

Arctic climate, implying perhaps only a long recession of the ice, not its complete removal. The upper part, consisting of cross-bedded sand and clayey sand, seems quite widespread, for similar beds lying between the rolling surface of till and a lower sheet of till have been found on a branch of the Don seven miles north of the city, at Pickering twenty miles northeast, and on the lake shore near Newcastle forty miles to the east. It may be that fossils giving a hint as to the climate in this inter-glacial period will be found at some time. The tooth of a mammoth was found last summer on the Don eight miles north of the city at a point where the stream flows over the middle till and cuts away banks showing stratified sand and in some cases the upper till also, but the fossil may be post-glacial rather than inter-glacial in age. The same holds of two mastodon teeth found several years ago, one on the Don, the other in a sand pit two or three miles east of the city.

If Professor Chamberlin is correct in assigning the fossiliferous beds of Toronto and Scarboro' to the interval between the Iowan and Wisconsin ice ages;¹ then the upper stratified beds imply a still later ice age, separated probably by a shorter and less genial inter-glacial time than the former one. It is however possible, as suggested by Professor Chamberlin, for the beetle-bearing beds of Scarboro' in case they should prove to belong to a lower horizon than the Don beds, that the fossiliferous beds near Toronto are of Aftonian age, *i. e.*, belong between the Kansan and Iowan sheets of till; and that the upper beds represent the interval between the Iowan and Wisconsin ice sheets. The former supposition seems to me the more probable, since there is some likelihood that the mild morainic sheet forming the Davenport ridge and upper Scarboro' Heights runs out in the neighborhood of Toronto, and hence cannot be continuous with the Wisconsin sheet to the southwest. Until the till sheet lying to the north and east of Toronto has its western boundaries traced this point cannot be settled.

A long halt in the retreat of the last glacier, if not a recru-

¹ JOURNAL GEOLOGY, Vol. III., No. 3, p. 273, etc.