of all motion, and therefore of all physical phenomena. Anaxagoras explains the apparent movement of the heavenly bodies from east to west by the assumption of a centrifugal force,* on the intermission of which, as we have already observed, the fall of meteoric stones ensues. This hypothesis indicates the origin of those theories of rotatory motion which more than two thousand years afterward attained considerable cosmical importance from the labors of Descartes, Huygens, and Hooke. It would be foreign to the present work to discuss whether the world-arranging Intelligence of the philosopher of Clazomenæ indicates† the Godhead itself, or the mere pantheistic notion of a spiritual principle animating all nature.

In striking contrast with these two divisions of the Ionic school is the mathematical symbolism of the Pythagoreans, which in like manner embraced the whole universe. Here, in the world of physical phenomena cognizable by the senses, the attention is solely directed to that which is normal in configuration (the five elementary forms), to the ideas of numbers, measure, harmony, and contrarieties. Things are reflected in numbers which are, as it were, an imitative representation (*μίμησις*) of them. The boundless capacity for repetition, and the illimitability of numbers, is typical of the character of eternity and of the infinitude of nature. The essence of things may be recognized in the form of numerical relations; their alterations and metamorphoses as numerical combinations. Plato, in his Physics, attempted to refer the nature of all substances in the universe, and their different stages of metamorphosis, to corporeal forms, and these, again, to the simplest triangular plane figures.‡ But in reference

* *Cosmos*, vol. i., p. 133–135 (note), and vol. ii., p. 309, 310 (and note). Simplicius, in a remarkable passage, p. 491, most distinctly contrasts the centripetal with the centrifugal force. He there says, "The heavenly bodies do not fall in consequence of the centrifugal force being superior to the inherent falling force of bodies and to their downward tendency." Hence Plutarch, in his work, *De Facie in Orbe Lunæ*, p. 923, compares the moon, in consequence of its not falling to the earth, to "a stone in a sling." For the actual signification of the *περιχώρησις* of Anaxagoras, compare Schaubach, in *Anaxag. Clazom. Fragm.*, 1827, p. 107–109.

† Schaubach, *Op. cit.*, p. 151–156, and 185–189. Plants are likewise said to be animated by the intelligence *νοῦς*; Aristot., *De Plant.*, i., p. 815, Bekk.

‡ Compare, on this portion of Plato's mathematical physics, Böckh, *De Platonico Syst. Cœlestium Globorum*, 1810 et 1811; Martin, *Etudes sur le Timée*, tom. ii., p. 234–242; and Brandis, in the *Geschichte der Griechisch-Römischen Philosophie*, th. ii., abth. i., 1844, § 375.