

through the three-mile-high passes of the Himalayas, by horse and mule to Shigatse, a short distance from the sacred city of Lhasa. In Tibet the expedition will collect anthropological material for the American Mu-

seum and botanical specimens for the New York Botanical Garden. Out of respect for Buddhist tradition, which holds all living things sacred, no animals or other living creatures will be removed.

DISCUSSION

HUMAN REMAINS IN GRAVEL NEAR WEST UNION, MINN.

THE record of recent discoveries as reported in *SCIENCE* indicates that Minnesota is unusually rich in the remains of early man. A skeleton recently uncovered in West Union Township, Todd County, appears to belong to this group, although there are various uncertainties that need to be solved by further study.

A gravel pit on the land of Daniel W. Fraser (Lot 1, N E 1/4 Sec. 11 T. 127 N., R 35 W.) has been the source of gravel for the improvement of certain roads. The gravel is dug by hand and the ordinary procedure is to shovel from the base of a face 20 feet high. Once or twice a day the men go up on top, spade the loam from a strip 2 to 3 feet wide, throw it to one side and then cave down the bank. A considerable number of men with Ralph Smith as foreman, were employed, including Romaine Johnson, Ludwig Elven, Melvin Irwin, Earl Tompkins, Martin Brakken, Bob Iverson, and Teddy Randall. These men are agreed that the first unusual fact that attracted notice was a bone, afterwards identified by me as the tibia, that projected from the bank about 3 to 4 feet below the top. This bone lay in undisturbed gravel and fell or was pulled out and two smaller bones came with it. Later, on June 11, 1935, two men were on top, stripping and caving when the spade of Earl Tompkins struck bones and at the instant that he saw them, a large mass of gravel fell down the bank carrying the bones to the bottom of the pit. As this occurred at the end of the day the men quit work, and did not realize that a skeleton had been brought down until the next morning, June 12, when they picked the skull and bones out of the gravel. On that day I obtained the bones from the owner of the pit, and interviewed the men. The next day I took photographs of the site and on June 17 recovered from the waste pile two of the first bones seen. At various times I searched the road on which the gravel had been dumped and recovered small fragments of bone.

The gravel pit lies on a ridge which is part of the southern boundary wall of the flat-bottomed valley of Sauk River. The upper 7 feet of gravel in the pit consists of bedded fine and coarse gravel much iron-stained, which I call the West Union gravel. It rests unconformably on till at the south end of the pit and

on slightly deformed gray gravel at the north end where the skeleton was found. Similar gravel is exposed in a pit on the top of the next ridge 700 feet southwest, but elsewhere it has not been found. Geological alternatives are as follows: (1) Is this gravel part of a more wide-spread deposit of a stream or streams later than the lower till and gravel? (2) Is this gravel only a part of the till which has been exposed at this place by erosion?

Archeologically, it is unfortunate that conclusive evidence by trained observers is not available as to the disposition of the bones in the gravel. The men estimate the depth of the bones from 16 inches to 4 feet. They agree that the bones lay well below the loam which is a foot thick and that the well-stratified gravel appeared to them to be undisturbed.

If the West Union gravel is a stream deposit later than the till (Hypothesis 1 above) it is Postglacial in age and the skeleton may be contemporaneous with it. One would have to suppose that a man was killed or died on the banks of the stream and his body entombed by natural processes.

On the other hand if the West Union gravel is part of the moraine complex, a mere fragment of gravel caught up and embedded in till, it dates back to the Bemis stage of the Keewatin Ice-sheet ("New Gray Drift") or may even be of "Iowan" age ("Old Gray Drift"). The relatively modern type of the skull makes contemporaneity with such comparatively old deposits unlikely. One would have to suppose that the man was buried in the gravel and that the evidence of a grave passed unnoticed by the workmen.

Further studies of the geology are planned. The skeleton is to be referred to a competent physical anthropologist.

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THE RECTORY
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WEST UNION, MINN.
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KILLARNEAN AND EARLIER GRANITE

PROFESSOR A. C. LAWSON has a note, "Is the Killarney granite different in age from the Algonian?" in *SCIENCE* for May 24. Lawson does not doubt that radioactive measurements are of geologic value, for as chairman of the Division of Geology and Geography of the National Research Council he himself organized