

of direction extends in like manner to the chain of the Andes, which is divided into two parallel branches, affecting not only the littoral portions,* but even the eastern Cordilleras. In the latter, civilization had its earliest seat in the South American plateaux, where the small Alpine lake of Titicaca bathes the feet of the colossal mountains of Sorata and Illimani. Further to the south, from Valdivia and Chiloë (40° to 42° south latitude), through the Archipelago *de los Chonos* to *Terra del Fuego*, we find repeated that singular configuration of *fiords* (a blending of narrow and deeply-indented bays), which in the Northern hemisphere characterizes the western shores of Norway and Scotland.

These are the most general considerations suggested by the study of the upper surface of our planet with reference to the form of continents, and their expansion in a horizontal direction. We have collected facts and brought forward some analogies of configuration in distant parts of the earth, but we do not venture to regard them as fixed laws of form. When the traveler on the declivity of an active volcano, as, for instance, of Vesuvius, examines the frequent partial elevations by which portions of the soil are often permanently upheaved several feet above their former level, either immediately preceding or during the continuance of an eruption, thus forming roof-like or flattened summits, he is taught how accidental conditions in the expression of the force of subterranean vapors, and in the resistance to be overcome, may modify the form and direction of the elevated portions. In this manner, feeble perturbations in the equilibrium of the internal elastic forces of our planet may have inclined them more to its northern than to its southern direction, and caused the continent in the eastern part of the globe to present a broad mass, whose major axis is almost parallel with the equator, while in the western and more oceanic part the southern extremity is extremely narrow.

Very little can be empirically determined regarding the causal connection of the phenomena of the formation of continents, or of the analogies and contrasts presented by their

* Humboldt, in Poggendorf's *Annalen der Physik*, bd. xl., s. 171. On the remarkable fiord formation at the southeast end of America, see Darwin's Journal (*Narrative of the Voyages of the Adventure and Beagle*, vol. iii.), 1839, p. 266. The parallelism of the two mountain chains is maintained from 5° south to 5° north latitude. The change in the direction of the coast at Arica appears to be in consequence of the altered course of the fissure, above which the Cordillera of the Andes has been upheaved.