

histories; and their astronomy has never advanced beyond a very rude and imperfect condition.

We can only conjecture the mode in which the Chaldeans discovered their Period of 18 years; and we may make very different suppositions with regard to the degree of science by which they were led to it. We may suppose, with Delambre,⁵⁴ that they carefully recorded the eclipses which happened, and then, by the inspection of their registers, discovered that those of the moon recurred after a certain period. Or we may suppose, with other authors, that they sedulously determined the motions of the moon, and having obtained these with considerable accuracy, sought and found a period which should include cycles of these motions. This latter mode of proceeding would imply a considerable degree of knowledge.

It appears probable rather that such a period was discovered by noticing the *recurrence* of eclipses, than by studying the moon's *motions*. After $6585\frac{1}{3}$ days, or 223 lunations, the same eclipses nearly will recur. It is not contested that the Chaldeans were acquainted with this period, which they called *Saros*; or that they calculated eclipses by means of it.

Sect. 12.—Sequel to the Early Stages of Astronomy.

EVERY stage of science has its train of practical applications and systematic inferences, arising both from the demands of convenience and curiosity, and from the pleasure which, as we have already said, ingenuous and active-minded men feel in exercising the process of deduction. The earliest condition of astronomy, in which it can be looked upon as a science, exhibits several examples of such applications and inferences, of which we may mention a few.

Prediction of Eclipses.—The Cycles which served to keep in order the Calendar of the early nations of antiquity, in some instances enabled them also, as has just been stated, to predict Eclipses; and this application of knowledge necessarily excited great notice. Cleomedes, in the time of Augustus, says, "We never see an eclipse happen which has not been predicted by those who made use of the Tables." (*ὅτι τῶν κανονικῶν.*)

Terrestrial Zones.—The globular form of the earth being assented to, the doctrine of the sphere was applied to the earth as well as the heavens; and the earth's surface was divided by various imaginary

⁵⁴ A. A. p. 212.