people Northern Africa would disappear, and the region would gradually become fitted for the reception of a population of species perfectly dissimilar in their forms, habits, and organization.

There are always some peculiar and characteristic features in the physical geography of each large division of the globe; and on these peculiarities the state of animal and vegetable life is dependent. If, therefore, we admit incessant fluctuations in the physical geography, we must, at the same time, concede the successive extinction of terrestrial and aquatic species to be part of the economy of our system. When some great class of *stations* is in excess in certain latitudes, as, for example, in wide savannahs, arid sands, lofty mountains, or inland seas, we find a corresponding development of species adapted for such circumstances. In North America, where there is a chain of vast inland lakes of fresh water, we find an extraordinary abundance and variety of aquatic birds, freshwater fish, testacea, and small amphibious reptiles, fitted for such a climate. The greater part of these would perish if the lakes were destroyed,—an event that might be brought about by some of the least of those important revolutions contemplated in geology. It might happen that no freshwater lakes of corresponding magnitude might then exist on the globe; or that, if they occurred elsewhere, they might be situated in New Holland, Southern Africa, Eastern Asia, or some region so distant as to be quite inaccessible to the North American species; or they might be situated within the tropics, in a climate uninhabitable by creatures fitted for a temperate zone; or, finally, we may presume that they would be pre-occupied by *indigenous* tribes.

A vivid description has been given by Mr. Darwin and Sir W. Parish of the great droughts which have sometimes visited the Pampas of South America, for three or four years in succession, during which an incredible number of wild animals, cattle, horses, and birds, have perished from want of food and water. Several hundred thousand animals were drowned in the Parana alone, having rushed into the river to drink, and being too much exhausted by hunger to escape.* Such droughts are often attended in South America and other hot climates by wide-spreading conflagrations, caused by lightning, which fires the dried grass and brushwood. Thus quadrupeds, birds, insects, and other creatures, are destroyed by myriads. How many species, both of the animal and vegetable world, which once flourished in the country between the valley of the Parana and the Straits of Magellan, may not have been annihilated, since the first drought or first conflagration began!

To pursue this train of reasoning farther is unnecessary; the geologist has only to reflect on what has been said of the habitations and stations of organic beings in general, and to consider them in relation to those effects which were contemplated in the second book, as resulting from the igneous and aqueous causes now in action, and

* Darwin's Journal, p. 156., 2d ed. p. 133. Sir W. Parish, Buenos Ayres, &c. pp. 371. and 151.