

stretching southward and westward over a large part of the state of Illinois.

What hemmed in this broad expanse of water on the south? This interesting question has not been completely answered. We know that in southern Illinois are the remains of an ancient barrier which crossed the Mississippi, and was worn down for the passage of the great river. The barrier is a prolongation of the Ozark range, from Missouri. The gap cut through is at Grand Tower. Perhaps here was the barrier which held the waters back at the west, until the Mississippi gradually sawed the notch which drained the inland sea. At the east, however, we know no barrier adequate to hold the lakes at the level of the 220 feet terrace of Lake Erie. The high flood of the lakes must have been 182 feet higher than the escarpment or wall of rock back of Lewiston, through which the Niagara river has cut its gorge. Undoubtedly, this escarpment, which runs east nearly parallel with the shore of Lake Ontario, was formerly much higher than at present; but we have no evidence that it stood 190 feet higher than in our time.

The Lewiston escarpment is at present 38 feet above Lake Erie, and could have dammed the lake to that height, at any time before the Niagara gorge was begun. The water, setting back to the site of Chicago, would have buried it 22 feet deep. Even this would overflow the present southern barrier of Lake Michigan, and inundate the prairie region of Illinois. Thus, the existence of a terrace, but 38 feet above Lake Erie would indicate that the great lakes once flooded the greater part of the state of Illinois. Now, if we examine the nature of the prairie deposit, it presents every indication of formation in the bottom of a lake. Here is the stratified arrangement; here are the clay and marls, and here are even the shells of the molluscs which dwelt in the water. These facts must be borne in mind.

The high water of the Great Lakes has occurred since the Drift was deposited—since the latest semi-stratified Drift was laid down. The lake terraces rest on the Drift. All the