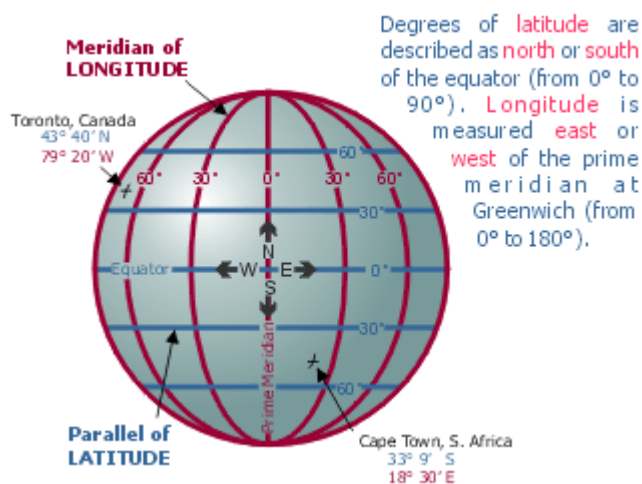a useful figure and can be used for calculating distances to any place. Bombay is 18.55°N; it is therefore 18.55*69 or 1280 miles from the equator.

Latitude and Longitude

8.2. Longitude

Longitude is an angular distance, measured in degrees along the equator east or west of the Prime (or First) Meridian. On the globe longitude is shown as a series of semi-circles that run from pole to pole passing through the equator. Such lines are also called meridians. Unlike the equator which is centrally placed between the poles, any meridian could have been taken to begin the numbering of longitude. It was finally decided in 1884, by international agreement, to choose as the zero meridian the one which passes through the Royal Astronomical Observatory at Greenwich, near London. This is the Prime Meridian (0°) from which all other meridians radiate eastwards and westwards up to 180°. Since the earth is spherical and has a circumference calculated at 25,000 miles, in liner distance each of the 360 degrees of longitude is 25,000/360 or 69.1 miles. As the parallels of latitude become shorter polewards, so the meridians of longitude, which converge at the poles, enclose a narrower space. The degree of longitude therefore decreases in length. It is longest at the equator where it measures 69.172 miles. At 25° it is 62.73 miles, at 45° it is 49 miles, at 75° 18 miles and at the pole 0 mile. There is so much difference in the length of degrees of longitude outside the tropics, that they are not used for calculating distances as in the case of latitude. But they have one very important function; they determine local time in relation to G.M.T or Greenwich Mean Time, which is sometimes referred to as World Time.

8.3. Longitude and Time

Local time: Since the Earth makes one complete revolution of 360° in one day or 24 hours, it passes through 15° in one hour or 1° in 4 minutes. The earth rotates from west to east, so every 15° we go eastward, local time is advanced by 1 hour. Conversely, if we go westwards, local time is retarded by 1 hour. We may thus conclude that places east of Greenwich see the dun earlier and gain time, whereas places west of Greenwich see the sun later and lose time. If we know G.M.T., to find local time, we merely have to add or subtract the difference in the number of hours from the given longitude, as illustrated below. A simple memory aid for this will be East-Gain-Add (E.G.A.) and West-Lose-Subtract (W.L.S.). You could coin your own rhymes for the abbreviations. Hence when it is noon, in London (Longitude 0°5W.), the local time for Chennai (80°E.) will be 5 hours 20 minutes ahead of London or 5.20 p.m. but the local time for New York (74°W.) will be 4 hours 56 minutes behind London or 7.04 a.m.