

driven to shelter. Broadwoodwidge on Saturday had two heavy hailstorms at an interval of an hour. The stones were of the size of large peas, and accompanied by much rain. At Black Torrington a fine morning was followed about 2 p.m. by thunder and lightning, and sharp showers of rain and hail. A bitterly cold easterly wind prevailed at Starcross, and Kenton had a heavy hailstorm. In the evening rain fell at Starcross.

### III. ARCHÆOLOGICAL.

#### DUNNABRIDGE CHAIR.

The stone seat inside Dunnabridge Pound has caused some speculation as to its original purpose. There is a voucher dated 9 September, 1620, for a sum of 3s. 4d. laid out by the reeve of the manor of Lydford for repairing the Pound walls, gate, and stocks at Dunnabridge.

From this it would appear likely that this rude covered bench was the seat of the stocks.—“Dartmoor Preservation Association Transactions,” Vol. I, p. 60.

ROBERT BURNARD.

#### REMAINS OF ANCIENT MILL AT BABENEY.

The agricultural operations of the occupiers of the ancient tenements of the forest of Dartmoor were mostly confined, as they are now, to the rearing and care of cattle, horses, and sheep. There was some tillage, for a mill was constructed at Babeney in 1302–3 by the King's tenants at their own cost except the timber, which they had in the King's wood.

Ten years afterwards mention is made that the bailiff of the manor answers for the farm of the mill at Babeney, and in 1618, in a document entitled “An Abstract of a Survey of Sundry Woods within the County of Cornwall and of his Highness's Mills within the Borough of Lydford,” the following occurs:—

There is a mill within the forest of Dartmoor in a village called Balbeny in the occupation of all the freeholders within the forest of Dartmoor, and by them leased, but by what right we know not. The old rent 20s. by the year; the rent reserved by the freeholders is 53s. 4d. per annum, and the improved value for which the said lessee doth let the same is about £7; but we find that the said mill was leased in 12 Elizabeth for twenty-one years unto one Thomas Beaston. All dwellers within the forest owe suit to this mill.

In 1626 the mill was demised to Thomas Briscowth, and other references to it crop up from time to time in Vol. I of "Dartmoor Preservation Association Transactions."

This mill was situated close to the ford across the Walla-brook, and some remains of it still exist, consisting of mill-stones, the stone blocks which carried the shaft of the water wheel, and portions of a dwelling.

When the modern clapper bridge was erected over this ford in 1902, Mr. George French, the builder, found some small broken mill-stones embedded in the river, and from his account of them it is clear that these were of greater antiquity than the specimens now lying partly buried on the site.

The field sloping up from the site towards Barbeny farmhouse is still known as Mill Hill.

This mill was near some of the best of the tenements, or, as William Pellowe of Lydford put it in 1627, in a case involving a dispute as to tithes with William Barber, the rector of Lydford, "the farthest parts of the parish of Lydford, near the wild wastes, are good land, inhabited by rich inhabitants, and tilled with oats and rye, and with manurance tilled with barley."

It is possible that sufficient grain was grown to largely provide for the wants of the moorland dwellers; any deficiency could be had from the enclosed country, which lay not far away from the principal tenements.

ROBERT BURNARD.

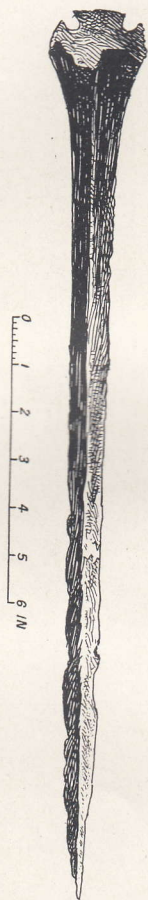
#### STONE AND BRONZE IMPLEMENTS.

A fine arrow-head of flint was found by Mr. F. Coaker in Dunnabridge Bog in April last. It was discovered during the process of turf-cutting, and lay eighteen inches under the surface.

A rough cake of impure tin was recently found during some repairs to a fence by Mucks Hole Gate, Postbridge. This gate is close to the site of an ancient blowing-house situated on the right bank of the Stannon Brook. The cake weighs 20 lb., and was evidently cast in an improvised mould, probably a mere hole in the earth or subsoil. It was certainly not cast in the mould-stone, which may still be seen in the wall which passes close by the smelting place. The tin may have been stolen from the furnace, hidden in the ground, and never reclaimed by the thief.

During this month (July) Mr. Almond, of Hexworthy,





BRONZE SWORD-BLADE FOUND NEAR FICE'S WELL.

found a small stone celt in the Bearas opposite Huceaby House. It is of flint, much patinated by exposure, is  $2\frac{1}{2}$  in. long,  $1\frac{3}{4}$  in. wide, and possesses a well-ground cutting end of  $1\frac{1}{2}$  in. The butt-end is roughly flaked.

ROBERT BURNARD.

Mr. Arthur Evans detected instantly on the pygmy cores and splinters submitted to him by myself (*vide* Trans., Vol. XXXVIII, p. 260) plain traces of use on practically every one of the splinters, and quite agreed with me about the cores. The pygmy blade splinters have been used for some sort of cutting or fashioning; and one and all, in the opinion of Mr. Evans, have been flaked off from just such cores as those among my specimens.

I have lately acquired a fine perforated stone axe-hammer from Bratton Down, near Bratton Fleming, found about two inches below the surface. I have also obtained the main portion of a polished flint celt from Georgeham. This implement in its perfect state must have been considerably longer than the perfect and beautiful one from Melbury Moor, near Bideford, exhibited at last year's meeting at Lynton. Implements of this character are very rarely found in North Devon.

THOMAS YOUNG, M.R.C.S.

On October 10th, 1906, a convict engaged with others in making a new road across the bog-land lying between Greenaball and Fice's Well turned up a bronze sword-blade in excellent preservation, 18 in. long,  $\frac{3}{4}$  in. wide,  $\frac{1}{4}$  in. thick measured at the mid-rib, and weighing  $7\frac{3}{4}$  oz. The blade is of the usual slender pattern figured by Sir John Evans, and it had been pierced with two rivet holes to attach it to the hilt, but no trace of the latter was found. Apart from the fact that it is the finest bronze weapon yet found on Dartmoor, the find is of unusual historical interest owing to its position. The ground is an undulating plain, raised about fifty feet above the valley of the Blackabrook, distant about half a mile, into which it drains. It is covered with heather and a layer of peat of a uniform depth of eighteen inches and evidently undisturbed. Under the peat is a waterproof layer of black soil four inches thick, which is called locally the "iron pan," though there is less than 1.5 per cent. of iron in it. Upon this, and partly embedded in it, are the roots and boles of oak trees, showing that the land was formerly covered with a sparse oak forest of no great size. It was upon this "iron pan" that the sword-blade was lying flat.



Under the pan there lies a clayey yellow sand, with small lumps and boulders of rotten granite embedded in it. Pits twelve feet deep were sunk in this without coming to the solid rock, and it was observed that in heavy rains the water did not lie in these pits, but immediately drained away through the sand, whereas not a drop found its way through the pan.

The pan is evidently the original soil of Dartmoor, and, from the position of the sword-blade, one may hazard a suggestion that it was the soil of the moor as late as the Bronze Age. If this were so, at the period when the hut circles were inhabited we must picture the moor as a vast expanse of grass-land thickly timbered in the stream bottoms, with sparser trees on the lower hills, and denuded as it is now on the higher slopes of the tors. The subsoil being porous there were then no bogs, and the people of the hut circles must have found pasture for their herds in abundance. At some time after the sword was dropped by its owner—almost within historic times, in fact—the peat began to form, and it is in this suggestion that the main interest of the find lies. A section of the ground was cut on the site and forwarded for examination to Mr. A. D. Hall, Director of the Agricultural Experimental Station at Harpenden. He writes that the "iron pan" is almost always present beneath a bed of peat.

I think [he says] that in this case it may be taken to represent some change in the climatic or geological conditions which have brought about the water-logging of the soil and the consequent destruction of the former growth of trees. Peat begins to accumulate as soon as the access of air is cut off from the soil by a permanent accumulation of water near the surface. Then the character of the bacterial decay of the vegetable matter, which still manages to survive on the top, changes: instead of rotting away entirely, like a piece of dead wood does when lying on the ground, a new set of bacteria, preserving the greater part of the carbonaceous matter, reduce the vegetable tissues to black peaty material. This will accumulate from the surface-growth with considerable rapidity as long as the water-logging continues.

How did the thin coating of soil become water-logged? The alteration of a stream course will not account for it, for there must always have been a good fall into the valley of the Blackabrook, and the deposit of peat on the uplands of Dartmoor is almost universal. I confess that I can think of no explanation but that the rainfall suddenly increased to

such an extent that the water could not drain away fast enough through the porous subsoil, and that the clayey matter in the decayed granite was churned into a waterproof coating, which stopped the drainage altogether. It will be remembered that in his excavation of the Romano-British villages in the chalk General Pitt Rivers found evidence of a greater rainfall in Roman times, and it is possible that the formation of the peat on Dartmoor may date from this comparatively late period.

This, it is right to say, is not Mr. Hall's view. He thinks that there has hardly been time for any climatic change to have operated since the Bronze Age, and that the tendency would have been in the direction of drier conditions less favourable to peat formation than the other way. He suggests, therefore, that the sword was buried under the peat by its owner.

There is a third suggestion, namely, that the weapon had been dropped on the surface of the peat, and had worked down by its own weight, but I doubt whether so light an object, lying flat, could have passed through the fibrous matter.

After my examination of the spot I confess that the burial theory is not convincing. There are no sepulchral remains in the immediate vicinity, and it would be a remarkable coincidence if a person burying an object of such value should have chosen the exact depth at which the peat stopped and the surface of the original soil began.

Mr. Hall's analyses of the sections of soil taken on the spot are as follows:—

*Peaty Soil*, percentages calculated on dried soil:—

Loss on ignition (organic matter)	. . . . .	= 9.6 %
Carbonate (largely carbonate of iron, lime being very low)	. . . . .	= 0.48 %
Oxide of Iron	. . . . .	= 0.65 %
Phosphoric Acid	. . . . .	= a trace

*Iron Pan Soil*:—

Carbonate (chiefly iron)	. . . . .	= 0.303 %
Oxide of Iron	. . . . .	= 1.00 %

BASIL THOMSON.

#### NUMISMATICS.

A silver penny of Elizabeth was found at Baggy Point, and a London silver penny of Edward I was found at Croyde.

THOMAS YOUNG.