ing ice, on the contrary, being carried by constant currents and over comparatively flat surfaces, must striate and grind more regularly over large areas, and with less reference to local inequalities of surface.

9. The direction of the striæ and grooves produced by glaciers depends on the direction of valleys. That of floating ice, on the contrary, depends upon the direction of marine currents, which is not determined by the outline of the surface, but is influenced by the large and wide depressions of the sea bottom.

10. When subsidence of the land is in progress, floating ice may carry boulders from lower to higher levels. Glaciers cannot do this under any circumstances, though in their progress they may leave blocks perched on the tops of peaks and ridges.

I believe that in all these points of difference the boulder clay and drift on the lower lands of Canada and other parts of North America, correspond rather with the action of floating ice than of land ice; though certainly with glaciers on such land as existed at the different stages of the submergence, and these glaciers drifting stones and earthy matter in different directions from higher land toward the sea. More especially is this the case in the character of the striated surfaces, the bedded distribution of the deposits, the transport of material up the natural slope, the presence of marine shells, and the mechanical and chemical characters of the boulder clay. In short, those who regard the Canadian boulder clay as a glacier deposit, can only do so by overlooking essential points of difference between it and modern accumulations of this kind.

I would wish it here to be distinctly understood, that I do not doubt that at the time of the greatest Pleistocene submergence of Eastern America, at which time I believe the greater part of the boulder clay was formed, and the more important striation effected, the higher hills then standing as islands would