the Earth as seen in profile at the solstitial epochs. The circle of illumination is shown in both by a vertical line. In Figure 20 we

see an arc of a circle having for its centre the north pole, and touching the boundary of the shade; it circumscribes the region which, during the rotation of the Earth, remains





FIG. 20.—SUMMER SOLSTICE.

exposed to the solar rays; it is called the Arctic Circle (from the Greek $\ddot{a}\rho\kappa\tau\sigma\sigma$, the bear, a polar constellation). In Figure 21 the

same region is found entirely involved in shadow; wherein it continues for at least four-and-twenty hours, on the occurrence of the winter solstice. An analogous circle, with the



FIG. 21. -WINTER SOLSTICE.

south pole for its centre, is called the Antarctic (as if we said, the counter-arctic). It limits the region which remains obscured at the epoch of the summer solstice, and where daylight prevails for fully twenty-four hours at the solstice of winter.

The circles distinguished by the name of *Tropics* ("turningpoints" or "limits") have the noonday sun at the *Zenith*—that is, immediately above the head of their inhabitants, on the occurrence of a solstice; a phenomenon which, for the inhabitants of the equator, occurs at the equinoxes. The Tropics define the limits upon the Earth of those regions which receive the sun's vertical rays. The belt lying between them is known as the *Torrid Zone*, and is bounded

49