

CLASSIFICATION OF ICE SHEETS AND DRIFT DEPOSITS.

The direction of at least the latest ice movements from the three centres described, and the southern boundaries of the ice sheet are now well known, and in most of the northern United States the drift deposits have been elaborately mapped or are now being studied by competent pleistocene geologists. In Canada, though much has been done in acquiring a general knowledge of the drift, very little detailed work has been done. On this account the general classification of the North American drift and of the ice sheets which were associated with its formation is much more completely worked out for the United States than for Canada. There are also special reasons why the relationships of the successive ice sheets and their drift deposits should be better known in the United States than in eastern Canada. The successive ice advances reached to different distances from the central gathering-ground of névé, and their boulder clays and moraines can often be differentiated at the margins by differences in weathering or in composition. It is found for instance, that the Kansas drift sheet is the most extensive and also in most places the oldest occurring in the States of the Mississippi valley, and that it has no marked terminal moraine.¹ (See map by Chamberlain, p. 727. *The Great Ice Age*, Dr. James Geikie). Its till is greatly oxidized and weathered, with boulders crumbling to pieces. Followed north it runs beneath a later and weathered boulder clay. In similar ways other, later, till sheets can be distinguished, and between each pair are found interglacial soils or peat beds or stratified gravels, showing a change of climate. The series of glacial and interglacial formations in the Mississippi basin has been given by Prof. Chamberlain as follows:

¹ Jour. Geol., 1896, p. 874.