CANADIAN PLEISTOCENE.

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REFERENCE is sometimes made, in the course of the active discussion of the Glacial are in the Grounder of the active to the Pleistocene of Canada, a country which, perhaps, as much as any other, in its great extent from the Atlantic to the Pacific, and from latitude 45° to the Arctic Sea, affords opportunities for the study of the deposits of this period. It has occurred to me, in connexion with this, that it might be useful to your readers to present to them a short summary of Canadian facts, as I think ! have established them in publications on this subject, which are, perhaps, better known in this country than in England.

In the St. Lawrence Valley, which may be regarded as a typical region, these deposits may be tabulated as follows, in ascending order : 1-

- (c) Boulder-elay or Till; hard elay, or unstratified sand, with boulders, local and travelled, and stones often striated } and polished.
- (d) Lower Leda clay; fine clay, often laminated, and with a few large travelled boulders, probably equivalent to Erie elav² of inland districts.
- (e) Upper Leda clay, and probably San-geen clay² of inland districts; clay and sandy elay, in the Lower St. Lawrence, with numerous marine shells.
- (f) Saxieava sand and gravel, often with numerous travelled boulders (Upper Boulder deposit), probably the same with Algoma sand, etc., of the West.
- (g) Post-Glaeial deposits, river alluvia and) gravels, Peaty deposits, Lake bottoms, etc.

These represent land surfaces and sea (b) Lower stratified sands and gravels and coast areas immediately anterior to (Syrtensian deposits of Matthew). The Lower St. Lawrence region holds

a few marine shells of Arctic species. Farther inland is non-fossiliferous, but has usually the ehemical characters of a marine deposit.

Holds Leda (Portlandia) arctica, and sometimes Tellina groenlandica; and seems to have been deposited in very cold and ice-laden water.

Holds in Eastern Canada a marine fauna identical with that of the northern part of the Gulf of St. Lawrence at present; and locally affords remains of a boreal flora.

Shallow-water fauna of boreal charaeter, more especially Saxicava rugosa and its varieties. Bones of Whales, etc.

Remains of Mastodon and Elephas, modern fresh-water shells.

The Lower Boulder-clay (c) is often a true and very hard Till, resting on intensely glaciated rock-surfaces, and filled with stones and boulders. Where very thick, it can be seen to have a rude stratification. Even when destitute of marine fossils, it shows its

¹ Supplement to Acadian Geology, 1878. Notes on Post-Pliceene of Canada, ² Geology of Canada, 1863. Canadian Naturalist, vol. vi. 1871.