

down from Mont Cenis, and had travelled as far as Avigliana; also masses of serpentine, brought from less remote points, some of them apparently exceeding in dimensions the largest erratics of Switzerland. I afterwards visited, in company with Signori Gastaldi and Michelotti, a still grander display of the work of a colossal glacier of the olden time, twenty miles NE. of Turin, the moraine of which descended from the two highest of the Alps, Mont Blanc and Monte Rosa, and after passing through the valley of Aosta, issued from a narrow defile above Ivrea (see map, fig. 43). From this vomitory, the old glacier poured into the plains of the Po that wonderful accumulation of mud, gravel, boulders, and large erratics, which extend for fifteen miles from above Ivrea to below Caluso, and which, when seen in profile from Turin, have the aspect of a chain of hills. In many countries, indeed, they might rank as an important range of hills, for where they join the mountains they are more than 1,500 feet high, and retain more than half that height for a great part of their course, rising very abruptly from the plain, often with a slope of from 20° to 30° . This glacial drift reposes near the mountains on ancient metamorphic rocks, and farther from them on marine pliocene strata. Portions of the ridges of till and stratified matter have been cut up into mounds and hillocks by the action of the river, the Dora Baltea, and there are numerous lakes, so that the entire moraine much resembles, except in its greater height and width, the line of glacial drift of Perthshire and Forfarshire, before described, p. 248. Its complicated structure can only be explained by supposing that the ancient glacier advanced and retreated several times, and left large lateral moraines, the more modern mounds within the limits of the older ones, and masses of till thrown down upon the re-arranged and stratified materials of the first set of moraines. Such appearances accord well with the hypothesis of the