

ON TWO ANCIENT BOATS, FOUND
NEAR WARRINGTON.

By Charles Madeley.

Read 13th December, 1894.

THE construction of the Manchester Ship Canal has been, in one respect, a great disappointment to those who dwell upon its banks. It was only natural to expect that the excavation of so great a cutting for thirty-six miles, through the soil of the Mersey valley, could not fail to result in large discoveries of relics of the former inhabitants of the district, and numerous additions to the contents of our museums. But these anticipations were speedily relinquished on the advent of the steam navy, whose rapid evolutions and wholesale manner of procedure obviously offered little prospect of the preservation of any but the largest objects which might be in its way. Of such large objects, however, two very interesting examples were the two canoes which were found, not in the course of the canal itself, but on the banks of the Mersey, during certain subsidiary operations at Arpley, in the township of Warrington. The position of the site is shown in Mr. Owen's plan, which is based on the Ordnance Survey.

The subsoil thereabouts is alluvium, overlying a very variable thickness of drift, which again overlies the Upper Bunter sandstone. The River Mersey, in its meanderings through the level land, here impinges upon the rising ground which bounds

its valley on the south, or Cheshire side. The site of the Roman station of Veratinum, at Wilderspool, lies about 300 yards distant, to the south-east. On the north, or Lancashire side, lie Arpley Fields, a level stretch of meadow land, a square mile in area, bounded on the east, west, and south by the river, which here makes a curve of three parts of a circle, and on the north by the gentle rise upon which Warrington stands. These meadows are not yet entirely above the influence of high-water spring tides.

Early in September, 1893, during the completion of the new course for the Mersey which was cut across the Arpley meadows, the dredger came upon an obstruction, which proved to be a dug-out canoe, over ten feet in length. Later, on the 28th March, 1894, another and larger canoe was discovered, at a point 600 yards further east and close to the west end of the present Walton Lock.

Each canoe lay 20 to 25 yards north of the former bank of the River Mersey, and at a depth of about eighteen feet below the surface of the ground. On their discovery both canoes were carefully removed and preserved, under the direction of Mr. William Burch, C.E., the Ship Canal Co.'s engineer for this section, and Mr. H. Davenport, who was in charge of the dredging operations when the first discovery was made. The canoes were eventually presented by the Canal Company to the Warrington Museum.

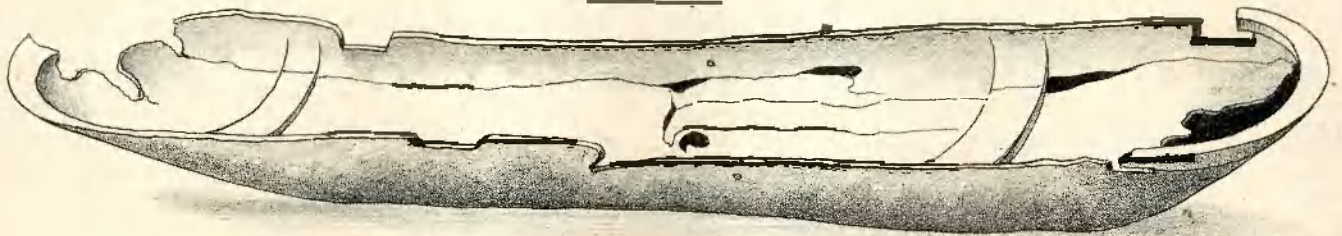
A previous discovery of the same kind had been made in 1889, at Barton-on-Irwell, when a canoe was found some 27 feet below the surface, at a point 400 feet from the river-bank.¹ It is now in the Owens College Museum. We shall have occasion to refer to this canoe again.

¹ Described and figured by Sir W. H. Bailey, in *Memoirs of the Manchester Literary and Philosophical Society*, 1889, fourth series, vol. ii, p. 243.

— MEASURED DRAWING OF AN ANCIENT CANOE. —
Dug up during excavations, in Firpley Fields, for Ship Canal Docks.

29th MARCH 1894.

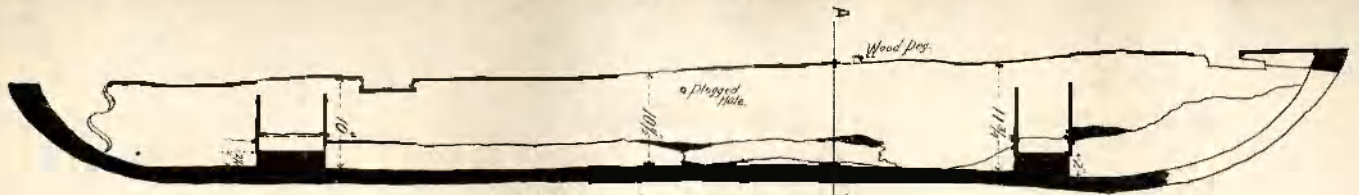
· SKETCH VIEW ·



CROSS SECTION
A—B

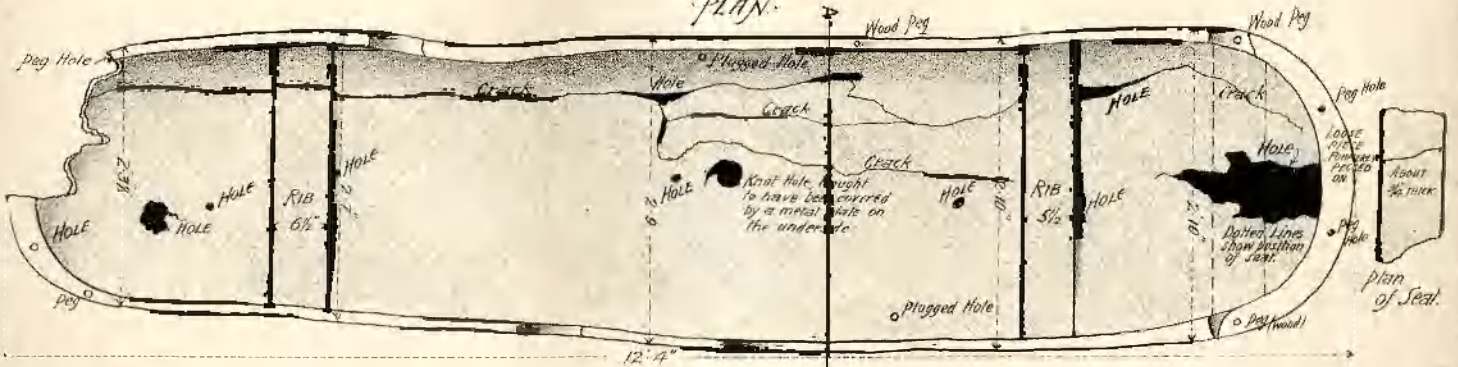


· SIDE ELEVATION ·



· LONGITUDINAL SECTION ·

· PLAN ·



Scale of Feet



Measured by WILLIAM OWEN, F.R.I.B.A.
Local Sect Historic Society of Lanc. & Cheshire,
25 April 1894 WARRINGTON

Taking first, for convenience, the larger canoe: its dimensions, according to the measurements made by Mr. Owen, a few days after its discovery, are as follows:—The length over all is 12 feet 4 inches; the greatest width, near the stern, is 2 feet 10 inches, which is maintained until the middle of the length is reached, whence the width diminishes to 2 feet $3\frac{1}{2}$ inches near the round of the bow. The depth likewise decreases from about 15 inches near the stern to 12 inches near the bow. The thickness of the timber is about $2\frac{1}{4}$ inches at the bottom, diminishing to about $1\frac{1}{4}$ inches on the gunwale. In cross section the bottom outside is fairly flat, but inside it is rounded with a regular curve. Lengthwise the bottom has probably been level, although now somewhat irregular.

Two internal ribs have been left in hollowing the log, each about six inches wide by two inches thick at the floor, and dying into the sides before they reach the gunwale. They are placed approximately at one-fourth the length of the canoe from stem and stern respectively. The ends of the boat are rounded, inside and out, both in plan and section, but whether or not there was a projecting nose, like that on the smaller canoe, described below, we cannot say, as when the boat was found just that part was wanting at each end of it.

At each end there has been fixed upon the gunwale, which is here some three inches wide, a timber waling. The stern piece remains, and is crescent-shaped, four inches wide by three inches deep at the centre. It was planted upon the boat's edge, and fastened down with four trenails, an inch in diameter, portions of which still remain in their holes. The former existence of a similar waling at the bow is evidenced by three peg-holes, but no remains of the waling itself were found. As the grain of the timber in the waling-piece follows the

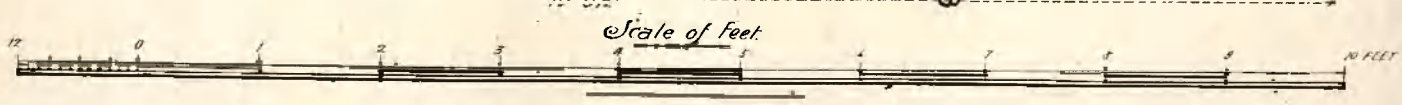
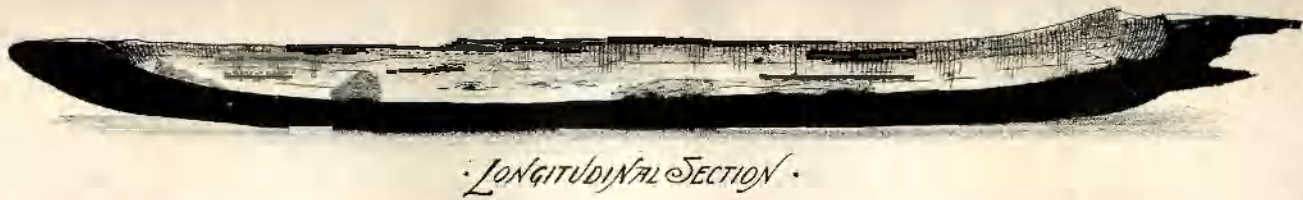
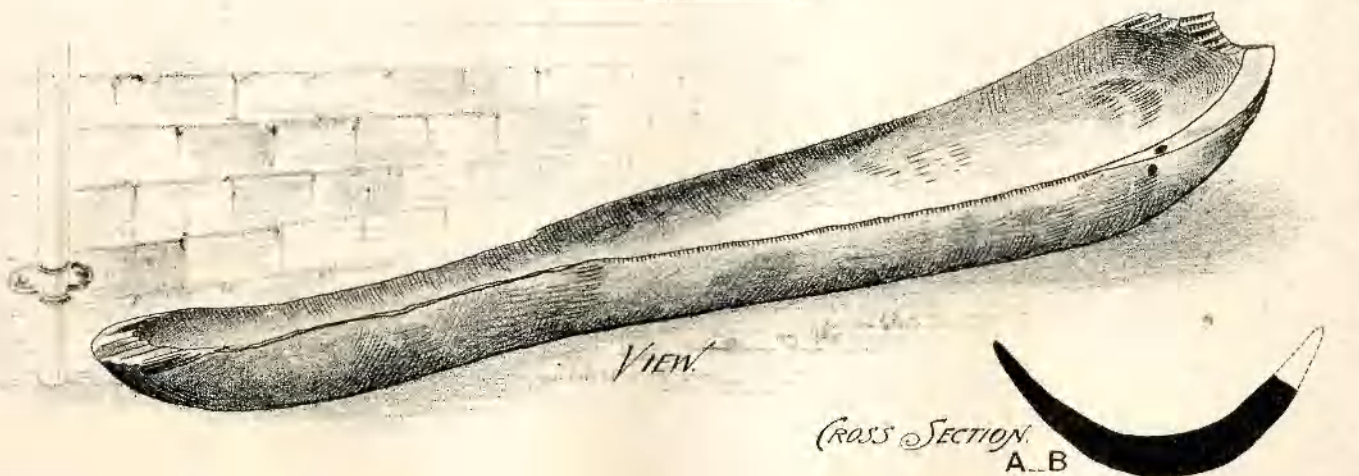
curve of the bow, the addition of this feature would add great strength to the structure at its weakest point, as it would be just at the centre of stem and stern, nearest the heart of the tree, that the log would have the greatest tendency to split. The peg-holes referred to, and others still to be mentioned, are very cleanly cut, and some are still perfectly circular in outline. They seem sufficient of themselves to require in the boat-builder a familiarity with the use of efficient metal tools, if not necessarily of iron ones. The condition of the remainder of the boat is not conclusive on this point, although it still bears some very definite tool-marks.

An interesting feature, which is peculiar to this specimen, is a thwart or seat fixed across the stern. The gunwale on each side being rabbitted to receive it, this thwart was held in place by the forward half of the stern waling, which covered it, and by two of the trenails, which would pass through the ends of it. The greater portion of the thwart was found in the boat, but the ends are wanting. When complete it would measure 2 feet 10 inches long by $6\frac{1}{2}$ inches wide, and was formed of a single board rather less than an inch thick. There is no indication of a rabbit at the bow, and presumably there was no thwart there. In the absence of the actual prow, the existence of this thwart may serve to distinguish the stem from the stern. It was, one imagines, the steerer's seat.

In the centre-line of the boat are five plug-holes, bored, apparently, with the same auger as the holes in the gunwale. There is one in each end compartment, and three in the middle one, between the ribs. Several of the plugs are still in position, their ends being flush with the surface of the boat, inside and out; hence they were not perceived until the timber began to shrink. There are three

— MEASURED DRAWING OF AN ANCIENT CANOE —

Found during the excavations for the River Diversion
in Arpley Fields. Warrington. SEPTEMBER. 1893.



Measured by WILLIAM OWEN FRIBA
Local Sect. Historic Society of Lanc^s & Cheshire.
2nd Decr 1894 WARRINGTON.

other auger-holes, whose purpose is not so obvious. One is sunk vertically in the gunwale, on the starboard side, 4 feet 7 inches from the stern, and two are bored horizontally through the sides. The one on the starboard is two inches below the edge of the boat, and sixteen inches forward of the peg on the gunwale. It is rather larger than the other holes. The one on the opposite side is six inches below the edge, and twenty-one inches further aft.

There are numerous knots in the log of which this canoe was made, and several of them, notably two large ones in the bottom of the boat, have fallen out. It was said at the time of the finding of the boat that one of these knot-holes had been stopped, by means of a metal plate fixed outside, but no evidence of this is visible. The canoe is hollowed out of the trunk of an oak tree, and when it was unearthed the timber was soft to the touch, and had a charred appearance, from decay.

The smaller canoe, whilst evidently of the same type, does not present so many points of interest. It has, however, one additional feature in an overhanging nose or prow, the remains of which project some three inches beyond the stem. Including this projection, the canoe measures 10 feet $8\frac{1}{2}$ inches in length. Its width was probably not less than 2 feet 9 inches, but a considerable portion of the port side is now wanting, owing, possibly, to the action of the dredger. Its depth, when perfect, would be about 14 inches, and the bottom, which is round, is in some places as much as 4 inches thick.

The bow has a broad, flat edge, and the presence of a vertical auger-hole on the starboard side suggests that it had a waling-piece, similar to that on the larger boat. Another hole passes through the side of the boat close by. No plug-holes have

been discovered in the bottom, nor are there any ribs or other peculiar features. The timber is oak, very free from knots, and in much sounder condition than the other specimen.

On comparing these canoes with the one found at Barton, we note that the Barton canoe is rather longer and deeper than the largest of them, measuring 13 feet 10 inches over all, by 2 feet 9 inches wide, by 19 inches greatest depth. It has the crescent-shaped waling on the stern, and from the stem there projects a beak six inches long, perforated from side to side with a round hole. There is also a small patch let in on the gunwale near the bow, and fastened down with two trenails. There are no ribs.

In this canoe a remarkable feature is the provision against splitting which was made by the insertion of wooden pegs, driven up from below into the thickness of the bow. They seem to have answered their purpose well, if I am right in believing that their presence was not discovered until they were revealed by the opening of the wood, through shrinkage, at the very point suspected by the builder.

But whilst it is interesting to find that all the canoes recorded as found in the Mersey valley are of the same type, there is nothing in the fact to help us to determine the date to which we may refer their origin, nor the race or state of civilization of their builders. Canoes of exactly similar construction have been found in Ireland and Scotland, whilst others, differing in important details, have been found at Preston and in other parts of England. With reference to a number of canoes found buried at Glasgow, it appears that "two had "evidently been scooped out by the action of fire ;

“ others had been hollowed with a rough implement
“ such as a stone axe ; while several were cut
“ beautifully smooth, evidently with metal tools.”²

In reference to this subject one necessarily quotes Dr. Munro. In his Rhind lectures, he says :—“ Dug-out canoes do not indicate such
“ antiquity as is commonly attributed to them, nor
“ do they therefore necessarily carry us back to
“ prehistoric times.”³ Again, “ they are invariably
“ found associated with crannogs,” or lake dwellings. And as crannogs were still extant in Scotland within historic times, and in Ireland even in the seventeenth century,⁴ we may assume a very late date for the complete disappearance of canoes from these islands.

Dr. Munro says further :—“ There is no peculiarity in the structure or forms of these dug-outs
“ which distinguishes their age or nationality.”⁵ This is perhaps sufficient justification for the detailed description of specimens which may not be in themselves of peculiar interest, for it is only by the comparison of accurate records of many specimens that the theory of the subject will eventually be evolved.

The geological aspect of the discovery, whilst giving evidence of great antiquity, does not offer a definite answer to questions regarding the period or race of the boat-builders. A reference to the plan will show the position of the larger canoe in relation to the bank of the river, the recently constructed lock, and the other remains which were found in its immediate neighbourhood. The most interesting of these were the piles or stakes, shown on the plan by rows of dots. On this point it will

² Geikie, *Quarterly Journal of the Geological Society*, vol. xviii, p. 221.

³ Munro, *Lake Dwellings of Europe*, 1890, p. 479.

⁴ *Ibid*, p. 481.

⁵ *Ibid*, p. 479.

be best to quote the words of my friend, Mr. Thomas May, F.E.I., to whom we are indebted for their description :—

“ The piles and stakes extended in most peculiar fashion throughout the cutting for the new lock, a distance of over 200 yards. The piles, about 6 inches thick and 9 feet long, were in two irregular lines, 30 feet apart. Between the piles rows of stakes, some 3 inches thick and 5 feet long, crossed herring-bone fashion at an angle of about forty-five degrees, as indicated on the plan. These diagonal rows overlapped in the middle of the long line of piles, so that anything passing through would have to make a zig-zag progress. At the east end of the cutting, where the piles are very numerous, I counted seventeen within an area of about nine square yards, and found them to run up to $15\frac{1}{2}$ and 16 inches in circumference. At this point oyster-shells and bones were numerous at ten feet from the surface, and sticks and sedges in horizontal layers were met with. All was as soft from decay as the surrounding silt.⁶

“ The canoe lay upside down, over 18 feet below the original surface, and 18 inches above Ordnance datum, on a level with the lower ends of the piles near by, and three feet below the ends of the smaller stakes. It was more than 20 yards from the north bank of the river, and above it were three feet of clean sand, six feet of sticky diluvial clay, and nine to twelve feet of soft silt.

“ A few water-worn fragments of Roman paving tiles were met with in the bottom of the cutting, at about the same level as the canoe. . . . An anchor-stone, some 18 inches square by 9 inches thick, with a groove round it for retaining the rope, was found not far off ; and three feet above the level, and a few yards southwards from the canoe, charcoal and other signs of a hearth were observed by Mr. Jones.

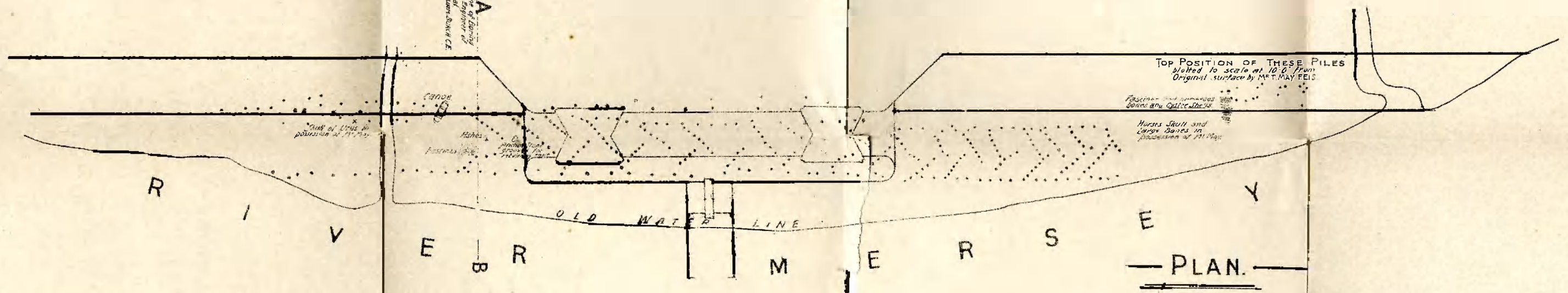
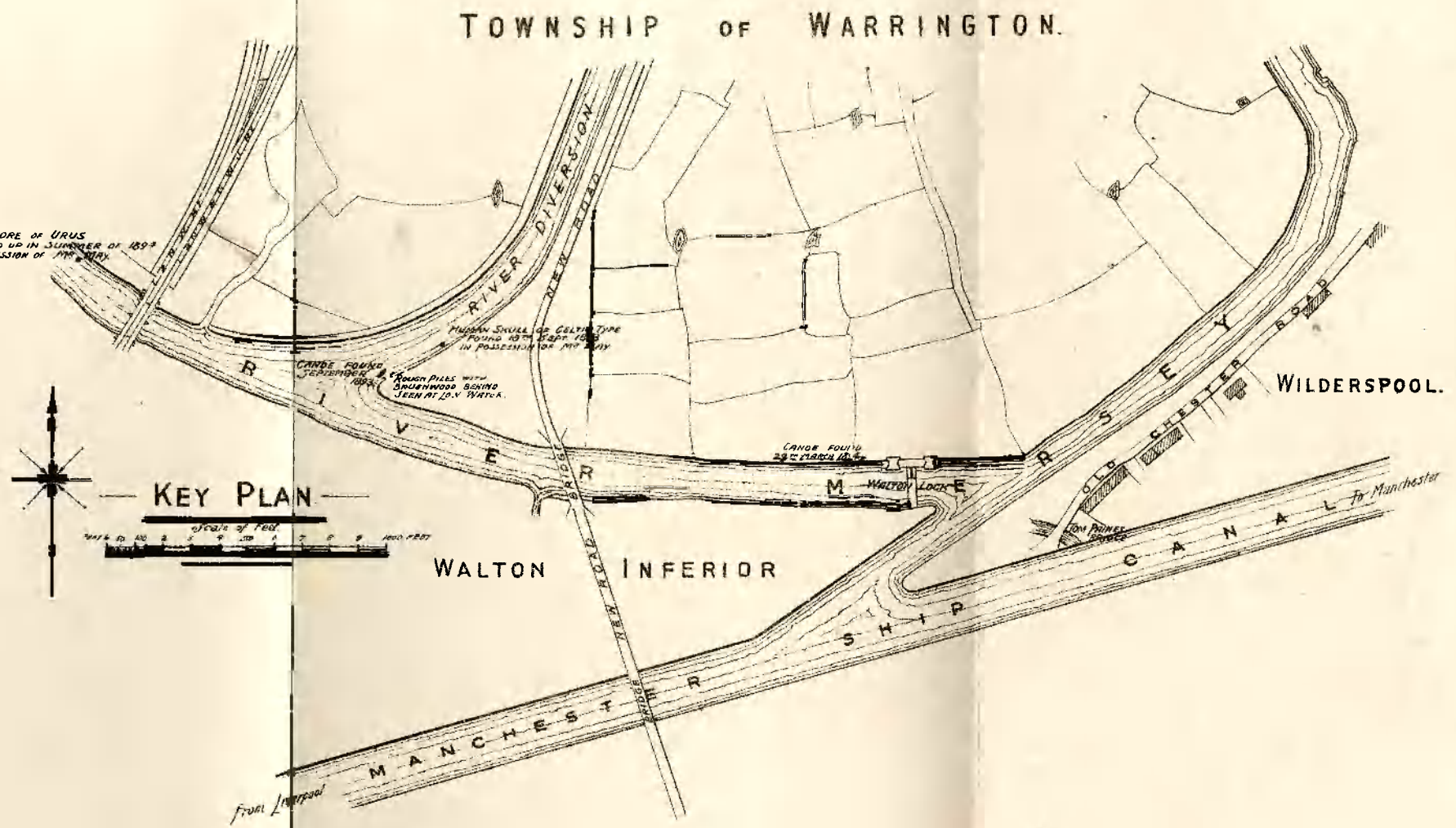
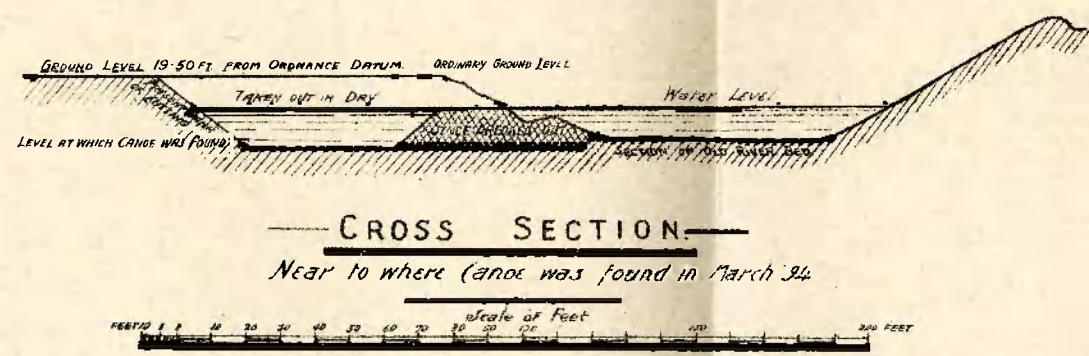
The anchor-stone was unfortunately used in building the lock, and a large piece of oak timber with a mortice at one end, said to have been found at the same place, was also not preserved.

In the sand, a little higher and a few yards westward of the canoe, a perfect skull of the great wild ox or urus was met with. A single horn-core of the same species was found in dredging half-a-

⁶ The piles and stakes were rough stems of alder, and their tops were about ten feet from the surface of the ground.

PLAN AND SECTION OF LOCALITY IN ARPLEY MEADOWS & WALTON LOCK CUTTING

where Two Dug Out Canoes
& Extensive Piling were found
IN CUTTING OF SHIP CANAL, WALTON LOCK
AND RIVER DIVERSION NEAR WARRINGTON.



WILLIAM OWEN, F.R.I.B.T.
Local Secy Historic Society of Lancashire & Cheshire.
WARRINGTON.

Dec. 1894.

mile further down the river. The skull and large bones of a horse were found at the east end of the piling, and another near the canoe, but at a higher level.

The smaller canoe lay in much the same position, geologically speaking; but as it was brought up by the dredger, it is not possible to give a section of the beds at that spot. Within a hundred yards of this canoe were found several human skulls, one of which was preserved, and has been described by Mr. May as of Keltic type.⁷

For comparison with the section of the alluvium at the point where the larger canoe was found, I give two other sections in the same neighbourhood, as taken by Mr. W. Burch, C.E.

SECTIONS AT WALTON LOCK.

WEST END.		FT.	EAST END.		FT.
Sand	- - - - -	6	Soil	- - - - -	2
River mud	- - - - -	10	Brown silt	- - - - -	5
Brown clay	- - - - -	2	Sand and gravel	- - - - -	13
Boulder clay	- - - - -	10	Boulder clay and gravel	- - - - -	4
Red rock.			Rock.		

The variable character of the beds, agreeing with what we know of the action of the tides and current in wide parts of the Mersey, renders it impossible to deduce any evidence of comparative age from the relative positions of the movable objects which were found. On this point I would cite the remarks of Sir Charles Lyell, in reference to the discovery of a number of dug-out canoes at Glasgow:—

“There can be no doubt that some of these buried vessels are of far more ancient date than others. . . The occurrence of all of them in one and the same formation by no means implies that they belong to the same era, for in the beds of all great rivers and estuaries there are changes continually in progress,

⁷ For particulars of this and other skulls found in the excavations, see Mr. May's paper, *Proceedings of the Warrington Literary and Philosophical Society*, 1893-4.

106 *On two ancient Boats, found near Warrington.*

brought about by the deposition, removal, and redeposition of gravel, sand, and fine sediment, and by the shifting of the channel of the main currents from year to year and from century to century. All these it behoves the geologist and antiquary to bear in mind, so as to be always on their guard, when they are endeavouring to settle the relative date, whether of objects of art or of organic remains embedded in any set of alluvial strata."⁸

The question remains as to the meaning and age of the piles and the relation to them of the canoes. The contiguity of piles and a dug-out canoe, of course, at once suggests a lake dwelling, but the peculiar plan of the piles and stakes is against that idea; and although canoes, as we have seen, are invariably associated with lake-dwellings, the converse is by no means true. The relative position of the canoe and piles is, in fact, incompatible with the idea of there having been any connection between them. The canoe was found at the foot of the piles and three feet below the foot of the stakes, which could not, therefore, have been in existence when the canoe was deposited, nor until the spot had been overlaid with some feet of mud. The stakes being five feet in length, and their tops ten feet below the surface, indicates roughly the very considerable intervals which must have elapsed between the deposition of the canoe and the construction of the piling, and again between that time and the present. From the natural trend of the course of the river at this point, I would infer that the piling, when erected, was connected with the Cheshire bank—the river having moved southward since, and made land where was then probably a broad, shallow estuary.

⁸ Lyell, *Antiquity of Man*, 1863, p. 49.