

a frozen under-soil within 360 miles of the forest-clad islands near Cape Horn, where, as far as the *bulk* of vegetation is concerned, any number of great quadrupeds might be supported. The perfect preservation of the carcasses of the Siberian elephants and rhinoceroses is certainly one of the most wonderful facts in geology; but independently of the imagined difficulty of supplying them with food from the adjoining countries, the whole case is not, I think, so perplexing as it has generally been considered. The plains of Siberia, like those of the Pampas, appear to have been formed under the sea, into which rivers brought down the bodies of many animals; of the greater number of these, only the skeletons have been preserved, but of others the perfect carcass. Now it is known that in the shallow sea on the arctic coast of America the bottom freezes,¹ and does not thaw in spring so soon as the surface of the land; moreover, at greater depths, where the bottom of the sea does not freeze, the mud a few feet beneath the top layer might remain even in summer below 32°, as is the case on the land with the soil at the depth of a few feet. At still greater depths, the temperature of the mud and water would probably not be low enough to preserve the flesh; and hence, carcasses drifted beyond the shallow parts near an arctic coast would have only their skeletons preserved: now in the extreme northern parts of Siberia bones are infinitely numerous, so that even islets are said to be almost composed of them;² and those islets lie no less than ten degrees of latitude north of the place where Pallas found the frozen rhinoceros. On the other hand, a carcass washed by a flood into a shallow part of the Arctic Sea would be preserved for an indefinite period, if it were soon afterward covered with mud sufficiently thick to prevent the heat of the summer-water penetrating to it; and if, when the sea-bottom was upraised into land, the covering was sufficiently thick to

¹ Messrs. Dease and Simpson, in *Geograph. Journ.*, vol. viii. pp. 218 and 220.

² Cuvier (*Ossemens Fossiles*, tom. i. p. 151), from Billings's *Voyage*.