

SOME FLINTS FROM EGYPT OF IV<sup>th</sup>. DYNASTY, &c.<sup>1</sup>

By F. C. J. SPURRELL.

The little batch of flint flakes from Egypt which Mr. Flinders Petrie has entrusted to me are interesting. They at present constitute, together with part of a knife-blade (found by excavating on the old surface to the North of the big Pyramid Mastaba of Medum), the earliest manufactured flint to which a date can be assigned with certainty, that of the Early IV. Dynasty.

The flakes were found in the north pit of the tomb, which is placed between those of Rahotep and Ranefer at Medum in Egypt. This pit was intact, that is, unplundered. At the level of the top of the chamber in the pit lay rush mats on which were bowls and some of the flints, and just at the top edge of the chamber doorway were some shells used for colour saucers, and needles, with more flints and a red basin. The chamber was unfinished. The flakes altogether numbered over one hundred, but all were not found in the same heap. In examining them I found that the separate lots could be referred to one or two masses of flint, from which they had all been separated. In the mass before you I have replaced seventeen pieces in their original positions. They shew the neatness and regularity with which the flaking was accomplished and how much was wasted. Perhaps a few pieces were faulty ; to the absence of such it may be that I was unable to reunite the whole into one mass. They are each pointed and thin at the struck end, but have been broken off short at what was apparently the thickest part of the flake, so that they are at that end somewhat club-shaped, rounded and blunt. Looking at the end of the block from which they were struck it will be seen that each was trimmed a little before the flake was finally detached.

<sup>1</sup> Communicated to the Monthly Meeting of the Institute, November 6th, 1890.

It appears that this means no more than that it was the flaker's method of procedure, because none of them have been used at this end. The other end of all the flakes has been rounded to a semicircle, and trimmed so as to give them a snubbed look, the angle made with the flat side being very obtuse. This in most of them has been increased by use, and to such an extent in some that the sharp edge has been lost by being broken away altogether. Most of them have been used a little more on one side than the other, and the preference has been for the left side.

Instruments of a similar kind were found in Rahotep's tomb.

The use to which they were put is uncertain; but it is clear that the edge intended for use was at the thick end, that it might be as strong and have as much support as possible. The worn or used edge is slightly crushed and is not polished, therefore they have been used against some object which did not smooth but splintered them. I find that similar effects of wear are obtained by using flints of such a form to trim the edge of large coarse flakes by tapping with a piece of wood. The trimming edge was placed against that of the object to be trimmed, and the upper side of the flake struck with a wooden mallet. In the Egyptian ones occasionally a small cone of percussion, taking its origin from the underside of the flake, may be seen, an evidence that striking, not pressure, was employed.

So for want of more certain information I suggest that by their means the trimming of flint axes, adzes, scrapers and drags used in the working of limestone was accomplished as they wore down.

Another kind of flake, but few in number amongst the hundred, was made from the thinner sort of flakes, the ends were cleared off and brought to thin edges; this was accomplished by laying the flake smooth side upwards, at the edge of a flat block, and striking downwards with a hard stone of not too rough a grain, such as gabbro or coarse sandstone, when the edge breaks away at an angle.

Those I have made have precisely the appearance of the Egyptian ones. The ends of these flakes were most likely employed as drags and scrapers to smooth and work the soft limestones, and in my trials I made the like marks on the same limestone when used.

There are plenty of examples to show that such flint tools were employed in the early work at Medum, Gizeh, and elsewhere in Egypt, even to the XII<sup>th</sup>. dynasty.

The marks of flint scrapers are clearly distinguishable from those of copper or bronze tools.

Messrs. J. K. Lord<sup>1</sup> and H. Bauermann<sup>2</sup> mention the execution of inscribed tablets at the Turquoise Mines of Sinai, and Mr. Bauermann in particular describes a blank tablet dressed smooth to receive an inscription which was never finished, and says that it was evidently done by a flint tool, the proper face being obtained by the use of flakes of small size, and he says that inscriptions on others were cut with pointed flakes.

Other forms of drags for stone were employed in early days in Egypt: most frequently the edges of straight long flakes untrimmed or notched roughly; such were used at Kahun at least in the working of small objects and in the fashioning of the stands on which offerings were made.

Such drags were apparently plentiful in the Amorite (B.C. 1500), and some later deposits discovered by Mr. Petrie at Lachish.<sup>1</sup>

Examples of these flints, obtained in both countries when tried on the limestones of the districts in which they were found, produced a scratched surface identical with the old examples. The limestone pilasters with horns found at Lachish were so worked.

While discussing the working of lime stone with Flint it may not be out of place to draw attention to similar work in sandstone, although not architectural in character. The use of flint and stone tools in mining in the Peninsula of Sinai is very well described by Mr. J. K. Lord, in an article in the "Leisure Hour," an account little known and well worth reading. Mr. Lord was accompanied by Mr. H. Bauermann, F.G.S., whose account in the "Journal of the Geological Society," is equally valuable. Mr. Lord says that at Sarabat El Chadem, outside the mines were quantities of blocks of flint brought there for use, and quantities of the refuse of the flakers of chisels manufactured there for mining, as well as used flakes

<sup>1</sup> Leisure Hour, 1870, p. 319, Sinai.

<sup>2</sup> Quarterly Journal Geological Society, vol. xxv., p. 17.

<sup>1</sup> Lachish, by W. M. F. Petrie, Palestine Exploration Fund.

inside. The rock of the Turquoise Mines is a soft yellowish sandstone, reddish or brown in patches. The rock was pounded away by the steady percussive impact of the stone chisels struck with wooden mallets. The Wady Maghara Mines were in somewhat similar rock. The walls are everywhere marked by a blunt tool, and in the great chamber numerous flint flakes or chisels, stone hammers and wooden mallets were found. On comparing the marks in the walls with the blunted points of the chisels they were found to correspond exactly. "Moreover," he says, "we tried the effect of the flint tool gently hammered upon the sandstone wall of the chamber; the marks or grooves produced were precisely the same as those made by the tools employed by the ancient miners. These flint chisels were of various sizes, somewhat triangular in shape and brought to a point, which in all the flakes that were found was rounded and blunt. . . . There can be no doubt whatever that these mines were actually dug out with flint tools. The hammers sifted out of the workings are of the rudest description. Their shape of no fixed character. As a rule they may be described as natural fragments of stone picked up casually by the workmen. Some are of a coarse kind of granite, but the greater number are dolomite brought from the hills near by. One or two of the hammers show distinctly the mark of the forefinger and thumb made by the wear of use. Others have a grove round them near one end for the purpose of affixing a with handle." The wooden mallets he describes as being like three already in the British Museum, segments of cylindrical blocks, having round the larger end a kind of notch, which has been made by striking it against some rough tool. He has no doubt that the mallets were used for striking the flint chisels, and the stone hammers for breaking up and pounding the larger masses of rock.

Mr. Bauermann, in his remarks, agrees in all points with Mr. Lord. Mr. Bauermann has presented a specimen slab of the worked surface of the sandstone to the Museum of the Royal School of Mines, Jermyn Street, which presents an appearance in accord with the above description, and some of the flint chisels; also there are in the British Museum some of the flint flake chisels, bearing all the marks and appearances described above, brought by Major

Macdonald of the Turquoise Mine fame, with stone hammers and other tools. None of these show a polish further than the smoothing usual with sand friction.

From the existence of Stela on the rocks the mines were seen to have been worked as early as the IV. Dynasty, and long after.