

in tropical America were to allow the equatorial current to pass through into the Pacific. The effect would at once be to reduce the temperature of Norway and Britain to that of Greenland and Labrador at present, while the latter countries would themselves become colder. The northern ice, drifting down into the Atlantic, would not, as now, be melted rapidly by the warm water which it meets in the Gulf Stream. Much larger quantities of it would remain undissolved in summer, and thus an accumulation of permanent ice would take place, along the American coast at first, but probably at length even on the European side. This would still further chill the atmosphere, glaciers would be established on all the mountains of temperate Europe and America, the summer would be kept cold by melting ice and snow, and at length all eastern America and Europe might become uninhabitable, except by Arctic animals and plants, as far south as perhaps 40° of north latitude. This would be simply a return of the glacial age. I have assumed only one geographical change; but other and more complex changes of subsidence and elevation might take place, with effects on climate still more decisive.¹

We may suppose an opposite case. The high plateau of Greenland might subside, or be reduced in height, and the opening of Baffin's Bay might be closed. At the same time the interior plain of America might be depressed, so that, as we know to have been the case in the Cretaceous period, the warm waters of the Mexican gulf might circulate as far north as the basins of the present great American lakes. In these circumstances there would be an immense diminution of the sources of floating ice, and a correspondingly vast increase in the surface of warm water. The effects would be to enable a

¹ According to Bonney, the west coast of Wales is about 12° above the average for its latitude, and if reduced to 12° below the average, its mountains would have large glaciers. So near is England even now to a glacial age.