http://www.geology.19thcenturyscience.org/books/1850-Lyell-Principles/README.htm

published.* This iceberg, one of many observed at sea on the same day, was between 250 and 300 feet high, and was no less than 1400 miles from any certainly known land. It is exceedingly improbable, says Mr. Darwin, in his notice on this phenomenon, that any land will hereafter be discovered within 100 miles of the spot, and it must be remembered that the erratic was still firmly fixed in ice, and may have sailed for many a league farther before it dropped to the bottom.†

Captain Sir James Ross, in his antarctic voyage, in 1841–2 and 3, saw multitudes of icebergs transporting stones and rocks of various sizes, with frozen mud, in high southern latitudes. His companion, Dr. J. Hooker, informs me that he came to the conclusion, that most of the southern icebergs have stones in them, although they are usually concealed from view by the quantity of snow which falls upon them.

In the account given by Messrs. Dease and Simpson, of their recent arctic discoveries, we learn that in lat. 71° N., long. 156° W., they found "a long low spit, named Point Barrow, composed of gravel and coarse sand, in some parts more than a quarter of a mile broad, which the pressure of the ice had forced up into numerous mounds, that, viewed from a distance, assumed the appearance of huge boulder rocks." ‡

This fact is important, as showing how masses of drift ice, when stranding on submarine banks, may exert a lateral pressure capable of bending and dislocating any yielding strata of gravel, sand, or mud. The banks on which icebergs occasionally run aground between Baffin's Bay and Newfoundland, are many hundred feet under water, and the force with which they are struck will depend not so much on the velocity as the momentum of the floating ice-islands. The same berg is often carried away by a change of wind, and then driven back again upon the same bank, or it is made to rise and fall by the waves of the ocean, so that it may alternately strike the bottom with its whole weight, and then be lifted up again, until it has deranged the superficial beds over a wide area. In this manner the geologist may account, perhaps, for the circumstance that in Scandinavia, Scotland, and other countries where erratics are met with, the beds of sand, loam, and gravel are often vertical, bent, and contorted into the most complicated folds, while the underlying strata, although composed of equally pliant materials, are horizontal. But some of these curvatures of loose strata may also have been due to repeated alternations of layers of gravel and sand, ice and snow, the melting of the latter having caused the intercalated beds of indestructible matter to assume their present anomalous position.

There can be little doubt that icebergs must often break off the peaks and projecting points of submarine mountains, and must grate upon and polish their surface, furrowing or scratching them in pre-

* Journ. of Roy. Geograph. Soc. vol. ix. p. 526.

† Ibid. vol. ix. p. 529.

‡ Ibid. vol. viii. p. 221.