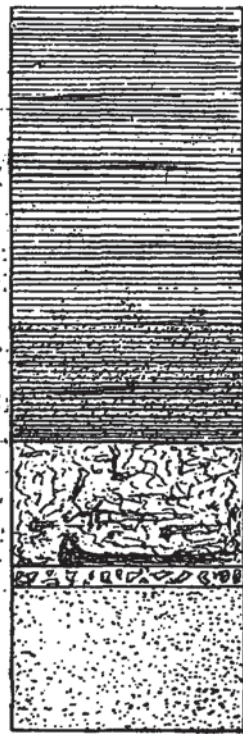


EXCAVATIONS ON THE SITE OF THE
ELECTRIC LIGHT WORKS,
SOUTHAMPTON, May, 1903.

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The making of any considerable opening in the earth marks an occasion of great importance. It presents an opportunity to read the hidden manuscript of the book of Nature. Such an opportunity occurred at the excavations at Southampton Docks in 1887 and 1888, examined and reported upon with much care and ability, by Messrs. T. W. Shore and J. W. Elwes, in the Field Club Proceedings for 1889 (pp. 43 to 50). The facts then ascertained were that a deposit of many feet of peat, enclosing trees of oak, pine, beech and birch, with their roots still in the old vegetable soil, was overlaid by 20 feet of estuarine mud; that the age when this forest was growing was Neolithic; that the land stood 40 to 50 feet higher than it does at the present time; and that the red-deer, the horse, the ox (*bos primigenius*), the pig and the hare lived and roamed in the forest. Doubtless could we open a few sections across the mud of Southampton Water and its upper tidal reaches we should solve, or come near to solving, several interesting problems. We should be able to trace the extent of the forest, its open spaces, and learn more of its *fauna* and *flora*. We should find where the ancestors (so to speak) of the Test and the Itchen ran through its glades and thickets, and be able to compare their relative dimensions, and the contours of this part of their valleys with those now obtaining. We might possibly discover how far off from Southampton in Neolithic days were the tidal wate

which eventually, on the sinking of the land, made their influence felt to Eling on the Test, and Woodmill on the Itchen, overspreading the forest, marsh, peat, and low lying land bordering their channels. But the making of such sections as we have suggested is impracticable. We are, therefore, left to collect the required evidence piece by piece. In the spring of 1903, a section showing estuarine mud, peat, gravel, and Bracklesham sand, was opened when excavations were being made for the foundations of the Electric Light Works at Southampton West. I greatly regret that it was only towards the end of the operations that I visited the spot. A vigilant investigation day by day, would doubtless have been very fruitful. Fig. 1 gives the section exposed.



Estuarine mud, 9-feet thick.

(Very sandy at base).

Peat, 2 to 3-feet thick.

Subangular flint gravel, 2 to 3-inches thick.

Bracklesham sand.

FIG. 1.

The lowest bed seen was a greensand, containing a very small percentage of clay, of Bracklesham age. It consisted of quartz sand with abundant green and black glauconitic grains. This bed I take to be Bed (a) of Messrs. Shore and Elwes, here with less clay. Its surface shelved gently towards the N.E. No fossils were discernable. In the top, small root fibres from the peat above were seen. On this bed was lying a seam of sub-angular flint gravel, 2 or 3 inches only in thickness, but persistent. Over this a bed of peat, varying from 2 to 3 feet thick of cheesy consistency at the base, but gradually becoming loose and fibrous towards the highest layer, as is the nature of such deposits. In this peat, roots and trunks of oak and pine occurred. No shell marl or tufa were noticeable, either in pockets or laminated between, under or above peat.



FIG. 2.

In fig. 2, is shown a workman who has his foot on a large tree trunk sticking out of the peat, whilst nearer the foreground on the same horizon another trunk can be

perceived. These trees are at the base of the peat. I was not fortunate enough to be present when the roots were uncovered, so as to note whether they extended into the bed below, but from fig. 3, which is a photograph of a pine tree with roots attached, it appears certainly to have been the case.



FIG. 3.

An oak tree was sent to Messrs. Tagart, Morgan, and Coles, Ltd., timber merchants, of Cross House Wharf, who, with much courtesy, supplied me with samples of the wood, and particulars concerning it. When the tree arrived at their yard the bark was intact, but there were no roots attached. It was about 16 inches in diameter at the butt, and about 14 feet long, and not tapering much, and they remark it was "what we should call stunted growth."

Diligent search for bones, flint chips, and implements, met with no success.

The peat was covered by 9 feet of estuarine mud. At its base, and in pockets it was very sandy, and in the sand,

estuarine shells were abundant: Here bones were found. The bones and shells, Dr. A. Smith-Woodward, Keeper of the Geological Department, British Museum, has, with much kindness, determined for me.

MAMMALIA.

Red-deer (*Cervus elaphus*)
 Sheep or Goat, small breed
 Small ox (*Bos taurus*)
 Horse (*Equus caballus*)

MOLLUSCA.

Buccinum undatum
Littorina rudis
Nassa reticulata
Turbella parva, var. *interrupta*
Rissostomia membranacea
Retusa mammillata
Onixa tenuis?
Tellina balthica
Ostrea edulis
Mya arenaria
Mytilus edulis
Scrobicularia plana
Cardium edule

Dr. Smith-Woodward remarks that the small sheep resembles one well-known from Romano-British deposits. Its relationship to modern breeds is uncertain. The horse was small and rather slender. The bones belong to existing domestic species, but at what date they were laid down, it is impossible to decide till we obtain more information by further excavations. The peat and the forest it encloses are doubtless cotemporary with those found in the Southampton Docks, and therefore Neolithic. In this old forest, the men who trod its paths had many opportunities of losing their implements. But since it became submerged, and until the estuary grew so full of mud that a surface was exposed at low water (which could not have been till well into historical times), there can have been but little chance of implements becoming embedded—except, perhaps, by falling from a canoe, or by being lost whilst their owners

were hunting near the shore; and as the remains of life belong to recent species, the task of assigning any particular layer of the mud to any particular period is fraught with much difficulty. However, the facts ascertained are these, that after the formation of the peat, the land sank, permitting nine feet of mud to be deposited upon it; and that, at the beginning of this subsidence, extensive denudation of the Bracklesham bed, upon which (with the intervention of the thin gravel seam) the peat lies, took place. On washing samples of the sandy layer of the estuarine silt and of the Bracklesham Bed, both were found to consist of small grains of silver quartz sand, and abundant black and green glauconite grains, which were identical. The bones were deposited during this denudation. The peat died out towards the sea-wall, *i.e.* N.E. This fact, and the fact that the section was not many yards away from the Kingsfield escarpment, proves that the border of the marsh land was hereabouts. As the valley sank, this escarpment was brought under the influence of the tidal waters, which laved its flanks, planing and wearing away the Bracklesham Bed, of which it is formed, and depositing it on the peat. Similar action can be seen at the present day, at Lee-on-the-Solent. The base of the low cliff and the foreshore is composed of a green sandy Bracklesham Bed. The flow of the tide and the movement of the waves, denude this bed, and re-deposit it between high and low water mark, much to the delight of numerous recent molluscs who make it a home.
