

## EARLY PAINTED POTTERY FROM GOURNIA, CRETE.

The existence of a pottery waste heap on the Mycenaean site Gournia in eastern Crete had been known since 1901, when one of the first trial trenches sunk had shown that the region immediately outlying what is now known to be the northwest end of the town, was packed with thousands of bits of broken pottery. The interest of the excavation centered elsewhere, however, in this first campaign and again in the succeeding campaign of 1903.<sup>1</sup> It was not, accordingly, until last season's excavations, in 1904, that an investigation of these fragments was undertaken. The first specimens which were then cleaned and examined bore witness to the importance of the ware. They belonged, quite evidently, to the pre-Mycenaean period and were decorated with simple designs, some painted dark on the ground of the clay, and others in white on a dark paint ground. It was at once decided to dig the waste-heap out, and three men were set to work to break up the hardened masses of pottery and earth, and to pick out the sherds. At the end of a week they had cleared two thirds of the space occupied by the waste heap, and had separated two hundred baskets of fragments. This seeming to be a sufficiently large quantity for purposes of study, the rest of the area was left unexcavated. Perhaps it may prove useful for future reference.

The waste heap lay northeast of Quarter A<sup>2</sup> (see Fig. 1) in a triangular hollow measuring about 17 m. on two sides and 14 m. on the third. The only walls in the vicinity are (1) those of Houses Aa and Ab to the southwest, (2) the wall marked b-b' and (3) the walls of a house containing burials and situated at a distance of 7.35 m. northeast of the northeast boundary of the waste heap. In the center of the waste heap the sherds lay a metre deep, and closely packed together; toward the outside the depth was less, and the sherds proportionately fewer. The western boundary was difficult to determine, for the ground slopes away here quite perceptibly, and the sherds had accordingly been carried down the hill by rains, and were found as far as 50 m. from the eastern limit of the waste heap.

The spot was evidently chosen because it was conveniently near the town, and yet concealed on account of the basin like depression in the land. The

<sup>1</sup> *Trans.* Vol. I. p. 7.

<sup>2</sup> See plan of Gournia. *Trans.* Vol. I, Fig. 23, op. p. 44.

wall b-b', mentioned above, is a metre wide and though built of small stones, may be the remnant of a town wall. If so, we can imagine the broken pottery to have been collected from the crowded town which would naturally afford no dumping ground, and to have been thrown away below the town

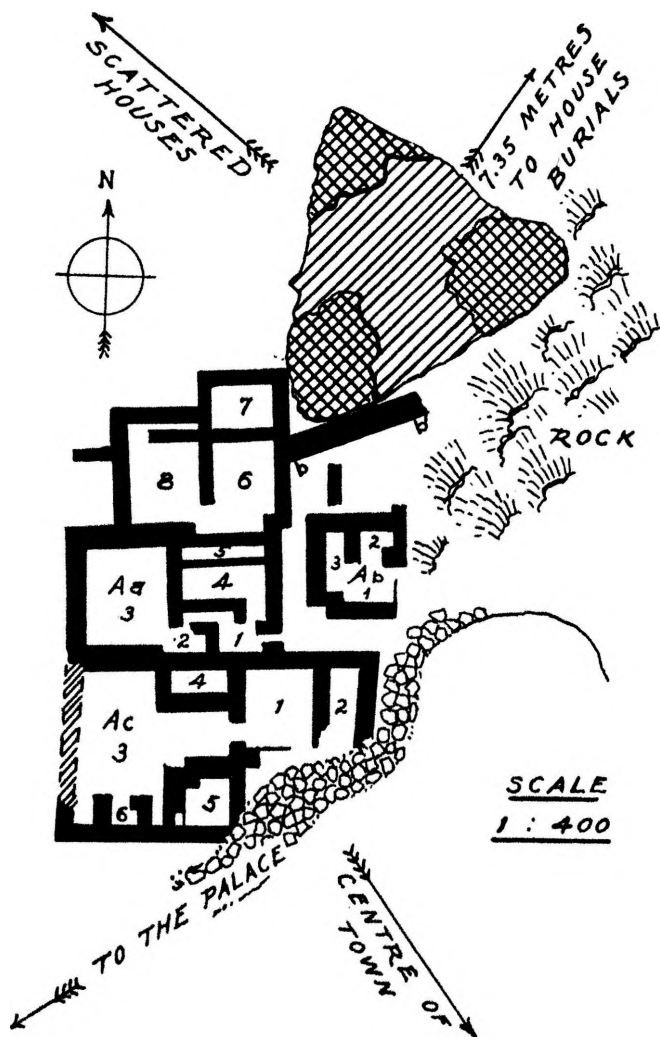


Fig. 1. Showing the Relation of the Waste Heap to the Northwest Quarter of the Town.

wall. Or, if a town wall is not represented by b-b', it is still true that the waste heap was made beyond the thickly populated quarter, in the outskirts of the town. There were no traces of stratification in the waste heap. The

sherds, moreover, were of so uniform a size and character that it is probable that they were thrown there at one time, perhaps when the town was reoccupied after a sack by the people of a neighboring town.

Of the pottery to be described, the bulk (all of that which is illustrated on the plates except XXIX, 1, XXX, 8 and XXXI, 2) came from the waste heap. Outside the waste heap, however, the same early ware came to light in small quantities both at Gournia and at Vasiliki.<sup>1</sup> At Gournia it lay with fragments of Kamares<sup>2</sup> cups and early Mycenaean vases in artificial deposits, made as foundations for floors of a later period. Such an artificial deposit is of little value as evidence except in determining the terminus *ante quem*. But better evidence was forthcoming from Vasiliki. There, in pits I and II, fragments of the ware in question were found together with a red and black mottled ware abundant at Vasiliki above a stratum of the same Vasiliki ware mixed with sherds of a red on buff geometric style, and a still lower stratum of Vasiliki ware alone. It seems merely an accident that there was not also found in this lowest stratum, as elsewhere on bed rock at Vasiliki, an admixture of sub-neolithic sherds characterized by an ashen grey color and incised linear geometric designs. The meaning of this order of stratification may better be considered after the fragments in question shall have been fully described.

The clay of which this ware is made shades from a buff to a brick red color according to the firing; for all the finer vases it is well sifted. Occasionally a grey clay with black particles is found.

The ware seems to have been hand made. At least there are no certain traces of the wheel either on the bottom fragments or the inner surfaces of fragments from the sides of vases. The lines, on the contrary, are disjointed, as if the revolution of the vase had been slow, and the transition from neck to rim as in the amphora like vessels is gradual, not sharp. The shapes, however, are always regular and sometimes, especially in the case of cups, they are fashioned of very thin clay.

The decoration is applied in one of the following ways: (1). Directly upon the surface of the clay without the medium of a slip, a dark paint is applied either (a) to the entire surface of the vase or (b) to those portions only which are to be decorated with a light design; on this dark ground the designs are painted in white: or (2) the decoration itself, confined in this case to simple, patterns like bands and loops, is painted dark on the ground of the clay. This second technique with dark design paint is rarely used for small vases, but appears on large, coarse vessels. The inside of the vase is left unpainted

<sup>1</sup> See p. 207 of this volume for the report of the excavations at Vasiliki.

<sup>2</sup> "Kamares" is used here as equivalent to "Middle Minoan" in Mr. Evans's terminology for Knossos: "early Mycenaean" is equivalent to "Late Minoan I," see "Excavations at Knossos," *B. S. A. No. VII-IX*, and *J. H. S. XXIII*, p. 157 sq.

except for a narrow band about the mouth. The body paint varies in color: it is either red or else it shades from an iron black to brown. It is semi-lustrous, casting a slight reflection when turned in the light and not soaking deep into the clay. The white paint used for the design is chalky and sometimes so fugitive that it could be rubbed away with a stroke of the hand, although in general it stood the ordeal of cleaning well. In color the light paint has often

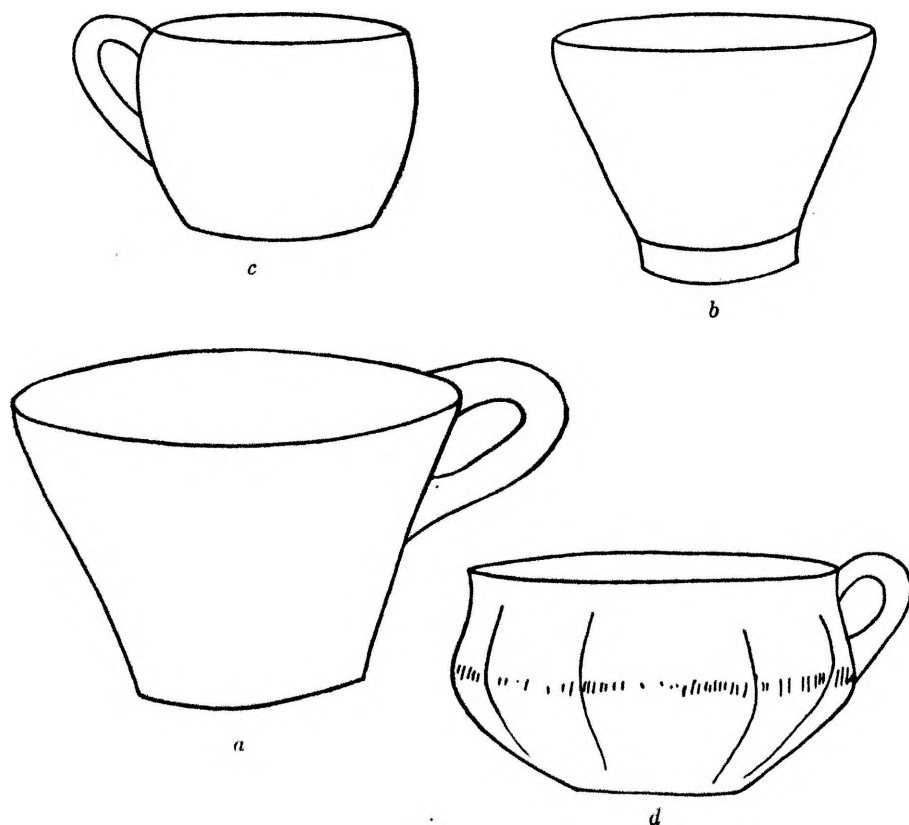


Fig. 2. Types of Cups.

a yellow tinge and it is noticeable that the yellower shades go with the red ground paint and the brick red clay, as if all three variations were the result of a long firing.

In describing the shapes of these vases, it should be said at the start that not one whole vase was recovered and that out of three thousand fragments studied but five joints were made. The shapes of some of the cups could be

restored (see Pl. XXVI) but for larger vessels a fragment of average size (6 or 7 cm. square) was hopelessly small. Most of the fragments, however, with the exception of a quantity of pieces from undecorated sides of larger vases, could be assigned to one of the following classes:

1. Cups (Plates XXVI-XXVIII.)
2. "Hole-mouthed jars" (Plates XXIX and XXX).
3. Beaked jugs (Plate XXXI.)
4. Lids (Plate XXXII.)
5. Miscellaneous (Plates XXXII and XXXIII.)

This list does not take into account fragments of coarse unpainted vessels like pithoi and kitchen pots of which over half of the waste heap consisted. Especially noticeable was the large number of three legged cooking pans made to stand over a fire at a height varying from .10 to .17 m.

1. *Cups*.—The principal types of cups, so far as they could be determined, are shown in Fig. 2. The commonest shape seems to have been a more or less straight sided cup with either a plain bottom (*a*), or a flaring foot (*b*). In actual numbers there were 435 rim pieces examined of which 103 were too small to be assigned with certainty to any type. Of the 332 remaining, 262 were straight and belonged to either *a* or *b*, the majority probably to *a*, since of the bottom fragments examined, 30 came from cups with a flaring foot, while 50 were plain. Of type *c*, a cup with a small mouth and rounded sides, 56 rim-pieces were found. The cup with a sharply defined shoulder and wide mouth (*d*) was represented by 14 fragments. All of these cups, unless perhaps type *b*, were provided with handles. Of the handles preserved 68 were round while 14 were somewhat flattened. The straplike handle common in the Kamares period did not appear. In other respects, however, these forms of cups are very similar to those used in the Kamares period. With Fig. 2, *a* may be compared a cup from the Bone Enclosure at Palaikastro, Crete, figured in *B. S. A.* VIII, p. 293, Fig. 7, the upper right hand vase.<sup>1</sup> With Fig. 2, *b* and *d* may be compared the Zakro forms shown in *J. H. S.* XXIII, pp. 250 and 249, Figs. 6 and 3 and the Palaikastro forms *B. S. A.* IX, p. 302, Figs. 1, 6 and 7.

2. *"Hole-mouthed Jars."*—Next to cups in order of frequency come hole-mouthed jars, (307 fragments). As was to be expected in the case of such large vases, no restoration was possible. The largest piece recovered, Pl. XXIX, 1, came from Vasiliki, Pit I, and was put together from three fragments. It is large enough to give the diameter of the mouth and the curvature of the upper part of the vessel to which it belonged, but the height is uncertain. In the Kamares period when similar wide mouthed jars were common, two types were in use—a taller shape like that of the jar reproduced in *J. H. S.*

<sup>1</sup> cf. also *B. S. A.* IX, p. 302, Fig. I, II.

XXIII, p. 177, Fig. 4, and a more squat shape like the beautiful Kamares piece in *B. S. A.* IX, p. 120, Fig. 75. The latter seems to be a more likely shape to which to assign our fragments, for none of the 17 horizontal handles found seems large enough to carry so tall a jar as the former. A typical jar restored from Pl. XXIX, 1, on the analogy of the Knossos examples is shown in Fig. 3, but doubtless much variety of size and shape is to be imagined. The mouth diameter of this class of vases ranges from 16 to 21 cm.; the base diameter to judge from the bottom pieces which seemed most surely to belong with the rim fragments, varies from 10.5 to 16.5 cm. For the existence of a vertical

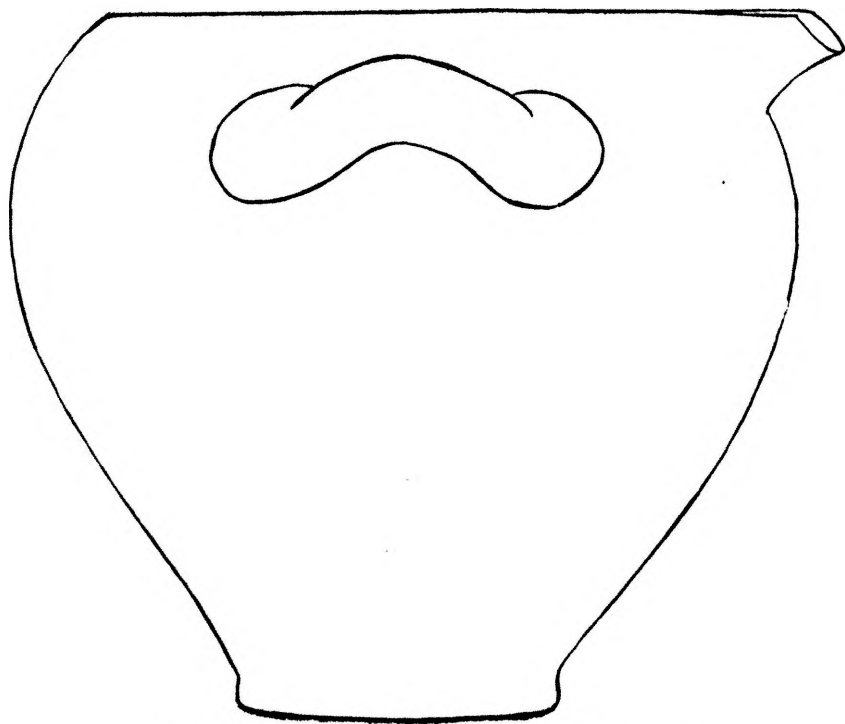


Fig. 3. Conjectural Type of "Hole-mouthed" Jar.

handle opposite the spout there was no evidence except in the case of smaller jugs like the modern cream pitcher, which probably had a vertical handle only. The side spout opens into the vessel through a hole 2 to 3 cm. wide, and is commonly bridged over.

3. *Beaked Jugs*.—No fragments except spouts can be assigned with certainty to this class; but these are enough to show that the shapes were less exaggerated than those of the early beaked jugs from Phylakopi<sup>1</sup> or from the

<sup>1</sup>See *Excavations at Phylakopi in Melos*, Pl. IX.

II-IV strata at Troy,<sup>1</sup> and fully as good on the other hand as those of Cretan jugs of the Kamareos period.<sup>2</sup> A clay knob on the side of the spout shows that metal vases served as prototypes even in this early period.

4. *Lids*.—Thirty six fragments of lids appeared. Of these, two types may be distinguished: (1) a lid with an overlapping edge and two handles at the rim (Pl. XXXII, 1 and 2), and a flat lid somewhat thicker at the outside than at the middle and provided with a single central handle (Pl. XXXII, 3-9).

5. *Miscellaneous*.—Under this head are included the shapes of which only one or two instances occurred. First may be mentioned, Pl. XXXII, 10 and 11, which come from some sort of jug or amphora provided with a vertical neck and flaring rim. Pl. XXXIII, 1 and 2 come from jars akin to "hole-mouthed jars," except for their recurving rim. The ridge which projects just below the mouth on the outside of Pl. XXXIII, 1, is probably for the support of a lid like Pl. XXXII, 1 or 2. Pl. XXXIII, 4 is to be referred to a low dish with flaring sides. To the same shape belonged also a hand polished buff fragment and a remarkably fine mottled red and black sherd resembling the Vasiliki ware, but much more brilliantly colored. That dishes with flaring walls should be so painstakingly decorated or polished on the outside seems to show that they were hung or stood up as an ornament when not in actual use. The lip curls back too far to admit of the theory that the decoration would show when the dish was raised for drinking. Pl. XXXIII, 4 and 9, come from large cylindrical dishes of which the entire height (9.5 cm. each, counting the foot in No. 9) is preserved.<sup>3</sup> Both seem to have been provided with lids, the former with a lid which rested in the hollow between the two ledges of its double rim, the second and larger with a flat lid which was tied on by means of the hole which appears in its side.<sup>4</sup> Pl. XXXIII, 10 is a conjectural restoration of the only pyxis fragment which came to light.

The lozenge shaped sherd, Pl. XXXIII, 7 offered a difficulty which at first admitted of no explanation. Its sides are too regular to have been broken, and are painted, except the two short sides, with the body paint. I had thought of a piece for inlay but this idea was hardly plausible because the sherd is not flat, but bulges outward slightly at the middle, and because, moreover, a piece for inlay would not be painted on the sides. To Mr. R. C. Bosanquet I owe the much more likely explanation that it belonged to some sort of open-work dish, analogous to a lid found last year, 1904, at Palaiokastros,<sup>5</sup> through the middle of which ran a row of pieces shaped like this one and joined on

<sup>1</sup>See W. Dörpfeld, *Troja und Ilion* I. Beilage 35 zu S. 265, II, IV and V.

<sup>2</sup>See *Excavations at Palaiokastros* II, B. S. A. IX, p. 305.

<sup>3</sup>See *Phylakopi*, Pl. VIII, 13 and 15.

<sup>4</sup>See *ib.* p. 87, § 4, I and Fig. 72, in which a pyxis lid is represented with holes near the edge on either side, for attachment to the pyxis.

<sup>5</sup>See the forthcoming B. S. A. X.

their vertical sides to one another, and at their apices to continuous sections of clay above and below. Pl. XXXIII, 5 and 6 show the same peculiarity; their lower edges are clean cut and painted. But on both sherds there are traces of a break at one point on the bottom. It is accordingly possible that these fragments come from the same sort of open work dish as Pl. XXXIII, 7, and that the slight breaks on their lower edges represent the place where a diamond-shaped piece like Pl. XXXIII, 7, was attached.

Small sherds which have been relegated to a waste heap are naturally unsatisfactory material for a study of shapes. For a study of design, however, they furnish better evidence, for the ornament of early vases generally consists of small patterns repeated many times until the desired amount of space is filled. A sherd on which one of these patterns is preserved is often enough, therefore, to reveal the entire scheme of decoration. This does not hold good however of large coarse vessels on which the decoration was outspread in proportion to the size of the vase, and hence it is that designs in dark paint, which were mostly confined to this kind of vessel, do not figure more conspicuously in the plates, although they were of by no means rare occurrence.

The commonest principle of decoration is a horizontal band of ornament around the upper part of the vase, while within the horizontal band the fundamental motive is the zigzag, an inheritance doubtless from the earlier period of incised decoration. The simplest form in which it survives is a design which was found in such abundance wherever pottery of this period came to light, whether in the waste heap, the Gournia houses, or the Vasiliki pits, that it may safely be taken as a means of identification of the ware. The scheme which was evidently so popular is a simple one:<sup>1</sup> on the red or black ground about half way from rim to base, a band of white is first painted around the vase and then between this band and the rim an open zigzag is applied. Of the triangles thus formed alternate ones—those with their bases to the rim—are partly filled with two sets of parallel slanting lines. Pl. XXVI, 1 shows the typical scheme. Generally there are slight variations obtained by either broadening (Pl. XXVIII, 1 and 4) or doubling (Pl. XXVII, 2 and 3) the confining lines or by extending the decoration to the whole side of the vase, (Pl. XXVI, 2). This pattern occurs sometimes on lids (Pl. XXXII, 1 and 3) but is especially characteristic of cups, and more particularly of the straight-sided cup of Fig. 2, *a*. Over half of the entire number of cup fragments were decorated with this design.

Similar hatched triangles occur frequently on early incised and painted pottery from Troy,<sup>2</sup> Melos<sup>3</sup> and the Cyclades,<sup>4</sup> as well as from Crete.<sup>5</sup>

<sup>1</sup>See above p. 193.

<sup>2</sup>See *Troja und Ilion* I, p. 251, Fig. 118.

<sup>3</sup>See *Phylakopi*, Pls. IV, 1 and 2, VIII, 12, IX, 2 and X, 1 and 12.

<sup>4</sup>See 'Εφ. 'Αρχ. 1899 II. v. VIII, 10.

<sup>5</sup>See *J. H. S.* XXI, 1901, p. 96, Fig. 30.



But in contrast to the variety with which such geometric designs are applied to other early wares, like those cited, it is noteworthy that at Gournia at this period one device only was in vogue, viz., the one described. Pl. XXVII, 6, is the only instance where the hatching covered all the surface of the triangle and where it was applied to the triangles which had their bases down.

In taking leave of this pattern, we do not yet take leave of the zigzag type of design. Almost all of the ornament on these fragments has an up and down character about it, a rise and fall of line, which, if not to be derived from, is yet to be connected with a simple zigzag line. Take e. g, Pl. XXVI, 3, Pl. XXVII, 7-15, and Pl. XXXII, 9, where a succession of arcs, enforced generally by minor ornaments like dots or quirks encircles the vase. Such a succession of curves is, like the wave line, a translation of the zigzag into curvilinear design.

Again, a characteristic decoration on this ware is a design made up of more or less circular patterns connected by slanting lines. In Pl. XXVII, 17-19 and 24 and Pl. XXIX, 11, 12 and 13, the device is a spiral. On the "hole-mouthed jar" fragments it is most frequently a circle filled with variously shaped areas of cross-hatching, such as three sided areas formed by overlapping segments (Pl. XXIX, 1 and 4) or ovals (Pl. XXIX, 2 and 6) or festoons (Pl. XXIX, 3 and 7). Or both the circular designs and their connecting patterns are elaborated into more complex schemes (Pl. XXVII, 21-24; Pl. XXIX 5 and 10; Pl. XXX, 12, and Pl. XXXIII, 1 and 2). If in all these variations of the pattern the circular device be regarded as a substitute for the downward line in a zigzag, we get again a scheme which is akin to a simple zigzag line. The designs in Pl. XXVIII, 1 and 2, in which the slanting lines and the circular device have become separated, are fundamentally the same, and similar also is Pl. XXX, 1, in which a triangle is substituted for the circle.

Of the patterns heretofore described, all have been applied in horizontal bands and most of them in a single band around the upper part of the vase. That this is true of the designs on the "hole-mouthed jars," as well as of the designs on the cups, is certain from the quantity of unpainted fragments from the sides and bottoms of the jars. In many cases (Pl. XXX, 7 and 8) even the body paint did not extend over the shoulder of the vessel,<sup>1</sup> and the lower part was left undecorated except for a band of dark paint (2 to 4 cm. wide) about the base.

There are some instances, however, in which the decoration of this type of vase must have been applied in more than one zone, for the fragments Pl. XXX, 9, 10 and 12, which are broken all around, seem to imply other bands of decoration above or below. The group of these lines in Pl.

<sup>1</sup>See p. 193, last paragraph.

XXIX, 1, may possibly lead down to another zone of ornament, though it is more probable that they made a festoon below the horizontal handle on the side. Decoration divided into horizontal zones appears again in Pl. XXX, 12 and 13. The former is one of several recovered fragments of a large jar decorated on the shoulder with vertically divided zones of ornament, like those in the fragment reproduced, but left in the lower half without either ornament or body paint. The other fragment, Pl. XXX, 13, is from the bottom of a jug or possibly of a "hole-mouthed jar."

Instances of vertical decoration do not occur except in the "drip" pattern,<sup>1</sup> an example of which is shown in Pl. XXXI, 11. This is a favorite decoration for pithoi and other large vessels, and is always applied on dark paint on a clay ground. It enjoyed a long life in the later history of Gournia pottery. The dark festoons and pendants on the beaked jugs, Pl. XXXI, 1 and 2, may be regarded as the same pattern or may be connected with the necklace type of decoration<sup>2</sup>, in spite of the fact that they hang from the rim instead of from the shoulder of the jug.

Cases of panel decoration are also rare. It is enough to call attention in Pl. XXVIII, 15, 16 and 18, to the vertical division of the field into decorated and undecorated sections, and to the alternating panels of buff colored clay and black paint with superadded white in Pl. XXVIII, 18 and 20.

In speaking of the pattern with hatched triangles,<sup>3</sup> mention was made of the fact that occasionally the zigzag line which marked off the triangles, was extended from a border to the whole side of a cup. Similarly other patterns occur which run in slanting lines from the rim to the base of the vessel. Such are the designs on the cup fragments, Pl. XXVIII, 13 and 14, the "hole-mouthed jar" fragments, Pl. XXX, 3 and 15, and very probably on the beaked jug, Pl. XXXI, 2. In principle, however, these patterns are equivalent to horizontal bands of decoration which, as we have seen, form the commonest decoration of this ware.

In addition to this brief review of the syntax of these designs, more detailed notice is necessary in the case of several patterns, and especially of the spirals which appear in the running designs on cups and "hole-mouthed jars." Spiral decoration on vases which antedate the "Mycenaean" period has appeared at Troy<sup>4</sup> and in the Cyclades,<sup>5</sup> where the designs were commonly stamped or outlined by series of punctured dots. But hitherto in Crete spirals have not appeared which are older than the Kamares period, which we shall see to be later than the time of our ware. That they figure so prominently in this

<sup>1</sup>cf. *B. S. A.* IX, p. 118, Fig. 73, c.

<sup>2</sup>cf. *Troja und Ilion*, I, p. 275 and *Phylakopi*, Pl. IX, and p. 69.

<sup>3</sup>See above p. 198.

<sup>4</sup>See *Troja und Ilion*, I, p. 279, Figs. 166 and 167.

<sup>5</sup>See 'Εφ. 'Αρχ. 1899 *Ilav.* VIII, 1 and 12; *ib.* 1898, *Ilav.* IX, 10 and 16.

early period is interesting in view of the common derivation of the spiral from Egyptain sources.<sup>1</sup> Other evidence like seal stones set aside, it would naturally be supposed that the spirals on these fragments were a native product. At any rate they appear in abundance at just the point when they would be expected as an ornament for common vases, viz. when the brush had superseded an incising instrument and had made curvilinear design easy. The most noteworthy spiral design is Pl. XXIX, 12, in which several spirals are arranged to fill a circle. It recalls the fragments from Troy and the mirrors from Syro already cited, on which the same problem of arranging spirals within a circular field is attempted.

The quirk mentioned on p. 199 is an ornament worthy of attention. It appears in a variety of ways either as an accessory ornament, as described (cf. Pls. XXVIII, 11, and XXX, 4), or alone in rows as a border pattern (Pl. XXX, 5, 11 and 14) or as in one instance (Pl. XXVIII, 19), in a series of rows to fill a panel of a cup. It is of particular interest because it is so frequent an ornament on Kamares cups,<sup>2</sup> where it has been regarded as a degraded form of cable pattern.<sup>3</sup> The cable pattern owed its origin, as is well known,<sup>4</sup> to the use of ropes for holding pottery in shape while drying in the sun, and to the consequent impression of the outline of the ropes upon their sides. Later a reproduction in relief of this rope impression came to be a common ornament for pithoi. But whether the pattern was imitated in paint in a form which was closer to the original than the rows of quirks on these fragments and on Kamares ware, is doubtful. It seems less probable that a design like Pl. XXX, 5 is a disintegrated or degraded form of a painted copy of the rope impression than that it is a new design suggested, it may be, by the cable pattern, but owing its popularity to the use of the brush, by a turn of which a quirk can so easily be made.

Pls. XXVIII, 12 and XXXIII, 7 are patterns<sup>5</sup> which have been regarded as conventionalized naturalistic patterns. Messrs. Hogarth and Welch<sup>6</sup> considered the former as a degraded leaf, and concerning the latter Mr. Dawkins has made the suggestion that the volutes of the device, as it generally appears on Mycenaean vases, represent the two side petals of a flower, the lobe stands diagrammatically for the third, while the central ornament represents the stamens and pistil.<sup>7</sup> The latter element is lacking, to be sure, in our design

<sup>1</sup>See e. g. A. J. Evans, *A Mycenaean Treasure from Aegina*, *J. H. S.* XIII, 1902-3, p. 195 and *Primitive Pictographs*, *ib.* XIV, p. 329 and note 29 b.

<sup>2</sup>See *Mon. Antich.* VI, Tav. IX, 4; *J. H. S.* XXI, Pl. VII, e and *ib.* XXIII, Pls. V, 3, VI, 4 and VII, 9 and 11.

<sup>3</sup>See Messrs. Hogarth and Welch, *Primitive Painted Pottery in Crete*, *J. H. S.* XXI, p. 82.

<sup>4</sup>See Petrie, *Egyptian Decorative Art*, p. 92.

<sup>5</sup>cf. *J. H. S.* XXII, Pl. VIII, c, *ib.* 23 Pl. VI, 4 and *B. S. A.* IX, p. 319, Fig. 19.

<sup>6</sup>*loc. cit.* p. 82.

<sup>7</sup>*J. H. S.* XXIII, p. 254

though it might easily be suggested by the shape of the space left empty. But now it appears that these same semi-naturalistic designs were in use in an earlier period previous to the great influx of naturalistic designs and contemporaneous with more abundant geometric patterns. The conclusion must be, not that they were degraded or conventionalized forms of a lifelike design, but rather that they were invented from curvilinear elements now coming into use, and were taken up and adopted because their resemblance to a natural form was pleasing. The design of Pl. XXXIII, 7 seems merely an adaptation of curved lines to the space to be filled. Probably Mycenæan potters had a considerable inheritance of graceful curvilinear designs like these, which they combined with pure naturalistic forms of the early Mycenæan period to make a design like that of the "palace style" amphora shown in *J. H. S.* XXIII, Fig. 10.

A more incongruous combination of linear and naturalistic designs is the "geometric animal" which appears in Pls. XXVIII, 28; XXX, 11 and 13, and perhaps in Pls. XXXI, 9, and XXXII, 6. What the potter seemingly did was to add horns or a head or legs to a hatched triangle or oval which suggested to him a resemblance to an animal's body. Similar geometric animals occur on Phylakopi<sup>1</sup> pottery of the pre-Mycenæan period and persist, as Mr. Edgar has pointed out, through the Mycenæan and second geometric periods until as late as the end of the sixth century.<sup>2</sup>

Pl. XXVIII, 6 should be compared with *Mon. Antich. VI, Tav. X, 13*. It is also worthy of notice because both the white and the black paint seem to have been used with a view to decorative effect. A still better example of designs in two colors is Pl. XXXIII, 3.

Some conclusions can now be drawn concerning the place to which these Gournia fragments may be assigned in the sequence of Cretan pottery. In regard to the wider relations of this ware with other early Ægean pottery from outside of Crete, less certainty is possible.

Two styles of early geometric pottery have appeared at Knossos: the one with light design on a dark ground, the other with dark design on a light ground. A characteristic fragment of the former was published by Messrs. Hogarth and Welch, *J. H. S.* XXI, p. 97, Fig. 31, and a full description of both fabrics and of the circumstances of their appearance has been given by Mr. Mackenzie in *J. H. S.* XXIV, p. 169.<sup>3</sup> The ware with light design is a painted imitation of the polished neolithic ware of the preceding period, the incised designs of which were filled with pounded gypsum. Its surface, therefore, is always lustrous, and its designs simple. The fragments of this ware which

<sup>1</sup>See *Phylakopi*, Pls. VII. 4, XI. 2, XII. 24, 26 and 27.

<sup>2</sup>See *ib.* pp. 97 and 104.

<sup>3</sup>See also *B. S. A.* IX, pp. 17 sq. and 96 sq.

came from "an early Minoan chamber on the east slope," showed the use of vermillion as well as of white paint. So far as I know, this type of early geometric pottery with white design has not yet appeared in the east end of the island. The geometric pottery from Knossos with dark design is thus described by Mr. Mackenzie: "In the Room of the Olive Press in the deposit immediately underlying the Minoan floor, that is, in the fourth metre, there were six fragments of this early geometric fabric. The ware in question has hatched patterns in the form of dice or triangles, etc., or parallel groups of narrow geometric bands, which, going obliquely sometimes cross each other so as to form a central network lozenge at either side of the vessel, in lustrous, sometimes only half lustrous red brown glaze on a buff, sometimes pale yellow grey clay slip on terra cotta red clay." This ware continued for a long period. In all its earlier stages it was hand made. Now to this description of the dark on light ware correspond exactly the fragments which were found in pits I and II at Vasiliki,<sup>1</sup> a metre below the white painted ware in question. In so far, accordingly, as it is safe to judge from the evidence of a single stratified area, the Knossos fragments with dark designs are earlier than the ware from the Gournia waste heap. And the probability is that the Knossos fragments with light designs were contemporaneous with these with dark designs, and that they also belonged to an earlier period.

Without the help of the stratification at Vasiliki the same conclusion would have been reached on the evidence yielded by the fragments themselves, which present important differences. Those from Knossos are decorated with linear geometric designs; those from Gournia with curvilinear geometric designs, and with many patterns like spirals and quirks which cannot, properly speaking, be called geometric at all.

Later, therefore, than other early geometric wares which have appeared in Crete, the Gournia fragments are, on the other hand, earlier than the Kamares or "Middle Minoan" ware. Kamares specimens, it is true, have not been found at Gournia lying above specimens of the early geometric ware. On the contrary, in two cases fragments of the two wares lay side by side in an artificial filling of pottery below a Mycenaean floor. There can be no doubt, however, in view of the complicated designs, the delicate wheel-made shapes, especially of cups, and the skillful use of color which characterize the Kamares period, that the Gournia geometric style belongs to a less advanced stage in the history of pottery.

The six sherds of the dark on light geometric ware from the Room of the Olive Press at Knossos were found lying immediately below the Middle Minoan floor, above which Kamares sherds appeared. In accordance with Mr. Mackenzie's observation,<sup>2</sup> that a gap in stratification may always be expected

<sup>1</sup>See above p. 179.

<sup>2</sup>See *J. H. S.* XXIII, pp. 170-171.

immediately above a floor, there is a chance that vases of the Gournia geometric style were used in this room in the period immediately following the laying of the floor. But there is also a chance that the same ware had been used previous to the laying of the floor, since some of the upper deposit may have been removed in order to secure a level foundation.

In the absence of external evidence, we are obliged to fall back on the internal evidence furnished by the sherds themselves in our endeavor to determine to which ware—the Knossos Early Geometric, or the Kamares,—the sherds from the Gournia waste heap stand in closer relation. To sum up the evidence again, there may be mentioned as connecting links between the Gournia sherds and the early geometric ware from Knossos: (1) The fact that both wares are hand made; (2) the correspondence of color scheme, light on dark and dark on light designs being common to both; (3) the prevalence of the hatched triangle and other purely geometric patterns; (4) the primitive and stiff character of the curvilinear designs in which the zigzag is still to be traced. As links with the Kamares ware may be mentioned on the other hand: (1) similarity of the shapes of cups, and of other objects so far as they are known; (2) the thin clay of some of the cups, which foretells the “egg-shell” ware of the Kamares period; (3) similarity of some curvilinear designs, especially the quirk; (4) the increasing tendency to supplement designs in dark paint by applying on the dark design a second design in white, a tendency which may lead to the predominance of light design in the Kamares period. The weight of evidence seems to balance about equally, and the conclusion to be that the Gournia fragments belong midway between the early geometric ware from Knossos and the later Kamares pottery. The line of demarcation between the two periods is of course an arbitrary one, and accordingly it makes little difference whether this ware be said to belong to the end of the Early Geometric or to the beginning of the Kamares period. On the whole, it is perhaps better to group it with other early geometric wares and to reserve the term “Kamares” for vases which have in addition to white a subsidiary red or orange paint, or, if the orange paint is lacking as it often is in eastern Crete, for those vases which correspond closely in other points of technique to the vases painted in white and orange.

Outside of Crete, the early painted pottery which most resembles that from Gournia is the early geometric ware from Phylakopi in Melos, which, it will be remembered, was divided into: (1) a style characterized by designs in lustrous dark paint on the buff ground of the clay; (2) a style with dull dark designs on the same ground; and (3) a style with designs in dull white on a dark lustrous body glaze. The first and third styles are thought by Mr. Mackenzie<sup>1</sup> to have been inaugurated under Cretan influence. It remains to determine in which period this influence was exerted. There are several

<sup>1</sup>See *Phylakopi*, p. 253 and *J. H. S.* XXIII, p. 170.

reasons for regarding these wares, which are all three contemporaneous, as earlier than the early geometric ware from Gournia. Suspension handles and handles stuck through holes in the sides are common in these vases, while on the Gournia fragments the handles are attached to the outside of the vase as in later periods. The ruder shapes of the cups, with their low handles,<sup>1</sup> and the exaggerated spouts of the beaked jugs<sup>2</sup> also point to an earlier date for the Phylakopi geometric ware. It is more likely that these three styles were contemporary with the Knossos geometric ware described by Mr. Mackenzie *loc. cit.* What little evidence there is<sup>3</sup> for Melian importations into Crete during this early geometric period bears out this conclusion, but the question can be settled only by a thoroughgoing comparison of the two wares, which is impossible until the early geometric pottery from Knossos shall have been more fully published.

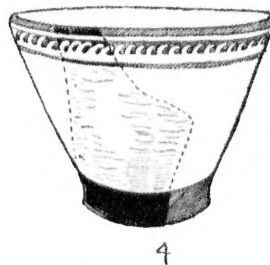
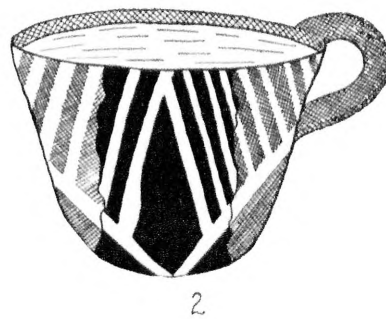
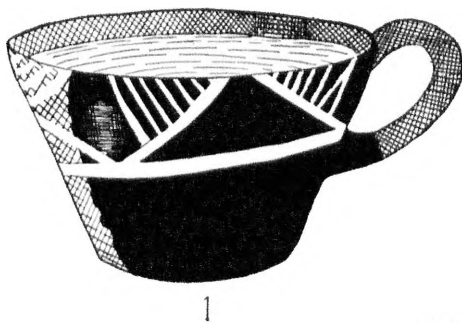
EDITH H. HALL.

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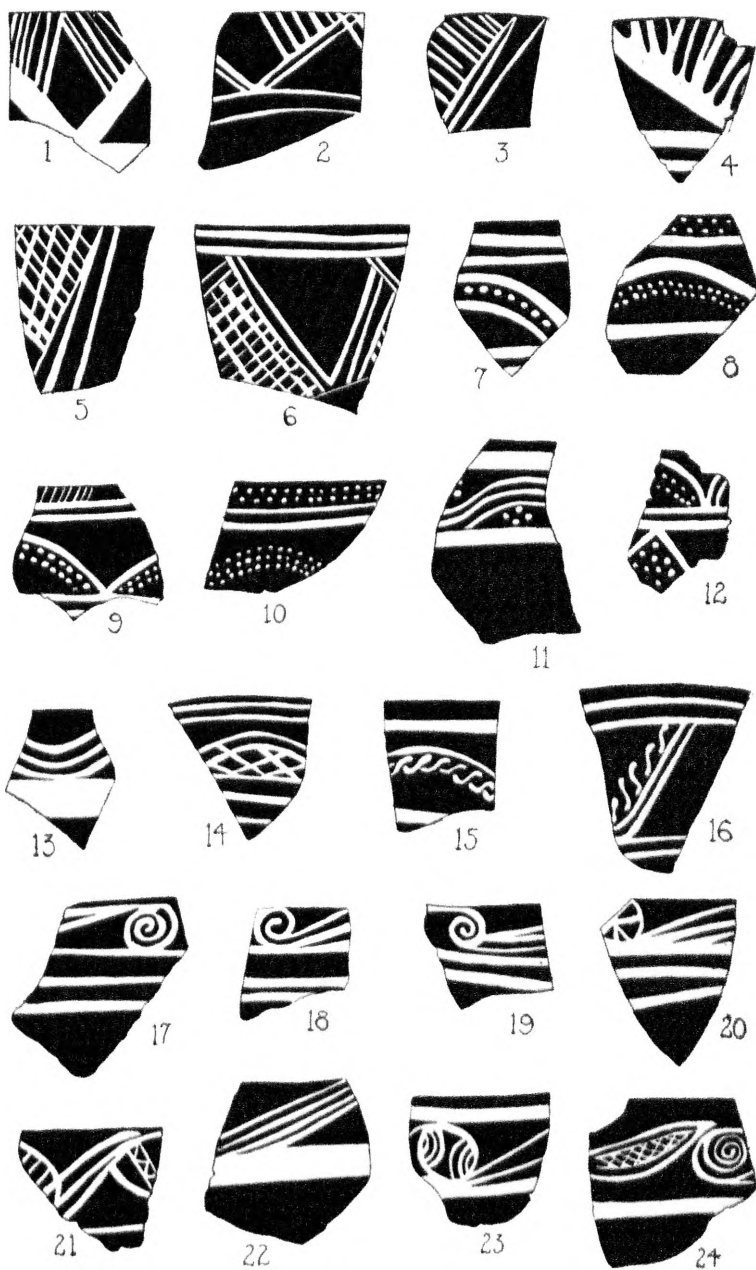
<sup>1</sup> *Phylakopi*. Pl. VIII, No. 10, and Pl. XI, Nos. 9 and 13.

<sup>2</sup> See *ib.* Pls. IX and XI.

<sup>3</sup> See *ib.* p. 252.







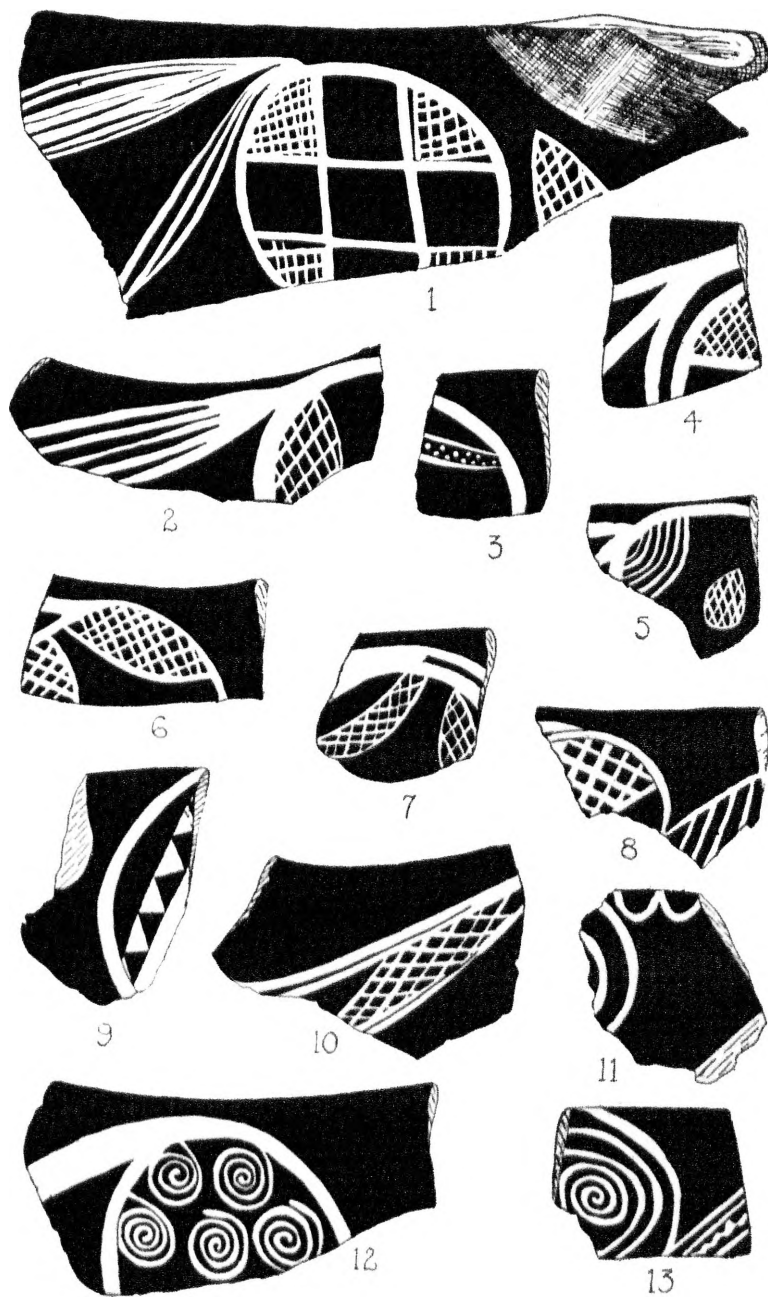
CUP FRAGMENTS FROM GOURNIA.

Scale 2: 5



CUP FRAGMENTS FROM GOURNIA.

Scale 2: 5.



FRAGMENTS OF "HOLE-MOUNTED" JARS FROM GOURNIA.

Scale 2: 5



FRAGMENTS OF "HOLE-MOUNTED" JARS FROM GOURNIA.

Scale 2: 5.

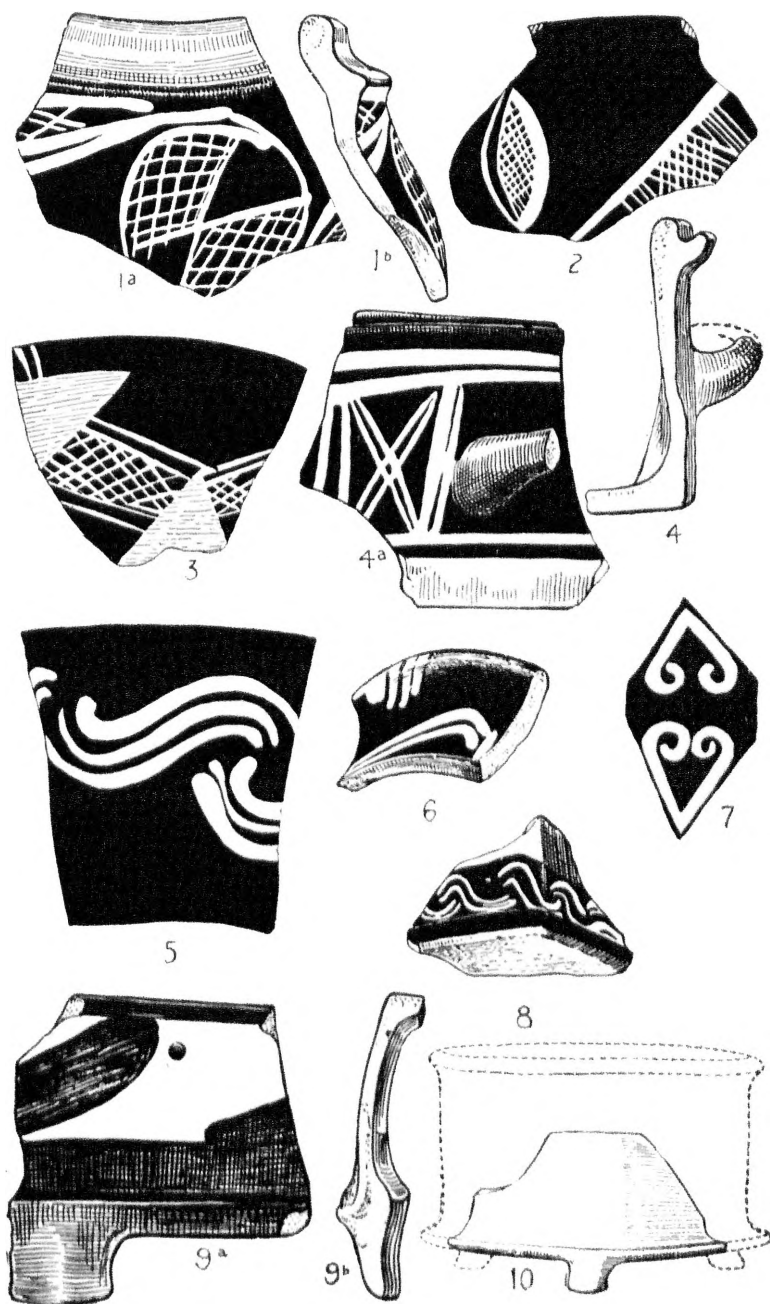


SPOUTS OF BEAKED JUGS AND OTHER FRAGMENTS FROM GOUINIA



FRAGMENTS, MOSTLY OF LIDS, FROM GOURNIA.

Scale 2:5.



MISCELLANEOUS FRAGMENTS FROM GOURNIA.

Scale 2:5.