

SPY RUN AND POINSETT LAKE BOTTOMS*.

BY J. A. PRICE AND ALBERT SHAAF.

Spy Run and Poinsett Lake are located near Fort Wayne, Indiana, and to understand their history a knowledge of the region about Fort Wayne is necessary. This region is situated in that portion of the State which was formerly covered by the Erie ice-lobe. At different periods in its recession the end of the Erie ice-lobe was stationary, for a long time depositing large terminal moraines. Four of such moraines were thus formed, upon one of which, the first Erie moraine, Fort Wayne is located.

The territory in question lies on the first Erie moraine, a full description of which may be found in the Sixteenth, Seventeenth and Eighteenth Annual Reports of the State Geologist, and in Charles Dryer's "Studies of Indiana Geography." This moraine, a massive, well defined ridge with a hommocky surface, enters the State at the southeast corner of Adams County and follows the Wabash River to the northwest corner of Wells County, running parallel to the present shore line of Lake Erie; it then turns to the north and northeast and enters the southwest corner of Allen County. Increasing in width, it continues in a northeasterly direction and leaves the State at the northeast corner of Dekalb County.

As the ice continued to recede a large lake was formed northeast of the present site of Fort Wayne. The surplus waters of this glacial lake were drained into the head waters of the Wabash through the Erie-Wabash channel. Glacial Maumee Lake, as it was called, probably existed for many years, but as its eastern bank was a massive wall of ice it was doomed to destruction. As the ice melted the lake was slowly drained until it was entirely destroyed, and as the waters of the lake ebbed away its outlet dwindled and was finally silted up. St. Joseph and St. Mary's rivers, which had emptied at the point where the Erie-Wabash channel left the lake, now turned back and formed the Maumee, a slow, sluggish, meandering stream which wound itself across the old lake bottom.

The territory covered by the accompanying map lies about one and a half miles northwest of Fort Wayne, and north of the Wabash-Erie

* Credit is due Robert Feustel for his work on the accompanying map.

channel and west of the St. Joseph River. The Lake Shore and Michigan Southern Railroad passes along its eastern and the Grand Rapids and Indiana road along its western edge. It is crossed by two wagon roads, the Lima and the Goshen. Both basins are oblong, Spy Run Lake basin being about four-sevenths of a mile long and two-sevenths of a mile broad, Poinsett Lake basin being about one mile long and one-half of a mile broad.

The topography in general is smooth and level, with gentle swells here and there, characteristic of lake bottoms. The region is drained by Spy Run Creek and its tributary, the Poinsett. Numerous artificial channels are led into these streams which make the drainage more perfect. Where these channels do not occur, swamps are found as indicated on the accompanying map.

The origin of Poinsett and Spy Run lakes dates from interglacial times. These two lakes belonged to a large class of lakes which once diversified the surface of parts of the glaciated portion of the State, but which now have become extinct; irregular basins with rich soil and level bottoms remain to tell the story of their former existence. A number of these lakes were formed by glacial dams and may be divided into two classes: those produced by the irregular deposits of moranic material and those caused by the ice itself during the period of its continuance. It is quite probable that both of these causes united to form the two lakes under consideration. As the Erie ice-lobe withdrew to the northeast irregular deposits of glacial debris were left in its wake, forming knolls and basins; these basins were in the course of time filled by subsequent rains. The streams entering these basins may have been dammed by the ice front, when it occupied the position indicated by the lines *a b* on the accompanying map. The basins are enclosed at most places by rather steep banks, varying in height from ten to thirty or more feet. Between the basins and north of the stream the bank is low and gentle, running back for some two or three hundred yards. Indications of a shore line may be seen about half-way up this gentle slope, indicating a union of the two lakes.

The length of time during which these lakes existed may be inferred from the depth of the silt which accumulated over their bottoms. The accumulation of this silt has made favorable the growing of crops. Man has taken advantage of these conditions and where it is not too swampy is cultivating the soil. This is only one instance where the former

existence of glacial lakes has made favorable the conditions for man's occupancy. Maumee Lake basin, mentioned above, has a very rich soil, and yields some of the finest crops grown in the vicinity. Beyond the boundaries of our own State, and south of the line marking the farthest extension of the ice during the ice age, and south of lines marking periods of rest in its recession are many such basins; rivers were dammed, new lakes formed, and old ones enlarged, until to-day thousands of square miles of rich farming lands are found in the United States which would not otherwise have been here. The great wheat growing region and fine pasture lands of North Dakota are thus explained. "Such was the heritage which the great glacier of the ice age left as its parting gift, thus assuring the permanent prosperity of large and widespread regions of North America."

ABANDONED MEANDERS OF SPY RUN CREEK.

BY J. A. PRICE AND ALBERT SHAAF.

Spy Run Creek rises in the north central part of Washington Township, Allen County, and empties into the St. Mary's River, near Fort Wayne. It is a small, insignificant stream, but has, however, some noteworthy features, foremost of which is the marked shifting of its bed in and below Spy Run lake basin.

The head waters of this creek probably existed before the final retreat of the Erie ice lobe from the site of the first Erie moraine. The creek was dammed by the ice front, thus helping to form Spy Run Lake. The waters of the lake followed the ice in its gradual retreat and in this manner the lower extension of the creek was formed. At this time this part of the stream was probably much larger than at present. Its increased volume was due to the supply of water received from the lakes. It is impossible to say how long the stream was occupied in draining these lakes. At present, however, the stream has a well developed flood plain varying in width from two to three hundred yards. As a rule there are two or three annual overflows, during which time the waters cover a part or all of the flood plain. The depth of the water varies from six to eighteen or more inches. The strength of the current over the flooded area may be inferred from the fact that several years ago a rail fence