

in the sky than at any other moment of the twenty-four hours. At the same instant it is noon at all places due north or south of us. A line drawn from point to point due north and south would terminate at the poles, and is denominated a meridian, literally a mid-day line, for everywhere along that line it is mid-day at the same instant. So also it is one o'clock, three o'clock, nine o'clock or midnight simultaneously all along any one meridian. All clocks showing correct time are together from the north pole to the south pole on the same meridian.

The earth does not lie motionless basking in the sun. With an equable rotation that in a thousand years has not varied a minute, each meridian rolls eastward away from beneath the sun, causing the sun to seem to recede westward from us. In twenty-four hours the earth, relatively to the sun, completes one revolution. Consequently, after one day of twenty-four hours the meridian that is more directly presented to the sun will be again directly presented to the sun. If then twenty-four equidistant meridians were drawn upon the earth, each meridian following the other westward would be presented to the sun one hour later than the one preceding it. When it was noon on any meridian it would be one hour after noon, one o'clock, on the meridian next east of it, and one hour before noon, eleven o'clock, on the next meridian west of it. Going eastward the time would be one hour later, going westward one hour earlier at each of the twenty-four meridians. As the circumference of a circle is divided into 360° , the distance between each pair of twenty-four equidistant meridians is 15° .

The longitude of a place tells us how many degrees east or west of Greenwich it is. The longitude of Mount Etna is 15° E. That is a concise way of saying that Mount Etna is on a meridian which is 15° to the east of that which runs through Greenwich, a meridian that confronts the sun one hour before that on which Greenwich is situated. The time on the slope of Mount Etna is one hour ahead of Greenwich time. The longitude of Alexandria is very nearly 30° E. If this were its exact longitude the difference of longitude between it and Greenwich would be 30° , between it and Mount Etna 15° , and, correspondingly, its time would be two hours ahead of that of Greenwich and one hour ahead of that of Mount Etna. At seven