

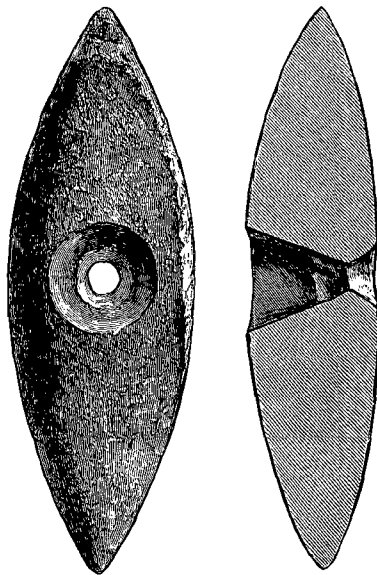
V.

NOTICE OF STONE IMPLEMENTS, &c., FROM ASIA AND AFRICA, IN THE NATIONAL COLLECTION. By GEORGE F. BLACK, ASSISTANT KEEPER OF THE MUSEUM.

In consideration of the growing interest attached to the discovery of prehistoric implements of flint and stone in Egypt, India, and elsewhere in the East, it has been thought desirable to put on record a brief account of the specimens in the National Museum here. Unfortunately, none of our specimens are particularly remarkable in any way, with the exception, perhaps, of the shuttle-shaped hammer and flint knife from Egypt.

AFRICA, ARABIA, PALESTINE.

Egypt.—The implements from Egypt consist of a perforated axe, a knife of flint, an arrow-head, and a large number of chips and flakes of



flint, &c. The axe is of syenite, shuttle-shaped, $4\frac{1}{2}$ inches in length by $1\frac{1}{2}$ inch in breadth and 1 inch in thickness, and tapers from the middle to either end. It is perforated through the middle by a hole $\frac{3}{4}$ inch in diameter on one face, narrowing to $\frac{1}{4}$ inch near the other face, where it has been just begun to be counter-sunk. It was found at Engadeh, Upper Egypt, and is shown in fig. 1, accompanied by a sectional view to show the manner in which it is bored. An identical specimen of alabaster, $4\frac{1}{4}$ inches in length by $1\frac{7}{8}$ inch in breadth, found at Gabelayn, is in the possession of

Fig. 1. Perforated Hammer from Engadeh. Mr A. W. Franks of the British Museum. The haft-hole is $\frac{1}{6}$ inch in diameter.

The knife (fig. 2) is of cherty flint, and measures $8\frac{1}{4}$ inches in total length by $2\frac{3}{8}$ inches in breadth and $\frac{1}{2}$ inch in greatest thickness. Unfortunately, nothing is known of its history beyond the fact that it is from Egypt. An almost identical though



Fig. 2. Stone Knife from Egypt.

smaller specimen is figured by M. Cartailhac¹ along with another of a different form. A dagger-like instrument of flint from Egypt still mounted in its original wooden handle is also in the British Museum, and has been figured by Evans.² These implements are generally considered to have been used in the rite of embalming in the manner described by Herodotus (ii. 86) and Diodorus Siculus (lib. i. 91).

The other implements in the Museum consist of an arrow-head of flint of triangular form with tang and no barbs, and a large number of chips and flakes, nearly all without secondary working. These flakes and chips were found mostly in the neighbourhood of the sulphur springs near Helouan. Although the specimens in the Museum consist mainly of unworked flints, yet numerous finely-worked knives, saws, javelin-heads, and other implements have been found at this locality, and elsewhere in Egypt.³

There is also in the Museum a cast in sulphur of a small axe of nephrite or jade, the original of which was brought from Egypt in 1812, and is now in the Christy Collection in the British Museum.⁴ On

¹ *L'Age de Pierre dans les Souvenirs et Superstitions Populaires*, p. 65; *Matériaux pour l'Histoire de l'homme*, vol. ix., 1874, p. 24; *La France Préhistorique*, p. 7.

² *Ancient Stone Implements of Great Britain*, p. 8.

³ *Journal Anthropological Institute*, vol. iv. pp. 215-222; vol. vii. pp. 323, 324, 396-412 (illustrated); vol. viii. pp. 290-318 (illustrated); vol. x. pp. 424-428; vol. xi. pp. 382-400 (illustrated); *L'Anthropologie*, vol. iii. pp. 405-425. On flint arrow-heads from the Sahara, see *Revue Archéologique*, vol. xlii., 1881, pp. 1-18; on *ibid.* from Libya, see *Congrès Inter. Prehist. Arch.*, Stockholm, vol. i. pp. 76-79.

⁴ The axe is figured and described by Mr C. W. King in the *Archæological Journal*, vol. xxv. pp. 103-116. The illustration is reproduced in King's *Antique Gems*, pl. xiii.; Evans, *Ancient Stone Implements*, p. 55; and in Cartailhac, *L'Age de Pierre*, &c. p. 30, and *La France Préhistorique*, p. 4.

each face is engraved a Gnostic formula in the debased Greek character current at Alexandria during the third and fourth centuries A.D. One of the two formulæ is engraved in the outline of a wreath of fourteen broad leaves, the ends being tied together with four broad ribbons. Upon the four ties are engraved different combinations of the seven Greek vowels, whilst each of the leaves bears a "Holy name." The other face is covered with an inscription cut in larger letters, and arranged in eight lines.

West Coast of Africa.—Ten small axes of diorite found at Secondi, on the Gold Coast, were presented to the Museum in 1885. They were found on the side of the hill on which the fort of Secondi is built, and are of small size and rude finish. The largest is only $3\frac{3}{8}$ inches in length by $1\frac{1}{2}$ inch across the cutting edge. Six of the axes are very rudely finished, and are ground only at the cutting end. The seventh is wedge-shaped, 2 inches in length by $1\frac{1}{2}$ inch in width at the cutting end, and is ground over nearly the whole surface. The remaining three are nearly cylindrical in form, and taper slightly towards the butt. One of the three is remarkable as showing no less than twelve longitudinal facets.

So far as I am aware, the first notice of stone implements from this part of Africa is by Sir John Lubbock,¹ who has described and figured five specimens found at Akropongo and Aburri, near Accra, by the late Mr Winwood Reade. They are similar to those already described. "They appear to be met with not unfrequently when the heavy rain-storms cut gullies in the soft alluvial soil. Such storms are usually accompanied by thunder and lightning, and the negroes therefore call them 'thunderbolts,' and 'God's axes.' Mr Reade adds that there is no tradition of the use of stone implements on the Gold Coast, and the natives have no idea that these axes were so used."²

South Africa.—From South Africa we have in the Museum five digging-stones, two pointed spearhead-like implements of quartzite, and three small triangular implements, apparently also of quartzite. The digging-stones are mostly of sandstone, and average 4 to $4\frac{1}{2}$ inches in diameter, with a perforation varying from 1 inch to $1\frac{1}{2}$ inch in diameter.

¹ *Proceedings Ethnological Society*, 1870, pp. xciv-xcvi.

² *Ibid.*, pp. xciv-xcv.

They are stated to have been used within recent years as weights on pointed sticks by which such food as bulbs, edible roots, or ants' eggs are turned up from the soil. They may also have been used as heads of clubs, as shown by a specimen in the Museum from New Britain. Three are from Cape L'Agulhas, the southern extremity of Africa. The two spearhead-like implements are simply unworked flakes of quartzite of leaf-shaped form pointed at one end, like the tanged flint flakes found in Ireland. Each flake shows two facets on the upper face, and a large bulb of concussion on the under side. They measure $3\frac{1}{4}$ inches in length by $1\frac{5}{8}$ inch in breadth and $3\frac{3}{4} \times 2\frac{1}{2}$ inches, and were both found at East London, near the mouth of the Buffalo River, Kaffraria.

The small triangular implements are fairly regular in form and are worked on both faces. They may have been intended for arrow-heads, although their thickness is rather against this assumption. They measure respectively $1\frac{3}{8} \times \frac{7}{8}$ inch, $1\frac{5}{16} \times 1\frac{1}{4}$ inch, and $1\frac{1}{2} \times 1\frac{1}{2}$ inch. They have no precise locality.¹

Arabia.—Eight small objects of carnelian, resembling tanged triangular-shaped arrow-heads, from Arabia, were lately presented to the Museum. The smallest is a $\frac{1}{2}$ inch in length and the largest is only $\frac{1}{16}$ inch in length. They are all perforated at the base of the tang, and in all probability they have formed part of a necklace. Sir John Evans was informed by the Rev. Greville J. Chester that necklaces of beads of this form "are worn by the Arabs of Northern Africa at the present day, being regarded as good for the blood."² Sir John Evans further states that he possesses a necklace of fifteen such arrowhead-like beads, with a central amulet, which was purchased in a shop at Kostainicza, in Turkish Croatia.³ The central portion of a similar necklace, worn by a Touareg in Egypt, is figured by M. Cartailhac.⁴

¹ On stone implements from the Cape, see *Transactions Congress Prehistoric Archaeology*, 1868, pp. 69-79 (illustrated); *Proceed. Ethnological Society London*, 1870, pp. xcii-c; *Journal Ethnological Society*, new series, vol. i. pp. 51-53 (illus.); *ibid.*, vol. ii. pp. 39-43 (illus.); *Journal of Anthropological Institute*, vol. i. pp. 345-348, vol. viii. pp. 15-21, and vol. xi. pp. 124-182 (illus.).

² *Ancient Stone Implements*, pp. 327, 328.

³ *Ibid.*, p. 328.

⁴ *L'Age de Pierre dans les Souvenirs et Superstitions populaires*, p. 49.

There are also three unworked flakes and a tanged spearhead-like implement of chert, which were found in a cave at Wady Meghara in 1862. The spearhead-like implement resembles in form the tanged flakes found in Ireland, one of which is figured by Wilde.¹ It measures $3\frac{5}{8}$ inches in length, and differs from the Irish specimens only in being rounded at the point.²

Palestine.—Two small flakes of silex found at Bethsaour are the only specimens in the collection from Palestine. They measure respectively $1\frac{1}{2} \times \frac{5}{8}$ inch and $1\frac{5}{8} \times \frac{3}{4}$ inch. One shows two facets on the upper face and the other three; and both show traces of rough usage on the edges, probably by use as strike-lights.³

CHINA.

From China we have in the Museum eight small axes of jadeite and jade-like stone, seven of which are from Momien, in the province of

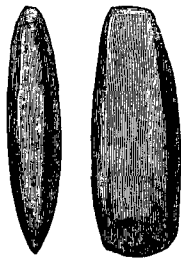


Fig. 3. Stoneaxe from Momien, Western Yunan (†).

Western Yunan. The smallest of these seven axes is of a chisel-shape, and measures only $1\frac{1}{2}$ inch in length by a $\frac{1}{2}$ inch in breadth and $\frac{1}{4}$ inch in thickness. It is shown in fig. 3. The others are more of the axe form, and vary in size from $1\frac{1}{2}$ inch in length by 1 inch in breadth to $2\frac{1}{4}$ inches in length by 2 inches in breadth, and are all finely polished. These axes were presented to the Museum in 1874 by Dr John Anderson, who has given the following account of them in the appendix to his *Report on the Expedition to Western Yunan*.—

“Noticing a stone implement exposed for sale on a stall in the Momien bazaar, I purchased it for the equivalent of a few pence. No sooner was my liking for such objects known than I was besieged by needy persons, who

¹ *Catalogue Museum Royal Irish Academy*, p. 12.

² For notes on implements from Wady Meghara, see *Journal Anthropological Institute*, vol. i. pp. 338, 344; *Proceed. Soc. Ant. Scot.*, vol. vi. p. 253.

³ On stone implements from Syria and Palestine, see *Journal Anthropological Institute*, vol. i. 337-344 (illustrated); *ibid.*, vol. iv. pp. 14-17; and the authorities there quoted. *Matériaux*, vol. ix., 1874, pp. 19-23.

willingly parted with them for sums varying in value from four to eighteen pence each. After my first investment, specimens to the number of about one hundred and fifty were procured by different members of the expedition ; but all were purchased, none being discovered by any of us.

"I was informed at Momien that stone implements were not unfrequently turned up in ploughing the fields, and that they were occasionally found lying exposed on the surface soil. The belief prevails that they, and also bronze implements, are thunderbolts, which, after they fall and penetrate the earth, take nine years again to find or work their way up the surface.

"The Burmese and the Shans of Burmah also regard stone implements as thunderbolts or *miogyos*, and have the same superstition about these finding their way to the surface of the soil in after years.

"Burmese, Shans, and Chinese alike attribute great medicinal virtues to stone and bronze implements, and some of the latter are so highly prized in Yunan that their weight in gold alone can purchase them. The fresh fractures result from small pieces having been chipped off to be ground down and sold as medicine, which commands fabulous prices. Both kinds of implements are also carried about the person as charms to ward off the evil influence of badly disposed persons.

"The high estimation in which they are held, both in Yunan and Burmah, suggests the suspicion that the Chinese in former days did not neglect to take advantage of the desire to possess those implements or charms, and made a profitable traffic in their manufacture. A consideration of the character of some of the Yunan implements has led me to this conclusion. A considerable percentage of them are small, beautifully cut forms, with few or none of the signs of use that distinguish the large implements from the same localities, and, moreover, all of them are of some variety of jade. These facts, taken in conjunction with their elaborate finish, and the circumstance that jade was formerly largely manufactured at Momien into a variety of personal ornaments, are the reasons which have made me doubt the authenticity of many of the small forms, and to regard them as only miniature models of the large and authentic implements manufactured in recent times as charms to be worn without inconvenience."¹

The eighth axe is of fibrolite, and measures $2\frac{5}{8}$ inches in length by $1\frac{7}{8}$ inch in breadth. The cutting edge is neatly curved, and both faces are finely polished. Nothing is known of its history beyond the fact that it was brought from China.

¹ *Report on the Expedition to Western Yunan via Bhámo*, pp. 410-415. With four plates of stone implements.

JAPAN.

The stone implements from Japan consist of four polished stone axes and a number of arrow-heads of obsidian, flint, and chert. Of the axes, the finest is shown in the accompanying figure (fig. 4). It is of felstone, smoothly polished all over both faces. Another of mottled greenstone, $4\frac{1}{8}$ inches in length by $1\frac{1}{8}$ inch in breadth, with flat sides, is of a type similar to the stone axes of North Germany, Denmark, and Scandinavia, in which the implement is thick in comparison to its breadth. The third axe, of a very hard silicious material, is $3\frac{1}{2}$ inches in length by $1\frac{1}{2}$ inch in breadth, and was found near Tokio. The fourth, of felstone, is considerably fractured at the butt and at the cutting end. It was found at Hakodadi.

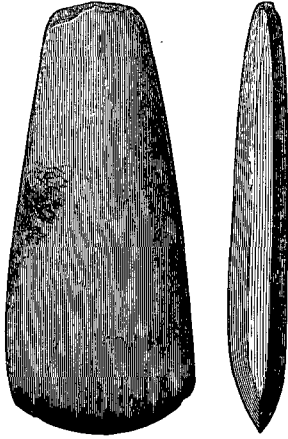


Fig. 4. Stone axe, found near Tokio, Japan ($\frac{2}{3}$).

The arrow-heads and knives, numbering thirty-three in all, are unfortunately very poor specimens of the types found in Japan. Large numbers of the arrow-heads and knives found at Hakodadi¹ rival in form and finish some of the finest specimens found in Western Europe.

The obsidian arrow-heads in the collection are of small triangular form with hollow base. The finest of the remaining arrow-heads are mostly of an elongated lozenge-form with a tapering tang and no barbs. There is also a half of a neatly-formed knife of flint, showing a well-developed tang, probably for attaching to a handle. One or two pointed implements, which may be termed borers, completes the collection.²

Five vessels of Aino pottery from Shiga, Otsu, Lake Biwa, recently

¹ Like our own Culbin Sands in Elginshire, Hakodadi seems to have been the site of a manufactory of stone implements in prehistoric times.

² On Stone Implements from Japan, see *International Congress Prehistoric Archaeology*, Norwich, pp. 258-266 (illustrated); *Congrès International d'Archéologie*, Bruxelles, p. 337 and pls. xiii.-xvi.; *Journal Anthropological Institute*, vol. x. pp. 389-423 (illustrated); *Matériaux pour l'Histoire de l'Homme*, vol. vi. p. 137; *ibid.*, vol. viii. pp. 92-94 and pls. viii. ix.; vol. xiii. p. 558 and pl. xii.; vol. xiv. p. 32 and vol. xvii. pp. 112-114.

added to the collection, may be here briefly described. One of the vessels resembles a deep saucer, $5\frac{3}{8}$ inches in diameter, and has a lid of the same form as the vessel itself. It is said to have been found in a tumulus. The second specimen is also of saucer-shape with upright sides, 4 inches in diameter, and ornamented round the rim. The remaining three vessels are tall, thin-lipped, and have bulging sides. In form and ornamentation they bear considerable resemblance to the "drinking-cup" type of urn common to Scotland. The largest is 8 inches in height by $6\frac{3}{8}$ inches across the mouth, and is ornamented on the outside by rudely-incised horizontal and oblique lines. The smallest is $4\frac{3}{4}$ inches in height by $3\frac{1}{4}$ inches across the mouth, and is similarly ornamented.

CAMBODIA.

A small collection of implements and ornaments of stone and shell, from shell-mounds in Cambodia, was added to the Museum in 1890.

The collection consists of a well-formed gouge (fig. 5) and eight axes of stone, several objects of burnt clay, and a large number of beads of shell, &c. The gouge is of basalt, $4\frac{1}{8}$ inches in length by $1\frac{3}{4}$ inch in breadth at the cutting end. The surface is finely ground, and especially so on the concave portion of the implement. It is shown on a scale of two-thirds in the accompanying figure. Six of the axes are of greenstone, and vary in size from $2\frac{7}{8}$ inches to $4\frac{1}{2}$ inches in length by $1\frac{1}{2}$ inch to $2\frac{7}{16}$ inches in breadth. The cutting edge of each axe is formed by the faces meet-

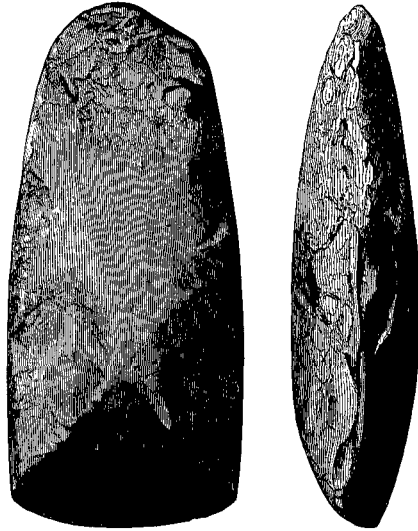


Fig. 5. Stone Gouge from Shell-mound in Cambodia ($\frac{2}{3}$).

ing at an obtuse angle, giving the implement more the form of a straight-

edged gouge. The two remaining axes, or perhaps rather adzes, are of the characteristic "shouldered" Burmese form. The finer of the two is shown on a scale of two-thirds in fig. 6. Both are formed of argillaceous slate. The specimen figured is $3\frac{2}{3}$ inches in length by $1\frac{3}{4}$ inch in breadth, and the other is $3\frac{5}{8}$ inches in length by only $1\frac{1}{8}$ inch in breadth.

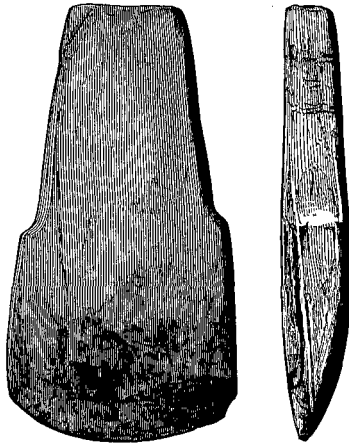


Fig. 6. Adze of "Shouldered" Form from Shell-mound in Cambodia (3).

The objects of clay consist of: (1) a disc, $1\frac{7}{8}$ inch in diameter and $\frac{3}{4}$ inch thick, bearing an equal-armed cross of hatched work on each face, and grooved round the circumference. It may have been intended for insertion in the lobe of the ear as an ornament. (2) A cylindrical-shaped object, $2\frac{1}{2}$ inches in length by $1\frac{1}{2}$

inch in diameter, is perforated longitudinally and has a deep longitudinal groove on one side. It may have been intended for a loom-weight, but if so, the use of the longitudinal groove is not very obvious. (3) Two small balls of burnt clay, one of which is perforated.

Of the beads, twelve are flat, disc-shaped, and vary from $\frac{1}{4}$ inch to $\frac{7}{8}$ inch in diameter, while other four average $1\frac{1}{4}$ inch in diameter, and from $\frac{2}{8}$ inch to an inch in thickness. Three other beads, also of shell, are cylindrical-shaped, $\frac{7}{8}$ inch in length by $\frac{7}{16}$ inch in diameter. There are also two pendants of shell, each $1\frac{5}{8}$ inch in length by $\frac{1}{4}$ inch in breadth, and $\frac{1}{8}$ inch thick, and a larger pendant $3\frac{1}{4}$ inches long by $1\frac{1}{8}$ inch in breadth, all three pierced at each end for suspension.

The remaining objects from Cambodia include a whorl (?) of wood, $1\frac{1}{8}$ inch in diameter; a ring of shale or slate, $3\frac{1}{8}$ inches in diameter, finely polished; and a pin of ivory, $2\frac{3}{8}$ inches in length, the upper part of which is shaped like an animal's head.¹

¹ See *Matériaux*, vol. xiv. pp. 314-323, "L'Age de la pierre polie et du bronze au Cambodge," by Dr J. B. Noulet.

INDIA.

Madras.—From the laterite beds of the Presidency we have two rude implements of quartzite, so rude as hardly to deserve the name of implements. The implements found in the laterite beds are all of quartzite, and of similar forms to the palæolithic implements of Western Europe. They have been repeatedly described.¹

Jubbulpore, Bengal Presidency.—In 1864 Lieutenant Swiney sent a large consignment of cores, chips, and flakes of agate, cornelian, chalcedony, and jasper, to the late Sir Charles Lyell, by whom specimens were presented to various museums. Previous to this these were described by Dr John Evans in a paper read before the Society of Antiquaries of London.² They were nearly all found by Lieutenant Swiney himself, or by working parties in his employment, in the neighbourhood of Jubbulpore. Of the cores in the collection, the largest is only $1\frac{3}{8}$ inch in length, and few exceed an inch in length. The average number of facets on each is about seven, but one small core, $\frac{5}{8}$ inch in length by the same in diameter, shows ten facets. Dr Evans describes a nearly conical core, half an inch in diameter at the base and three-quarters of an inch in length, on which there are no less than fourteen facets. None of the flakes show any secondary working on the edges, but appear to be merely the rough outside flakes struck off to enable the worker to get the regular inside flakes to shape into implements.

Chota Nagpur.—In 1890 a valuable little collection of antiquities, consisting of stone axes, beads, flint implements, &c., from the above locality, was presented by Mr W. H. P. Driver. The axes are five in number, and are of special interest. Four of fibrolite are similar in form and size to the small axes described under China, and to the numerous small axes found in Greece and Asia Minor. The smallest axe is chisel-shaped, and is only $1\frac{1}{2}$ inch in length by $\frac{1}{16}$ inch in breadth at the

¹ *International Congress of Prehistoric Archaeology*, 1868, pp. 224-239, with plate; see also Evans, *Ancient Stone Implements*, p. 570, and the authorities there quoted; Lubbock, *Prehistoric Times*, 4th ed., pp. 356, 357; *Jour. Anthropol. Inst.*, vol. xvii. p. 57.

² *Proceedings of the Society of Antiquaries of London*, 1864-67, pp. 39-44.

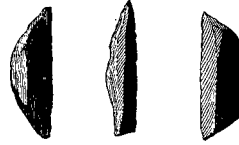
cutting end. The largest is only 2 inches in length, by $1\frac{7}{16}$ inch in breadth at the cutting end, and tapers to a point at the butt. The fifth axe is of exceptional interest from the fact that it was used for medicinal purposes at the time it was acquired by Mr Driver, as described in the letter printed below. The flint implements consist of three narrow flakes, each acutely pointed at one end and finely worked along one edge. One is 2 inches in length and the other two $1\frac{3}{4}$ inch each. The beads are of various forms and of many different materials, such as glass, agate, rock-crystal, carnelian, paste, &c., and one of copper. In his note accompanying the specimens, Mr Driver says:—
“The stone axes were all found in the vicinity of the town of Ranchi, in the district of Lohardagga, Chota Nagpur, Bengal. They were all picked up by chance at or near the surface while the natives were ploughing their fields, and were not associated either with buildings or graves, as far as I am aware, but certain spots are more prolific in such implements than others. The natives, who are mostly remnants of the Kolarian and Dravidan aboriginal tribes, regard these axe-heads as thunderbolts, and attribute medicinal properties to them. One of the specimens sent had been in a family for two generations, and had been used for the cure of bruises by rubbing down with water, the lotion being applied to the injured parts.

“The beads were all found in old graveyards in connection with charred remains of bones, pieces of brick, melted copper, metal ornaments, small plain discs of pottery, and stone and cinerary urns. The bricks and urns appear to have been of various shapes, sizes, and qualities, but they were all of burnt clay. Some of the bricks had been moulded, but others appeared to have been mere masses of clay burnt on platforms of sticks, from which they had received their impressions. Some of the urns were large mouthed and had covers, but I have not yet succeeded in getting any out entire. The graveyards, which are somewhat numerous, are usually situated at the foot and to the south-east of small stony natural hills, which are common in this part of the country.”¹

Vindhya Hills, &c.—From a number of different localities on the

¹ See also *Journal Asiatic Society of Bengal*, vol. lvii. p. 387.

Vindhya hill-range and the low country round about, we have in the Museum a large collection of cores, chips, and flakes, and a number of small finely-worked implements of peculiar forms, three of which are shown in fig. 7. These small implements are of a limited number of forms, and seldom reach $\frac{3}{4}$ inch in length, more often they are from a half to five-eighths of an inch only. The commonest



forms are triangular, obtusely triangular, quadrangular, and crescent-shaped. The circumstances under which these implements were found are described in the following notes by their finder, Mr A. C. Carlyle, late of the Archæological Survey of India :¹—

“In the cold season of 1867–68, I found some small flakes, &c., of agate jasper, and chert, near Sohagi Ghat, on the northern scarp of the Vindhya, to the south of the Allahabad District. I remember being very much pleased with a particularly fine crescent-shaped object of creamy chalcedonic agate, and of the same type as the small crescent-shaped implements which some years afterwards I found in large numbers in caves and rock-shelters on the Vindhya. I had even then also, and in the same locality, noticed some faded paintings in red colour in a recess of a low cliff under some overhanging rocks.

“In 1879, in Rajputana, I found some worked flakes of quartzite and one of basalt, besides numerous small flakes of carnelian and agate. But it was in the years 1880–81 that my principal discoveries were made of great numbers of the beautiful little implements of the crescent, triangular, scalene, and rhomboidal forms, and of others with one end forming a curved or rounded butt, and the other end more or less elongated to a point. The finest and most numerous of these implements I found in caves and in rock-shelters on the Vindhya Hills in Baghelkhand, to the south of the Mirzapur District, and in the northerly parts of Riwa. Some few also I obtained in various parts of the Kaimur range, farther south, and other specimens of similar forms, but of ruder workmanship, I also found on low ground in Baghelkhand. The caves and rock-shelters in which I specially found these peculiar small implements in the greatest number, and in the greatest perfection, are situated, as already mentioned, in the Vindhya range in Baghelkhand. The rock in which these hollows occur is an indurated reddish-brown sandstone, belonging to the well-known Vindhya

For a copy of the notes and permission to make use of them, I am indebted to Mr Charles Seidler of Hammersmith.

Series of the Indian Geological System. The caves and rock-shelters are of natural formation, and have all the appearance of having been hollowed out by the agency of water.

“Wherever any of the original soil was left on the floors of these caves and rock-shelters, there one was sure to find numbers of these small implements and flakes. A few lay exposed here and there on the surface, but the majority were found in the soil only by digging for them. The depth of the soil in the caves and rock-shelters varied from a minimum of about six inches to one foot and a half and two feet up to a maximum of from two feet and a half to three feet; though in some of the deeper hollows of the uneven floors it might even be as much as four feet. But allowance must always be made for the constant washing away of the surface soil by water during the heavy rains of the Indian rainy season, which may either drift into or percolate through such caves. But this at the same time often helps to bring these stone implements to the surface, there being in this case no accumulation but a constant denudation of the soil.

“In the lowest stratum of the soil in the caves, where it was of any considerable depth, the implements were always found to be of an *older* or more *archaic* type than the others. At a medium depth, undisturbed layers of ashes and charcoal were frequently found, showing that such caves had been occupied by the same human beings who manufactured the stone implements, and now and then it might even be found that a few of the implements and flakes had evidently been affected by fire. Lying along with the small implements pieces of colouring matter, called *Gērú*, were frequently found, rubbed down on one or more faces as if for making paint. This *Gērú* is evidently a partially decomposed hematite. On the uneven sides and roofs of many of the caves and rock-shelters there were rude paintings, apparently of various dates, though all evidently of great age, done in this same red colour. Some of these rude paintings appeared to illustrate in a very stiff and archaic manner scenes in the life of the ancient stone-chippers, others represented animals or hunting-scenes in which the figures of men armed with bows and arrows, spears and hatchets, appear.

“With regard to the probable age of these stone implements, I may mention that I never found a single ground or polished implement, not a single ground ring-stone or hammer-stone, in the soil of the floors of any of the many caves or rock-shelters I examined. I have found some fragments of very rude pottery, sometimes much worn, in a few of the caves, particularly near their entrances. But one single cave in particular was *entirely filled* with pottery and ashes, and nothing else.

“Of the small implements, I may state that of the crescent-shaped ones alone (without counting any of the other forms) *twelve hundred* were found in two caves and two rock-shelters, and of these five hundred were found in one cave

alone! Altogether somewhere about four thousand specimens of various sorts, including implements, flakes, and cores, were obtained from these caves.

"I also excavated several prehistoric tumuli or grave mounds in the valleys of the Vindhya range. In these mounds I found entire skeletons, but in such a fragile condition that not a single entire bone could be got out. I also discovered rude earthenware vessels and numerous flakes. Among the smaller stone implements found in the mounds, there were several of exactly the same peculiar types as those found in the caves; leading to the inference that the men buried in the mounds were of the *same race* as the men of the caves. In six different grave-mounds which I excavated, I did not find a single bit of metal of any kind."¹

Sakkar, Rohri, Shikapore Collectorate.—From this locality we have two large and four small cores and twenty-four flakes of buff-coloured chert. One of the large cores is $4\frac{1}{2}$ inches in length by 3 inches in greatest diameter, and has had flakes struck off half round the circumference. The other measures 4 inches in length by $2\frac{1}{2}$ inches in diameter, and is more conical in shape, with flakes struck off all round the circumference. The remaining four cores are small, the largest not more than 2 inches in length, of cylindrical form, and tapering to a point at one end. The finest of the four is shown the full size in the accompanying figure (fig. 8). It has twelve facets round the circumference. It is difficult to conceive for what purpose such minute flakes could have been used. The large flakes vary from 2 inches in length by $\frac{1}{4}$ inch in breadth up to $4\frac{1}{2}$ inches in length by an inch in breadth. They mostly show two, and sometimes three, facets on the upper face. Three of the flakes are of the kind known as "crimp-backed."



Fig. 8. Flint core from Sakkar ($\frac{1}{4}$).

Pen Taluka, Kolaba District, Bombay.—A large number of chips of agate, carnelian, &c., nearly all unworked, found at this place, have been described in a recent volume of the *Proceedings*.²

Banda.—From this district we have a small collection of cores, chips,

¹ See also *Journal Anthropological Institute*, vol. xviii. pp. 134-139.

² *Proc. Soc. Ant. Scot.*, vol. xii., new series, pp. 274-276.

and flakes of chert, and five axes of diorite, presented by Mr J. H. Rivett-Carnac. The axes are all of similar form, with rounded sides, oval in section, and pointed at the butt. The largest is 6 inches in length by 3 inches across the cutting end. The smallest is only $2\frac{1}{2}$ by 2 inches. They are mostly unpolished. Mr Rivett-Carnac collected upwards of 400 stone axes in this district, the largest of which was $12\frac{1}{4}$ inches in length.¹

Futehgurh District.—From this locality Mr Rivett-Carnac has presented to us a small collection of beads and a few objects of burnt clay. The beads are of glass paste, rock-crystal, chalcedony, agate, carnelian, one apparently of ivory, and another of some kind of gum covered with thin sheet silver. One of the beads is remarkable in that a spiral has been grooved into the surface, and the cavity filled with a light greenish enamel. Of the clay objects, one is apparently a spindle-whorl of conical shape, 1 inch in diameter; another, $1\frac{1}{8}$ inch in diameter, has five parallel grooves on one side, and resembles an unperforated bead. Of three small discs, $1\frac{1}{6}$ inch, $1\frac{7}{8}$ inch, and 2 inches in diameter, the smallest with an axial perforation, has apparently been intended for a spindle-whorl, and the two unperforated discs are nicked on the edges on either face.²

It is a remarkable fact that among all the thousands of cores, worked implements, and flakes found in India, not a single arrow-head of a recognised type has occurred.

¹ *Proc. Soc. Ant. Scot.*, vol. xvii. p. 322.

² See *Proc. Soc. Ant. London*, second series, vol. viii. pp. 537, 538; and *Proc. Soc. Ant. Scot.*, vol. xvii. pp. 322-324, 444, 445.