

their courses during the night ; but since what period were they astronomers, and to what perfection did they carry the science ? Here rests the question. It is generally allowed that Callisthenes sent to Aristotle observations made by them, and which referred to a period of 2200 years before Christ ; but this fact is related only by Simplicius *, as stated upon the authority of Porphyry, and 600 years after Aristotle. Aristotle himself says nothing on the subject, nor has any creditable astronomer spoken of it. Ptolemy mentions and makes use of ten observations of eclipses really made by the Chaldeans ; but they do not refer to an earlier period than that of Nabonassar (721 years before Christ) ; they are inaccurate also ; the time is expressed only in hours and half-hours, and the shadow only in halves or fourths of the diameter. Notwithstanding, as they had fixed dates, the Chaldeans must have had some knowledge of the true length of the year, and some means of measuring time. They appear to have known the period of eighteen

* See M. Delambre, *Hist. de l'Astronomie*, vol. i. p. 212. See also his analysis of Geminus, *ibid.* p. 211. Compare this with M. Ideler's *Memoirs on the Astronomy of the Chaldeans*, in the fourth volume of M. Halma's *Ptolemy*, p. 166.