

Aries, the ram, אריס. Joseph, the 'fruitful bough,' is Virgo, בתולה. Benjamin is 'the wolf,' which recently supplied the place of Capricorn, and which, even in later times, is represented in the Zodiac, as being led by Pan with a wolf's head. Hence we may conclude that the sphere was known to the Jews at least 5360 years ago; which agrees with the opinion of Sir William Jones, who traces the Indian Zodiac to have been known and represented by animals 3000 years ago. There is little doubt, also, that this Hebrew Zodiac is the Mazzaroth spoken of by Job in his astronomical allusion to the celestial constellations.* The intercourse of the children of Jacob with the Egyptians was, no doubt, also instrumental in promoting their astronomical knowledge. Moses, who was learned in the wisdom of Egypt, apart from other considerations, must have increased it: and so must many of the succeeding rulers and dignitaries in Israel, the wise Solomon especially, in whose days, there is much reason to believe that time measures were in use among the Hebrews; though there is no express mention made of these in Scripture until the days of Ahaz, some two centuries and a quarter later. In 2 Kings, xx, 9,—11. we read that, at the request of Hezekiah, "the shadow was brought 10 degrees backward by which it had gone down in the מצלה (E. V. dial) of Ahaz." Without entering into the lengthy discussion which has arisen among biblical critics as to what this dial of Ahaz really was,† we find that, about seven centuries and a half before the Christian era, the Jews were cognisant of the means, and employed them too, for marking the progress of time by the sun. And this knowledge they did not acquire from Grecian civilisation: since, as has been shown, it was only in the days of Anaximander, two centuries after Ahaz, that the first sundial was introduced into Greece, and that, it is said, was brought from the East by his contemporary Pherecydes;—an assertion supported by Herodotus, who says that the Greeks learned from the *Babylonians* how to divide the day into hours or twelfth parts. But whether the Babylonians themselves acquired this knowledge from the Jews, or the Jews from them, is deemed by many learned critics an open question. That their days were divided into 12 hours previous to the destruction of the second Temple, both for civil and ecclesiastical purposes, is very evident from the earliest rabbinical writings; but to this, further reference will be made in our remarks on DAYS. Before this epoch also, we find the *elepsydra* used as a time measure. This instrument, described by travellers as being in use in Persia as late as the 17th century, was a small circular vessel of thin metal, perforated beneath, and placed in another vessel filled with water. The diameter of the perforation was made of such a size,

* See the Commentators, and "Lecture on the Philosophy of the Jews," by Arthur Lumley Davids, London, 1833.

† According to some, the ancient Jewish dial was a kind of stairs or steps, the time of day being distinguished not by lines, but by steps or degrees, and the shade of the sun moving forward every half hour to a new degree. According to others, among them Parkhurst, the dial was not horizontal but vertical, on which the sun descended from sunrise till noon.