

risen as an insular tract above the ice-sheet; for the boulder-clay advances up the valleys that indent the northern face of the Jurassic table-land, but ceases about a height of 800 feet, and the table-land itself is entirely free of drift, but its rocks are much decayed at the surface.

Scandinavia.²³—The order of Pleistocene phenomena is generally the same here as in Britain. The surface of the country has been everywhere intensely glaciated, and, as already stated, the ice-striæ and transported stones show that the great ice-sheet probably exceeded 3000 feet in thickness, for the hills are ice-worn for more than 5000 feet above sea-level, and that moving outward from the axis of the peninsula it passed down the western fjords into the Atlantic, and southward and southeastward into the Baltic. The subsequent partial submergence of the country is proved by numerous shell-bearing clays. The fossils in the higher littoral shell-beds indicate a more Arctic climate; they include, as in the Scottish glacial clays, great numbers of thick-shelled varieties of *Mya truncata* and *Saxicava rugosa*; also *Balanus porcatus*, *B. crenatus*, *Mytilus edulis*, *Pecten islandicus*, *Buccinum groenlandicum*, *Trophon scalariformis* (*T. clathratus*), *Natica clausa*. The clays of deeper water contain *Leda lanceolata*, *Yoldia arctica*, *Y. intermedia*, *Y. pygmæa*, *Dentalium abyssorum*, etc. The fossiliferous deposits of lower levels point to a climate more nearly approaching the present, for the more thoroughly Arctic species disappear, and the thick-shelled varieties of *Mya* and *Saxicava* pass into the usual thin-shelled kinds. The remarkable terraces that fringe the coast of Norway from the southern or Christiania region to the North Cape mark pauses in the re-elevation of the land (Fig. 78). The eastern plains of Sweden and the lower grounds of southern Norway are covered with great accumulations of sand and gravel (oesar) like the kames of Scotland and the eskers of Ireland.

Germany.²⁴—Since the year 1878 an active exploration of

²³ See G. de Geer, *Zeitsch. Deutsch. Geol. Ges.* xxxvii. 1885, p. 177.

²⁴ There is now an ample though recent literature devoted to the glacial phenomena of Germany. The volumes of the *Zeitsch. Deutsch. Geol. Gesellschaft* for 1879 and subsequent years contain papers by G. Berendt, H. Credner, A. Helland, A. Penck, R. Richter, F. Noetling, F. Wahuschaffe, F. E. Geinitz, F. Schmidt, etc. See also the *Jahrb. Preuss. Geol. Landesanstalt* for 1880 and following years; the *Maps and Explanations* of the same Survey for the neighborhood of Berlin, 27 sheets, and the memoirs of the Geological Survey of Saxony.