

late Mr. Trimmer, the glacial drift in the cliffs at Lowestoff consists of two divisions, the lower of which abounds in the Scandinavian blocks, supposed to have come from the north-east; while the upper, probably brought by a current from the north-west, contains chiefly fragments of oolitic rocks, more rolled than those of the lower deposit. The united thickness of the two divisions without reckoning some interposed laminated beds, is eighty feet, but it probably exceeds one hundred feet near Happisburgh.* Although these subdivisions of the drift may be only of local importance, they help to show the changes of currents and other conditions, and the great lapse of time which the accumulation of so varied a series of deposits must have required.

The lowest part of the glacial till, resting on the laminated clays before mentioned, is very even and regular, while its upper surface is remarkable for the unevenness of its outline, owing partly, in all likelihood, to denudation, but still more to other causes presently to be discussed.

The overlying strata of sand and gravel, No. 5, p. 213, often display a most singular derangement in their stratification, which in many places seems to have a very intimate relation to the irregularities of outline in the subjacent *till*. There are some cases, however, where the upper strata are much bent, while the lower beds of the same series have continued horizontal. Thus the annexed section (fig. 29) represents a cliff about fifty feet high, at the bottom of which is *till*, or unstratified clay, containing boulders, having an even horizontal surface, on which repose conformably beds of laminated clay and sand about five feet thick, which, in their turn, are succeeded by vertical, bent, and contorted layers of sand and loam twenty feet thick, the whole being covered by flint gravel. The curves of the variously coloured beds of

* Quarterly Geological Journal, vol. vii. p. 21.