

proves to what an exact pitch they had carried their observations, and makes it evident that they had devoted themselves for a long time to such studies.

To appreciate this reasoning, it is necessary that we enter into some explanation.

The solstice is that moment of the year, at which the rising of the Nile begins, and which the Egyptians must have observed with very great attention. Having, in the beginning, formed a civil or sacred year, of exactly three hundred and sixty-five days, from imperfect observations, they would preserve it from superstitious motives, even after they had discovered that it did not coincide with the natural or tropical year, and that the seasons did not revert on the same days. (1) However, it was the tropical year, which it most behoved them to mark, for directions in their agricultural operations. They would then seek in the heavens for some apparent sign of its return, and they imagined that they had found it when the sun returned to the same position, with relation to a certain remarkable star. Thus they applied themselves, like nearly all nations who begin a similar inquiry, to the examination of the heliacal rising and setting of the stars. We know that they particularly fixed on the heliacal rising of Sirius; at first doubtless because of the splendour of this star; and above all, because in ancient times this rising of Sirius, nearly coinciding with the solstice, announcing the inundation, was to them a phenomenon of the most important na-

(1) Geminus, a contemporary with Cicero, explains these notions at length. See M. Halma's edition, at the end of Ptolemaeus, p. 43.