

For six whole months the sun describes an apparent spiral movement above the horizon, at first approaching the celestial pole, and afterwards gradually receding from it, until, about the epoch of the equinox, it disappears below the horizon.

Figure 22 represents the *apparent* course of the Sun in the heavens during any year.

It shows also the Celestial Tropics, which correspond to the Terrestrial Tropics, and, like them, derive their name from the Greek τροπή, "a return," because the Sun, when he has reached them, seems to return on his steps and trace his path anew. They are called the Tropic of Cancer and the Tropic of Capricorn, because the Sun, at the

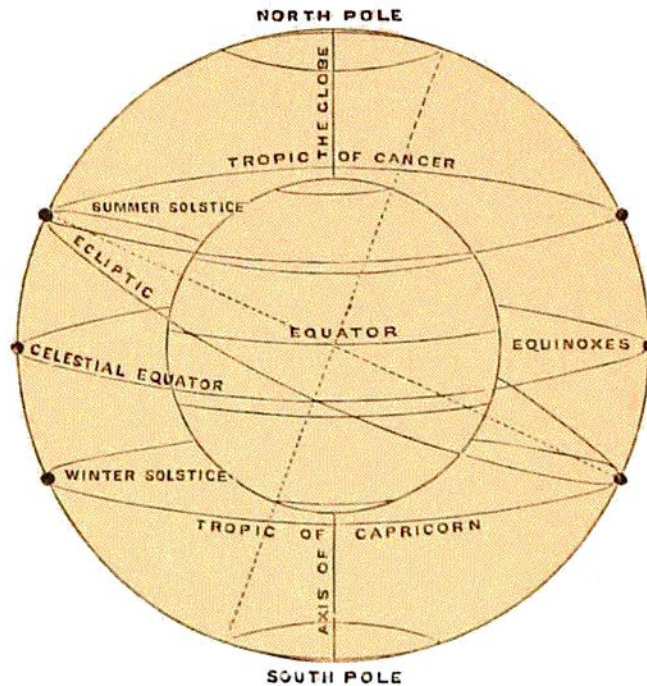


FIG. 22.—APPARENT COURSE OF THE SUN.

epoch of the solstices (when he touches one of the tropics), is found either in the sign of Cancer or that of Capricorn.

The Celestial Signs are twelve constellations, which as a whole have received the name of the *Zodiac*,\* and which the Sun appears to traverse successively, in consequence of the yearly motion of the Earth. In Figure 23 we show the names, † symbols, and corresponding months of the twelve signs.

In his apparent movement, then, the Sun travels in the midst of the heavenly constellations; he completes his pilgrimage in  $365\frac{1}{4}$

\* [The term ZODIAC is derived from the Greek ζῳδιακος (ζῷον, an animal), and was applied by the ancients to an imaginary belt stretched round the celestial sphere, which included the paths of the Sun and the then known planets, five in number. Its width was fixed at  $16^{\circ}$ . The planets since discovered are called *ultra-Zodiacal*, because their orbits are not comprehended within this narrow space.]

† The poet Ausonius enumerates them in the following Latin couplet:—

“Sunt, Aries, Taurus, Gemini, Cancer, Leo, Virgo.  
Libraque, Scorpius, Arcitenens, Caper, Amphora, Pisces.”