distance, so that the lamp alone is visible, should run on turning himself round; we should see the light sometimes stationary, sometimes retrograde, but on the whole progressive.

A mechanism of this kind was imagined for each of the planets, and the wheels of which we have spoken were in the end called *Epicycles.*

The application of such mechanism to the planets appears to have arisen in Greece about the time of Aristotle. In the works of Plato we find a strong taste for this kind of mechanical speculation. In the tenth book of the "Polity," we have the apologue of Alcinus the Pamphylian, who, being supposed to be killed in battle, revived when he was placed on the funeral pyre, and related what he had seen during his trance. Among other revelations, he beheld the machinery by which all the celestial bodies revolve. The axis of these revolutions is the adamantine distaff which Destiny holds between her knees; on this are fixed, by means of different sockets, flat rings, by which the planets are carried. The order and magnitude of these spindles are minutely detailed. Also, in the "Epilogue to the Laws" (*Epinomis*), he again describes the various movements of the sky, so as to show a distinct acquaintance with the general character of the planetary motions; and, after speaking of the Egyptians and Syrians as the original cultivators of such knowledge, he adds some very remarkable exhortations to his countrymen to prosecute the subject. "Whatever we Greeks," he says, "receive from the barbarians, we improve and perfect; there is good hope and promise, therefore, that Greeks will carry this knowledge far beyond that which was introduced from abroad." To this task, however, he looks with a due appreciation of the qualities and preparation which it requires. "An astronomer must be," he says, "the wisest of men; his mind must be duly disciplined in youth; especially is mathematical study necessary; both an acquaintance with the doctrine of number, and also with that other branch of mathematics, which, closely connected as it is with the science of the *heavens*, we very absurdly call *geometry*, the measurement of the *earth*."[4]

These anticipations were very remarkably verified in the subsequent career of the Greek Astronomy.

The theory, once suggested, probably made rapid progress. Simplicius[5] relates, that Eudoxus of Cnidus introduced the hypothesis of revolving circles or spheres. Calippus of Cyzicus, having visited Pole-

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[4] *Epinomis*, pp. 988, 990.

[5] Lib. ii. *de Cœlo.* Bullialdus, p. 18.