

with flints and the Maestricht chalk, or to the time of the latter formation, or to the eocene, or miocene, or older pliocene eras, even the last of them, long prior to the commencement of the glacial epoch. Hence we may be permitted to suspect that in some other regions, where we have no such means at our command for testing the exact date of certain movements, the time of their occurrence may be far more modern than we usually suppose. In this way some apparent anomalies in the position of erratic blocks, seen occasionally at great heights above the parent rocks from which they have been detached, might be explained, as well as the irregular direction of certain glacial furrows like those described by Professor Keilhau and Mr. Hörbye on the mountains of the Dovrefjeld in lat. 62° N., where the striation and friction is said to be independent of the present shape and slope of the mountains.* Although even in such cases it remains to be proved whether a general crust of continental ice, like that of Greenland, described by Rink (see above, p. 235), would not account for the deviation of the furrows and striæ from the normal directions which they ought to have followed had they been due to separate glaciers filling the existing valleys.

It appears that in general the upward movements in Scandinavia, which have raised sea-beaches containing marine shells of recent species to the height of several hundred feet, have been tolerably uniform over very wide spaces; yet a remarkable exception to this rule was observed by M. Bravais, at Altenfiord, in Finmark, between lat. 70° and 71° N. An ancient water-level, indicated by a sandy deposit forming a terrace, and by marks of the erosion of the waves, can be followed for thirty miles from south to north along the borders of a fiord rising gradually from a height of eighty-five feet to an elevation of 220 feet above the sea, or at the rate of about four feet in a mile.†

* Observations sur les Phénomènes
'Érosion en Norwège, 1857.

† Proceedings of the Geological
Society, 1845, vol. iv. p. 94.