

to preserve the general level of the ocean's surface. Ever, too, since winter took its place among the seasons, there must have been an arctic current. The ice and snows of the higher latitudes, that accumulated during the winter, must have again melted in spring and early summer; and a current must in consequence have set in as the seasons of these came on, just as we now see such a current setting in in these seasons in both hemispheres, which bears the ice of the antarctic circle far towards the north, and the ice of the arctic circle far towards the south. The point at which, in the existing state of things, the gulf stream and the arctic current come in contact is that occupied by the great bank of Newfoundland; and by some the very existence of the bank has been attributed to their junction, and to the vast accumulation of gravel and stone cast down year after year from the drift ice to the bottom, where these two great tides meet and jostle. Be this as it may, the number of boulders and the quantity of pebbles and gravel strewed over the bottom of the western portions of the Atlantic, in the line of the arctic current, from the confines of Baffin's Bay up to the forty-fifth degree of north latitude, must be altogether enormous. Captain Scoresby counted no fewer than five hundred icebergs setting out on their southern voyage on the arctic current at one time. And wherever there are shallows on which these vast masses catch the bottom, or grate over it,—shallows of from thirty to a hundred fathoms water,—we may safely premise that at the present time there is a boulder-clay in the course of formation, with a scratched and polished surface of rock lying beneath it, and containing numerous pebbles and boulders striated longitudinally. That the point where the gulf and arctic currents come in contact should now lie so far to the west, is a consequence of the present disposition of the arctic and western continents,—perhaps also of the present position of the magnetic pole. A different arrangement and position would give a different