

ation of dates. The paths, periods, and irregularities of the moon and the earth being known, it is not a very difficult task to determine the times when eclipses have occurred. An industrious and persevering man might easily compute the times when the sun or the moon has been eclipsed, as well as the time when they will be; and he may thus frequently ascertain the dates of remarkable, political, or national events. The attention of men has ever been directed to a consideration of the appearances exhibited in the heavens, and they seem to have been always conscious that no terrestrial phenomenon could be employed to measure the lapse of time. These two circumstances may probably account for the frequent allusion to astronomical occurrences in the works of the ancient historians and poets.

There are other celestial appearances, besides those which have been described, that are occasionally seen from the earth; but those that have been mentioned are the most remarkable. It is seldom that men take an enlarged view of the influence of scientific knowledge upon the minds of individuals. They speak of it as calculated to raise the intellectual standard, to free the individual from the dominant control of superstition or fear, and to give him great capacities of generalization. But the advantages of knowledge can be appreciated only when we can perfectly realize the condition of a society in which it had never been acquired, and upon which it had exerted no influence by the medium of others; if, indeed, a society could exist under such conditions. Compare the feelings which an individual of that community would experience during a solar eclipse with those which would be indulged by one who, though he could not account for it, had made himself acquainted with laws which govern some of the most remarkable celestial phenomena. The one would suffer an uncontrolled fear by an appearance that he must have heard of by tradition, or perhaps may have himself beheld; the other, under full conviction of the propriety of the causes with which he is acquainted, would be induced to seek some information concerning the origin of this newly-exhibited effect, and would be ashamed to entertain, and much more to express, a fear, until he knew it to be justified by the cause. Our object, however, in describing the celestial relations of the earth, and the astronomical phenomena seen upon the surface, has been to give the reader as