M. Bert will examine the action of fresh water on sea-fish, which is not so rapid. These sea-fish are too heavy for fresh running water, and are found generally to remain at the bottom of the water. On the contrary, fresh water fish always swim at the top of salt water.

NEW YORK

Lyceum of Natural History, Oct. 24, 1870.—In a paper read at this sitting the author observed:—In the sequence of events included in our Drift period there is a marked break, a middle period, during which, over most of the north-western states, no Drift deposits were made, and when most of this area was covered with a forest growth and sustained many and large animals. At a subsequent period, all parts of this area, less than 500 feet above the highest of our present great lakes, was submerged, and most portions of it covered to greater or less depth, with new Drift deposits, clays, sands, gravel and boulders, a large part of northern and remote origin. Nearly all the large boulders of the Drift belonging to this later epoch are sometimes of great size (100 tons) and have been *floated* to their present positions, as they overlie undisturbed stratified sands and clays, which would have been broken up and carried away by glaciers or currents of water, moving with sufficient velocity to transport these blocks. Hence they must have been floated from the Canadian highlands, the place of origin of most of them, by *icebergs*. This epoch of the Drift period I have therefore termed the Iceberg Epoch. During this epoch the submergence of the land in the interior of the continent, was greater than in the epoch of the deposition of the Champlain and Erie clays, and all the area north of the Ohio was covered with water up to a height of over 500 feet above Lake Erie, or 1,100 feet above the ocean level. The highlands of south eastern Ohio, and most of the country south of the Ohio river, were not covered by this flood, and now bear no drift deposit of any kind. Tracing out the line of ancient water-surface, we find that the depression was greater towards the north, so that the Alleghanies and their foot-hills, and also a wide area of comparatively low country in the Southern states, formed not only a shore, but a continental limit to the great interior iceberg-ridden sea of the later Drift Epoch. In the western reaches of this sea, which was of fresh water, in the later centuries of its existence, was deposited the Löes or "Bluff" which I have elsewhere designated as the later lacustrine, non-glacial drift. During the deposition of the Löes the interior sea was already narrowing and growing shallower by the cutting down of its outlets, or by continental elevation, or both. The descent of the water-level and decrease of water-surface have been going on perhaps constantly, but not uniformly, to the present time, when the area of the great lakes is the insignificant 85,000 square miles it now is. In the descent of the water-level, retarded at certain periods, terraces and beach lines were formed at various places by the shore waves. With these history ends. This then is the classification I would suggest of the drift deposits as they occur in the valley of the Mississippi, premising that here, as in other geological periods, the column is nowhere absolutely complete:—

PERIOD.	EPOCHS.	STRATA.	NOTES.
Quaternary.	Terrace.	Terraces, Beaches, Löes.	Sand and gravel beaches with logs, leaves, and fresh-water shells. Löes with fresh-water and sand shells.
		Iceberg Drift, Löes.	Boulders, gravel, sand, and clay, drifted logs, elephant and mastodon teeth and bones.
		Forest Bed.	Soil-peat with mosses, leaves, logs, stumps, branches, and standing trees, mostly red cedar. Elephas, mastodon, castoroides, &c.
	Glacial.	Erie Clays.	Laminated clays with sheets of gravel, occasional rounded and scratched northern boulders, many angular pieces of underlying rocks.
		Glacial Drift.	Local beds of boulders and rarely boulder clay resting on the glaciated surface.

From the above table it will be seen that the remains of elephant, mastodon, and the gigantic beaver, occur in the forest-bed and in all the succeeding drift deposits. It should also be said that they are found in still greater abundance in peat-bogs and alluvial deposits which belong to the present epoch. We have seen that the submergence of the later drift epoch, though so wide-spread, left a large part of the area lying between the Mississippi and Atlantic uncovered. This area the elephant, mastodon, great beaver, &c., inhabited during the continuance of the flood that covered the forest bed. From this retreat they issued with the subsidence of the water, following the retreating shore-line, till they occupied all the region now exposed about the great lakes. By what influence they finally became extinct, we cannot yet say. It has been claimed that they continued to exist down to the advent of man, and that he was an agent in their destruction. This statement may be true, but requires further proof before it can be accepted with confidence. The vegetation of the forest bed indicates a cold climate, thus confirming what we had otherwise learned of the habits of the extinct elephant. He was clothed with long hair and wool, was capable of enduring, and probably preferred a sub-arctic climate, and was associated in this country as in Europe, with the musk ox and the reindeer. We may therefore infer that a progressive increase in the annual temperature, drove most of the animals of the Forest-bed northward, and caused to gather on the shores of the Arctic sea, the herds of elephants whose remains so much impress all travellers who visit that region. This was probably the scene of the last vigorous and abundant life, and of the death of the species; an event consequent, perhaps, on the action of local causes, which we shall comprehend when we have opportunities of studying the record. One remarkable statement in regard to the Forest-bed requires notice. In more than one instance, parties digging wells in South-Western Ohio, have reported not only that they found a black soil and logs, but that "some of these logs bore marks of the axe, and were surrounded with chips." These stories I formerly rejected as pure fabrications; but in the light of recent observations, they seem to me to be in part true, and not difficult of explanation.

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CONTENTS