

ern coast of Africa, was $188\frac{1}{2}^{\circ}$ distant from the node in the South Sea, close to the little islands of Gilbert, nearly in the meridian of the Viti group. In the beginning of the present century, at an elevation of 11,936 feet above the level of the sea, I made an astronomical determination of the point ($7^{\circ} 1'$ south lat., $48^{\circ} 40'$ west long. from Paris), where, in the interior of the New Continent, the chain of the Andes is intersected by the magnetic equator between Quito and Lima. To the west of this point, the magnetic equator continues to traverse the South Sea in the southern hemisphere, at the same time slowly drawing near the terrestrial equator. It first passes into the northern hemisphere a little before it approaches the Indian Archipelago, just touches the southern points of Asia, and enters the African continent to the west of Socotora, almost in the Straits of Bab-el-Mandeb, where it is most distant from the terrestrial equator. After intersecting the unknown regions of the interior of Africa in a southwest direction, the magnetic equator re-enters the south tropical zone in the Gulf of Guinea, and retreats so far from the terrestrial equator that it touches the Brazilian coast near Os Ilheos, north of Porto Seguro, in 15° south lat. From thence to the elevated plateaux of the Cordilleras, between the silver mines of Micuipampa and Caxamarca, the ancient seat of the Incas, where I observed the inclination, the line traverses the whole of South America, which in these latitudes is as much a magnetic *terra incognita* as the interior of Africa.

The recent observations of Sabine* have shown that the node near the island of St. Thomas has moved 4° from east to west between 1825 and 1837. It would be extremely important to know whether the opposite pole, near the Gilbert Islands, in the South Sea, has approached the meridian of the Carolinas in a westerly direction. These general remarks will be sufficient to connect the different systems of isoclinic non-parallel lines with the great phenomenon of equilibrium which is manifested in the magnetic equator. It is no small advantage, in the exposition of the laws of terrestrial magnetism, that the magnetic equator (whose oscillatory change of form and whose nodal motion exercise an influence on the inclination of the needle in the remotest districts of the world, in consequence of the altered magnetic latitudes)† should traverse the

* See the remarkable chart of isoclinic lines in the Atlantic Ocean for the years 1825 and 1837, in Sabine's *Contributions to Terrestrial Magnetism*, 1840, p. 134.

† Humboldt, *Ueber die secularre Veränderung der Magnetischen In-*