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Attention is called to the "Wants" column. All are invited to use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The Exchange" column is likewise open.

MASTODON REMAINS ON NEW YORK ISLAND.

ON Nov. 27 last Lieut.-Col. Gillespie of the Engineers' Department, U.S.A., addressed a letter to the American Museum of Natural History, offering the remains of a mastodon tusk which had been found during the excavation for the Harlem Ship Canal at the upper end of New York Island. Col. Gillespie informs me that the specimen was found at a depth of sixteen feet below mean low-water, at the eastern end of Dyckman's Creek, at its junction with the Harlem River.

The portion of the tusk preserved and received at the museum is nearly three feet long, and has a diameter of seven and a half inches full, at its largest part; being the upper or socket end of the tusk, and is well preserved, although much shattered by drying and rough handling by the workmen before it came to the attention of the engineers in charge of the work.

A few days after the tusk was received at the museum I visited the excavation, and, by the courtesy of the engineers in charge, Messrs. A. Doerflinger and J. McC. Taylor, learned the particulars of its occurrence.

The excavation at this point is through the salt meadow of the Harlem River, showing from four to six feet of meadow sod and silt filled with the roots of the meadow grass; below this there is a deep bed of incipient peat, of which, at the spot where the tusk was found, there was fully twelve feet; next below comes a bed of sandy clay of very variable thickness, but at the spot in question measuring only eighteen or twenty inches in thickness. This clay rests immediately on the submerged slope of the dolomitic limestone ridge which forms the upper end of Manhattan Island, and extends northward beyond the Spuyten Duyvil Creek.

The tusk was found imbedded in the peat with the socket or "butt" end down, and slightly entering the sand, the shaft being in the peat and at an angle of about seventy degrees to the horizontal, showing that it had settled through the peat until it came in contact with the sand.

From the indications furnished by the conditions of its occurrence I should conclude that the tusk had not been transported from any other locality after the death of the animal, as there is no abrasion shown on its surface. Moreover, the peat in which it was imbedded is in the condition of its original formation, is clean and unmixed with any foreign matter, being entirely of vegetable origin; and contains quantities of seeds, apparently of Carices, or sedges, and grasses, as well as a few nutlets of some bush or shrub not yet determined, and examples of the elytra of beetles. At the top of the peat occur numbers of the stumps and roots of forest trees and fragments of wood. No evidence whatever is found of any marine substance below the roots of marsh grass, not a vestige of any kind of mollusks, marine or fresh water, can be detected, although now living and abundant in the salt water at the surface. The sandy clay between the peat and the surface of the limestone appears to me to be the result, principally, of the decomposition of the limestone in place, and not transported sand. Glacial markings are discoverable on the surface of the limestone a short distance south of the locality, where the soil has protected it from the action of the weather, but where the ledge has been uncovered by the removal of the peat and sand, it shows a deeply rotted surface covered by the sand.

Dyckman's Creek was an artificially excavated channel, made about 1818, for the purposes of a tide mill, through a natural depression at that point, and not a natural stream; consequently, it could have had no agency in the transportation of the tusk; and it seems probable that the animal to which the tusk once belonged either died near the spot, or by some accidental injury had it broken from its socket near where it was found.

The exact location of its occurrence is in the canal, about fifteen feet from its northern side, and about ten feet west of the centre of Broadway.

In April, 1885, Elisha A. Howland, then principal of grammar school No. 68, at 128th Street, between 6th and 7th Avenues, brought and donated to the museum the lower extremity of a mastodon tusk, nearly fifteen inches long by four in its greatest diameter, which had been found shortly before at Inwood, N.Y., while cutting a ditch through a peat bed near the Presbyterian Church at that place. This fragment shows fresh breaking at the upper end, and was undoubtedly much longer when first found.

R. P. W.

CO-OPERATIVE OBSERVATION OF THE SO-CALLED LUMINOUS CLOUDS.[1]

SINCE 1885 curious cloud formations have been seen on summer nights in both the northern and southern hemispheres, in evident connection with those phenomena which followed the great volcanic eruption at Krakatoa. The intense brightness of these formations, considering the position of the sun, denoted that they were situated very far above the earth's surface. Probably these clouds consisted of erupted particles thrown to a very great height and there illuminated on summer nights by the sun.

These cloud-like formations, commonly called luminous clouds are extremely interesting, both on account of the extraordinary height at which they have for years been moving above the surface of the earth (more than eighty kilometres) and of the movements themselves. A very important point about these clouds is that they are — so far as we yet know — visible in each hemisphere only in the summer. It is the more important that these phenomena should be carefully

[1] From Nature, Dec. 3.