a middle-sized, and a small one, and some weapons close to them.”

2nd.—“Are the flint weapons and dress-fastenings found in all the fields in the neighbourhood?”

“No; only where they can be readily accounted for. Many fields have no flint implements upon them, or only stray weapons, thrown by the people when hunting.”

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Mr. Denny read the next Paper:—

NOTICE OF EARLY BRITISH TUMULI ON THE HAMBLETON HILLS, NEAR THIRSK. BY HENRY DENNY, A.L.S., OF LEEDS.

To know something of the district in which we reside, the historical events of which it has been the theatre, or the various peoples and races who have preceded us, ought to be subjects of deep interest to every thinking mind. For what can be a more interesting or instructive study than to compare the present with the past, even as regards the various phases in the history of the human family since their first occupation of Britain?

It is true, much information as to the past is already placed on record. But it is equally true that much which is prehistoric remains to be collected and collated by those of the present generation, or the materials now accessible will be irretrievably lost; and although the surface of the country, on the one hand, may have undergone many and mighty changes, thus leaving little to mark the actual site of memorable occurrences which are presumed to have taken place in particular localities, its primeval inhabitants, on the other, have left us only their burial-mounds, the sites of their Oppida or fortified villages, to indicate the tribe or nation to which they belonged; yet even these memorials, after the lapse of many centuries, furnish so many faithful
records or pages in the history of the people to whom they refer; and though at best but scanty, are all the materials we have to guide us in compiling the earliest and most important chapters in the chronicles of the nation to which we belong, or the county wherein we reside.

When Cæsar landed in Kent, in the year 55 B.C., he found this country inhabited by various races of men, known under the general name of Ancient Britons. But different portions of it were occupied by separate tribes, under distinct rulers; hence these different localities are associated with the historical records of those early races, and each portion has some memorable occurrences connected with its people, their wars, or subjugation. Thus the Malvern and Breiddyn Hills witnessed the last defence and defeat of the Silures under Caractacus; while, probably, Cambridge witnessed that of the noble Boadicea and the Iceni of Norfolk and Suffolk; and those tribes inhabiting the coasts of Kent and Sussex had to contend with, and finally succumb to, the repeated attacks of the Roman and other hostile invaders, who in succession landed in Britain.

But probably no portion of this island is so rich in historical associations, or has shared more in the vicissitudes attendant upon war or internal rebellion, than Yorkshire. In the fastnesses of its hills, and on its extensive moors to the north, dwelt the Brigantes, the most powerful nation of the aboriginal Britons; and on the south-east coast the Parisoi, a maritime tribe of importance. From one extremity of the county to the other, the soil has resounded to the tread of the conquering legions of Rome. The Saxons, Picts, and Danes have in like manner exhibited their military prowess on its mountains, plains, and shores; and, if we come down to more recent scenes of strife, as my old friend Professor Phillips has said, "from the walls of York we may see three decisive battlefields,—where Hadrada fell at Stamford Brig,
Clifford died at Towton Dale, and Rupert fled from Marston Moor.”

It is, however, to the earlier period of our history only that I have now to add a short paragraph “On the burial-mounds of our ancestors in the neighbourhood of Thirsk;” though I am well aware that to many persons the examination of these early graves, or tumuli, with their rude implements of flint and vessels of sun-dried clay, possesses no interest or value. But such parties probably forget that these memorials form an important link in the chain of past history, and are intimately connected with the present; that they contain the progenitors of our own race, with whose origin and progress we ought surely to be anxious to become familiar, as the Briton of to-day owes his elevated and social position entirely to the various nations by whom this island has been conquered or colonized, and whose remains, now disinterred from their burial-mounds with the simple objects the latter contain, alone mark the slow progress of the skin-clad hunter of Britain in the arts of war and peace, and contrast strongly with the refined productions of their Roman subjugators, and even with their subsequent and less civilized Saxon rulers.

The northern and eastern parts of this county still exhibit numerous tumuli, earthworks, and intrenchments of the Britons, Anglo-Saxons, &c., in the former of which peaceably repose the remains of those hardy defenders of their native fastnesses. From the elevated position of these rude constructions on the Hambleton Hills (a magnificent range, extending for eighteen miles), an extensive panoramic view of the surrounding country is commanded. And here was, doubtless, a strongly-fortified position in the year 50, when Iseur, afterwards Isurium of the Romans (of which Aldborough near Boroughbridge is the site), was the capital of the Brigantes, under Cartismandua, and afterwards occupied by the revolted Britons under Venutius against their perfidious
queen, and again during the civil wars, from the year 52 to 70; or it may have been one of the last strongholds of the Britons, to which they retreated from the invading forces of the Romans under Petilius Cerealis, and also subsequently that of the Anglo-Saxons.

On glancing at the Ordnance Map, embracing that portion of the Hambleton Hills in the neighbourhood of Thirsk, numerous tumuli are indicated—on Boltby Moor, Hesketh Moor, Hawnby Moor, Kepwick Moor, and Southwoods,—nearly all of which have been examined by the Rev. W. Greenwell, of Durham; Mr. Craster, of Middlesbrough; Mr. Verity, of Southwoods; and Mr. Murray, of Daleside; with varied results, some of which I purpose to detail. My own attention was first called to this locality and its sepulchral mounds by an interesting series of objects presented to the Museum of the Philosophical Hall by Jas. Fox, Esq., C.E., which had been obtained by Mr. Johnson, of Hesketh Hall, on the 9th of July, 1864, from a tumulus on the adjoining moor, 1,025 feet above the level of the sea. As these objects presented a somewhat varied character, and also differed in manufacture so as to suggest a difference of date, it appeared highly desirable that another examination of the tumulus should be made, and all the circumstances of disinterment carefully inquired into as far as was possible. I therefore visited the locality myself on two occasions, in August and September, as also in company with Mr. Fox and Mr. Abraham Horsfall, of Leeds, and explored what remained of this tumulus, and of three others in the adjoining fields; and I can bear witness to the zeal which both these gentlemen displayed in the laborious task of grave-digging. The tumulus just referred to was about 50 feet in diameter, and probably 3 feet 6 inches in height above the surface of the moor, of a conical shape, and appeared to contain indications of having been used on more than one occasion as a place of
burial. On the north side, at about two feet below the surface, the skeleton of a female had been found extended at length, and was probably that of a young person. The skull was destroyed, but near the neck were the remains of a necklace, which originally consisted of, probably, about 120 variously-shaped beads of jet and kimmerage coal; of these forty-seven are of cylindrical form, and twelve are slightly conical studs, about the size of a shilling, pierced on the back with two holes meeting at an angle in the centre. Both these forms are much acted upon by time, and are beginning to split up, while the remaining fifty-six were small circular discs perforated in the centre, slightly countersunk, and quite unaltered by time; also a connecting fragment of bone. In a similar necklace, found by the Rev. W. Greenwell in Northumberland, the beads were also of two different materials, jet and shale. Towards the centre of the tumulus, and about five feet below the surface, the remains of several skeletons were found, of various ages and characters; in one lower jaw the last molar or dens sapientiae was just breaking through, while in another the alveolar cavities were entirely absorbed, indicating, on the contrary, extreme old age. Again, while the frontal bones in several were of the ordinary form, one of the skulls had the low receding forehead and the superciliary ridge very prominent. All the bones were intermixed with soil, fragments of pottery, and chippings of flint. There were also numerous shells of helix nemoralis and zonites radiatus, whitened by age. It may suggest a curious inquiry, How had these shells become associated with the other remains? They could not have been of recent introduction, as no apertures existed, and I found them in the firmly-packed soil, which had not been removed for a long period. If a single individual or two had been exhumed, and near the surface, the above supposition might have been probable, but here they occurred in too great a number to have
entered when the barrows were temporarily plundered and filled up again. The former species also occurred at a considerable depth below stalagmite in the Dowkerbottom cave, near an infant's grave. Could they have been interred with the original occupants of the barrow as articles of food, or for some other superstitious rite at present unknown to us? Above the whole, a considerable number of flat masses of limestone had been placed, apparently to form a cairn. On the east side of the tumulus, about three feet from the surface, a layer of calcined bones, perfectly white, were discovered, showing that a separate interment, evidently after cremation, had taken place.

From the fragmentary condition and heterogeneous assemblage of objects in this tumulus I suspected that it had been previously disturbed, and the bones and other remains thrown in again by the ruthless treasure-seekers.

A careful examination of the fragments of pottery found therein indicates that originally there had been five vessels, of different sizes and varied form and ornamentation. Two, which I have been able partially to restore, were what Sir Colt Hoare terms drinking-cups, and are, as I am informed by the Rev. Wm. Greenwell, of Durham, rare examples of the kind. The portions of two others differ from the preceding; one, which has been also a drinking-cup, having the herring-bone or lozenge-shaped pattern on the upper part, and below parallel perpendicular lines separated by broad transverse plain bands; while the fourth fragment is a much stronger vessel, a cinerary urn; the fifth resembling the coarse black Roman pottery, with indications of burning.

The number of apparently independent fragments of different urns, mixed with the bones and chippings of flint, is a curious circumstance, affording a somewhat conclusive evidence that in many instances they are not the portions of urns which had been subsequently broken, as then the con-
necting fragments might be again recognized and restored; but that these had been fragments only when originally deposited with the bodies. Again, the flint chippings appear somewhat obscure as to their use. Flint implements, or articles of personal decoration, have a history attached to them, as connected probably with the former owner with whom they are interred.

In the tomb of Mithridates, in the neighbourhood of Kertch, which was in a huge tumulus 120 feet in height by 150 feet in diameter, the skeleton of the king was discovered, with various golden ornaments, his sword, &c., and a multitude of little sharp flints were lying at the feet heaped up in a pyramidal form.*

There seems to be an allusion to this custom in the Septuagint Version of the book of Joshua, chapter 24, verse 31, for the following translation of which I am indebted to the Rev. Canon Atlay, D.D., vicar of Leeds, which reads thus: "There they placed with him, in the tomb where they buried him, the stone knives with which he circumcised the children of Israel, at Gilgal, when he brought them out of Egypt, as the Lord commanded them; and there they are until this very day."

Now although this passage does not appear in the present Masorctic text of the book of Joshua, and may therefore be presumed as an addition to the original text, it matters little, as it clearly proves that the practice of interring stone implements with the dead was known at least 300 years before Christ. As instances like the above are not of unfrequent occurrence, both in Britain as well as on the Continent, they have had evidently a peculiar object. The Rev. Wm. Greenwell, of Durham, in an interesting account of the opening of some barrows at Ford, in Northum-

berland, under similar circumstances, observes,—"The facts which the first barrow discloses suggest many questions, hard perhaps to solve, but worthy of solution, and are indeed of the highest interest. Why were some bodies buried unburnt, whilst others were consumed by fire? Were the burnt bodies those of slaves or wives, killed to be ready for the chief in the land of the departed? What was the purpose of the small urn placed by the side of the corpse? Did it contain food for the use of the departed in the interval whilst he lay in the tomb? The flint arrow-head or the bronze spear, laid beside the hunter and warrior, or enclosed in the urn among the calcined bones, speak of war and the chase in other worlds, or, as some think, they tell of a purpose accomplished with the owner's death. But what mean the flint-flakes—mere shapeless chippings,—of which so many are found accompanying the old interments?

"It is probable that this custom of placing broken pot-sherds and flint-flakes in the tomb may have a religious significancy, which as yet we cannot explain. From the frequency of their occurrence, we cannot suppose them to have been accidentally deposited; and their being found associated with the dead is strong evidence of their being linked to some religious chord in the faith of these ancient people. A passage in Hamlet (act 5, scene 1) may have originated in a lingering remembrance of this custom, where the Priest, answering Laertes relative to the burial of Ophelia, says,—

"'Her death was doubtful;
And, but that great command o'ersways the order,
She should in ground unsanctified have lodged
Till the last trumpet; for charitable prayers,
Shards, flints, and pebbles should be thrown on her.'"

From what I have previously stated, it would appear that three distinct interments had taken place in this tumulus, the most recent being that of the female—probably a Briton.
Mr. Bateman informs us that in North Derbyshire it is not an uncommon occurrence to find the Celtic tumuli taken possession of by the Saxons and Romano-British people.

In a second circular tumulus, situated at a short distance from the preceding, a skeleton in the position peculiar to Celtic interments was discovered, and a portion of the brow antler of the red deer; but no pottery or personal ornaments or implements of any kind occurred. The bones appeared to rest upon the surface of the moor, stones had been placed over it to form a cairn, and, finally, over all was heaped the soil to form the tumulus.

It will have been observed that I have not been able to describe with any degree of minuteness the precise character of the interments in the first of these tumuli from personal examination, as the greater portion of it had been removed with its contents previous to my arrival, and the human bones scattered about in considerable numbers on the surface of the moor. The old man, however, who had been employed by Mr. Johnson, and afterwards by myself, stated that nine skulls had been dug out comparatively perfect,* mixed with other bones, and which appeared to lie straight or at full length; but, as these were not the articles for which they were in search, they were broken with the spade as useless, and thrown out: which is much to be regretted, as from an examination of the fragments it is very probable both the brachycephalic and kumbecephalic forms of skull might have been obtained. Besides the flint implements and chippings found mixed with the bones and pottery, numerous examples, of larger size and better finish, are scattered over the moors, several of which were procured from the residents at the farm-houses known as Upper and Lower Paradise, by Mr. Fox, and presented to the Museum of the Philosophical Society.

*I picked from the bones scattered on the surface fragments of nine lower jaws, besides various portions of the skulls.
In the village of Hawnby are numerous indications of tumuli. On the estate of Mrs. Hamer, of Daleside Lodge, on Sunny Bank, there are twenty of these mounds. This locality is a sort of spur running out from the eastern side of the Hambleton Hills, and overhanging the village. It is crossed by an ancient dike, on the west side of which there is a group of tumuli, consisting of a large one in the centre of eight or nine much smaller, and has apparently been a cemetery. These have all been examined by Mr. Murray, of Daleside Lodge, and Mr. Verity, of Southwoods, and only three of them supplied any interesting results; for an account of which I am indebted to these gentlemen. The larger tumulus, to which I have just alluded, probably Anglo-Saxon, was 120 feet in circumference and four feet in height. It contained the skeleton of a young female, evidently of high rank, who, from the various decorative articles and personal ornaments which still accompanied it, might once have been a form of considerable personal attractions. At the head was a bowl of thin bronze, with three handles, about eleven inches in diameter, which had a wooden cover ornamented with strips of bronze arranged in a diamond pattern, and fastened with a bronze hasp. The wood was decayed, and the lid had fallen inside the bowl. Her waist had been encircled by a leathern girdle, of which the buckle or clasp was made of two plates of gold, one of which, worked or engraved in a cross-shaped pattern, and set with four garnet-coloured glass ornaments, still remained. These plates were riveted together by four gold rivets, leaving a space between, in which a fragment of the leather was still in its original position. Near the head were two pins, one of gold, about two inches in length, with a flat pear-shaped head, on which a design in lines was marked; the other silver, of larger size, probably a bodkin, with two holes perforated through the upper part. There were also several rings made of silver wire, the ends joining together in a
twist, blue glass beads, a portion of a knife, and several much corroded fragments of iron, a small circular stone perforated in the centre, probably the whorl of a spindle, and an oblong bronze ornament of unknown use. The body was lying with the head to the north, and the bones much decayed. The cutting edge of the front teeth were filed into three points: a singular custom, probably indicative of some peculiarity of rank or tribe to which the deceased belonged, and to which I have not seen any allusion in previous disinterments.

Dr. Barnard Davis, however, one of the learned authors of *Crania Britannica*, informs me that he has in his possession an Ashantee skull, the upper front teeth of which have been chipped to points. This is a most remarkable circumstance, as it shows that a similarity of custom has prevailed between two tribes so widely separated by time and locality, as an Anglo-Saxon of probably the fourth or fifth century of our era, and a native of Western Africa of the present day. The only difference is that in the Ashantee the pointing has been confined to the upper front teeth, and in the Yorkshire skull to the lower.

It is much to be regretted that the above series of personal ornaments, &c., were not retained complete. The bowl is now in the possession of Mr. Craster, of Middlesbrough, and the other articles, with the exception of the gold buckle, are in the possession of Mrs. Hamer. Of the eight smaller tumuli, only two or three were found to contain interments, or at least the remains of such. One had a skeleton with its head to the west, and the legs bent backwards in the usual position of those found in Celtic or British tumuli, but no ornaments or utensils accompanied the remains. The other tumulus, about fifteen feet from the above, was eight feet in diameter and two feet in height, surrounded with stones, and contained the skeleton of a man, lying at full length on his right side, with the head to the south. Near the thorax
was found a small circular bronze box, about two inches in
diameter, with a lid, both of which are ornamented; attached
to the box was a short portion of a bronze chain, two larger
bronze links, a ring-shaped fibula, and a small iron knife.
These objects, together with the skull from this skeleton,
have been presented to our Museum by Mrs. Hamer. The
skull, which is much compressed by the weight of the soil,
has a narrow forehead and considerable protrusion of the
jaws and teeth, and enlarged occiput: a general conformation
which would lead to the supposition that it belongs to the
long boat-shaped or kumbe-cephalic type of Wilson; the
position of the body, however, and the different articles
interred with it, are evidently not indicative of a Celtic burial,
but of Anglo-Saxon.

In a third tumulus, on the Moor Ings, a spear-head or
arrow-headed weapon, ten inches in length, was found. Its
form is somewhat peculiar, as it is hastate or perfectly arrow-
headed, but attached to a shaft of the same material, which,
however, is not perfect, but appears much acted upon by
time on the surface edges, from the drawing sent to me. It
is described as bronze; which, however, from its corroded
condition, I think may be an error.

On the Hambleton Training Ground are two flat tumuli, one
on each side of the Cleave Dike, known as the Grooms' Stools.
These are about 70 yards in circumference, and four feet in
height. One has been opened by the Rev. Wm. Greenwell,
in 1864, with what results I am not aware; and the other
by Mr. Manners Verity, on the 31st of July, 1863, who found
between forty and fifty flint flakes, about 18 inches from the
centre. On reaching the natural surface of the moor, a little
to the west, a rough flat piece of stone was discovered resting
upon a bed of clay, and closing the mouth of an urn 13
inches in diameter and 12 in depth, which was sunk in the
soil, and surrounded with clay mixed with charcoal and pieces
of calcined bone. The interior was half full of burnt bones and human teeth, and several fragments of a smaller urn. In the cavity below the larger urn the soil was greasy and black, also mixed with charcoal and small pieces of bone, probably the remains of cremation on the spot.

Near to the road leading from Boltby to Hawnby is a long dike or embankment, about 5 feet 6 inches in height, on the side of which, and at a spot called Silver Hill, a tumulus 64 feet in diameter and 5 feet 6 inches in height, was opened by Mr. Manners Verity and Mr. Murray, on the 15th of August, 1864. From the remains of two skeletons which occurred near the surface, it was evident it had been previously disturbed. The original interment, however, on a bed of stiff clay, was found to consist of the male skeleton of an aged individual, lying on its left side, with the knees drawn up to within 7 inches of the chin, the head bent forward, the arms crossed, so that the right hand lay on the knees, and the left in front of the pelvis. The clay under the body was black and discoloured, several stones were placed round the body, and upon one the head, which was turned to the east, rested. The whole space occupied by the entire skeleton was only about 30 inches by 24. The teeth were much worn, and amongst the bones of the left hand was a bone ring of rather small size and with an unusual horizontal projection of the same material to extend over the fingers on each side at right angles. The tumulus and the adjoining embankment exhibited parallel black lines extending through them, as if formed by layers of vegetable substances now partially carbonized. In a section of the embankment were found two long and narrow flint flakes.

At Boltby Scar, 1,075 feet above the level of the sea, and on the summit of a steep precipice, is an indication of an oblong tumulus, and two circular ones, situated within a semicircular intrenched camp, which has been protected by
a ditch, known by the name of the *Cleave Dike*, extending north and south for about two miles. These tumuli bear marks of having been previously examined, but with what success I have not been able to ascertain. From their position, however, they may probably have been the last resting-places of an early British chieftain and his family, interred within his own camp; as the site is peculiarly that of a stronghold, defended in front by the rocky declivity, and overlooking the country for many miles, by which the distant approach of any hostile force could be perceived and timely guarded against, while, by the sunken intrenchment or dike alluded to, the encampment could be equally protected from any surprise attempted by crossing the moors. There is a peculiarity in the construction of the Cleave Dike intrenchment to which my attention has been called by Mr. Verity, which consists in its being divided by the soil left standing about a yard thick across the trench, so as to form a raised partition at every three yards. These divisions are best seen in the north part of the Training Ground, adjoining Hesketh Farm; at other parts of the dike they have been more or less obliterated by the surrounding soil falling down during centuries of exposure. For what purpose have these numerous divisions been left standing? Could they have been for the safety of separate defenders along the whole line of intrenchment, like the sunk pits or earthworks in modern warfare, to command an important position? Mr. Verity suggests "that these cavities, walled in by the continuous mound of earth on both sides, and covered with wattle-boughs, might have been the rudimentary huts of this populous Ancient British village, and with the adjoining camp and tumuli made up probably what Cæsar calls their Oppida, which in this instance was a long one-sided street of defensive habitations; and as there are other lines of dike crossing the hills in different directions, they may indicate the jurisdiction of the various petty chieftains of the
Hambleton, Kepwick, and Hawnby tribes, between whom, probably, feuds would frequently take place; so that sites which are now almost deserted may have been busy scenes of savage polity in pre-Roman times."

Finally, from these several interments, we ascertain that the Hambleton Hills have been occupied by different races of men during a long series of years. The earliest, or long barrow, dating very probably 3,000 years since, the circular British barrow not less than 1,800 years; though the Rev. William Greenwell considers that 1,000 years before Christ is not too remote a period to assign for the earliest of this class, and the latest, or Saxon, from the fifth to the ninth century of our era.

ON THE PLEISTOCENE MAMMALS OF YORKSHIRE. BY WM. BOYD DAWKINS, M.A. (OXON.), F.G.S., ETC. (An abstract only).

In examining with some care the remains of animals embedded in caverns, peat mosses, river beds, and other early deposits, we find them indicate or point to distinct and widely-separate periods of time since their entombment. Some of the animals are still living in the district, and others of an earlier date no longer occur in Britain, but whose former existence is recorded in the early annals of this country. Another class embrace species, in addition, of which we have no record of their ever having been natives of Europe. To the first we apply the term Prehistoric; to the last, Pleistocene, which is synonymous with the terms Post-Pliocene, Preglacial, and Glacial. It applies to all deposits or formations, from the top of the Norwich Crag up to the prehistoric deposits comprising the preglacial, the forest-bed, the glacial drift, the post-glacial brickearths, loams, gravels, and the contents of the older ossiferous caverns. In some instances, species of animals appear to have lived through the earliest of these periods down to the present time; while others ceased to exist at a very remote epoch, and whose bones are either