

exemption from glaciers is due to what may be termed exceptional and accidental geographical conditions ; more especially to the distribution of the waters of the Gulf Stream, which might be changed by a comparatively small subsidence in Central America. To assume the former existence of glaciers in a country in north latitude 56° , and with its highest hills, under the present exceptionally favourable conditions, snow-capped during most of the year, is a very different thing from assuming a covering of continental ice over wide plains more than ten degrees farther south, and in which, even under very unfavourable geographical accidents, no snow can endure the summer sun, even in mountains several thousand feet high. Were the plains of North America submerged and invaded by the cold arctic currents, the Gulf Stream being at the same time turned into the Pacific, the temperature of the remaining North American land would be greatly diminished ; but under these circumstances the climate of Scotland would necessarily be reduced to the same condition with that of South Greenland or Northern Labrador. As we know such a submergence of America to have occurred in the Pleistocene period, it does not seem necessary to have recourse to any other cause for either side of the Atlantic. It would, however, be a very interesting point to determine, whether in the Pleistocene period the greatest submergence of America coincided with the greatest submergence of Europe, or otherwise. It is quite possible that more accurate information on this point might remove some present difficulties. I think it much to be desired that the many able observers now engaged on the Pleistocene of Europe, would at least keep before their minds the probable effects of the geographical conditions above referred to, and inquire whether a due consideration of these would not allow them to dispense altogether with the somewhat extravagant theories of glaciation now agitated.

The preceding pages give the substance of my conclusions