

When the absorption of the solar rays was in no region impeded, even in winter, by a coat of snow, the mean heat of the earth's crust would augment to considerable depths, and springs, which we know to be in general an index of the mean temperature of the climate, would be warmer in all latitudes. The waters of lakes, therefore, and rivers, would be much hotter in winter, and would be never chilled in summer by melted snow and ice. A remarkable uniformity of climate would prevail amid the archipelagos of the temperate and polar oceans, where the tepid waters of equatorial currents would freely circulate. The general humidity of the atmosphere would far exceed that of the present period, for increased heat would promote evaporation in all parts of the globe. The winds would be first heated in their passage over the tropical plains, and would then gather moisture from the surface of the deep, till, charged with vapour, they arrived at extreme northern and southern regions, and there encountering a cooler atmosphere, discharged their burden in warm rain. If, during the long night of a polar winter, the snows should whiten the summits of some arctic islands, they would be dissolved as rapidly by the returning sun, as are the snows of Etna by the blasts of the sirocco.

We learn from those who have studied the geographical distribution of plants, that in very low latitudes, at present, the vegetation of small islands remote from continents has a peculiar character; the ferns and allied families, in particular, bearing a great proportion to the total number of other plants. Other circumstances being the same, the more remote the isles are from the continents, the greater does this proportion become. Thus, in the continent of India, and the tropical parts of New Holland, the proportion of ferns to the phænogamous plants is only as one to twenty-six; whereas, in the South-Sea Islands, it is as one to four, or even as one to three.*

We might expect, therefore, in the summer of the "great year," or cycle of climate, that there would be a predominance of tree-ferns and plants allied to genera now called tropical, in the islands of the wide ocean, while many forms now confined to arctic and temperate regions, or only found near the equator on the summit of the loftiest mountains, would almost disappear from the earth. Then might those genera of animals return, of which the memorials are preserved in the ancient rocks of our continents. The pterodactyle might flit again through the air, the huge iguanodon reappear in the woods, and the ichthyosaurs swarm once more in the sea. Coral reefs might be prolonged again beyond the arctic circle, where the whale and the narwal now abound; and droves of turtles might begin again to wander through regions now tenanted by the walrus and the seal.

But not to indulge too far in these speculations, I may observe, in conclusion, that however great, during the lapse of ages, may be the vicissitudes of temperature in every zone, it accords with this theory

* Ad. Brongniart, *Consid. Générales sur la Nat. de la Végét. &c.*, Ann. des Sciences Nat., Nov. 1828.