

CHAP. III.

On the general Form and Constitution of the Globe.

THERE are many points in the history of our globe, respecting which Geology and Astronomy mutually throw light on each other. If the variations of gravity on different parts of the surface, and the peculiarities of figure on which they in some measure depend, are subjects for the especial consideration of the Astronomer, it is the duty of Geology to investigate those circumstances in the history and condition of the earth with which they are connected.

Although, in a popular and general sense, the form of the earth is that of a globe, it has long since been established, by the measurement of degrees on different parts of its surface, that its figure is not spherical. These trials having shown that the meridional degrees increased in length from the equator towards the poles, it followed that the radius of curvature was less, or shorter, near the former than the latter, or that the earth formed an oblate spheroid, of which the polar axis was less than the equatorial.

Thus, that which had been previously suspected from mathematical considerations, became apparently proved by mathematical experiments; namely, that the form of the earth tended, at least, to that which would result from its fluidity at some period of its existence, combined with the rotatory motion of all its parts on the polar axis.

For this important fact, geology is indebted to