

Supposing a traveller to have entirely lost his reckoning, but to be furnished with the requisite instruments, viz : Sextant, Artificial Horizon, two Chronometers—one to show Greenwich, the other local time, Nautical Almanac, and set of Nautical Tables. He can proceed as follows :—

First, by means of a meridian altitude of the sun he could find his latitude approximately (not exactly, for not knowing Greenwich mean time he cannot be certain of the sun's declination.)

In the afternoon, by means of a measured altitude, he could determine the error of one of the chronometers which indicates local time. This also would be only approximate, since he uses an approximate value of the latitude, and is ignorant of Greenwich mean time.

If for any reason he cannot take the meridian altitude of the sun he can ascertain the error of the watch by means of equal altitudes. This again would only be an approximate value, since he does not know the rate of his watch. He might also use any two altitudes for the watch error and latitude.

By means of a Lunar Distance he can then determine Greenwich mean time.

Lastly, by repeating the observations, he can determine all the above quantities correctly.