

CHAPTER II.

THE TERRESTRIAL SEASONS—DAY AND NIGHT—THEIR CAUSES—THE EARTH NEARER THE SUN IN WINTER THAN IN SUMMER—THE ZONES, AND THEIR CHARACTERISTICS—THE EQUINOXES AND SOLSTICES—THE ZODIAC.



HAT system of the Solar World which we have explained in the preceding pages enables us to account for the climatic changes known as SEASONS,—

“These, as they change, Almighty Father, these
Are but the varied God ;—”*

and to explain the cause of the inequality of the terrestrial DAYS and NIGHTS :—

“There came the Day and Night,
Riding together both with equal pace ;
The one on palfrey black, the other white ;
But Night had covered her uncomely face
With a black veil, and held in hand a mace,
On top whereof the moon and stars were pight,
And sleep and darkness round about did trace :
But Day did bear upon his sceptre's height
The goodly sun encompassed all with beamès bright.”†

The terrestrial orbit, as the reader will remember, is an ellipse differing somewhat from a circle, and bearing the astronomical designation of the Ecliptic. The Earth traverses the ecliptic in the course of $365\frac{1}{4}$ days, revolving on an axis constantly inclined towards the two same points of the heaven, or, in other terms, always parallel to itself. Hence it follows that the plane of the celestial equator, which is perpendicular to the terrestrial axis, invariably preserves the same inclination in relation to the plane of the ecliptic wherein the earth revolves : this inclination, equal to $23^{\circ} 27' 28''$, is termed “the obliquity of the ecliptic.”

The continuous parallelism of the Earth's axis of rotation upon itself is the determining cause of the seasons. The same cause pro-

* Milton, *Paradise Lost*.

† Spenser, *Faery Queen*.