

NOTES ON THE OCCURENCE OF GLACIAL MATERIAL  
BEYOND THE BORDER OF THE DRIFT IN  
MUSKINGUM COUNTY, OHIO.

LE ROY T. PATTON,

*Bureau of Economic Geology and Technology, University of Texas.*

AND

CLIFFORD HICKS.

From the southeastern part of Perry Township, Muskingum Co., a collection of small erratic boulders has been made by Mr. Hicks, the junior author of this paper. Mr. Hicks was at the time a student of geology in Muskingum College. The collection was largely obtained from the farm upon which Mr. Hicks lived at the time and was mainly discovered in the course of farming operations. The occurrence of these erratics were reported to the senior author of this paper who visited the locality with Mr. Hicks, directed the collection of other specimens and examined the final collections.

The locality where these erratics were found is on the east side of Little Salt Creek about three fourths of a mile south of the National Road and in the neighborhood of the Pergory School. The land here slopes very gently to the east of the valley of a small tributary to Little Salt Creek.

All the specimens were found below an elevation of 900 feet. The boulders are all small none of them being over three or four inches in diameter and the majority smaller than this. They consist of quartzite, diorite, dolerite, and granite together with a larger proportion of apparently glacial shaped boulders of native rocks. A number of the foreign boulders are subangular and one granite boulder is striated.

While the collection came from a very small area only it is thought that this is because an intensive study was made of this place and that a thorough study of other areas might yield similar results. A number of other localities where such boulders were said to have been found were reported by neighbors of Mr. Hicks but the writers did not have opportunity to check up these reports.

The occurrence of these erratics twelve miles beyond the border of the drift calls for some explanation. Possibly the

most plausible hypothesis is that they were borne there by floating ice. If at the time of the damming up of the old Newark river there had been formed a lake north of the old divide which Leverett\* thinks is near the Muskingum-Morgan county line, it seems probable from the configuration of the land that reentrants or embayments of this lake might have extended up to the location where these erratics were found. In that case the occurrence of the erratics might be attributed to transportation by floating ice.

It does not seem probable that these erratics were transported to their present location by the aborigines. With regard to some erratics found beyond the border of the drift near McConnelsville Leverett† says that "*it may be necessary to refer the distribution of these erratics to human agency.*" With respect to others, however, he expresses the opinion that they have been deposited by natural agencies and that the subject is one requiring further investigation. There is no evidence, so far as could be ascertained, of any former Indian camping ground in the vicinity where the erratics were found such as the presence of arrow heads, etc. The boulders do not show any evidence of use as hammer-stones and are usually not of the shape which it would seem most likely would be chosen for these purposes. Furthermore, the locality is 12 miles beyond the nearest drift border. It seems improbable that more than an occasional stone would be transported this distance unless the locality were the site of a more or less permanent camp in which case there would likely be evidence left of such an encampment.

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NOTE. Shortly after the above paper was submitted for publication Professor C. F. Moses read a paper before the Ohio Academy of Science upon somewhat the same subject. The writers were not aware of Professor Moses' work or his intention to present such a paper, but upon learning of its presentation immediately offered to withdraw their paper if its publication would in any way cause any misunderstanding. Professor Moses, however, expressed the desire that the paper be published as the two papers in no way conflicted with each other and represent independent work leading to the same general conclusions.

\* Leverett, Frank. Glacial formations and drainage features of the Erie and Ohio Basins. U. S. Geol. Sur. Monograph XLI, p. 156, 1902.

† Leverett, Frank, Op. cit., p. 158.

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