In the theory which I formerly advanced, jointly with Mr. Darwin,* it was suggested that the erratics may have been transferred by floating ice to the Jura, at the time when the greater part of that chain, and the whole of the Swiss valley to the south, was under the sea. At that period the Alps may have attained only half their present altitude, and may yet have constituted a chain as lofty as the Chilian Andes, which, in a latitude corresponding to Switzerland, now send down glaciers to the head of every sound, from which icebergs, covered with blocks of granite, are floated seaward.† Opposite that part of Chili where the glaciers abound is situated the island of Chiloe, 100 miles in length, with a breadth of 30 miles, running parallel to the continent. The channel which separates it from the main land is of considerable depth, and 25 miles broad. Parts of its surface, like the adjacent coast of Chili, are overspread with recent marine shells, showing an upheaval of the land during a very modern period; and beneath these shells is a boulder deposit, in which Mr. Darwin found large travelled blocks. One group of fragments were of granite, which had evidently come from the Andes, while in another place angular blocks of syenite were met with. Their arrangement may have been due to successive crops of icebergs issuing from different sounds, to the heads of which glaciers descend from the Andes. These icebergs, taking their departure year after year from distinct points, may have been stranded repeatedly, in equally distinct groups, in bays or creeks of Chiloe, and on islets off the coast, so that the stones transported by them might hereafter appear, some on hills and others in valleys, should that country and the bed of the adjacent sea be ever upheaved. A continuance in future of the elevatory movement, in the region of the Andes and of Chiloe, might cause the former chain to rival the Alps in altitude, and give to Chiloe a height equal to that of the Jura. The same rise might dry up the channel between Chiloe and the main land, so that it would then represent the great valley of Switzerland. In the course of these changes, all parts of Chiloe and the intervening strait, having in their turn been a sea-shore, may have been polished and scratched by coast-ice, and by innumerable icebergs running aground and grating on the bottom.

If we apply this hypothesis to Switzerland and the Jura, we are by no means precluded from the supposition that, in proportion as the land acquired additional height, and the bed of the sea emerged, the Jura itself may have had its glaciers; and those existing in the Alps, which had at first extended to the sea, may, during some part of the period of upheaval, have been prolonged much farther into the valleys than now. At a later period, when the climate grew milder, these glaciers may have entirely disappeared from the Jura, and may have receded in the Alps to their present limits, leaving behind them in both districts those moraines which now attest the greater extension of the ice in former times.‡

* See Elements of Geology, 2d ed. 1841. † Darwin's Journal, p. 283.

‡ More recently Sir R. Murchison, having revisited the Alps, has declared his