

land molluscs whose shells have been found in the beds containing the plants, and which are species still occurring in Canada, perfectly coincide.

The climate of that portion of Canada above water at the time when these plants were imbedded may safely be assumed to have been colder in summer than at present, to an extent equal to about  $5^{\circ}$  of latitude, and this refrigeration may be assumed to correspond with the requirements of the actual geographical changes implied. In other words, if Canada was submerged until the Ottawa valley was converted into an estuary inhabited by species of *Leda*, and frequented by capelin, the diminution of the summer heat consequent on such depression would be precisely suitable to the plants occurring in these deposits, without assuming any other cause of change of climate.

I have arranged elsewhere the Post-pliocene deposits of the central part of Canada, as consisting of, in ascending order: (1) The boulder clay; (2) a deep-water deposit, the Leda clay; and (3) a shallow-water deposit, the Saxicava sand. But, although I have placed the boulder clay in the lowest position, it must be observed that I do not regard this as a continuous layer of equal age in all places. On the contrary, though locally, as at Montreal, under the Leda clay, it is in other places and at other levels contemporaneous with or newer than that deposit, which itself also locally contains boulders.

At Green's Creek the plant-bearing nodules occur in the lower part of the Leda clay, which contains a few boulders, and is apparently in places overlaid by large boulders, while no distinct boulder clay underlies it. The circumstances which accumulated the thick bed of boulder clay near Montreal were probably absent in the Ottawa valley. In any case we must regard the deposits of Green's Creek as coeval with the Leda clay of Montreal, and with the period of the greatest abundance of *Leda*