The Annual of the British School at Athens

<http://journals.cambridge.org/ATH>

Additional services for *The Annual of the British School at Athens*:

Email alerts: [Click here](#)

Subscriptions: [Click here](#)

Commercial reprints: [Click here](#)

Terms of use : [Click here](#)

The Excavation of the Kamares Cave in Crete

R. M. Dawkins and M. L. W. Laistner

The Annual of the British School at Athens / Volume 19 / November 1913, pp 1 - 34

DOI: 10.1017/S0068245400009060, Published online: 11 October 2013

Link to this article: http://journals.cambridge.org/abstract_S0068245400009060

How to cite this article:

R. M. Dawkins and M. L. W. Laistner (1913). The Excavation of the Kamares Cave in Crete. The Annual of the British School at Athens, 19, pp 1-34 doi:10.1017/S0068245400009060

Request Permissions : [Click here](#)

x

THE KAMARES MOUNTAIN FROM NEAR PHAISTOS. (*From a Photograph by Monsieur Boissonat.*)

THE EXCAVATION OF THE KAMARES CAVE IN CRETE.

(PLATES I [*Frontispiece*]-XII.)

§ I.—THE EXCAVATION.

THE Kamares cave on Mount Ida has been known now for more than twenty years as a prehistoric sanctuary, but its full excavation was only carried out in the summer of 1913 by a party from the British School, which thus resumed the work in Crete discontinued since Palaikastro gave way to Sparta in 1906. This early fame of the cave was due to the discovery in it in the early nineties of a number of vases and a few figurines, which Dr. Hazzidakis secured from the shepherd who had found them and placed in what was then the Museum of the Archaeological Syllogos at Candia. Some of the vases bear the marks of the rivets with which their peasant owner mended them.

The results of our excavation have so greatly supplemented this first instalment that the authorities of the Candia Museum have been able to do a great deal in the way of the reconstruction of vases, of which until now only small pieces were available, and these restorations have been put at our service for the photographs which accompany this report.

As soon as these vases were discovered they were at once recognised as belonging to a kind until then almost entirely unknown, and the name 'Kamares,' which was at once given to them, still remains current as a general description of that kind of Cretan pottery which has a black ground and white or polychrome ornament, although at the present stage of research rather as a convenient name for the technique than with any chronological meaning. For this purpose it has been superseded by the

Minoan terminology, and we are thus freed from the snare of using the same word for a technique and a period, particularly dangerous in this case, as the dark-on-light style was by no means unknown during the period when the Kamares ware was being made; a fact which the double use of the word was very apt to conceal. The overlapping of the two techniques (for although dark-on-light ware occurs at all times, still as a whole the ware of middle Minoan times is marked by the light-on-dark style, just as that of the late Minoan period is by the dark-on-light) was accurately foreseen by Sir Arthur Evans, who said as early as 1895 that 'the ceramic class here represented, though of archaic aspect, may slightly overlap the more purely Mycenaean pottery of the island.'¹

The first find consisted of some twenty-four more or less complete vases and a number of sherds. They were published, largely in colours, by Myres in 1895² and by Mariani³ in 1896. Of their character nothing more could then be said than that they were clearly Aegean, and that they bore some relation to the early vases from Thera with white paint on a dark ground.

This was in the middle nineties: the great number of Minoan sites examined since those early days of Cretan exploration have replaced this darkness by a flood of light on the date, relation and development of these vases, and the full excavation of the cave where they were first found was demanded not for the sake of obtaining more specimens of a fabric now known to be so common in Crete and to have been exported to so many foreign centres in Greece, Melos and even Egypt, but to throw some light on the nature of the remains in the cave itself.

Although these vases were so soon twice published, and with the interest taken from that time onwards in prehistoric Crete the name Kamares became so familiar, the cave itself has been very rarely visited. The only archaeological account of it is that of Taramelli, who explored it in the June of 1894.⁴ In spite of the season he found the cave still much choked with snow, and it is clear that in most seasons this would be a great obstacle to excavation. In this however we were extremely fortunate: owing to a very mild winter we found the cave entirely free from snow, and even the inner grotto, where Taramelli found a pool of water, was quite dry. Indeed when I paid a preliminary visit to the cave in April, there

¹ *Cretan Pictographs*, p. 81 (*J.H.S.* xiv, 1895, p. 350).

² *Proceedings of Soc. of Antiquaries*, 1895, 2nd series, xv, pp. 351.

³ *Mon. Ant.* vi, 1895, pp. 333, and Pls. IX, X, XI.

⁴ Published in the *American Journal of Archaeology*, v (1901), pp. 437 sqq.

was already less snow than Taramelli found two months later, and I remember that when I went to it for the first time in 1904 at the beginning of July, the snow inside had not yet entirely disappeared. The plan of the cave published by Taramelli seems to be no more than a very rough sketch; as a general impression it has its uses, but the proportions are entirely wrong, the inner being nearly as long as the outer cave. It is interesting to note that it is the dark parts of the cave of which he greatly exaggerates the size and tortuousness; the entrance to the inner grotto thus appears as a winding passage occupying nearly two-thirds of the whole length of the inner cave, instead of the comparatively simple affair that it really is. Nor did he at all realise the great width of the outer cave.

Such is the archaeological history of the Kamares cave until the June of 1913, when the Cretan Government with its usual cordial support of the School, granted us a permit to carry out a full excavation. The party consisted of Messrs. Droop, Halliday, Laistner and Lambert, all members of the School, and the Director. As mender and foreman we again had the services of Yannis Katsarakis of Palaikastro and for the last few days Gregorios Antoniou of Cyprus was with us. His wide experience, especially at the excavation of the cave of Psykhro, made him very useful, and assured us that nothing had been left undone to make the cave yield up all its secrets. Owing to the restricted space, our workmen were always fewer than twenty. The photography was undertaken by Mr. Lambert and Mr. Droop, and at Candia by Mr. Behaeddin; the plan and the drawings of vases, partly done at the camp and partly later at Candia, are the work of Mr. Droop and the Director. The extremely bad condition of the white and red paint made it almost always necessary to use drawing rather than photography in publishing these vases. The white paint has generally disappeared to such an extent that some study is needed to make out even its traces: in such cases a photograph is useless; the only possible plan is to make a watercolour drawing, restoring the white in the places where there are indications, however slight, that it originally existed. Where parts of the vase are missing, they have been restored in the drawing, but in paler colours.

For a mountain sanctuary which should impress the inhabitants of Phaistos and the plain of Messará, it would be impossible to find a more fitting position than that of the Kamares cave. From all the western part of the plain the actual summit of Ida is not visible; this only comes into

sight at the greater distance east of Gortyn, or as the ground rises to the Káto Ríza mountains which fringe the coast to the south of the plain. Everywhere else the summit is hidden by the great two-peaked mountain above the village of Kamares, the third and westernmost of a row of lower hills of the Ida range, which from Gortyn westwards form the northern boundary of the Messará plain.

Some 500 feet below the eastern peak of this mountain is the cave, and from Phaistos and for many miles over the plain its great arched mouth is visible in the clear air. The height of the cave above the sea seems to be about 5500 feet, a little higher than the Nida plain and the Idaean cave, which are about 5260 feet. The mountain as seen from near Phaistos is shewn in the view which forms the frontispiece of this volume (Pl. I), reproduced by the kind permission of M. Boissonat from one of his series of photographs of Crete. The opening of the cave is at about the level of the top of the wreath of clouds and immediately below the x on the edge of the Plate.

The view is magnificent. Immediately below are the two mountain valleys, one coming up from Phaistos and Gligoriá, and the other leading from Candia and the west by way of the villages Zaró and Vouroúsi, the two converging at the point where Kamares itself lies, hidden by the extreme steepness of the slope above it. Beyond the foot-hills which shut in these villages lie the plain and the Káto Ríza mountains, and beyond them the sea with the rocky islet of Paximádi and to the far east the larger island of Gávdos. The strategic position of the acropolis of Phaistos, guarding the western entrance to the Messará plain, is visible as on a relief map, and to the west of it the big village of Dibáki appears in the middle of the alluvial flats by the sea like a white spot in the middle of a dark ring of olive-groves. The slopes of the mountain itself cut off any distant views to the east and west: Dikte is hidden, and to the west only the first hills of the steep southern coast running towards Sphakia come into the field. These appear to the right in the view from the cave shewn in Fig. 1, 6, in which the plain is partly covered with a mass of white clouds whilst beyond it the sea is clear.

The problem of transport brought home very forcibly the remote position of the cave. It is indeed rather more accessible than it was recently, now that the carriage road from Candia to the Messará has been opened as far as Hagia Varvára, which lies high up on the central

FIG. 1.—VIEWS ON THE KAMARES MOUNTAIN.

watershed of the comparatively open part of Crete between Ida and Dikte, and is reached by a fairly steady ascent from Candia. Beyond Hagia Varvára there is nothing but the old mule track, which runs along a valley to the south of Ida and reaches Kamares by way of Panasós, Gérgeri, Nívrto, Zaró and Vouroúsi. The village of Kamares, hidden from the cave itself, lies on a little saddle where the head of this valley meets the head of the other which goes down by way of Gligoriá and Lagoliá to the plain of Dibáki. Immediately to the north begins the steep slope of the mountain, whilst to the south the village is cut off from the lower regions by the steep foot-hills, which form the middle distance of the view from the cave. The village is thus entirely shut in amongst the hills and winding valleys. It is occupied chiefly by shepherds and charcoal burners, and having always been Christian, has none of the ruined or deserted Turkish houses which now give so sad an appearance to many of the villages of the plains. A few new red-tiled roofs which here, as in almost every Cretan village, are now beginning to take the place of the old flat clay roofs, are the chief external signs of change. At the village the Candia muleteers broke their contract, which had been to take us some way up the mountain, and our first camp was pitched in an olive garden by the side of the road.

From the village a path leads up towards the cave, but goes no further than a dairy which lies two-and-a-half hours up the mountain on a flat spur overlooking the plain, rising a little above the point where scattered trees mark the beginning of the belt of forest. The beehive-hut architecture of these dairies in Ida is interesting. Besides the folds for the sheep, there is a circular stone hut with a low door, for sleeping and cheese-making, and connected with this by an even lower door a second beehive chamber in which the cheeses are stored. The Mycenaean method is followed in their construction, no mortar being employed, and the curvature of the walls being formed not by the use of the arch principle, but by advancing each course of stones a little beyond the stones below. The outside is left entirely rough. I regret that I did not measure the height and diameter of the domes. A similar beehive dairy is to be found between the Kamares cave and the Nida plain close to the spring called *τὰ κουντουνάρας τὸ νερό*, '*the water of the spout*' in the valley separating the Kamares mountains from the mass of hills to the east of it, through which the path goes from these southern villages to Anoyia on the northern side of Ida.

The cave lies about an hour-and-a-half above the dairy, and for this part of the way it was necessary to make a path amongst the trees and rocks, first to the place chosen for our camping ground and then, a walk of another twenty minutes, to the cave itself. Excepting for the spur on which the dairy lies, the Kamares mountain is very steep and, as the photograph in Fig. 2, 1 shews, the slope upon which the cave opens is so unbroken that there is almost no level space in front of the cave. The only flat ground anywhere near is in the hollow where our tents were pitched, and the necessary booths were built for cooking and sleeping. Of this camp two views are given in Fig. 1, 1, 2. The forest belt, which begins at the dairy, is now sadly diminished by the charcoal burners who cut down the full grown trees, and by the goats who prevent the growth of any new ones; it now ends some little way below the cave, where only a few dead stumps now remain to emphasize the bareness of the hillside. Below this however there is still a fine belt of forest, dark ilexes and bright green maples with red seeds, small and sturdy in growth and much gnarled by the weather, but quite transforming the barren mountain. Of its appearance the photographs in Fig. 1, 2-5 give some idea. On the rocks in this region the herb dittany is found, whose woolly scented leaves are still collected and sold as a drug.¹ There is no lack of water; near the camp there are four or five small springs, and one of these we cleared out and built up into a well from which water could be drawn. The rest are used by the shepherds, and one is led down to supply the village fountain.

The cave itself is a great hollow in the limestone running down at a slope of about 30° into the mountain. A plan is given on Pl. II, and a section along the roughly central line marked XYZ on Pl. III. The slope of the floor is marked on the plan by contour-lines taken at every two metres, the lowest point of the cave being taken as the 0·00 datum point. The small figures on the lines mark heights in metres. The great arched entrance is about 33 metres wide and the height is estimated by Taramelli at 18 to 20 metres; its appearance is shewn in Fig. 2, 1, a view looking east taken from a point on the mountain a little way off. The contour lines on the plan shew that the ground at the mouth forms a miniature valley rising on both sides towards the face of the mountain, slightly, on the right and more sharply on the left hand.

¹ Its modern name is *ἀνίταμος* or *ἐρωντας*, the latter the modern Cretan equivalent for *ἐρως*.

F . 2.—THE KAMARES CAVE.

Along the bottom of this valley now runs a little path, which we made by filling up the interstices between the boulders with earth and pebbles. In the view of the mouth shewn in Fig. 2, 4 the three men are standing on this path immediately before the descent into the cave begins. The débris here looks so much as if it had either fallen from the brow of the cave roof or perhaps rolled down from the mountain above that it seemed possible that ancient remains might be found beneath it, either deposits of votive objects as at Psykhro or even an altar, as in front of the Idaean cave. Deep trial-pits however revealed nothing but natural rock and earth; the only archaeological deposit near the mouth of the cave was in the small recess on the right (E on the plan), where a few Middle Minoan sherds were found in a layer of black earth quite near the surface. At about the line where the roof ends and the cave proper begins, the ground begins to descend, and, as the section shews, the roof runs down with it so that the height of the cave remains about the same almost as far as the lower end. The slope of the floor of the cave is in two directions, divided as the contour lines shew by a ridge, from the high end of which is the best general view of the interior of the cave as a whole. As the slopes descend the light becomes less, and the vegetation, dwarf barberry and almond, chionodoxa and herb-robert, gradually disappears, although in even the lowest parts there is still a dim twilight. The smaller slope is on the right of the ridge: about half way down it, at the point marked **1** on the plan, were found the Late Minoan I sherds and the top of a *bügelkanne* shewn in Fig. 4; very probably also the two *bügelkannen* of the original find shewn in Fig. 5, *a*, *b*, are from this region. Nowhere else was anything found later than Middle Minoan III. The left hand slope is much larger, occupying by far the greater part of the outer cave. It is much cumbered by large boulders, especially along the left wall and at the bottom, some being of great size. It was amongst the boulders at the bottom of the cave that the great mass of Middle Minoan pottery was found, and it is here also, according to Taramelli, that the shepherd who made the first discoveries, found the original Kamares vases. The richest points are marked by the heavy numbers (**2-6**) on the plan.

The bottom limit of the outer cave is formed by the rapid convergence of the roof and the floor, and there are thus at several points small inner recesses into which it is possible to scramble. In two of these, marked B and C on the plan, pottery was found, but their size is unimportant.

One such hollow however, A in the plan, is much larger than the rest and is the great inner cave visited and described by Taramelli. Its opening, formed by a slight rising of the roof, is of considerable width but is so much choked by boulders, that access can only be gained by scrambling down a very small hole, on the left. As soon as one has climbed down this narrow chimney, the inner cave reveals itself as a long arched hall, the floor of which is formed by a rapidly descending scree of small stones, probably carried down at least in part from the slopes of the upper cave. The raised centre line of the scree is almost in the middle of the choked entrance and it is possible even now to ascend at this point as well as by the side passage. Between the bottom of the scree and the end of the cave is the place where Taramelli found a pool of water, and in its muddy bed sherds of a vase, which he compares to the Early Minoan jug from Hagios Onouphrios, published by Evans¹. In place of the water we found only a bank of fine mud, but no pottery at all. Indeed the only objects we found in the inner cave were one or two coarse sherds and an ox's skull on the slope of stones. This skull, like several other animal remains, could not from its appearance be very old, and is probably a relic of the occasional use of the cave by cattle-stealers and refugees.

The productive region was thus the lower margin of the outer cave. The richest points (**2-6** on the plan) are hollows between large boulders, in which masses of Middle Minoan sherds were found mixed with powdery black earth. A flashlight photograph of **2** is given in Fig. 2, 2: it shews one of the hanging lamps which we used to light the dark parts of the cave. The regions **2** and **3** were the richest of all, and the plan shews that they form a kind of vestibule to the inner cave, enclosed on the left by the cave wall and on the right by huge boulders; these have sheer faces on the inner side and the figures on the contour-lines shew that this little precipice is 7.50 m., nearly 25 feet, high. Of the other regions, **4** was more open, but **5** and **6** were extremely dark, almost all light being cut off by the mass of big boulders which block the left-hand wall of the cave. Between **6** and the hollow at C there was a deep hole among the rocks, only to be entered by a scramble, in which much pottery, including some complete lids, were found. A flashlight photograph of it is shewn in Fig. 2, 3.

In all this region the pottery was found either between the boulders,

¹ *Cretan Pictographs*, p. 114, Fig. 106 a.

or, if below them, only in positions into which it could have been thrown or thrust. Nothing was found in circumstances to suggest that rock had fallen since the deposit was made; splitting and blasting a few boulders in order to see if anything was concealed beneath them, led to no results. The conclusion is that, as far as fallen blocks are concerned, the cave to-day is in much the same condition as it was in Minoan times, and that the offerings were made by people coming as far down into the cave as they could, or perhaps as they dared, and laying their vases amongst the great boulders, or in convenient crevices between them. There was evidence that, at least in some cases, grain was offered in this way, for amongst the pottery in one place we found a mass of material which seemed to be the remains of either wheat or some other grain. This was probably brought up in the large jars with the tie-on lids described and figured below, of which a great number were found.

The very broken condition of the pottery may be due to subsequent visitors ransacking the cave for bronze and precious objects. This may also explain the extremely small number of other finds, the almost complete absence of bronze, and lastly, the finding of pieces of iron in several cases amongst the Minoan pottery. In no case, however, can this iron be Minoan: its comparatively uncorroded condition, especially in so damp a place as the cave, demands a very much later date.

The last remains to be described are the walls which both Taramelli and we noticed. Amongst the pottery by region 4 there are certainly traces of walls built of unhewn stones without mortar, but they are so slight and their extent so uncertain that it was hardly possible to put them on the plan. Taramelli speaks of a built hearth: this we certainly could not verify. In the inner cave we found four very badly built pieces of terrace wall from two to three metres long and one metre high, built across the slope of stones as if to hold it up. For the date of these walls there is no evidence.

R. M. D.

§ 2.—THE PAINTED POTTERY.¹

The finely painted pottery, although the account of it occupies the greater part of this report, formed only a very small proportion of the

¹ For all the vases of the earlier find the Candia Museum numbers are added. The vases found in the excavation have not yet received museum numbers.

whole. By far the greater part of the sherds found,—for whole vases were very rare and even those capable of being restored not numerous,—were of coarse, almost always unpainted pottery, belonging mostly to lids such as those shewn in Fig. 6, and to large jars most probably of the shape of the painted examples of Pl. VIII.

The shapes are not numerous; the great variety often found in Middle Minoan ware is by no means present. Cups in especial are rare, and the commonest shape is the small two-handled spouted jar, a characteristically Cretan form. This appears in its early form with no foot¹; it has a pair of vertical handles and at right angles to these a spout, generally open above (Pls. IV, *below*, V and VI *below*), a form which belongs especially to Middle Minoan I and Middle Minoan II. There are, however, and especially amongst the fragments, a fair number of spouts of the later form closed above with a bridge of clay. The examples from the cave belong to late in Middle Minoan II, but the form runs down well into Late Minoan I. For an opening all these jars have merely a hole surrounded by at most a slight furrow, but with no regularly formed neck.

Chronologically the painted vases are of course of great importance. The earliest traces of occupation are afforded by two Neolithic sherds from the original discovery. Of these one is from a rough, apparently spherical vase with a suspension handle and vertical scorings on the sides, and the other is a piece of the edge of a polished bowl with a sham (*i.e.* unpierced) handle some way below the rim. After these two fragments comes a little Early Minoan, and then the bulk of the ware, all Middle Minoan in date; some Middle Minoan I and some approaching Middle Minoan III, but for the most part clearly Middle Minoan II. Then follow the few Late Minoan I sherds of Fig. 4 found on the right hand slope (at 1), and the series is closed by the top of a *bügelkanne* found with them, and the two Late Minoan III *bügelkannen* shown in Fig. 5, *a*, *b*, which belonged to the original series of finds. As it is only from our present knowledge of the sequence of Minoan vase-painting that it is possible to date the use of the cave, I have arranged the descriptions of the vases in what the mass of evidence now available from other sites assures us is their chronological order.

¹ The foot on the vase in *Mon. Ant.* vi, Pl. IX, 8, is an error.

Early Minoan.

The handmade spouted vessel from the first set of finds shewn in Pl. IV, *above* (Mus. No. 503), is clearly Early Minoan, probably Early Minoan III. It is complete, except for the greater part of the spout, the exact length of which is therefore uncertain. The ground is a thin dull brownish black, which at present has cracked off a good deal allowing the pinkish clay to appear. The white of the pattern has almost disappeared, and can only be made out by careful study, but the pattern is clear excepting for a slight uncertainty about the tips of the spirals. The illustration is made from a sepia drawing, in which the present contrast between the pattern and the ground has been very much heightened. Height 0.83 m.

Sherds from such vessels are not common, and it is only a few pieces of the characteristic spouts that can be placed here with any certainty.

Middle Minoan.

I. The earliest Middle Minoan vases are handmade, covered with the usual 'Kamares' black, or, on these vases, more often reddish ground-colour, and decorated with patterns in white, the effect of which is heightened by a sparing use of red. The patterns are geometric, and strongly recall the Early Minoan III geometrical 'Kamares' ware, which was first found in any quantity at Gournia.¹ The use of red suggests that these vases are a little later than the Gournia finds, and they should probably be placed early in Middle Minoan I. They are not common: only three are fairly complete, nor are the sherds numerous. The list is:—

(a) (Pl. V, *above*.) A two-handled jar, of which the mouth is rather larger than usual. The pattern, which consists of a lattice-work in white, with the triangles filled with dots, is arranged in four vertical bands. This scheme is suggested by the division of the body of the vase by the spout and the handles, the space between each handle and the spout being one-quarter of the circumference, and therefore suitably filled by one of four bands. We shall see presently that this is a favourite scheme of decoration for these earlier vases. The red consists of a line round the

¹ See E. H. Hall in Boyd-Hawes, *Gournia*, p. 57, Figs. 41, 42, and more fully in *Trans. Univ. Pa.* 1905, vol. i, part iii, pp. 195 *sqq.* For examples from Palaikastro, see *B.S.A.* x, p. 199, Fig. 2, and xi, p. 271, Fig. 5.

mouth and two parallel lines on each side of the bands of lattice-work. Height '10 m.¹

(*b*) (Pl. IV, *below*.) A similar jar, but with a more globular body. The decoration consists of the same four vertical bands and a red line round the mouth. The bands of pattern contain each three festoons of red and white lines, and their vertical borders, which on the last vase were merely stripes, are here diversified with the white cable-pattern so often found on Early Minoan III pottery. Contrary to the usual practice the red paint was laid on before the white. Height '112 m.² The illustration is made from a water-colour drawing.

(*c*) (Pl. VII, *d*; Mus. No. 45.) A jar with decoration in white and reddish purple. The body is surrounded by three bands of purplish-red with white dots between them, and the space above is covered with a diaper of treble lines of white with a blob of paint surrounded by a ring of small dots in the centre of each lozenge. Round the mouth are two red lines with a row of white dots between them. Height '124.³

(*d*) (Mus. No. 95.) Handmade jar with a thin ground-colour varying from red to black. The pattern consists of four blobs, each made of a red spot surrounded by first, a circle of small white spots, then a circle of larger white spots and lastly by four white circles, all very roughly painted. The usual red lines surround the handle, spout and lip, and there is a white band round the base, and above it two red bands. Height about '11 m.

(*e*) (Mus. No. 38.) Handmade jar, with dull black ground. Round the body is a band of white lattice-work with red lines above and below, and on the shoulder two bands of white crescent marking. There is a white band round the foot and apparently red lines round the spout and lip. Height '102 m.

These three, *c*, *d*, and *e* are very inferior in technique, the black ground and the white and red or purple paint being very thin and poor in quality; if they were not handmade they would perhaps be thought a later degeneration of the Middle Minoan I style.

¹ Two sherds of this vase are given in *Mon. Ant.* vi, Pl. X, 21 and 21 a. The rest is newly found.

² Only a part of one side of the vase is preserved. A sherd was found previously: it is published in *Mon. Ant.* vi, Pl. X, 16.

³ With the new fragments some half of this vase now exists. An old sherd shewing a piece of the lip and spout is figured in *Mon. Ant.* vi, Pl. IX, 7.

Besides these vases, a few sherds mostly of similar jars, belong to the same style. Examples in Mariani's article *Mon. Ant.* vi, Pl. X, 17 and 13.¹

II. Immediately after these may be placed a group of vases, all but the last one (*k*) being jars of the usual type which, although still handmade shew a more developed style of decoration. The old arrangement of four vertical bands of pattern is often adopted, but in several points a change is visible. The old geometric patterns have disappeared; the vertical bands often, as in the last vase, do not reach the foot, but are cut off below by the horizontal lines, now of white and red, which are henceforth such a feature of Minoan pottery; and lastly, an ornament is often introduced into the four spaces between the vertical bands, so that one comes below the spout, two below the handles and the fourth at the back of the vase.

(*a*) (Pl. V, *below*; Mus. No. 575.)² This is by far the finest vase of this class and the value which the original finder set upon it is plain from the number of holes which he drilled in it to rivet the fragments together. The vertical bands, very much cut short by the horizontal bands at the base, consist of two broad strips of white with bars between them, and are themselves decorated with red stripes. The spaces between are filled by a drawing of a fish in white, and the body outlined in red. Of this red traces are left on only one of the fishes, but its existence and general arrangement are certain. The white strokes on the handles are a further point of separation from the earlier vases. Height 11 m.

(*b*) (Outline sketch in Fig. 3, *d*; Mus. No. 30.) A similar jar with ground varying from red to black, and five sets of vertical lines from lip to foot, three at the back and one on each side of the spout. In the spaces below the handles is a red spot surrounded by two rings of small white spots, a ring of bigger red spots, and again two rings of small white spots. Height .095.

(*c*) (Mus. No. 35.) A jar of the same shape and coloured ground. The decoration is in the usual four vertical bands, each consisting of a broad band of white with transverse bars or red upon it, and each side of it

¹ Both these belong to the same vase, which seems to have been a round-bodied mug, with a slightly flaring mouth. No. 13 is very badly drawn, and the suggestion that it is part of the bottom of a vase is completely wrong.

² Already published by Mariani in *Mon. Ant.* vi, Pl. IX, 8, 8a, but not very accurately, either in drawing or colour. In particular the red colour on the fishes is omitted, and a non-existent foot is added.

first two red and then two white stripes. The paint, especially the red, is very much destroyed. Height .103 m.

(*d*) (Outline drawing in Fig. 3, *c*; Mus. No. 31.) A similar jar with the same red to brown glaze and much destroyed paint. The body is

FIG. 3.—SKETCHES OF MIDDLE MINOAN VASES FROM THE KAMARES CAVE. (Scale 1 : 2.)

surrounded by a band of horizontal lines in white (or ? yellow), and above these is a decoration of vertical rows of horizontal strokes and zigzags in white and red. The old quadrantal arrangement appears in the four rows of red strokes, two of which run up the back and the others between the

spout and handles. Between them, and so beneath the handles and the spout and in the middle of the back, are white zigzags flanked by rows of white horizontal strokes like the red ones. Height .102 m.

(e) (Mus. No. 32.) Another jar of this class, which has lost every trace of ornament except a red line round the greatest circumference. Height .102 m.

(f) (Mus. No. 36.) A large fragment of one of these jars shews an uncertain number of vertical bands, each consisting of one red and two white stripes, and in the spaces between them a red spot surrounded by a ring of white spots. A red and a white line surround the mouth.

(g) (Pl. VI, *below*.) A fragment was published by Mariani,¹ and new pieces have made a restoration possible. It has a very fine black ground, and the pattern consists of four large quatrefoils with alternately red and yellow triangular leaves edged with white. Height .102 m. The illustration is made from a water-colour drawing.

(h) (Outline drawing in Fig. 3, *a*; Mus. No. 40.) A jar of which a fragment was published by Mariani in *Mon. Ant.* vi, Pl. IX, 12. A small new piece has now been added, making enough to shew that the space above the horizontal lines of white and red, which encircle the lower part of the body, was filled by concentric circles in white arranged in two rows alternately with small white quatrefoils each with two arm-like branches. Height .09 m. The arrangement of the pattern is as on the wheel-made jars described below (IV, *c*).

(i) (Mus. No. 33.) A jar in which the decoration by bands of red and white in large festoons so common in Middle Minoan I cups at Palaikastro appears.² There is a white band round the body, red and white bands on the spout, and from the rim are large loops, a white strip with a red one on each side, enclosing the handles. Height .107 m.

(k) (Pl. VII, *c*.) The rim is pinched into a quatrefoil form and double white festoons hang beneath the lobes. The other decoration consists of three red bands round the body of the vase, the upper two of which are bordered with white spots. Height .105 m.

III. Of the handmade pottery with the raised 'barbottine' decoration, which was from the first recognised as characteristic of the Kamares style, a fair amount has been recovered. This decoration consists either of small

¹ *Mon. Ant.* vi, Pl. X, 15.

² For examples see *B.S.A.* ix, p. 305, Fig. 4, No. 2, Figs. 5 *a*, *b*.

raised points or of irregular ridges made apparently by dabbing the tacky surface of the still wet clay with the tip of the finger and so producing small cells separated by raised lines, not unlike the mountain ranges on a relief map. These roughened surfaces are gaudily painted with the usual Kamares colours. As a rule it does not cover the whole vase, but is used in conjunction with flat parts, upon which a pattern is carried out in white and red paint, and in this way forms a background to the painted design. The warty surface is sometimes used realistically to indicate the actual modelling of an object, as in the shells on the vase described below and shewn on Pl. IX, *above*.¹ All the vases of this class are handmade, and all evidence dates them to Middle Minoan I.

The examples are :—

(a) The large pithos, shewn on Pl. VIII, *a*. Of this only a part of one side was found, but this is enough for a restoration of both the form and decoration. The photograph on the plate has been taken from the restored vase, with the pattern painted in water colour on the plaster additions. The handles are all new, but their position is certain: none of the actual foot of the vase was found but it cannot have been appreciably higher than it stands at present. The four handles dictate a fourfold scheme of pattern, and thus each quadrant of the vase above the horizontal bands at the base is crossed transversely by a branch from either side of which grow three recurved sprays. The ground behind these branches is covered with very lightly worked 'finger tip' modelling. The whole vase is covered with the usual dark Kamares ground, the branches painted red, and the ground powdered with white spots. Below each branch is a cluster of red spots, like a fruit or flower. Height '46 m. Diameter of mouth '31 m.

(b) (Pl. VII, *e*; Mus. No. 60, 63.) A partly preserved jar covered with black ground. Two white lines run round the body, and above them the ground is covered with raised warts painted white. There are red lines round the handles, lip and spout, and a cluster of four red spots in the vacant space between the spout and handle. Height '10 m.

(c) (Mus. No. 59.) A spouted vessel, differing from the usual jars in having a low neck and a foot. Only a part of it is preserved, but it has

¹ An unpublished jug from Dr. Xanthoudides' excavation at Koumasa is the best example I can find of this. It has on its sides four representations of some object, of which the six rows of raised warts on it are clearly an actual feature.

been recently restored in plaster with a spout of the Early Minoan projecting form and a single vertical handle opposite to it, like the vase on Pl. IV, *above*. A band of white goes round the foot and two bands of red round the body, which is covered with the usual dark ground. Above these lines the surface is covered with raised warts except for the space occupied by a painting of a fish halfway between the spout and the handle. Only the tail half of the fish is preserved, but it is drawn like the one on the vase on Pl. V, outlined in white and with a pattern in red on the body. Height '145 m.

(*d*) (Pl. VII, *f*; Mus. No. 56.) Part of a one-handled jar. The ground is formed by a buff slip with a pattern of a few transverse rows of warts and some black lines and spots. This and the next two vases are examples of dark-on-light style, which is not very common in the pottery from the cave.

(*e*) (Pl. VII, *a*; Mus. No. 71.) One-handled jug, with a pattern carried out in black paint on a buff ground, consisting of three sets of four transverse lines running up the body above two lines, which run round the lower part near the foot. Between the transverse lines the ground is covered with the raised 'finger-tip' pattern and powdered with black spots. Height '17 m. Published in colours in *Mon. Ant.* vi, Pl. X, 14.

(*f*) (Pl. VII, *b*; Mus. No. 2522.) A similar jug decorated with eleven raised ridges running transversely up the body, with two lines of black paint running alongside them, and black bands round the lip and the junction of the neck and body. Height '19 m.

(*g*) (Mus. No. 2251.) A similar jug, with trace of white bands on each side of the raised ridges. Height '195 m. This decoration of transverse ridges is common in the jugs from Dr. Xanthoudides' unpublished excavation at Koumasa, and in those from the graves at Hagia Triada.

(*h*) (Mus. No. 62.) A fragment of a flowerpot-shaped vessel, with side handles and a spout; roughly decorated with 'finger-tip' ornament and stripes and spots of red and white on a dark ground. Diam. '14 m.; height '105 m.

(*i*) (Mus. No. 64.) A smaller fragment of a similar vessel with wart ornament in stripes inside and out. Height '085 m.

Besides these there are a number of fragments of similar vessels, but none that it is possible to restore. They may be classed thus:—

(1) The clay covered with buff slip and 'finger-tip' work, and painted

with black or brown spots. This is the commonest style, pointing to vases like those on Pl. VII, *a* and *f*.

(2) The clay covered with a black ground dotted with raised warts dabbed with white paint. Any further patterning, which is generally limited to red and white lines round the lip, spout and handles, is carried out on the surface, left flat for the purpose. These fragments come from vases like that shewn on Pl. VII, *e*.

(3) Less common are sherds with black ground covered with 'finger-tip' pattern and white spots, with flat spaces reserved for pattern. The only complete example of this style is the *pithos* described above and shewn on Pl. VIII, *a*.

IV. The next class covers the fine polychrome painting with non-naturalistic patterns on wheel-made vases, and must be placed in the Middle Minoan II period. Many fragments of such vases are so pretty and the patterns so attractive, that it is here that the broken condition of all this pottery is so lamentable. The condition of the paint also is often so bad, that it is only by careful study that it is possible to make out the details of the pattern.

(*a*) (Pl. IX, *above*.) This is perhaps the best of these vases. One sherd of it was found originally and was published by Mariani¹; it fits in to the left of the spout. The drawing was made at the excavation, and therefore gives only the new pieces. The shape is akin to that of the jars, but is so much flattened as to look very different; it is clearly the Middle Minoan prototype of a form common enough in Late Minoan times.² A small boss on the back, decorated with seven white spots, answers to the spout, and this boss, the spout and the handles divide the field into four parts, in each of which is a murex shell drawn in white. The corrugation of the shell is rendered by rows of small raised lumps. The vacant spaces are filled by red spots surrounded by a white circle and a ring of white dots; the raised lip is decorated with a pattern in white. The ground is a fine black, and the colour better preserved than on most of the vases. The drawing of the shell is interesting as being not so much conventional as primitive in style, for it seems that the spiral at the apex is not a meaningless ornament, but is intended to render the spiral twist of the shell

¹ *Mon. Ant.* vi, Pl. IX, 5 (printed upside down). Mariani took the bit of shell in the fragment for a fish.

² Cf. the L.M. II vase from Phylakopi in *B.S.A.* xvii, Pl. XI, No. 137.

itself.¹ This inaptitude for realistic drawing is very general in Middle Minoan I and II vases; witness the figure of a man on the sherd from the cave published by Mariani.² The contrast to the observation of natural form shewn in Middle Minoan III vase painting is very remarkable. Height '081 m.

(b) A small cup shewn on (Pl. VI, *above*), with a fine black ground. The pattern is linear, consisting of panels crossed by diagonal lines, the whole being picked out with red. This cup shews very markedly in its sharp angles the traces of metal technique which have often been observed in Middle Minoan pottery. The bottom is crossed by a white line, and shews the concentric string marks which are generally a sign of a later date. Height '075 m. The illustration is made from a water-colour drawing.

(c) Outline drawing in Fig. 3, *b*. A type of wheel-made jar probably as early as any of this class can be distinguished, in which the decoration consists of bands round the lower part of the body, and in the space above them large discs of pattern arranged as on the vase in this sketch. The discs here are plain white with red edges, but in other cases the patterns were more elaborate. In particular the sherd published by Mariani in *Mon. Ant.* vi, Pl. XI, 26 probably belongs here, concerning which it may be noted that another fragment from the same vase makes it unlikely that the red points on the Mariani sherd are, as taken by themselves they well might be, the points of a double axe.

Another fragment shews the disc of pattern made up of a central red spot with small white dots round the edge, then a ring of large white spots, and the whole surrounded by a thick ring of white.

The handmade jar described above and shewn in Fig. 3, *a* anticipates this arrangement of the pattern.

V. The next class is formed by a few vases of a later style, with naturalistic designs. Technically their lateness is shewn by the rapidity of the wheel upon which they were made as marked by the thinness of the sides and the strength of the wheel marks, by the use of a string to separate the completed vase from the wheel,³ the concentric marks of

¹ A similar spiral is seen at the mouth of the murex shells on a dark vase from Gournia of L.M. II date (Mus. No. 2296). Published in Boyd-Hawes, *Gournia*, Pl. J.

² *Mon. Ant.* vi, Pl. IX, 10.

³ I have had occasion to study a great quantity of M.M. and L.M. I and II pottery at Palaikastro, and noticed that there these marks never shew themselves as early as M.M. II. A

which appear on the base, and by the poorness of the black ground. I was inclined on the strength of the naturalism of the designs, and because they are clearly later than class IV above, to date these vases to M.M. III. Sir Arthur Evans, however, kindly tells me that the evidence from Knossos leaves no doubt that their stage of development had already been reached in the M. M. II period, and it is to this that they must therefore be assigned. The spouts of the jars seem all to be of the bridged type, as far as they are preserved.

(a) Of the jar shewn on Pl. 10, *below*, the greater part of one side has been preserved, although the white paint has hardly left more than traces of its presence. The quick wheel and naturalistic pattern clearly put it into this class of vases. The body of the vase is surrounded by two white bands, and above them is a band of orange spotted with crimson. Above this is a row of crocus plants. On the part preserved, which is the back of the vase, there were three of these, of which the two outer ones have flowers; a realistic feature is that the anthers are shewn in red paint. Round the lip is a row of white scallops. Height '122 m.

(b) The jar shewn on Pl. X, *above*, is remarkable as being a very early example of the use of the octopus on Minoan pottery, for neither the fine polychrome technique nor the non-realistic drawing permits a later date than Middle Minoan II.

The drawing shews that very little of the vase was found, and the restoration practically depends upon the small piece of rim to the left of the large fragment. Once however this was recognised as being of the same clay and technique as the larger piece, the interpretation presented no difficulty. The drawing was made on the mountain, and therefore does not include a piece giving the rest of the bottom of the vase and the lower part of the opposite side, which came to Candia from the first exploration of the cave. It adds nothing however, excepting the assurance that there was a similar octopus on the other side of the vase. The treatment is entirely decorative. The body, as far as it is preserved, is orange with a diaper of crimson and a white margin. At the ends of the tentacles, which

drawing of their appearance is given in *J.H.S.* xxiii, p. 249, Fig. 2; they are caused by cutting the vase off the wheel by placing a string round the base and tightening it, a practice I have seen used by a Japanese potter. With regard, however, to the dating of the vases of this class from the cave to M.M. II rather than to M.M. III, it should be remembered that east and central Crete may well differ in such a detail, and also that the M.M. II pottery of Palaikastro seems to belong very early in the period, whilst these vases must be late in it.

are only six in number, are orange discs with a crimson blob in the centre and surrounded by small white dots; still less in correspondence with reality are the orange plumes which run back from the lowest pair. The whole animal is surrounded by a double series of white loops.

(c) Of the broken vase shewn on Pl. XI, *below*, only the lower part has been preserved¹; the drawing shews as much restoration as is possible. It was probably some form of oinochoë, and of the pattern it is plain that there was at least a third row of spiral sprays above those preserved. The walls of the vase are thin, the marks of the wheel; prominent and the bottom has the lines made by the cutting string; these, and the floral nature of the pattern, are all points that place it relatively late.

(d) The vase on Pl. XII, *below*, seems from the indication of a handle, to have been one of the usual jars, and it has been restored in this way in the drawing from which the illustration has been made. It belongs like the vase with floral spirals, late in the series. Thus it is wheel-made, and to judge from the largeness of the marks, made on a quick wheel, the bottom has marks of a cutting string, and the glaze is poor, quite lacking the brilliancy of such earlier examples as the murex vase and those on Pls. V and VI. The pattern, too, points the same way. It consists of round masses of network arranged in twelve vertical rows of three each, these rows being alternately red and white. Whilst this arrangement of the colours is characteristically Middle Minoan and begins as early as Middle Minoan I, the pattern itself is clearly the conventional rendering of rock-work or perhaps coral that is so common in the marine designs found on Late Minoan II vases.² Height '075 m.

(e) The jar shewn on Pl. XI, *above*. The pattern consists of two rows of white daisies with a red centre on the usual dark ground. The centres of the daisies appear much too dark in the illustration, which has been made from a water-colour drawing. Height '11 m. about.

(f) The mug shewn on Pl. XII, *above*. The ground is a reddish brown, on which the pattern is carried out in white. The flat handle is a restoration. The vessel resembles the Zakro ware in style, and is probably later than the rest of this class, and not earlier than M. M. III. Height '075 m.

¹ A sherd found at first is published in *Mon. Ant.* vi, Pl. IX, 1; the rest was found by us.

² For examples see the vases from Vaphio and Phylakopi published by Bosanquet in *J.H.S.* xiv, Pls. XI, XII.

(g) Here belong a considerable number of fragments, especially of jars with bridged spouts. Some were covered with a pattern of branches with leaves in white, a red rib being added to the branch. Fragments of these are published by Mariani (*Mon. Ant.* vi, Pl. XI, 33, 34). The sherds of this class however, are by no means as numerous as those of earlier date.

VI. Besides these there are few miscellaneous Middle Minoan vases.

(a) The vessel of which a restored drawing is shewn on Pl. IX, *below*, is quite exceptional. The shape is the fruitstand form already well-known in Middle Minoan pottery,¹ but the pattern is very remarkable. The ground colour is formed by a pale brownish slip, and on this is a rough network of red, against the sides of which are blotches of an ochreish yellow. The ground is dabbed over with touches of black, and the red network and its yellow additions roughly edged with a line of white, laid on after the other colours. The white is at present not easy to observe, but it can be made out by careful examination. There is no doubt that this curious pattern was intended as an imitation of one of the natural breccias out of which the Minoans delighted to cut vases and dishes. The full polychromy of this vase places it in Middle Minoan II, and the use of such ornamental stones goes back to a far earlier date, as is shewn by the magnificent series of stone vases discovered by Mr. Seager at Mokhlos.² A parallel is afforded by a late Minoan II vase found at Hagia Triada which is painted with wavy parallel lines of brown in imitation of alabaster.³ The outside and as much of the foot as remains are decorated with slanting lines, white paint and the usual bands of dark brown.

(b) (c) The two *pithoi* shewn on Pl. VIII, *b* and *c*, are clearly contemporary, and, to judge from very close parallels from Phaistos, of Middle Minoan date. Of *b* the more complete example, no part of the rim is preserved, of the other, *c*, only fragments from the upper half remain. Their most characteristic feature, which is found also at Phaistos, is the raised ornament which encircles the shoulder and foot. The pattern is carried out in black paint on a greyish buff ground, and at least in the example *b* a good deal of white paint was used. Fragments of such *pithoi* were frequent; a fine piece shews a pattern of large black circles

¹ *E.g.* from Palaikastro in *B.S.A.* ix, p. 308, Fig. 8; also Hogarth and Welsh in *J.H.S.* xxi, p. 87 (D).

² Seager, *Explorations in the Island of Mochlos*, Pls. I-VII, IX.

³ In the Candia Museum (No. 2997).

connected by tangents and edged with white, and pieces with the curious raised ornament are common.

(*d*) Fragments of a jar of the usual type, but with the spout bridged over, and made on a wheel. The decoration is formed by vertical dark stripes edged with white on the pale ground of a buff slip. Height '11 m.

FIG. 4.—LATE MINOAN FRAGMENTS FROM THE KAMARES CAVE. (Scale 1 : 2.)

(*e*) A wheel-made jar covered with a good black ground, without pattern, possibly with the remains of a splash pattern in white. The body is slightly flattened, and is decorated on the shoulder with two sets of four slight channels made by the wheel. The spout is not open but bridged and the bottom has the concentric marks of the string; the vase is not earlier than Middle Minoan III and may very well be of Late Minoan I date. Height '153 m.

Late Minoan.

The few pieces of Late Minoan pottery found were all, as has been said above, from the right-hand slope of the cave. They are shewn in Fig. 4: the painted fragments with dark paint on a buff slip, excepting the first and third of the second row from the top, may be put down to Late Minoan I, or possibly II, whilst the top of a large *bügelkanne* is probably later. Similar in pattern and style is a fragment from the original finds (Mus. No. 55) of the upper part and neck of a high-shouldered

FIG. 5.—LATE MINOAN VASES FROM THE KAMARES CAVE. (Scale 1 : 3.)

oinochoë apparently of the shape, and, as far as it is preserved, nearly of the pattern of one found at Palaikastro.¹ It has on the shoulder a pattern of running spirals in dark paint on a buff slip, and on the neck the same rough curves as the Palaikastro example. The small bowl (Fig. 5, *c*) with a festoon pattern round the lip, one of the original finds, also belongs here. So, too, does the small cup (Fig. 5, *d*; Mus. No. 1011) also from the earlier finds, which much resembles in shape some of the cups from the pits at

¹ Published in *B.S.A.* xi, p. 281, Fig. 12 *b*.

Zakro. It is covered with a dull ground which varies from red to black and on this is very carelessly painted a pattern of spirals with a border of festoons hanging from the lip. It is largely the carelessness of the work which would date it as low as Late Minoan I. Height '05 m.

The latest pottery is of Late Minoan III date. Here fall the first and third sherds of the second row from the top in Fig. 4, and the two *bügelkannen* shewn in Fig. 5, *a* and *b*. Both of these are from the earlier finds, and there is therefore no evidence as to the part of the cave from which they came, but it is likely that they are from the same region (1 in the plan) as the rest of the Late Minoan pottery. R. M. D.

§ 3.—PLAIN POTTERY.

Considerably the larger portion of the pottery was coarse and unpainted and for the most part very much broken. The clay is grey in section, greyish-yellow on the surface. The wheel-marks, especially on class *A*, are often very pronounced.

A. The shallow vessels shewn in Fig. 6 may be mentioned first, as they were more numerous than any other kind of plain ware. The position

FIG. 6.—LIDS FROM THE KAMARES CAVE. (Scale 1 : 6.)

of the handles and the fact that any decoration is always on the outside, prove that they were lids, and not dishes or saucers. Very few lids of this kind have hitherto been known.¹ They fall into five classes :—

¹ There is a solitary example from Palaikastro (*B.S.A.* ix, p. 302, Fig. I, 14). The lids from H. Nikolaos are of a different shape but were used for a like purpose (*ibid.* p. 341, Figs. 1 and 2).

1. These have two, four or sometimes three short ears pierced with string holes. Any decoration is confined as a rule to two bands of reddish-brown paint, one round the angle, the other round the edge of the lid (Fig. 6, *b*, *d*). Sometimes two bands cross the top as well (Fig. 6, *e*), and on three specimens (*e.g.* Fig. 6, *d*) there is a small circle containing two crossing lines in low relief on the top. Five examples are rounded like an inverted bowl, and have the ears, two or four in number, set high up and close together.

2. The ears are replaced by two or four proper handles, set close to the angle. They are either horizontal and round, or vertical and strap-shaped.

3. The side-handles or ears are replaced by a single handle on the top (Fig. 6, *c*).

4. A number of similar vessels without handles. Their general resemblance in shape and decoration to the others makes it certain that they too were lids and not saucers.

5. Two lids, each with a single knob on the top, in the one case with a horizontal string-hole, and in the other flat and unpierced.

B. Jars or small *pithoi* probably much like the painted examples on Pl. VIII, but with the handles set higher up on the body. These fall into three classes, according to whether they have ears pierced with string-holes, or horizontal or vertical handles, and they thus correspond closely to the lids, which were fastened down on the jars by means of string. Two fragments with a semicircular strip of clay projecting from the shoulder deserve mention. Underneath it is a small round knob, which was used to fasten the string from the lid, the semicircular strip taking the place of a handle.

C. Plates. These are quite flat save for a thick rim, and generally have some painted decoration. The best example has a diameter of .18 m. and has the rim and edge covered with red paint, with a crudely drawn circle of the same colour in the centre. Sometimes the entire surface is covered with red paint.

D. Jugs. Of these there are several varieties. Fig 7, *c*, has a spout formed by pinching the lip, and two roll-shaped handles; near the rim and close to one of the handles there is a cross scratched in the clay. Height, .19 m. Another kind has the mouth pinched into a trefoil lip (*cf.* *B.S.A.* ix, p. 322, Nos. 7 and 8). Yet another kind has two pinched

lips and two vertical handles on the shoulders. This is a typical Middle Minoan shape.¹

E. Two kinds of large basins :—

(*a*) Very shallow, straight-sided examples with small bases and two handles set low down. The measurements of one are: height, '125 m., diam. at top, '53 m., diam. at base, 20 m.

FIG. 7.—POTTERY FROM THE KAMARES CAVE. (Scale 1 : 6.)

(*b*) Deeper basins, decorated externally and immediately above the base with hatched lines roughly scratched in the clay. Above the pattern were set two handles.

F. (Fig. 7, *c*.) A large oval vessel, in shape not unlike a bath. Height, '205; length at mouth, '50 m.; breadth, '28 m. The two long sides are pierced by two rows of circular holes, the short sides being unpierced. The bottom is scored on the inside so as to form a number of raised and sunk bands, and there are also a number of holes which do not

¹ Cf. *B.S.A.* viii, p. 293, the last one in the lowest row.

however penetrate right through to the outside. There were no handles. This vessel was possibly some kind of brazier, but it can never have been actually in use, as there are no traces of burning on the clay.

G. (Fig. 7, *a*.) This is a large piece, put together from four fragments, of a round brazier with roll-shaped handles. It had vertical sides, a sloping shoulder and a slightly thickened rim. Just above the shoulder are two rows of plastic ornament. On the body there were two or perhaps three rows of vertical slits, each about .034 m. long. From a number of other fragments of similar braziers it appears that the bottom of the vessel on the inside was neither pierced nor scored, and also that round holes sometimes replaced the vertical slits. On some fragments the plastic ornament occurs also near the base.

H. Scanty remains of *pitthoi*, with bulging sides and thick rim, were found, and also fragments of large vessels with vertical sides curving in slightly at the top. They cannot be restored with any certainty, but they had horizontal handles outside and a number of short knobs inside.

K. Four or five handleless cups and dishes, some of them made of finely levigated clay of a pinkish yellow colour. M. L. W. L.

§ 4.—MISCELLANEOUS OBJECTS.

Finds other than pottery were not numerous, the most striking discovery being that of several iron objects, which, though found with M. M. II pottery, can only have made their way into the cave at a much later period. Unless the find-spot is specially indicated, all the objects are from the region marked **2** and **3** on the plan.

Metal.—Two types of iron dart heads, the one with a hollow socket into which the handle fitted, the other ending in a solid spike which could be forced into a hole in the shaft. Of the former type two examples were found (Fig. 8, *a* and *c*), of the latter three (Fig. 8, *b* and *d*) from the pit high up at the mouth of the cave marked on the plan E, and another from a trial-pit made just outside the entrance. The only other metal object was a much oxydised flat strip of bronze from the region **5**, **6**. Length, .091 m. (Fig. 8, *e*.)

Bone.—A flat piece of bone (Fig. 8, *g*) ending in a sharp point which may have been used for boring holes in soft objects, two needles used for the same purpose (*k* and *l*) and a number of bones worked flat and smooth on one side (*f* and *h*).

Miscellaneous.—A round piece of pumice stone worn flat and smooth on two sides (*i*); this and a small oblong piece of yellow bone (*n*) with two holes on one long side, and a single hole on one short side came from deep down in **2**.

Fig. 8, *m* is a three-sided piece of slate-like stone ending in a point for piercing holes. Found together with *i* and *n* was a small fragment from the rim of a cup, with a bull's head in relief on it. The clay is yellow

FIG. 8.—MISCELLANEOUS OBJECTS FROM THE KAMARES CAVE. (Scale 1 : 2.)

and on the forehead and horns of the bull are a number of dots of brown paint.

A small bronze coin, barely a millimetre thick with a small hole pierced in it was found on the slope marked A. It is similar to that given in Schlumberger,¹ and dates from the Venetian occupation of Cyprus in the sixteenth century. On one side is a cross, while the other side is very worn but must once have borne the lion.

M. L. W. L

¹ *Numismatique de l'Orient Latin*, Pl. VIII, 10.

§ 5.—CONCLUSION.

This account shews that the votive objects which form so striking a feature of other caves and mountain sanctuaries of Crete, the bronze, and libation tables of Psykhro, the shields and various bronzes of the Idaean cave, and the figurines which were found in such abundance at the contemporary sanctuary of Petsofá, are practically entirely absent from the cave of Kamares.¹ This leads us to enquire whether the cave really was a sanctuary, or if it is not more likely that the pottery in it is a result of its use as a dwelling. This seems to me impossible for several reasons. The cave is free from snow for only a few months in the year, and in some seasons at least, the drifts never entirely disappear. Even in a favourable summer like 1913 the drip of water from the roof is incessant, and the temperature uncomfortably low. As for the finds themselves, if they do not positively suggest a sanctuary, they equally negative the idea of a dwelling. Houses in Crete of the Bronze Age invariably yield obsidian in considerable quantities; not a flake was found in the cave. Nor does the pottery suggest a house. Cups are almost entirely lacking; nor did we find the lamps whether of clay or stone, and the three-legged cooking pots, both of which are abundant in houses. On the other hand the restricted range of the shapes of pottery strongly suggests a sanctuary in which it was customary to make offerings in certain vessels of more or less fixed form, small spouted jars, and larger vases and *pithoi* with lids. The evidence is certainly negative rather than positive, but it is enough to make it impossible to suppose that the cave was not, as it has always been supposed to be, a sanctuary of the tutelary divinity of the mountain.

Of the other cave-sanctuaries of Crete the most famous and the most important are the two caves of Zeus, the one on Mount Ida only two hours away from the cave of Kamares, and the other the cave on Mount Dikte near the village of Psykhro. Both these caves have now been excavated, and a comparison of their contents with those of the present cave is interesting. The absence from the Kamares cave of the specifically votive objects found in the other two has been already noticed, but the chronological sequence of the three is of equal interest. The series of objects from the Kamares cave runs as we have seen through Middle

¹ The figurines of the original find are only three, two oxen heads, and the body of what looks like a pig. They are published by Mariani, *Mon. Ant.* vi, Pl. X, 20, 22, 24.

Minoan I and II. Of earlier remains we have only a couple of Neolithic sherds, a few pieces of Early Minoan ware, and of a later time a little Middle Minoan III, and a very little Late Minoan, the series ending with the two *bügelkannen*. After Middle Minoan times therefore the cave was practically deserted. The finds from the Psykhro cave are on the contrary almost entirely Late Minoan. Mr. Hogarth in his report records, it is true, the finding of 'Kamares' ware, but in a later paper on the pottery of the Knossos houses he tells us that practically none of the sherds had the red and yellow paint of the pottery from the Kamares caves: the decoration was simply white on a dark, or more often reddish ground.¹ The few pieces now in the case of objects from Psykhro in the Candia Museum confirm this, and I remember some years ago in the old Museum at Candia going over a series of baskets of sherds from Psykhro, and noticing that the pottery with white paint was by no means Middle Minoan II, but much more closely resembled the pottery from the pit at Zakro, and by its free and rather floral patterns clearly belonged to Middle Minoan III or more probably to Late Minoan I.² This cave yielded, after the mass of Late Minoan objects, a few Greek vases, but its *floruit* was clearly Late Minoan.

The Idaean cave again, as is well known, yielded only objects of the archaic Greek period: the crystal lentoid gem of a woman blowing a conch shell being, as far as I know, the only Minoan object found.³

The remains in the three caves therefore form a chronological series, as if they had successively served as great cave-sanctuaries for at least the Central part of Crete. The political convulsion caused by the end of the Minoan and the beginning of the Greek period sufficiently accounts for the change from the Diktaean to the Idaean cave, and it is possible that there was an earlier movement, brought about in some similar way, from the cave of Kamares to that of Dikte. This theory would of course imply that worshippers from the same parts of Crete were in the habit of resorting to each of the three caves successively. The obviously local character of the pottery from the Kamares cave, with its close resemblance to that of Phaistos and Koumasa is no objection to this view: worshippers drawn

¹ *J.H.S.* xxi, p. 93.

² At that time the distinction between Middle Minoan III and Late Minoan I had hardly been drawn.

³ Published in *J.H.S.* xxi, p. 142.

from a distance would probably buy such perishable things as vases in the neighbourhood, rather than bring them from a distance.

It must not however be left out of account that these were not the only cave-sanctuaries, still less the only mountain-sanctuaries, of Crete. Although it does not seem likely that any caves will be found of the natural impressiveness of these three, not a few others are already known, and more may very well come to light in the future. Even in this volume Doctor Hazzidakis is publishing his discoveries in the very early cave of Arkalokhóri. Further, however closely natural grandeur may be connected with sanctity and religious significance, they are not in any way proportional; other far less imposing caves may have played a great part in Cretan religious observance.

A recent paper by Toutain warns us that the series of Cretan caves is by no means to be regarded as closed.¹ The writer argues with great shew of reason that Dikte is not the modern Lasithi, but the mountains of Praisos, and that consequently the Diktaean Cave is not the cave of Psykhro, but must be sought in the far east of Crete, preferably somewhere between Praisos and the Temple of Diktaean Zeus at Palaikastro. These conclusions do not, of course, touch the importance of the Psykhro cave as a Minoan sanctuary; their bearing is on the Greek period. For this nothing could be more important; if the author is right, there should be a cave-sanctuary somewhere in the Praisos district with votives beginning from the archaic Greek period to correspond with the remains of the Diktaean temple found at Palaikastro.

R. M. D.

R. M. DAWKINS.

M. L. W. LAISTNER.

¹ *L'autre de Psychro et le Diktaion Antron*, by J. Toutain, in the *Revue de l'histoire et des Religions*, lxiv, No. 3, Nov.-Dec.

EXCAVATION OF THE KAMARES CAVE: PLAN OF CAVE.

EXCAVATION OF THE KAMARES CAVE: SECTION ON LINE XYZ IN PLATE II.

EXCAVATION OF THE KAMARES CAVE: *Above*,⁵ EARLY MINOAN VASE;
below, MIDDLE MINOAN VASE. (Scale 2 : 3.)

MIDDLE MINOAN VASES FROM THE KAMARES CAVE. (SCALE 2 : 3).

EXCAVATION OF THE KAMARES CAVE: MIDDLE MINOAN VASES. (Scale 2 : 3.)

EXCAVATION OF THE KAMARES CAVE : MIDDLE MINOAN VASES. (Scale 1 : 3.)

EXCAVATION OF THE KAMARES CAVE : MIDDLE MINOAN PITHOI. (Scale 1 : 6.)

MIDDLE MINOAN VASES FROM THE KAMARES CAVE. (SCALE 2 : 3).

EXCAVATION OF THE KAMARES CAVE: MIDDLE MINOAN VASES. (Scale 2 : 3.)

EXCAVATION OF THE KAMARES CAVE : MIDDLE MINOAN VASES. (Scale 2 : 3.)