

of the earth on which I have made these observations are curvilinear, and as other persons have observed the same appearances in distant places, there is some evidence that the earth has a convex surface." Thus far an inquisitive mind might proceed, without being able to determine whether the earth was a globular body, or an irregular mass with a convex surface. But let him be informed that a navigator, leaving some shore in one direction, has, by keeping the head of his vessel towards the same point of the compass, returned to it in an opposite direction, and he will no longer doubt that the earth is a spherical body.

To determine the precise form of the earth requires observations of a more accurate character, and more artificial means of inquiry are necessary. If the earth be a spherical body, we may draw a line round it in any direction, and by measuring it we might not only determine the precise form of the earth, but also its dimensions. How difficult soever this may appear, it has been done, and we have thus become acquainted with the form and dimensions of the earth. Those lines which are imagined to be drawn round the earth, passing through the poles, are called meridians; and if the earth were round, all these lines would be circles, and we might divide them into any number of parts, which would be equal to one another; but if the meridians be not exact circles, then the parts would differ in measurement the one from the other. Let us then divide a meridian into three hundred and sixty parts, that is, into degrees, and measure one of those at different places, and we find that the length of a degree is greatest near the pole, and least at the equator. The following table, given by Professor Airy in his paper on the Figure of the Earth, and by Sir John Herschel in his Treatise on Astronomy, will show the length of a meridional degree at different places, as calculated from the results of the most accurate experiments.

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