favor of his uncle, Lucas Waisselrode of Allen, bishop of Ermland, he was nominated, in 1510, canon of Frauenburg, where he labored

* "The telescopes which Galileo constructed, and others of which he made use for observing Jupiter's satellites, the phases of Venus, and the solar spots, possessed the gradually increasing powers of magnifying four, seven, and thirty-two linear diameters, but they never had a higher power." (Arago, in the *Annuaire du Bureau des Longitudes pour l'an.* 1842. p. 268.)