

ON PREHISTORIC OBJECTS IN BRITISH NEW GUINEA

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WITHIN the last few years discoveries have been made in British New Guinea of pottery fragments and implements of obsidian and stone, which differ entirely in type from the pottery and implements used at the present time by the inhabitants of the localities in which the finds were made.

The majority of these objects have been brought to light in the course of prospecting or mining operations; some have been found a considerable number of feet below the surface; others have been picked up on the surface of the ground or brought in by natives, who could, however, give no information concerning them. Thus the objects discovered are all truly prehistoric in the sense that in each find objects occur concerning the origin and use of which nothing is known by the inhabitants of British New Guinea at the present time; there is, however, in no case reason to attribute any great age to the specimens found.

The discoveries mentioned fall naturally into four classes, viz.:

- (i) Obsidian implements,
- (ii) Stone implements,
- (iii) Engraved shells,
- (iv) Pottery.

The majority of the discoveries have been made on or near the northern coast, between the Mamba river and Collingwood Bay, but single obsidian objects have been obtained from Misima in the Louisiade archipelago, from Goodenough Island and from Murua; while a peculiar type of prehistoric pottery is found on the small island of Dauko, off the south coast of the Possession and about

four miles from Port Moresby. The sites of discoveries are marked with a + on the accompanying map (fig. 1).



Fig. 1.

Obsidian Implements.

Before describing the unusual obsidian implements which form the first class of prehistoric objects, it is necessary to consider briefly the occurrence of obsidian in the villages of south-eastern British New Guinea at the present day. Small fragments are found mixed with the shingle on which are built the coastal villages of Bartle Bay, an indentation in the large hollow of the coast which faces the D'Entrecasteaux group and constitutes Goodenough Bay. These fragments were until recently used for scarification for medical purposes, and the blocks from which they were struck were stated to have been brought from Goodenough Island for this purpose; but it was said that no larger fragments were in existence, that implements were never made of obsidian, and that no one had ever heard or thought of applying it to any use of this kind. At Wagawaga, in Milne Bay, fragments of obsidian, formerly used for bleeding and scarification, though less abundant, were not uncommon, and here they were said to have been obtained from a place called

Hiliwau, described as near East Cape, where, according to a somewhat doubtful statement, obsidian boulders were found in the jungle. One of us (C. G. S.) was shown a lump of obsidian about as big as an orange from which small masses had evidently been struck, and also a rather large piece of a volcanic glass, of a brownish red colour, said to have been brought from the same locality. But, again, it was denied that implements of obsidian had ever been made either at Wagawaga or elsewhere, and the same was said at Tubetube in the Engineer Group, where the fragments of obsidian used for medical scarification were formerly imported from Duau, the largest island of the D'Entrecasteaux group.

The localities mentioned were those in which a considerable amount of work was done by the members of the Daniels Ethnographical Expedition, but a flake of a brownish volcanic lava, suggesting a pitchstone rather than obsidian, was found on Gawa, one of the coral islands of the Marshal Bennet group, and the piece of worked obsidian shown in pl. ix, fig. 5 was picked up on Murua. Practically, then, fragments of obsidian have been found wherever search has been made in the south-eastern portion of British New Guinea and its archipelagos, but nowhere, as far as our present knowledge extends, is there any legend or trace of a belief that it was ever worked to form such implements as are shown in pl. viii, figs. 1, 2, 6, and 7.¹

The most striking of the prehistoric obsidian objects is the beautifully finished axe or adze shown in pl. viii, fig. 2, and now in the possession of Mr. David Ballantine, who added the modern hafting.² The dimensions are as follows:—greatest length from cutting edge to end of tang, 183 mm., greatest breadth, 215 mm. It was found in a creek in the Yodda valley, below the surface of the ground, together with the stone pestle and mortar described below (p. 329).

¹ Dr. Rudolph Pösch, who has spent some time studying the Korafi of Collingwood Bay, informs us that he found many fragments of obsidian at Rainu, where he dug into one of the mounds which had not previously been disturbed. Dr. Pösch also states that he found no implements of obsidian in use among the folk of Collingwood Bay and the Cape Nelson Peninsula, although obsidian cores, from which small fragments were struck when required for shaving or scarification, are in common use.

² We take this opportunity of thanking Mr. Ballantine for permission to publish the photographs of implements in his collection shown in pl. viii, figs. 1 and 2; further, the flake shown in pl. viii, figs. 6 and 7, placed in the British Museum by one of us, was obtained through him.

This adze-blade is made from a single large flake, and is roughly lozenge-shaped with a rounded cutting edge; on the shaft side, as hafted, it has been worked to form a short tang.

The flake, of which two views are shown in pl. viii, figs. 6 and 7, was obtained on Goodenough Island, where it was brought for trade. It had been insecurely, and quite recently, lashed to the ends of two of the long thin spears typical of the D'Entrecasteaux group. On one face there is a median ridge, in part double; on the other face there is a distinct bulb of percussion at the end remote from the point. Length 113 mm. (British Museum, No. 1906. 10-14. 9).

The spear head illustrated in pl. viii, fig. 1, length 135 mm., was found by a miner, when sinking a shaft on Misima, at a depth of 4 metres below the surface. It is formed of a single flake triangular in outline, one end worked to form a broad short tang. One face has a double ridge, the other is plain. The small stone adze-blade mentioned below (p. 329) was found in the same shaft some 5 metres lower.

The last specimen of obsidian is shown in pl. ix, fig. 5; it is a small flake picked up by one of us (C. G. S.) on Murua at or below high-water mark in Wanai Bay. On the same site was found a considerable number of well-weathered chips and flakes of typical Suloga adze-stone.¹ This flake is roughly quadrangular, and has a dull surface. One face is plain with a well-marked bulb of percussion, the other is flaked. L. 26 mm. (B. M. 1906. 10-13. 33).

Stone Implements.

The two most interesting of the stone implements are the pestle and mortar shown in pl. ix, fig. 7, which were found in the Yodda valley, in the same creek as the obsidian axe already mentioned.

Mr. C. A. W. Monckton, the Resident Magistrate of the north-east district, mentions the discovery of these in the following terms: 'A remarkable pestle and mortar . . . have been found by some miners in gold workings at a depth of 12 feet below the surface in the Yodda valley. The mortar, which with the pestle weighed 66 lb., was roughly ornamented with barbaric carving . . . the

¹ Suloga is the name of the site whence was obtained the stone which, in the form of adze-blades, passes in trade for many miles on both the northern and southern coasts of the Possession. In fact, on the southern coast Suloga blades have reached at least as far as the Papuan Gulf.

pestle and mortar were discovered in the same creek as an obsidian battle-axe given by me some years ago to the Hon. David Ballantine, and both would appear to be relics of a forgotten race. No native to whom the recently found articles were shown could make any suggestion as to their original use or purpose, and all agreed that they were not the work of any now existing tribes.¹

The mortar has been cut from pale and rather soft stone; it is oval and measures 445 × 385 mm.; the bowl-shaped depression measures 295 × 285 mm. and is 60 mm. deep at the centre; round the depression runs a low ridge, which again is surrounded by fourteen large irregular knobs fringing the edge of the mortar. The pestle, which is cut from hard greyish stone, is 165 mm. long, and resembles a slightly elongated pear.

Several similar pestles, one of them a quite remarkable piece of carving in stone, have been found in this neighbourhood.²

A highly patinated adze-blade, of which the outline is shown in fig. 2, was found by a miner in the same shaft as the obsidian spear head described above, some 9 metres below the surface.

The remaining stone prehistoric objects come from Rainu in Collingwood Bay which, as Mr. Monekton says, is evidently 'an old village site of a forgotten people'. Here, too, were obtained frag-

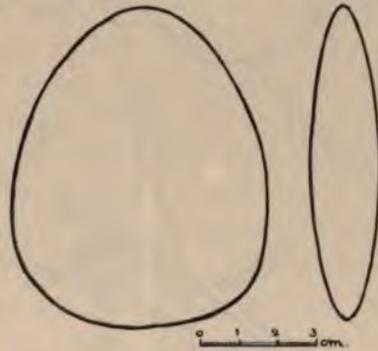


Fig. 2.

¹ *British New Guinea Annual Report*, 1903-4, Appendix D, p. 31. Mr. Monekton figures the mortar and pestle which owing to his wise generosity are now in the British Museum (B. M. 1904. 11-23. 1), but the reproduction is unfortunately by no means a good one.

² Since this was written Mr. C. W. de Vis has published the description of a stone pestle found on Murua under three feet of gravel at the bottom of an extinct river bed from which were obtained 'the fossil bones of dugong, turtle, and crocodile'. The pestle is made 'of diabase or diorite, the rock which . . . is the prevailing geological feature of the island'. In shape it is described as resembling 'a short hyacinth glass, with a bulb of the plant in its usual position. Its base is, as it should be, gently and regularly convex; its conical body suddenly dilated above into a thick collar . . . an obtusely conical knob surmounting the collar, testifies to an impulse of the artistic faculty. . . Its dimensions are these:—Total height, 169 mm.; diameter at base, 88 mm.; at neck, 43 mm.; of collar, 54 mm.' (*Annals of the Queensland Museum*, No. lvii, 1907, p. 12.)

ments of pottery—shown in plates x to xiii—entirely unlike those in use in any part of British New Guinea as far as it is known at the present day, together with carved shells of the genus *Conus*, pl. viii, figs. 3, 4, and 5, and at least one much weathered conus armshell carved in the same style (fig. 4). The most abundant stone implements found at Rainu are adze-blades of greenish opihalcite, adzes of which were, until a few years ago, in use over a considerable area on the northern coast of the Possession. With

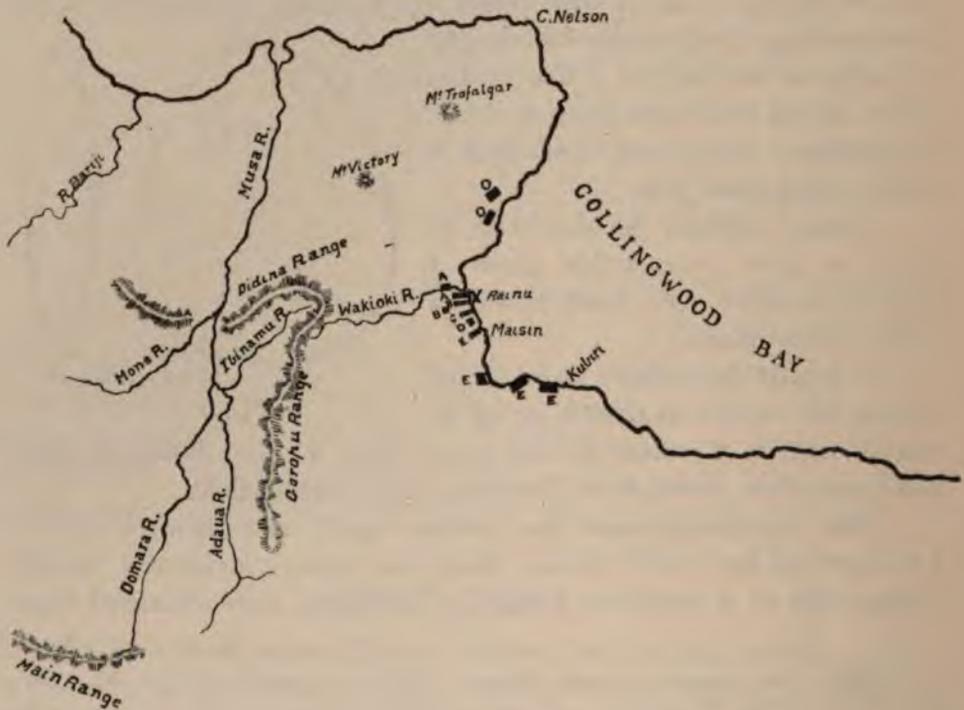


Fig. 3.

these finds of pottery, adze-heads and carved shells, were mingled the bones of pigs and human remains, but the latter were said to be in so fragile a condition that the bones fell to pieces on being handled.

The position of Rainu is shown in the sketch-map which forms fig. 3. Here the new Kubiri and Oian settlements, in preparation for which the site was cleared, are now established. Without entering into the question of the distribution of the tribes in this neighbourhood, it may be pointed out that here, near Cape Nelson, the true or Western Papuan Binandere-speaking tribes meet the

smaller lighter immigrant Papuo-Melanesians, who have pushed up the coast from the east.

A stone fragment (B. M. 1905. 2-9. 342) of peculiar form was found here; the material appears to be a coarse-grained not very hard sandstone; from the fact that it is curved it appears to be the centre of the base of a vessel. On the exterior is a short cylindrical projection, possibly a foot. The interior is smooth and appears to have been much worn by friction. L. 160 mm. It seems not unreasonable to conclude that this is a part of a mortar similar to that already described.

The adze-blades found on the Rainu site are of the stone opicalcite,¹ which is quarried (probably by the Doriri) somewhere on the northern aspect of the Goropu range, and traded down the Wakioki River to the Maisin, and down the Musa river to the more northerly tribes of Cape Nelson. But the four blades that we have examined, including those now in the British Museum, are all smaller and less heavy stones than those in present use, of which we have handled a considerable number.² Pl. ix, figs. 1 and 2, shows two of the opicalcite adze-blades from the Rainu excavations; one of them is thin and flat; its outline is an irregular oblong; one end is ground on both sides to form an edge. Length 120 mm. The other is thicker, roughly triangular in outline; both sides are polished and bevelled to form a cutting edge at the base of the triangle. Length 50 mm.

A fragment of a discoid clubhead (B. M. 1905. 2-9. 327), cut from what is probably the same stone, though darker and harder, was also found in the excavations. It shows a portion of the usual biconical central perforation.

¹ We are indebted to Dr. J. E. Marr for kindly identifying the stone from which these adzes are made.

² We take this opportunity of gratefully acknowledging the assistance we have received from Mr. G. O. Manning, the Resident of the North Eastern Division in which Collingwood Bay is situated. Not only has he answered many questions and traced the distribution of opicalcite adze-blades on the northern coast, but he has sent to this country a carefully labelled series of adzes collected between Collingwood Bay and the northern boundary of his division in the neighbourhood of Cape Endidadere. The best of these adze blades are now in the British Museum, where they constitute numbers 1906. 10-14. 3, 4, 5, 6, 7, and 8. The numbers of the prehistoric opicalcite adze-blades from Rainu in the national collection are 1906. 10-14. 2 and 3 and 1905. 2-9. 329.

Engraved Shells.

Five specimens of these are known to us. One is the armlet cut from a *Conus* shell already mentioned; another is an entire conus shell; the remaining three have the flat spire removed, and one of these has the interior removed also.

The armlet shown in fig. 4 is annular, formed of a cross-section near the base of the cone. The exterior, now much weathered, has been ornamented with engraved concentric arcs and diagonals. Diameter 60 mm., depth of ring 10 mm.

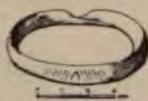


Fig. 4.

Pl. viii, fig. 5, represents the complete conus shell, brownish in colour and ornamented with irregular lozenge patterns arranged in panels (B. M. 1905. 2-9. 336).

Figures 3 and 4 of pl. viii are shells with the spire removed, ornamented with bands of incised continuous scroll patterns. In the specimen shown in fig. 4 (B. M. 1905. 2-9. 337) the interspaces are filled with a sort of hatched leaf pattern; in that illustrated in fig. 3 (B. M. 1905. 2-9. 338) the bands of ornament appear to centre round a conventional human face which is extremely suggestive of the art of the Elema tribes of the Papuan Gulf.

The remaining specimen (not figured) of which the spire, columella, and, indeed, the greater part of its ventral surface have been removed, is ornamented with continuous scrolls similar to those on the two last specimens described.

These engraved shells are perhaps the most puzzling of the prehistoric objects that have so far been found in British New Guinea. Not only is engraving on shells not practised elsewhere in the Possession, but that portion of the cone shell which remains when its spire has been removed to be rubbed down to form a pendant, or when an armshell is made from the broad end of the cone, is never used as an ornament.¹ But of these prehistoric engraved shells two of the four known specimens show that this remaining part of the shell was carefully decorated in a way which suggests that these shells must either have been highly valued ornaments, or else have constituted a class of object which has now ceased to exist in the Possession. Indeed, the question admits of being considered on a

¹ We may, however, refer to the designs, usually totemistic, scratched on shells of the large pearl oyster (*Meleagrina margaritifera*) in Torres Straits. Cf. *Camb. Univ. Expedition to Torres Straits*, vol. v, fig. 21, p. 169.

wider basis than is implied by the statement that nothing like these shells has previously been found in British New Guinea, and we believe it may be stated that engraved cone shells or *conus* armlets have not hitherto been reported from Melanesia. Although three of the specimens under consideration are so much weathered as to crumble easily, cone shells when fresh are extremely hard. The question then arises how the engraving was done. The opicalcite blades found on the Rainu site with the cone shells will not scratch a good specimen of the modern cone shell armlet. Stone 'quarried' at Suloga will scratch such an armlet, though not readily; we, however, found that fragments of obsidian picked up in the villages of Goodenough Bay readily scratched an armshell, leaving a clean, well-defined furrow such as the Rainu shells must have exhibited when first engraved. The condition of these shells does not, to our mind, offer any solution to the problem of their age; their surface is so weathered as to be scratched easily with the thumb-nail, but we cannot say whether this indicates an age greater than a couple of decades, considering the fact that the shells have been buried at no great depth in damp soil in a hot climate with a prolonged rainy season.

Pottery.

In 1905 Mr. Monckton gave to the British Museum a large collection of pottery fragments from the Rainu site. The chief and obvious interest of his gift lies in the fact that this collection consists of fragments of vessels far superior, in construction, symmetry, and ornamentation, to anything which is made in the neighbourhood of Rainu at the present day. From the fragments it is clear that the vessels were mainly of large size, and the sides average about 10 mm. in thickness; the pottery is hard, often extremely hard, and usually shows a reddish or black exterior. Most of the pots, to judge from the fragments, were either large bowls, hemispherical or more than hemispherical, or shallow circular dishes, some encircled with a broad flat lip, some with low sides rising more or less abruptly from the curved bottom.¹

¹ This prehistoric pottery is most nearly approached by certain large hemispherical vessels in which the cleaned bones of the Murua dead are exposed in rock shelters; some of these bowls collected by the Daniels Ethnographical Expedition and now in the British Museum (Nos. 1906. 10-13. 34 to 38) are 420 mm. wide and 230 mm. deep. Their rims are often ornamented or impressed with incised patterns and the latter are generally present forming a circle

Most of the fragments figured belong apparently to vessels of the first description ; on pl. xi, fig. 10, and pl. xii, fig. 9, are examples of the two varieties of the second.

The majority of the pots have a lip surrounding the rim ; this lip may be rounded, and curve outwards, as in pl. x, fig. 5, &c., or it may be flat and project abruptly, as in pl. xi, fig. 5, &c. Where there is no rim, there is frequently a handle, which may be of the 'ribbon' type, pl. xii, fig. 1, &c., or of the type shown in pl. xii, fig. 4, familiar from the so-called 'food vessels' from Northern British barrows of the bronze age. The resemblance is strengthened by the tendency shown in both cases for these handles to become mere ornamental excrescences and to appear in more than one row. In some cases the vessel is encircled by a flange, moulded, as pl. xii, fig. 14, or with pierced work, pl. xi, fig. 3, &c.

The ornament is extremely varied, and is chiefly incised or impressed ; the most frequent designs are punch-marks, spirals, concentric arcs, and circles, string pattern, groups of straight lines arranged in triangles, meander patterns, and so forth. Occasionally a zigzag is obtained in relief by means of a series of triangular impressions (pl. xi, fig. 9). Perhaps the most striking form of ornament is that obtained by means of open work. This decoration in its simplest form appears in pl. xi, fig. 4, where round holes are punched in a moulded flange. These holes may well have served some useful purpose, e. g. for suspending the vessel. In fig. 3 of the same plate the apertures become more essentially ornamental ; in figs. 2, 5, 6 the openwork has invaded the lip, and in fig. 1 of this plate and pl. xii, fig. 16, ornamental apertures occur in the side of the pot itself.

Next to the open work, perhaps, in interest is the remarkably perfect spiral shown in pl. x, fig. 3.

Another form of decoration is represented in the applied circles, meanders, and bands, which often accompany the incised ornament. These applied bands, &c., are sometimes plain and sometimes indented. In connexion with this form, attention may be called to the fine applied spiral in pl. x, fig. 2. Ornamentation is usually confined to the exterior, exceptions such as pl. xi, figs. 8 and 16, being rare.

Among the pottery fragments were found three which must evidently have been the necks of bottle-shaped vases. Two of these are plain as fig. 13 of pl. x, the other (fig. 12) has transverse immediately below the rim. Captain Barton informs us that these bowls are made at Kwatota, an island of the Amphlett Group.

ornamental ridges in low relief. A glance at the interior surface of fig. 13 shows that it was made by coiling. It is noteworthy that, as far as the country is known, no vessels with necks are made or used in British New Guinea. The nature of the pottery object shown in fig. 11 of plate x is uncertain. It somewhat resembles the fragment of a spindle whorl which has been broken longitudinally; possibly it is the weight of a pump drill. In pl. ix, figs. 4 and 6, are shown two pottery club heads which also come from the Rainu site. These are presumably ceremonial, as is the modern wooden club cut from the solid, of which the head is shown for purposes of comparison in fig. 3 of the same plate. The latter, although obtained at Port Moresby, was said to come from the mountains far inland.

The last series of prehistoric pottery (pl. xiii and fig. 5) consists of a number of fragments collected by one of us (C. G. S.) on the island of Dauko, some four miles from Port Moresby. Dauko is a low coral island covered with rank grass and bearing a few scattered trees and bushes of the common coast-loving plants of the district. It is at present uninhabited, and all that could be discovered concerning any previous population is a legend that, for a brief period, perhaps about four generations ago, the folk of the Port Moresby villages, together usually termed Hanuabada, migrated to Dauko during a severe epidemic and lived there till the disease had spent its force. But the natives assert that this pottery cannot be related to this short immigration, and, indeed, the style of ornament upon these fragments differs entirely from that found among any of the Motuoid tribes, the pot-makers of the whole Central Division.

The vessels of which fragments were collected differ in type and decoration from those at Rainu. No trace of a handle is found on any of the fragments, and in only one case is the pot furnished with a lip (pl. xiii, fig. 3). This lip is flat and broad and expands abruptly outwards from the side of the pot, the ornamentation being on the upper surface of the lip. In all other cases the fragments show that the pots were of the same type, circular, with a perpendicular or slightly incurved rim about 32-40 mm. deep, below which the sides take an abrupt bend inwards. The ornamentation, which in all cases but one seems confined to this rim, is of one kind only, incised. Bands of lines, simple hatching, cross-hatching, zigzags, meanders of string pattern and arcs, are all represented, and the decoration is more minute and less bold than that of the Rainu

pots and, in consequence, the general effect of the vessel must have been far less striking. The exception, fig. 5 (text), mentioned above is the fragment of the side of a vessel which has been ornamented with broad bands of a reddish pigment. This, with another fragment from the same site (pl. xiii, fig. 3), is the only example collected from any locality which shows an attempt to apply coloured decoration to pottery.



Fig. 5.

The almost perfect symmetry exhibited by the prehistoric pottery as a whole—to judge from the larger fragments—might give rise to the question whether the use of the wheel were known. But apart from the fact that the wheel is unknown in Melanesia, the women of the Motu stock at the present day make narrow-mouthed vessels, in some instances with bodies approximately spherical, of perfect symmetry by the simple expedient of giving an occasional turn with one hand to the board or fragment of old pot upon which the lump of wet clay is supported.

DESCRIPTION OF PLATES VIII–XIII (POTTERY)

PLATE VIII

- FIG. 1. Obsidian spearhead; found at Misima (see p. 328).
 FIG. 2. Obsidian axe-blade; found in a creek in the Yodda valley (see p. 327).
 FIGS. 3, 4, and 5. Engraved *Conus* shells; found at Rainu (see p. 332).
 FIGS. 6 and 7. Obsidian flake; obtained in Goodenough Island (see p. 328).

PLATE IX

- FIGS. 1 and 2. Ophicalcite adze-blades found at Rainu (see p. 331).
 FIG. 3. Wooden ceremonial club; obtained at Port Moresby (see p. 335).
 FIGS. 4 and 6. Pottery club-heads; found at Rainu (see p. 335).
 FIG. 5. Obsidian flake; found at Wanai Bay, Murua (see p. 328).
 FIG. 7. Stone pestle and mortar; found 12 ft. below the surface of the ground in the Yodda valley (see p. 328).

PLATE X

FIG. 1. Pottery fragment; part of rim of vessel, reddish surface, grey body; the side of the bowl expands outward to form a broad rim of which the horizontal surface is decorated with incised spirals, and, at the edge, with a shallow groove between two rows of diagonal punch marks. The external edge of the rim appears to have been moulded. 1905. 2-9. 193.¹

¹ This and the subsequent numbers refer to the British Museum Registration Catalogue.

FIG. 2. Pottery fragment ; greyish-buff, ornamented with an appliqué spiral in relief. 1905. 2-9. 302.

FIG. 3. Pottery fragment ; part of rim of vessel, reddish grey, ornamented with an impressed spiral and, at the edge of the rim, a row of shallow circular impressions. The surface of the interior is ribbed horizontally. 1905. 2-9. 194.

FIG. 4. Pottery fragment ; part of rim of vessel, reddish surface, grey body ; side ornamented with incised concentric circles ; the rim expands abruptly outward to form a lip, curling slightly downwards. 1905. 2-9. 203.

FIG. 5. Pottery fragment ; part of side of vessel, greyish-buff, with fluted rim ornamented here and there with small knobs. Ornamented with series of impressed concentric circles outlined with punched dots, and with meanders in relief. A shallow groove encircles the pot immediately below the rim, and below this is a line of punched dots. 1905. 2-9. 214 a.

FIG. 6. Pottery fragment ; reddish grey, with two small appliqué circles in high relief outlined with punched dots. 1905. 2-9. 303.

FIG. 7. Pottery fragment ; brownish black with curved line in high relief, below which is an impressed concentric chevron pattern. 1905. 2-9. 298.

FIG. 8. Pottery fragment ; greyish red, ornamented with curved indented band in high relief. 1905. 2-9. 297.

FIG. 9. Pottery fragment ; part of rim of vessel with everted lip, below which is an indented band in relief. Below this again is a band of diagonal lines of incised string pattern. The edge of the lip is similarly ornamented, but the marking is very faint. 1905. 2-9. 268.

FIG. 10. Pottery fragment ; part of rim of vessel ; about 3 cm. from the edge, the vessel is encircled by an indented ridge ; above this, by a meander of impressed string pattern. 1905. 2-9. 258.

FIG. 11. Pottery fragment ; apparently part of an object in shape a double cone, pierced vertically by a large aperture. The more depressed conical portion is ornamented with bands of impressed lines outlined with punched dots ; the more elevated conical portion with impressed lines encircling it spirally. 1905. 2-9. 315.

FIG. 12. Pottery fragment ; spout of a vessel, red pottery, cylindrical, with a low flange about 5 mm. from the edge and one or more raised bands, where the neck meets the body.

FIG. 13. Pottery fragment ; spout of a vessel, reddish brown, quite plain, cylindrical.

PLATE XI

FIG. 1. Pottery fragment ; part of rim of vessel, reddish-grey pottery, expanding outwards to a rounded lip immediately below which is a row of 11 holes between two bands, with two vertical lines in low relief running up over the edge of the lip. Below the holes are three ridges in low relief, the second underlined with punch marks ; the rest is decorated with impressed herring-bone pattern. 1905. 2-9. 248.

FIG. 2. Pottery fragment ; part of rim of vessel, pale-buff pottery, lip expanding outward and pierced with four holes (three only complete), running diagonally from the upper surface of the lip to the under-side on the exterior ;

the upper surface of the lip, where not ornamented with holes, is grooved longitudinally. The exterior is ornamented with lines of punch marks. 1905. 2-9. 246.

FIG. 3. Pottery fragment; part of rim of vessel, reddish pottery; at the edge the exterior is encircled by a band of diagonal lines of impressed string pattern; below this is a broad flange, at right angles to the body, with large triangular perforations, between which runs a double zigzag of impressed string pattern. 1905. 2-9. 239.

FIG. 4. Pottery fragment; part of a rim of a vessel, reddish-grey pottery; 20 mm. from the edge the vessel is encircled with a broad flange with moulded edge, perforated vertically with circular holes. The edge of this flange is ornamented with impressed diagonal string patterns. 1905. 2-9. 244.

FIG. 5. Pottery fragment; part of rim of vessel, reddish-grey pottery, with abruptly everted lip, pierced with oblong apertures between rows of punched dots.

FIG. 6. Pottery fragment; part of lip of vessel, with a double row of triangular apertures apex to apex alternately, and on the rim a similar pattern punched in miniature. The edge of the lip ornamented with incised diagonals. 1905. 2-9. 241.

FIG. 7. Pottery fragment; part of rim of vessel, reddish pottery, edge flattened at the top and forming a lip on exterior and interior, upper surface ornamented with double row of punched dots; edge of exterior lip with punched triangles.

FIG. 8. Pottery fragment; part of rim of vessel, reddish pottery, everted lip ornamented on the inner surface with horizontal lines of incised dots interrupted at intervals by pairs of transverse ridges. The exterior of the pot is decorated with series of impressed concentric circles outlined with incised dots. 1905. 2-9. 216.

FIG. 9. Pottery fragment; part of rim of vessel, reddish-grey pottery, abruptly everted lip, the upper surface of which is ornamented with three longitudinal lines of pattern, a zigzag in relief obtained by punching down the background, between two rows of incised dots. 1905. 2-9. 238.

FIG. 10. Pottery fragment; part of rim of vessel, greyish-buff pottery, abruptly everted lip, the upper surface ornamented with deeply incised herring-bone pattern. 1905. 2-9. 232.

FIG. 11. Pottery fragment; part of rim of vessel, rounded edge, below which is a ridge in low relief ornamented with diagonal lines of impressed string pattern; below this the body ornamented with incised horizontal lines. 1905. 2-9. 148.

FIG. 12. Pottery fragment; part of rim of vessel, reddish-black pottery; round the edge on the exterior runs a zigzag in partial relief, obtained by punching down the background; below this panels of rough chevron pattern, incised. 1905. 2-9. 250.

FIG. 13. Pottery fragment; part of rim of vessel, black pottery; round the edge on the exterior runs a band of incised diagonal lines grouped in triangles. 1905. 2-9. 229.

FIG. 14. Pottery fragment; part of rim of vessel, reddish pottery, lip slightly incurved, upper surface, which slopes downwards toward the exterior, ornamented with incised diagonal lines, with a row of dots along approximately every other one; below, a plain ridge encircles the exterior. 1905. 2-9. 228.

FIG. 15. Pottery fragment; part of rim of vessel, reddish pottery, with sharply everted lip, ornamented along the edge with impressed dots; body ornamented with lines of similar dots and impressed horizontal lines. 1905. 2-9. 218.

FIG. 16. Pottery fragment; reddish pottery, part of side of a vessel, the interior ornamented with decoration of impressed string pattern arranged in panels. 1905. 2-9. 307.

FIG. 17. Pottery fragment; part of handle, reddish pottery, approximately circular in section, exterior ornamented with three longitudinal indented ridges. 1905. 2-9. 311.

FIG. 18. Pottery fragment; part of rim and side of vessel, greyish-black pottery, rounded in-curved lip ornamented with longitudinal grooves; below on exterior an impressed line of cord pattern, below, a broad band of incised diagonals arranged in triangles, and below again a series of incised horizontal lines. 1905. 2-9. 187.

PLATE XII

FIG. 1. Pottery fragment; part of rim of vessel, reddish pottery, rounded lip projecting outwards; about 4 cm. lower runs a horizontal ridge; the lip and ridge at intervals expand so as to meet and form a loop handle; the lip and the space between lip and ridge ornamented with incised dotted meanders. 1905. 2-9. 4.

FIG. 2. Pottery fragment; part of rim of vessel, reddish-black pottery; loop handle similar to fig. 1. 1905. 2-9. 2.

FIG. 3. Pottery fragment; part of rim of vessel, reddish grey-black pottery, small loop-handle as in fig. 1, upper surface of lip ornamented with longitudinal groove; the triangular projection which forms the handle decorated on upper surface with three vertical holes and a double groove following the outline; body ornamented with horizontal incised lines. 1905. 2-9. 82.

FIG. 4. Pottery fragment; part of rim of vessel, reddish-black pottery, rounded lip grooved longitudinally; below on the exterior is a triangular projection, the apex meeting the apex of a similar projection below it to form a loop handle; the upper surface of the former ornamented with grooved diagonals, the edges of both with impressed string pattern. Body ornamented with longitudinal grooves. 1905. 2-9. 40.

FIG. 5. Pottery fragment; part of rim of vessel, reddish pottery, rounded lip, at one point a projection similar to the loop handle of fig. 4, but imperforate. Below the rounded edge is an indented horizontal band in relief. 1905. 2-9. 75.

FIG. 6. Pottery fragment; part of rim of vessel, reddish pottery, rounded edge, 25 mm. from which is a small vertical applied loop handle. Below this the body is ornamented with impressed chevron pattern. 1905. 2-9. 289.

FIG. 7. Pottery fragment; part of side of vessel, greyish-buff pottery; along a ridge are a number of small applied projections, similar to the loop handle of fig. 6, but imperforate.

FIG. 8. Pottery fragment; part of side of vessel; reddish pottery, similar to last. 1905. 2-9. 292.

FIG. 9. Pottery fragment; part of rim of vessel, reddish pottery, lip projecting outwards; 40 mm. from edge the sides bend abruptly inwards, the angle

being marked by a well-defined ridge; above this runs a less prominent ridge, connected with the first at intervals by series of three applied knobs, similar to those in figs. 7 and 8, but smaller. 1905. 2-9. 287.

FIG. 10. Pottery fragment; part of rim of vessel, dark-reddish pottery, lip projecting outwards and grooved longitudinally on the upper surface. These grooves are interrupted at one point by a series of six small rounded knobs along the exterior edge of the lip. Below the lip run two shallow grooves and an incised line. 1905. 2-9. 286.

(It may be noticed here that the loop handle, appearing in its most perfect form in fig. 1 appears to pass through various stages of degradation, becoming small in fig. 6, imperforate and meaningless in figs. 7 and 8, and a mere decorative excrescence in 9 and 10.)

FIG. 11. Pottery fragment; part of rim of vessel with everted lip, reddish pottery; below is a horizontal applied band in relief with lozenge-shaped indentations. 1905. 2-9. 272.

FIG. 12. Pottery fragment; part of side of vessel, reddish pottery, with semi-circular discoid projection. 1905. 2-9. 293.

FIG. 13. Pottery fragment; part of rim of vessel, reddish pottery, rounded lip projecting outwards, ornamented with horizontal grooves interrupted by impressed mouldings. 1905. 2-9. 280.

FIG. 14. Pottery fragment; part of rim of vessel, reddish pottery, flattened lip projecting outward, 20 mm. from which is a prominent ridge with impressed mouldings. 1905. 2-9. 251.

FIG. 15. Pottery fragment; reddish pottery, a short circular rod expanding somewhat abruptly at one end, where it has been broken off; possibly the leg of a vessel. 1905. 2-9. 316.

FIG. 16. Pottery fragment; part of rim of vessel; black pottery, square edge with single broad groove, the sides apparently pierced with a row of large circular apertures, and further ornamented with groups of diagonal impressed lines, and lines of small incised dots. 1905. 2-9. 306.

PLATE XIII

FIG. 1. Pottery fragment; part of rim of vessel; 30 mm. from edge the side bends abruptly inwards. Along the edge runs a horizontal band of incised lines with a row of scallops along the lower edge. Immediately above bend runs a similar band without scallops. L. 75 mm.

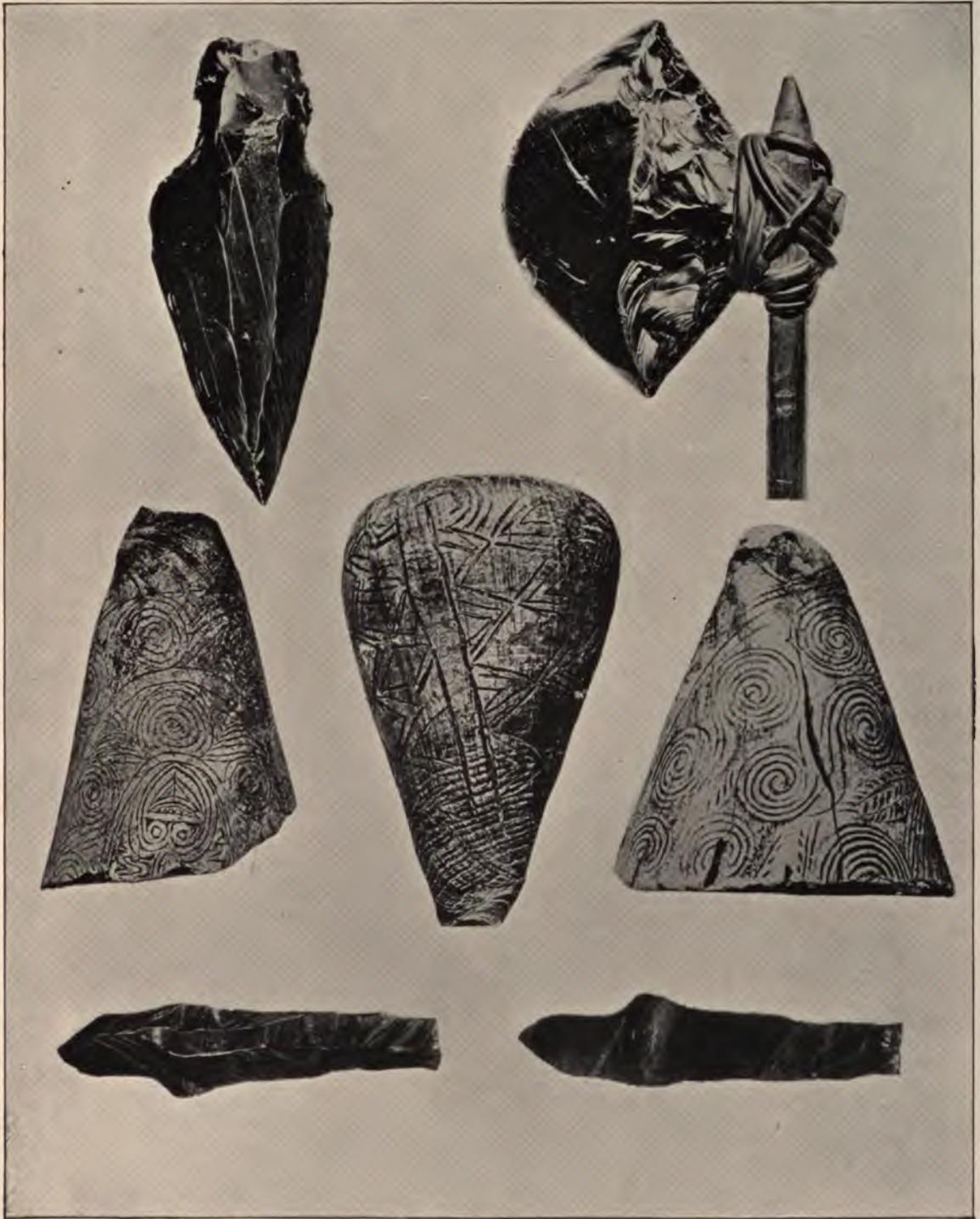
FIG. 2. Pottery fragment; part of rim of vessel, reddish pottery; along the edge runs a band of incised lines, and 23 mm. below is a similar band; between is a band of chevron pattern, the chevrons composed of four or five incised lines. L. 83 mm.

FIG. 3. Pottery fragment; part of rim of vessel of pale-buff pottery, with traces of red pigment on the surface. The vessel had an abruptly everted lip ornamented on the interior with vertical incised lines arranged in panels between bands of horizontal lines. L. 50 mm.

FIG. 4. Pottery fragment; part of rim of vessel, pale coarse pottery; 30 mm. from the edge the side bends abruptly inwards; above this as ornamentation is an incised indented line surrounded by bands of incised straight lines. L. 92 mm.

ERRATUM

Plate VIII, Fig. 2, *for* (half size) *read* (one-fourth)



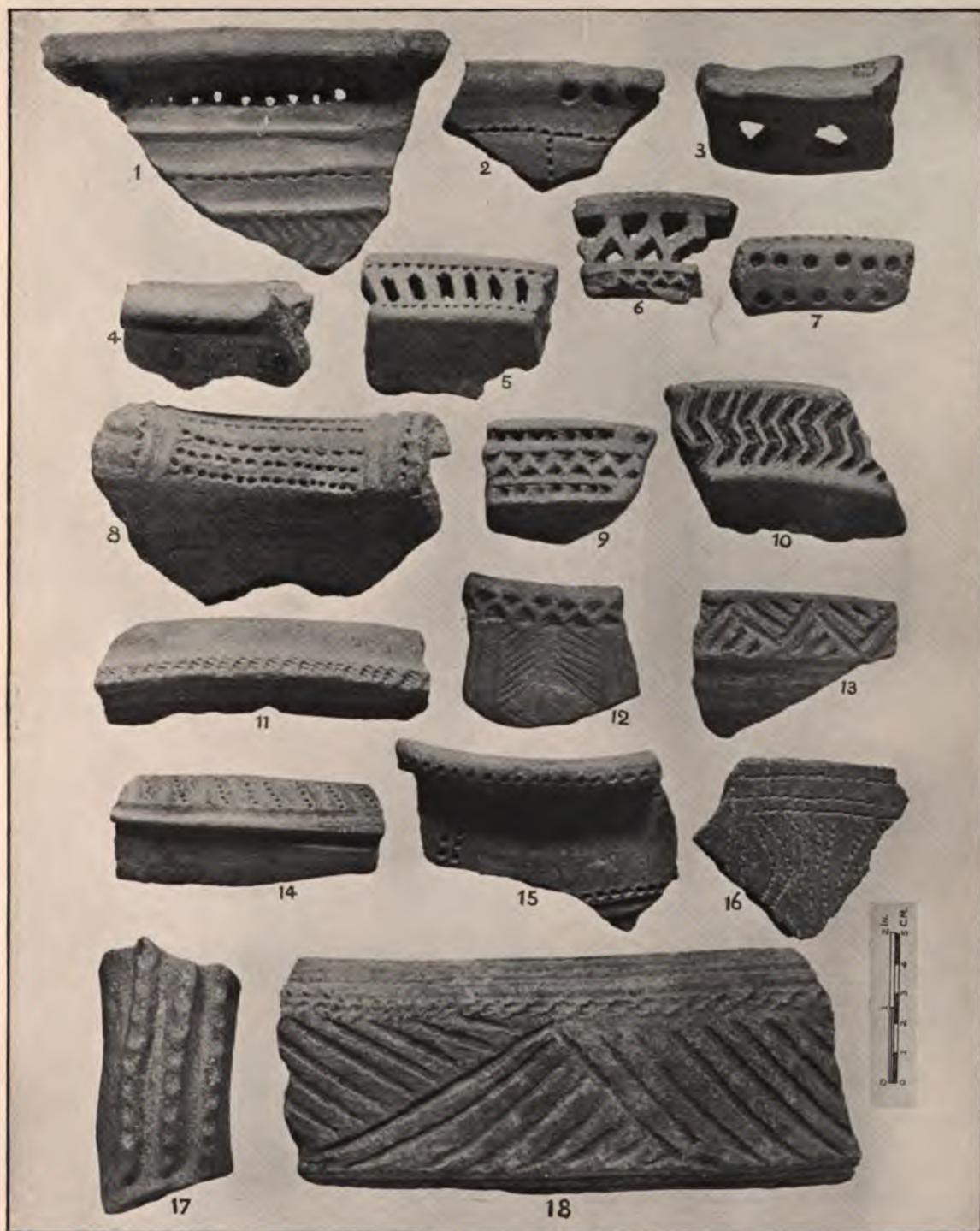
1, Spearhead (half size). 2, Axe-blade (half size). 3, 4, 5, Carved Shells (full size). 6, 7, Flake (half size).



1, 2, Adze-blades (reduced by $\frac{1}{3}$). 3, 4, 6, Clubheads (slightly reduced). 5, Flake (full size).
7, Pestle and Mortar (reduced to $\frac{1}{3}$).



Fragments of Pottery.

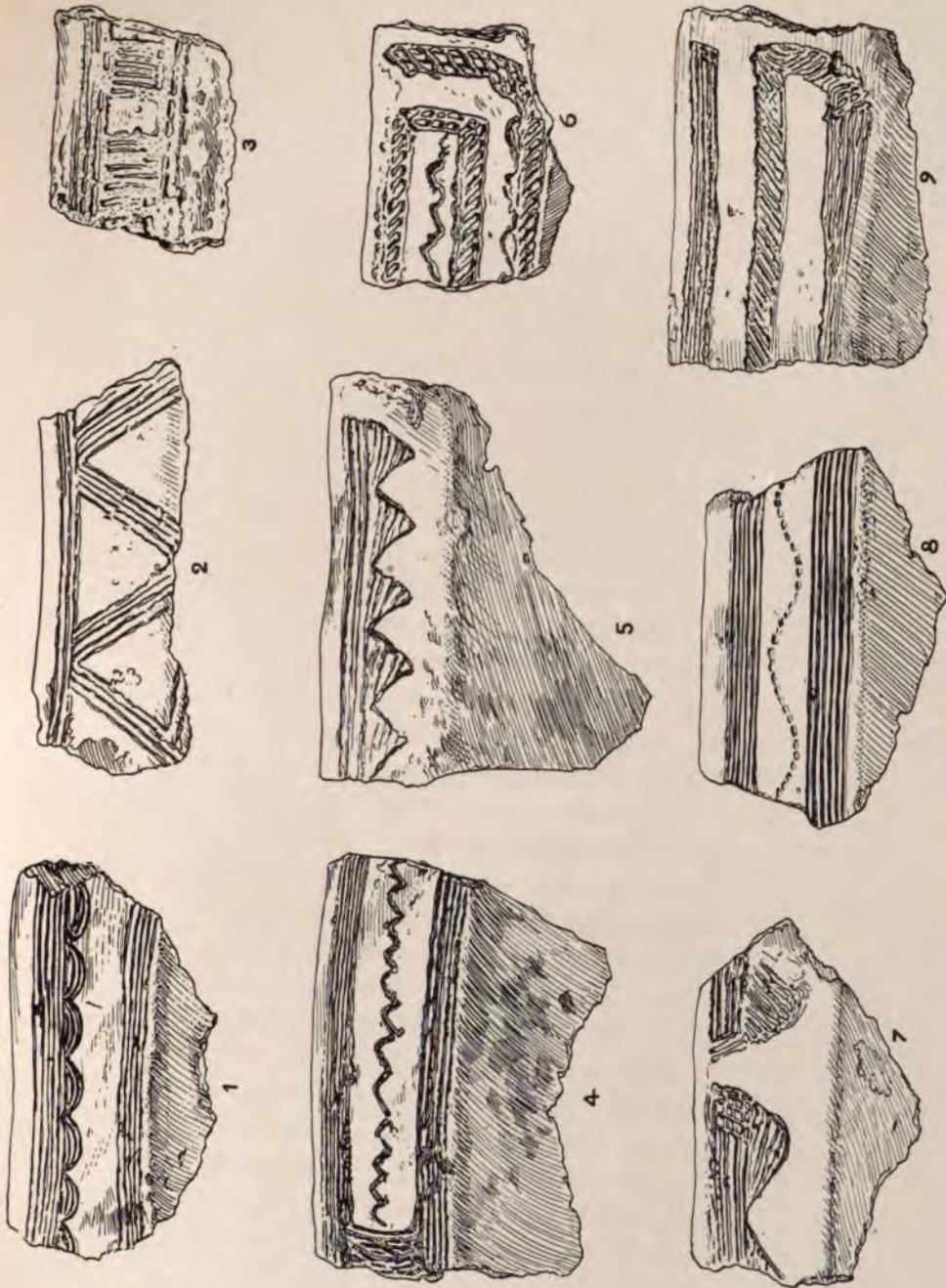


Fragments of Pottery.



Fragments of Pottery.





Fragments of Pottery.



FIG. 5. Pottery fragment; part of rim of vessel, reddish-grey pottery; 18 mm. from edge the side bends abruptly inwards; along the edge on the exterior is an incised band of hatched contiguous triangles, vertices downwards. L. 86 mm.

FIG. 6. Pottery fragment; part of rim of vessel, coarse pale pottery, ornamented with parallel bands of incised cross-hatching and incised meanders. L. 55 mm.

FIG. 7. Pottery fragment; part of rim of vessel, of coarse buff pottery; 28 mm. from edge the side makes a slight but abrupt bend inwards. Above this is an ornamental scalloped band of incised hatching. L. 75 mm.

FIG. 8. Pottery fragment; part of rim of vessel, reddish pottery; 38 mm. below edge the side bends abruptly inwards; above are two horizontal bands of incised lines, and between them a dotted meander, also incised. L. 83 mm.

FIG. 9. Pottery fragment; part of rim of vessel, coarse grey pottery; 37 mm. from edge the side bends abruptly inwards; above this are three horizontal bands of incised lines, the two lower connected by a similar vertical band. L. 74 mm.

FIG. 5 (text). Pottery fragment; part of side of vessel, black pottery with reddish surfaces; the exterior is ornamented with horizontal bands of deeper red. L. 83 mm.