

which, till very recently, has been overlooked. It has been well understood that the Atlantic ameliorates the climate of Western Europe, and the Pacific that of Western America. I have had occasion to ascertain that a similar influence is exerted by the great lakes, and to an extent which is far more than proportional to their volume, as compared with one of the oceans. I have investigated the climate and productions of the belt along the eastern side of Lake Michigan, from St. Joseph to Mackinac, and especially in the "Grand Traverse Region," where the bays penetrate far inland, and thus augment the climatic influence of the water. In the Grand Traverse region the thermometer never sinks more than fourteen degrees below zero, and hence none of the more delicate fruit-trees ever suffer injury from the severity of the winter. Autumnal frosts are delayed till late in October, and hence the season is sufficiently long for the ripening of peaches and grapes. Snow falls in November or December, before severe freezing weather arrives, and hence the ground is never frozen, and tender roots stand out through the winter. In extreme winter weather the eastern shore of the lake is from fifteen to twenty degrees warmer than the immediate western shore. But the western shore, as that industrious physiologist and archæologist, Dr. I. A. Lapham, has shown, is sensibly milder than the interior of Wisconsin, so that the ameliorating influence of the lake upon the climate of Michigan becomes strikingly manifest. No Northern state can compete with Michigan in the production of fruits. This fact, to a great extent, is owing to its environment by the great lakes. The western slope of the state is most favorably circumstanced in this respect.

Lake Michigan is a body of water three hundred miles long, sixty miles wide, and eight hundred feet deep. The bottom is warmed by the internal fires of the earth. The