

is situated directly over the centre of the magnet it will be horizontal, having no tendency to incline either to one pole or the other. But, as it is removed from this point to either end, the inclination is observed; and when situated over the pole, it would, if uninfluenced by other forces, be quite vertical. The same appearances are observed on the surface of the earth, for it acts as though it were a magnet; and there is a line called the magnetic equator, on which the magnetic needle has no dip, and there are points in both hemispheres where it is vertical.

The magnetic equator is not an exact circle of the sphere, for although it does not recede from the terrestrial equator, north or south, more than 15° or 16° , yet it cuts the equator in three or more places. Captain Duperry crossed the magnetic equator several times during his voyage round the world, which was commenced in the year 1822 and completed in 1825. The results of his observations are given in the "Annales de Chimie et de Physique." The node of the magnetic equator, or that point where it crosses the equator of the earth, is near the Island of St. Thomas, about $3^{\circ} 20'$ to the east of the meridian of Paris. From this point it advances rapidly to the northeast, and crosses the continent of Africa. It then stretches onward, for a short distance, in a line almost parallel to the equator, but, gradually declining, passes through the south of Hindostan, touching the northern extremity of the Island of Ceylon, and forms an irregular line passing through Malacca, the north of the Island of Borneo, and to the south of the Carolines. At about 175° east of Paris it again crosses the equator, and makes but a small angle until it reaches about 100° west from Paris, when it takes an eccentric course through South America, having, in some places, a distance from it of 16° . It then passes, in an irregular line, through the Atlantic towards the Island of St. Thomas. There is, however, a singular circumstance which has been observed concerning its passage through the Pacific Ocean. In longitude $113^{\circ} 14'$ west, the magnetic equator crosses the equator of the earth, and in longitude $156^{\circ} 30'$ it has been traced at some distance to the south of the equator; but in the sea of China, in 113° east longitude, it is north of the equator, and, consequently, must have intersected it in some point between these two places. There are, then, at least three points