

ART. I. – *Sea Cliff Erosion at Drigg, Cumbria: Evidence of Prehistoric Habitation.*
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History

The coast to the north of the road from Drigg village to the shore is composed of a low boulder-clay cliff overlain with blown sand which has been stabilized by grasses and other vegetation. During storms and high tides in winter and spring this cliff is being slowly eroded by the sea.

In their report of a Microlithic site at Drigg in 1955¹, Nickson and Macdonald wrote that the site had first been noted as a result of the discovery of nodules and flakes of flint lying about the foot of the cliff. Since that time further considerable erosion has taken place, and in 1960 a band of organic material was exposed in the sand some distance below the cliff top and in this in 1963 were found, in situ, flakes of flint and several fragments of heat-shattered granite pebbles. Investigation of the organic layer by Professor W. Pennington Tutin² demonstrated that it consisted of raw humus built up in temporal succession, and pollen analysis indicated forest clearance immediately above the flint and stone bearing horizon.

After further heavy erosion of the cliff in 1966, substantial fragments of timber were exposed at about the same depth below the surface of the organic band as the artefacts found in 1963. About 20 metres to the north of this, erosion had also exposed a hearth of heat shattered granite pebbles and charcoal, 2.5 metres wide and 0.2 metres thick at its maximum. The base of the hearth was about 0.2 metres above the base of the organic band and it is highly likely that the broken stones found in 1963 originated from this hearth.

In 1967 the site was visited by the late Professor T. G. E. Powell who supervised a limited sectioning of the cliff-face to try to ascertain if the timber fragments had any archaeological significance. Professor Powell was engaged at the time in an excavation at Storrs Moss, near Carnforth, where tree-burning, timber work and artefacts of flint and chert were found correlated with upper zone VIIa peat³.

High tides and storms of the winter and spring of 1968/69 destroyed part of the remains of the timber structure but exposed much more of the hearth which by then had reached its maximum size, in the form of a lens 3.5 metres wide and 0.3 metres thick about its centre. Samples of charcoal were taken before and after the major erosion, by Professor Pennington Tutin and Mrs. J. Ward. These were submitted to Belfast University for carbon dating.

Finally, in 1970, a section drawing of the hearth and the remains of the timber structure was prepared by Miss B. Harbottle.

The Organic Layer

The results of the study of the pollen grains in the organic band have already been reported in the Transactions of this Society² and concluded that the deposit must have

accumulated after the Elm Decline of *c.* 3000 b.c., but it was not possible to say how much later.

Earlier work had indicated that the peaty deposits exposed on the foreshore at Drigg were laid down about 6700 BP (4750 b.c.). Dr M. J Tooley⁴ argues that the difference can be explained by the cliff deposit being formed by sedimentation within an enclosed basin which has now eroded and become exposed in the cliff section as a result of contemporary coastal processes.

Although the artefacts were found in the lowest level of the peat, overlying grey sand, the total organic band is composed of distinct layers of different thicknesses containing varying amounts of humus. This effect could be caused by variations in climatic conditions, by changes in the drainage of the site, or by a combination of both these factors. The layers are clearly seen in Plate I, the timber structure, and again in the section drawing, Fig. 1, 2, where their composition is described.

The Timber Structure

The following note by Professor Powell and the late Dr J. X. W. P. Corcoran was written in July 1967:

“Remains of timber structure at base of sand-dunes at Drigg, Cumberland.
SD 045986 (O.S. 1-inch sheet:88) Visited April 1967.

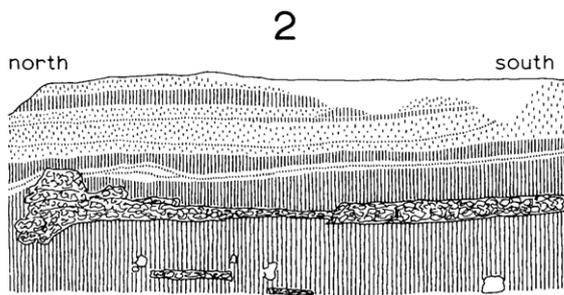
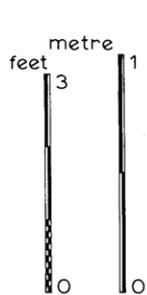
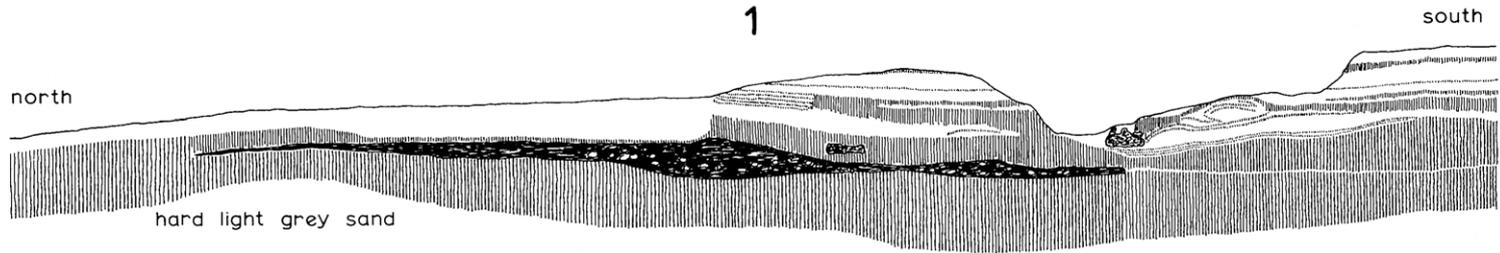
Archaeological description must at present be confined to observations made at the



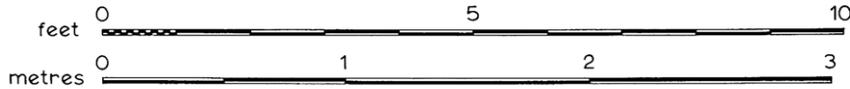
PLATE I. – Timber Structure in Organic Band.

- a: Vertical peg.
- b: Timber pieces protruding from cliff face and lying on top of horizontal timber.
- c: Timber piece protruding from cliff face about 30 cm below horizontal timber.

DRIGG



-  sand
-  sandy peat
-  peat
-  ash and granite pebbles
-  wood



SEA CLIFF EROSION AT DRIGG, CUMBRIA

JC, RBH - 1970

FIG. 1.

cliff face in April 1967. The cliff hereabouts runs approximately north and south, and a substantial blackened timber was seen lying in this face, and giving an overall length of 4 metres. At the southern end, and at about 30 cm below the lower edge of this timber, there projected out from the cliff face remains of a lighter, but still substantial piece, well seen in Plate I. These two elements lay therefore approximately at right angles. Dune overhang prevented any investigation of this area. At the northern end of the main timber, it proved possible to clear a small area of fallen sand, and to uncover 1.20 metres so that this piece could be inspected from above as well as to one side. At this northern end, the main timber element lay directly on the peaty silt. The end of the timber was much broken and weathered, but close to it was found the stump of a vertical peg, 5 cm approximately in diameter, and at least 25 cm long. It was not possible under the circumstances to follow it downwards to its termination. Lying directly on the upper surface of the main timber at this end were several broken pieces that would appear to have run back into the face of the cliff although now broken away from it. These would therefore have corresponded in a general way to the projecting piece at the southern end although lying above and not under the main timber.

The main timber was much broken and weathered throughout its length, and in parts had already fallen away. There was no certain evidence of tool working other than that the whole piece appeared to have been a split tree trunk with the riven surface upmost. The curved outer surface could be felt by hand against the under-lying peaty silt. The existing somewhat hollow shape of the tree trunk may be explained by the decomposition of the interior wood, and the falling outwards of the harder surfaces along the sides.

It seems likely that the remains here observed represent the ground framework of a rectangular, possibly square, structure that had been built on the peaty surface, and perhaps stabilized by pegs such as the single example uncovered.

T.G.E.P. and J.X.W.P.C., 2 July 1967".

During the preparation of the cliff section, a small core of lightly patinated honey coloured flint, Fig. 2, 1, was found lying on the horizontal timber at its northern end at the point where the broken pieces protruded at right angles from the face of the cliff. Cores of this type are commonly to be found on the Bronze Age sites on the Cumbria Coast; they tend to be melon-shaped without narrow blade scars and with little evidence of prepared striking platforms. Other flint artefacts found in situ in the organic layer about this point before the appearance of the timber structure are also shown, Fig. 2,

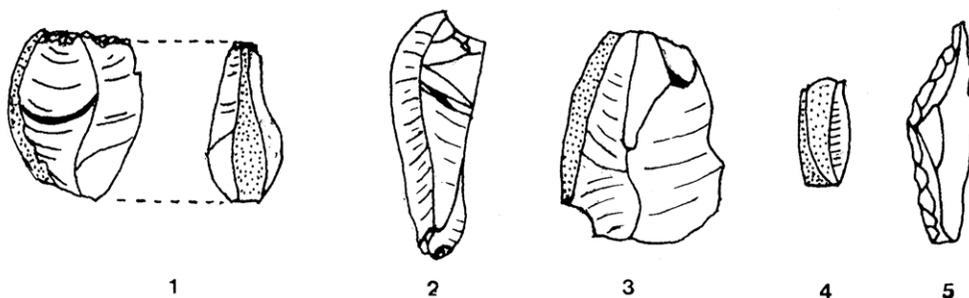


FIG. 2 - Flint artefacts found in situ in the Organic layer, 1-4. Scale 1:1. Microlith found below the hearth, 5. Scale 2:1.

2-4. Three of the flints exhibited beach pebble cortex and it is worth noting that all the flints were lightly patinated to a similar degree.

The Hearth, Fig. 1, 1.

Since its appearance in 1966, cliff erosion has caused an apparent increase in the length of the hearth, followed by a diminution both in length and thickness. At the same time the position of the hearth in the cliff has moved southwards relative to its position in 1966. This would indicate that the hearth, in its original form, was oval in shape and was lying at an angle of about 45° to the south east of the face of the present-day cliff. It was also noticed that, over the years, the peat band became progressively thinner, and that eventually the hearth began to penetrate its upper surface.

Frequent examination of the hearth and its erosion debris since its first appearance has resulted in the discovery of only a single flint artefact, a microlith, Fig. 2, 5, which lay just below the peat band on the face of the cliff. Since the microlith was not firmly embedded in the surface of the cliff, the possibility that it had fallen from above cannot be discounted, but it must be noted that it showed no signs of having been burnt.

Radiocarbon dates from the charcoal from the hearth have been reported by G. W. Pearson in Radiocarbon⁵, under reference numbers UB-905 and UB-906, as 3780 ± 55 BP (1830 b.c.) and 4135 ± 55 BP (2185 b.c.) respectively, which places its use in a late Neolithic or early Bronze Age context.

Other Evidence of Habitation

This stretch of the coast close to the estuary of the River Esk and adjacent to the beach, was always an attractive place for prehistoric man to live. Movement was easier than inland and the supply of food from the land could be supplemented by various forms of estuarine life and sea-food.⁶ In addition, here was the main source of flint, in the form of beach pebbles, with which tools and weapons could be manufactured.

Mesolithic, Neolithic and Bronze Age flint knapping sites have already been described^{1, 2} and about a mile to the south of the Drigg shore road a hearth associated with 1st century pottery was examined in 1971.⁷

About 50 metres south of the cliff hearth was the remains of a similar hearth lying at a slightly lower level on the boulder clay. This had been heavily eroded by the sea and there was little or no charcoal remaining. To the north of the cliff hearth, a small sherd of Romano-British pottery was found on an outcrop of pebbles which overlies the organic band at this point.

The remains of small hearths measuring 0.5 metres by 0.25 metres have been found in the sand-dunes to the south of the Drigg shore road about a mile from the Drigg cliff site, and on one of these the remaining charcoal of the hearth was covered by a flat piece of water-worn sandstone. A similar hearth with a sandstone cover was discovered on a Bronze Age site in the Eskmeals sand-dunes.

Discussion

In addition to the supporting flint evidence from the Drigg sand-dunes, late Neolithic and Bronze Age flint artefacts, including petit tranchet derivative arrowheads, have been found at St. Bees, Eskmeals,⁸ and Walney Island.^{9, 10}

The occupation of the Cumberland coast by Beaker people has been postulated by T. H. McK. Clough¹¹, and although cord-zoned pottery, which is usually associated with Beaker coastal settlement has not, so far, been found in the coastal strip, it has been found at North End, Walney Island, where conditions are similar to those prevailing at Drigg. Some 5 miles inland from the cliff site, a cord-zoned Beaker sherd has been found in a cairn at Mecklin Park, Santon Bridge.

The tanged and barbed arrowhead found about 40 metres inland from the cliff exposure was of an early type and a tanged triangular arrowhead found with this² is similar to one found associated with tranchet derivative arrowheads at Williamson's Moss, Eskmeals.⁸

From their relative positions in the organic band it seems likely that the flints and heat-shattered granite pebbles found in 1963 are contemporary with the timber structure and the hearth. If this is so then both are associated with the forest clearance episode shown by the analysis of the pollen in the organic layer.

The radiocarbon dates from the hearth show a minimum difference of 245 years between the dates obtained for the two samples, and I do not suppose that the hearth could have been in use for such a long period. Given that the samples were taken at different times from different places in the hearth, and with the possibility of sample contamination and experimental error, it would seem reasonable to take an average date of 3957 BP (2007 b.c.) for the date of use of the hearth. This would suggest an early Bronze Age occupation of the site, which would include the building of the timber structure and the use of the hearth by a people who were clearing the area of trees for agricultural purposes.

References

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- ³ T. G. E. Powell, F. Oldfield, J. X. W. P. Corcoran, "Excavations in Zone VII Peat at Storrs Moss, Lancashire, England", PPS XXXVII, 112.
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- ¹¹ T. H. McK. Clough, "The Beaker Period in Cumbria", CW2, lxxviii, 1.

Acknowledgements

I wish to express my gratitude to Miss C. I. Fell and Professor W. Pennington Tutin for all their help and advice in the compilation of this paper. I also acknowledge the interest shown in the site by the late Professor T. G. E. Powell and Dr J. X. W. P. Corcoran. My thanks also go to Miss B. Harbottle for producing the cliff sections, and I am especially grateful to all my family for their help and support in this project.