

The remaining portion of the paper is occupied by a descriptive account of the vessel generally, each part separately, the loose articles which were found in the sepulchral chamber, and those which were found in the mound around the vessel.

2. *On Excavations in the Earthwork called Danes' Dyke at Flamborough, and on the Earthworks of the Yorkshire Wolds.* By Major-General PITT-RIVERS, F.R.S. (formerly Colonel Lane-Fox).

General Pitt-Rivers showed, by means of a large map, that many of the entrenchments on the Wolds and north of the Derwent Valley appeared to have formed part of a connected system for the defence of the ground from the westward. 1st. The entrenchment known as the Danes' Dyke, which cuts off Flamborough Head, was obviously an entrenchment intended to secure the promontory from an attack from the west. Next the Argam Dyke was a work parallel to the last, and probably formed the next position which the invaders took up as they advanced inland. The North Wolds are fortified by an entrenchment which runs along the top of the chalk escarpment overlooking the Derwent Valley, and several entrenchments on the North and South Wolds run along the hills in a position to command the valleys to the westward. On the oolite hills to the north of the Derwent Valley there are numerous ravines which run southward into the valley, and some of them are fortified by entrenchments on their eastern brow, which proved that the defenders of the district anticipated an attack from the west. General Pitt-Rivers made a cutting through the Danes' Dyke, to ascertain if possible the date of its construction, and in so doing found evidence of the manufacture of flint implements, both before and after the construction of the entrenchment. Close beneath the top of the rampart he found a large number of flint flakes, lying in a horizontal position just beneath the surface soil, in a position to prove that the defenders must have worked flints on the bank after it had been made. As many as 827 flakes and artificially formed chips of flint were found in this position. This result shows that the dyke was not later than the Bronze Period, that is to say, the period of the tumuli on the Wolds, which Canon Greenwell has shown to have belonged to the Early Bronze Age—an age in which flint continued to be used for many ordinary purposes. The question as to where the invaders came from, if invaders they were, was influenced by the consideration that the Early Bronze Age does not appear to have existed in Denmark, and if the invaders came from there, some isolated specimens of bronze implements analogous to those found in Denmark would certainly have been found in the Wolds, instead of the simple triangular dagger and axe-head, which is rarely found in Denmark. The idea that the dykes were made by Anglian invaders, however natural it at first sight appeared, must therefore, as the result of these diggings, be given up. The paper was illustrated by a section of the Danes' Dyke to scale, showing the positions of the objects found in it.

3. *On the Application of Composite Portraiture to Anthropological purposes.* By FRANCIS GALTON, F.R.S.

The author exhibited a composite picture of eight skulls of male Andaman Islanders. They had been successively mounted under the instruction of Mr. Flower, upon a rod passing through the occipital foramen, with the base of the skull at right angles to the rod. Each portrait represented one of the skulls in exact profile, with the light falling upon it from the same side. The separate portraits were combined into a single composite by the author's new instrument, described in the 'Photographic Journal' of last June, and exhibited in the Loan Museum during the meeting. The portraits were successively adjusted by the images of three fiducial lines. Thus the front edge of the image of the rod in each portrait was adjusted to a vertical line, and the base of the condyle to a horizontal one, in order to regulate the position of the skull, and the point of intersection of

the roof of the skull with the vertical line was made to accord with a second horizontal line, in order to get uniformity of scale. The author referred to numerous composites illustrating the physiognomy of disease, made by himself and Dr. Mahomed, which were exhibited in the Loan Collection, as testifying to the applicability of the process to various anthropological purposes, including the pictorial definition of races. With the aid of the new instrument composites could be made by him much more exactly and easily than had been possible before. The process produces true anthropological averages. It gives an average face by a single set of operations, between the features of which any number of cross measurements can be made. It deals with averages of shading that can hardly otherwise be dealt with, and it gives a picture at once, instead of data whence a picture may be plotted. Lastly, it affords an excellent test whether any given series is generic or not; for when the portraits in the series make a good and clear composite it shows that medium values are much more frequent than extreme values, and therefore that the series may be considered a generic one; otherwise it is certainly not generic.

4. *Account of the Discovery of Six Ancient Dwellings, found under and near to British Barrows on the Yorkshire Wolds.* By J. R. MORTIMER.

Dwelling No. 1 is in connection with barrow No. 100, group 5, in the author's openings, and is situated at the eastern end of the barrow, which is of the long type. Its depth from the base of the mound was  $6\frac{1}{2}$  feet, with a floor surface of  $9\frac{1}{2}$  feet by  $7\frac{1}{2}$  feet, and it was entered by two inclining passages, 24 feet in length; the northern one being cut by the side trench of the barrow, showing in this case that the construction of the dwelling had preceded the excavation of the trench, and was therefore older than the barrow. In the material filling the dwelling and its passages were many streaks of burnt wood, a human femur, portions of an urn, and many animal bones, all probably the residue of feasting. A little distance from the dwelling were portions of three more dish-shaped urns, and traces of interments.

Dwelling No. 2 was situated within 30 ft. of an oval barrow, in which were cremated interments. It resembled the previous one in having two entrance-passages, and much burnt wood, indicating likewise its destruction by fire.

Nos. 3 and 4 are of a somewhat simpler kind than the preceding ones, having no entrance-passages. They consist of nearly circular excavations in the rock, from  $3\frac{1}{2}$  to  $4\frac{1}{2}$  feet in depth, and from 7 feet to  $8\frac{1}{2}$  feet in diameter, in which were found bones of the red deer and the urus.

No. 5 is of an entirely different type from those previously named; it had consisted of an inner and an outer circle of upright posts, measuring in diameter  $21\frac{1}{2}$  and 28 feet respectively, the impressions of which were well-preserved, and show that some had been pointed and driven into the ground, whilst others had been placed in holes dug into the ground with their thick ends downwards, and in some cases extending 2 feet to 3 feet upwards into the body of the mound. In the centre of the two circles was an oval grave, cut 4 feet into the rock, and containing the flexed human remains of a large male. In front of his face lay a crushed food-vase, and close to his left shoulder was a perforated axe-hammer. Clayey matter covered the grave, and extended to the outer circle of post-holes. This was believed to be the residue of the sides of the dwelling, in the centre of which its owner was interred, and afterwards the walls were pushed down over the grave and covered with a mound. The author suggests that the space between the two circles of uprights might have been used for storing heads of grain, and other provisions for winter use, at a time when, probably, man's dwelling was the only building he possessed for all purposes.

No. 6 resembles the last, and was found under barrow No. 41. Here also was a circular bed of a clayey nature, 15 feet in diameter, and with stake-holes nearly all round its margin. These stake-holes reached from 12 to 18 inches into the ground under the barrow, and in three cases 5 feet upwards into the body of the mound. Small branches of oak, ash, maple, and other trees, thought to be the