

## THE EXCAVATION OF TELL BEIT MIRSIM

## I A: THE BRONZE AGE POTTERY OF THE FOURTH CAMPAIGN

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## I. INTRODUCTION.

Two years after the third campaign at Tell Beit Mirsim in southwestern Judaea, we undertook a fourth campaign there (June-August, 1932), also under the joint auspices of the Pittsburgh-Xenia Theological Seminary and the American School of Oriental Research in Jerusalem. As before, Dr. M. G. Kyle acted as president of the staff, while the writer served as director of the excavation. Just before the completion of the present study, on May 25th, 1933, Dr. Kyle passed away, after an illness of a few days, so that he may be truly said to have fulfilled his ambition to "die in harness." We wish to dedicate this study of the pottery of his beloved site to his memory. Our debt of gratitude to him for his loyal coöperation and his unswerving friendship, and for his unselfish devotion to the advancement of scholarship can never be repaid.

In this paper it will not be necessary to describe the history and the results of the fourth campaign, except in so far as they bear on the ceramic chronology. A preliminary account of the campaign will be found in *Bulletin* No. 47, pp. 3-17 (reproduced almost entirely in *AJA* XXXVI, 556-64). We wish here to express our hearty thanks to the members of the staff who collaborated on the drawing of our pottery, particularly to Messrs. A. Henry Detweiler, John Bright, Eugene Liggitt, and Stephen M. Reynolds, and Dr. Cyrus Gordon. Mr. Bulos Araj also assisted in this work after the close of the campaign. Mr. Detweiler, the architect of the expedition, not only drew many of the vases himself, but also assisted in checking and correcting the work of the others. As before, *all* drawings have been carefully checked by comparison with the originals. The tracings for the plates found in this paper were prepared by Dr. Dorothy K. Hill, who exercised the same meticulous care as before. The writer has also checked all of her tracings, in order to ensure detailed accuracy in rims, bases, decoration, etc. The photographs were nearly all made by Dr. W. F. Stinespring with the photographic apparatus of the School. Several we owe to our good friend, Dr. Aage Schmidt of Copenhagen.

While this is not the place to express our obligations to the many friends and officials who have assisted us in various ways, we must mention the names



of Mr. Richmond, Director of Antiquities, and of the successive directors of the American School in Jerusalem, Professors Millar Burrows and Nelson Glueck, as well as of Dr. C. S. Fisher, Père Vincent, and Mr. Alan Rowe, who helped us generously from the stores of their experience and knowledge. To Dr. Fisher, who has advised us from the beginning of the first campaign, we stand under peculiar obligation.

Since the results of the fourth campaign supplement and correct the results of the first three campaigns in many respects, we have decided to publish the Bronze Age pottery at once. We now have important new material for all the periods of the Bronze Age represented in our site, and strata H, G, and E, especially the third, are illustrated by a mass of new material, selections from which are herewith published. For the method of approach and the point of view we may refer to the Preface to Vol. I of the Tell Beit Mirsim publication. So far not a single undisturbed grave has been discovered at Tell Beit Mirsim, so that all our pottery comes from occupation levels, and practically all is fixed stratigraphically beyond cavil. The stratigraphic observations of the first three campaigns were fully confirmed in the fourth one, in which the area examined was very greatly increased.

The text is followed by a Table of Contents, a List of Abbreviations, a Table of Archaeological Periods, and an Index of the Pottery in the Plates, which will provide the necessary aids to the student, just as in TBM I. Complete lists of the provenience of pottery, with tables of room-groups, etc., will appear in later volumes.

We intend to publish the results of our excavation in a series of volumes in the ANNUAL, supplemented by monographs like the present one. The second volume will be devoted to the Bronze Age (omitting the pottery), while a third volume will treat the Iron Age in the same way.

## II. THE POTTERY OF STRATUM J (EARLY BRONZE III).

1. The pottery of the Early Bronze Age<sup>1</sup> in Palestine is still difficult to classify chronologically, though we now have an abundance of material for

<sup>1</sup> It must again be emphasized that this term is purely conventional, and has little meaning with regard to the relative quantity of bronze which was in use, or the perfection of metallurgic technique; cf. *Bulletin*, 48, 12. It would be much better to substitute the terms "Early Copper, Middle Copper, Late Copper" for the present ones. While bronze was hardly employed at all in Egypt and Palestine before the Middle Bronze, it was known long before. Recent analyses of samples from the royal tombs of Ur and other early Sumerian sites have proved that bronze was employed at a very early age in Mesopotamia. Engelbach, Reisner, and others have also shown that the Egyptians of the Pyramid Age (chronologically equivalent to our EB II) were well acquainted with the art of hardening copper, probably by a tempering process of great

typology. Thanks to the soundings of Petrie and Macdonald in the Wadi Ghazzeh<sup>2</sup> we now know more about the transition from Chalcolithic<sup>3</sup> to EB,

efficacy but only temporary in its effect. This fact certainly explains the relative scarcity of bronze at that period in Egypt. The bronze sample from Teleilat el-Ghassûl does not, therefore, prove a late date; contrast Mallon, *Biblica*, 14, 208 f.

<sup>2</sup> See TF II, 1-21, and *Bulletin*, 48, 11 ff.

<sup>3</sup> The Chalcolithic Age is rapidly emerging from the complete obscurity in which it was enveloped five years ago. Besides the British explorations just mentioned there is now very interesting material from Byblos, where Dunand discovered (1932) a necropolis of this age, not yet published. Of paramount importance is, of course, the site of Teleilat el-Ghassûl, being excavated by Père Mallon for the Pontifical Biblical Institute (see now his latest account, *Syria*, XIII, 334-44). For our views see TBM I, § 5 and especially *Bulletin*, 48, 10-13, and 50, 9-10, where the four strata of Ghassûl are dated in the second half of the fourth millennium. In *Biblica*, 14, 202-11, Père Mallon defends his position in detail; our arguments are not weakened in the least. The writer would, however, like to express his regret for a misunderstanding with regard to Mallon's original chronology. It is true that the latter called his site at first purely "énéolithique," but he used the term then in the same sense as that in which Duncan and others employed "neolithic," i. e., as the designation for all pottery antedating Macalister's First Semitic, the beginning of which Mallon seems to have placed about 2000 B. C., as may be inferred from remarks of his in various articles written before the commencement of work at Ghassûl. Since 1921, however, the writer has pushed the date of the "neolithic" back into the fourth millennium (see especially JPOS II, 130 ff.), and so when Père Mallon and he used "aeneolithic" (for which the expression "chalcolithic" is now to be substituted), they were thinking in different chronological terms. Our worthy antagonist is thus correct in his remarks in *Biblica*, 14, 202 f., n. 3, and the writer is happy to apologize for the misunderstanding in *Bulletin*, 48, 11, line 21. This one injustice, however, is compensated for by misunderstandings on Père Mallon's part. Thus, e. g., the long note on pp. 203 ff. is superfluous in so far as it is devoted to the writer's suggestion that the four strata of Ghassûl may only have lasted 300-400 years. This figure was expressly termed "a guess which illustrates the reasonableness of a low estimate." À propos of this Père Mallon says: "La formation d'un tell n'obéit pas à une loi mathématique." Of course not!—cf. the writer's numerous identical observations, e. g., ZAW 1929, 9, n. 2, where he gives illustrations of the irregularity with which débris accumulated at different periods and in different places. The writer's suggestion was intended to make the chronological situation more vivid to a non-specialist. Specialists have no trouble in realizing that the four strata of Ghassûl may cover only a century or two—or may extend over several centuries.

In preparing the article in the *Bulletin*, the writer overlooked the important paper by Mallon and Neuville in *Syria*, 1931, 24-47, which is very regrettable, since this study devoted mainly to the cave deposit of Umm Qaṭāfa, offers very important corroboration of the chronology which we defend. Substitute the fourth millennium for the third, and our results coincide. But the entire Early Bronze cannot simply be eliminated from the picture. Nor is the attempt to show that the Ghassulian and Early Bronze cultures existed side by side through the third millennium admissible. The

and can probably, with the aid of Guy's recent discoveries at Megiddo,<sup>4</sup> distinguish certain characteristics of EB I, which we define as the first phase of Early Bronze in Palestine. EB II, which is now well represented by pottery

time when different ceramic cultures could be synchronized in date and assigned to different racial elements of the same civilization has passed. Petrie's assignment of the Negada culture to a new race, placed at the end of the Old Empire, was soon given up by the author of the theory, just as it has been given up more recently by Christian. No one accepts Duncan's more recent theory that certain types of pottery found in the Ophel excavations were made by the Jebusite part of the population at the same time that other types were made by the Israelite part! Nor do any classical archaeologists adopt the extraordinary view of the hoary veteran, Doerpfeld, that Mycenaean and geometric wares were employed side by side in the Early Iron and the preceding age. In a small country like Palestine it is also not reasonable to admit too pronounced cultural lags; relative poverty does not necessarily imply the total absence of better artifacts. It is, of course, well-known that different types of pottery were manufactured at different places, though many common types were made everywhere, with little variation except in the composition of the paste and the character of the tempering material. But these different types were diffused widely by commerce, migratory movement, social intercourse of many forms, so what we find in any given site is nearly always a cross-section of the pottery types characteristic of the entire country or district in a given period. From Père Mallon's observations in the note on pp. 204-5 one might (erroneously?) infer that he believed in the survival of primitive methods of making pottery in Palestine until the present day. That the local potters of today employ just as primitive methods as their predecessors of the Ghassulian (with far inferior results in many cases) is true, but these processes have undoubtedly been reintroduced or possibly even rediscovered since the Byzantine age. In no site in Palestine belonging to the intervening ages, particularly to Early Iron II-III, and to Hellenistic, Roman, and Byzantine periods, can this crude hand-made pottery be found. Any archaeologist who is accustomed to digging in Arab strata knows how characteristic this modern local ware is. For an amateur in ceramics the commonest diagnostic error is precisely that of confusing EB with locally made modern Arabic sherds.

<sup>4</sup> See TBM I, xv; *Bulletin*, 48, 13; AJA XXXVII, 169 a. This discovery by Guy is very important, since it proves that the course of development was more complex than supposed by the writer (TBM I, §§ 1-6). We must now assume that the ledge-handle with outer edge decorated with finger impressions (Guy's two lower floors) preceded the wavy ledge-handle (Guy's upper floor). At Petrie's site H in the Wādī Ghazzeh we have both types together, indicating that the settlement at H overlapped the occupation of the superimposed floors at Megiddo (allowing, of course, for a possible lag in the northward movement of this class of pottery). The earliest appearance of ledge-handles in Palestine seems to be illustrated by the simple knobs or projections from Umm Qatafa (Mallon and Neuville, *Syria*, 1931, 39; cf. *Biblica*, 14, 206, n. 1), followed by the ledges with finger impressions. Of course, we can hardly admit a continuous local evolution, since the latter class of ledge-handles may be an innovation rather than a development of a type already known. It is, in any case, most unlikely that the wavy ledge-handle evolved directly from the one with finger impressions, since the former occurred exclusively in southern and central Palestine, and can thus hardly be

from many parts of Palestine, must cover a period of several centuries, probably running approximately parallel to the Pyramid Age in Egypt (Dynasties III-VI, cir. 2700-2400 in the writer's low chronology).<sup>5</sup> This period is illustrated by the bulk of the EB pottery from Tell el-Ḥesī, Jerusalem, Bâb ed-Drâ', Jericho, etc., in southern Palestine, and from Beth-erah, Tell el-Qassis, etc., in northern Palestine.<sup>6</sup> While much of our J pottery belongs roughly to the same general type, it appears to be rather later, and thus to fall into the category of EB III, which is typologically best illustrated by the rich deposits found by Garstang in his Tomb A at Jericho (1931). The pottery from this tomb has already been published (JG, pl. II-VIII, XXVI-XXVIII), and will be discussed in connection with our detailed study of the J pottery below. Tomb A still contains wavy ledge-handles, and thus precedes our period I, with its folded or envelope handles. Garstang terms the pottery of Tomb A MB I, and says: "A relatively big gulf separates the local ceramic art of the M.B.A. i from that of M.B.A. ii, and if nothing is found to fill the gap in the course of further excavation, it would appear that the rise of the Hyksos period was accompanied by a

separated from the Lower Egyptian wavy handle, which continued in use down to the First Dynasty, after which it died out. On the Egyptian handle see now the remarks of Reisner, *Mycerinus*, pp. 136, (7) and 147, (6). Since the backward extension of the EB of southern Palestine into the period of the First Dynasty is proved by Petrie's work at Abydos (cf. TBM I, § 6), a connection between the wavy handles of Palestine and Egypt thus seems most probable. Incidentally, the new material removes a serious difficulty in the way of this view: whereas it formerly seemed necessary to pass from the Egyptian prototype to the Palestinian form by a bridge which led over the Egyptian form which least resembled the Palestinian, we may now consider the Palestinian wavy ledge-handle as due to a combination of the ledge form already in use with the wavy treatment of the corresponding Egyptian handle. Our chronology is, at all events, quite independent of the wavy ledge-handle. The Early Bronze began not later than the middle of the First Dynasty, and probably not later than its beginning. Site H in the Wâdī Ghazzeh, which forms the transition from Ghassulian to EB, falls somewhere in the last quarter of the fourth millennium and the first quarter of the third (pre-supposing the accuracy of the low Egyptian chronology maintained by us, which places Menes in the twenty-ninth century).

<sup>5</sup> For the pottery of the Old Empire in Egypt see now especially Reisner, *Mycerinus*. In general the types of pottery are very different, but there are many points of contact in detail. An interesting parallel (not important in itself) may be drawn between potter's marks of the Old Empire and of EB in Palestine; cf., e.g., the pentagram, Brunton, *Qau and Badari I*, 68 f., pl. XXXIV: 15-6, with one published by Bliss (BM, pl. 29: 42 = THB 23, No. 20). For the chronology of the Old Empire cf. the references given TBM I, § 4.

<sup>6</sup> The writer hopes to publish his pottery collections from Beth-erah and Bâb ed-Drâ' in the near future; selected material has been drawn and photographed for publication.

change in local culture more profound than that which marks the transition between the phases known as the Early, Middle and Late Bronze Ages of current theory" (JG 42 f.). As we shall see, the two periods are separated by strata I-H, corresponding to the *Spätkanaanitisch* of Watzinger's *Jericho*, as well as by our following strata G-F. If I-H fall, as appears almost certain, between the twenty-first and the nineteenth centuries, stratum J and the contemporary Tomb A of Jericho, which must have been in use for a century or two, as pointed out by Garstang (JG 42), must be dated between the twenty-third and the twenty-first centuries, roughly speaking, or two-three centuries earlier than the excavator's tentative chronology. Père Vincent also (if I am not mistaken in quoting from our conversation) regards Tomb A of Jericho as representing EB III rather than MB I.

2. Drawings and photographs of selected J pottery from our fourth campaign are given in pl. 1, 19:1, 20:20-40. This collection is larger and more diversified than the material found in the third campaign (TBM I, pl. 1-2). First we have the store-jars 1:1-2, which I have not been able to duplicate in the published material of this age, though the flat base (often slightly concave, as here) and the form of the body are common. The shape and height (estimated at about 80 cm. in the case of No. 1 and at about 90 cm. in No. 2) are nearly the same as in the pithos from Jericho, A, 2a (J, pl. 20),<sup>7</sup> but our mouths flare much more. All three have rounded, thickened lips, but our two are differently shaped. Since Watzinger's *Kanaanitisch* corresponds roughly to our J (TBM I, § 7 ff.), the resemblances are significant. Our jars undoubtedly had wavy ledge-handles, as usual in this age. Examples, in addition to those previously published, are given in pl. 20:20-4. (which need not all have come from store-jars; cf. Pl. 1:3-5). No. 1 is reddish buff, of very coarse clay; No. 2 is buff, of coarse clay, pattern-combed in coarse strokes, such as are characteristic of all pattern-combing of large vases in stratum J. The deep, open vessels with flat bottoms and wavy ledge-handles (pl. 1:3-4) cannot be paralleled in the published literature, an accident due to the fact that they are not found in tomb-groups, and that complete specimens have not been recovered elsewhere. No. 3, which is buff, pattern-burnished on the exterior surface, has two wavy ledge-handles, a side-spout with a characteristic projecting lower lip, and a pronounced, inverted rim. No. 4 is buff, coarsely combed on the outer surface; it has two wavy ledge-handles and a slightly projecting flat rim. No. 5 represents a very common EB jug with wavy ledge-handles, set rather lower than usual in this example; the surface is buff, plain.

<sup>7</sup> The tracing of this vase given CPP 30 D is very inaccurate, and the captions for 2a and 2b have been interchanged, an error which is characteristic of this handbook.

3. Turning to the sherds illustrated pl. 20:25-40, we note the squat jug with a flaring mouth and two loop handles on the shoulders, buff surface, and a potter's mark incised on the shoulder before baking (No. 25). We have not been able to duplicate the form elsewhere, though the elements are characteristically EB; the nearest analogy comes from Tell el-Ḥesī (THB, pl. 3, No. 84). The potter's mark belongs to the class described from Tell el-Ḥesī by Bliss (THB 21-33, Nos. 1-68; BM, pl. 29), though not identical with any found there. All these marks were incised before baking, and are hence potter's marks, not owner's marks. Owner's marks of the same general nature also appear in the Chalcolithic of Ghassûl (*Biblica*, 1931, 264 ff., though nearly all the marks collected by the excavators have since proved to be native forgeries, made by scratching the sherds). We also have them on late pre-dynastic and early dynastic pottery in Egypt (Petrie, *Royal Tombs*, I, pl. XLVII-LVIII), as well as on pottery of the Old Empire and the First Intermediate Age (Brunton, *Qau and Badari I*, 68 f., pl. XXXIV), *i. e.*, on pottery contemporaneous with the ceramic on which these marks are found in Palestine.

4. Pl. 20:26 (cf. No. 34) is a side-spout, like that in 1:3; for a discussion see TBM I, § 8A. This type of spout is as characteristic of the Old Empire in Egypt as of the contemporary EB of Palestine. No. 27 is an example of the characteristic J lamp, a number of fragments of which have been found in the course of our work. The shallow form, with four pinched wick-mouths and a flat base, also occurs in Tomb A at Jericho (JG, pl. XXVIII:15). Quite similar in form is the small, shallow bowl with flat bottom and five pinched wick-mouths described by Brunton from the First Intermediate (cir. 23rd-22nd century) of Upper Egypt (*Qau and Badari II*, pl. LXXXII:8Z). Nos. 28-31 illustrate decoration by incision in period J. The herring-bone pattern with parallel lines below (Nos. 28, 30-1) is particularly popular. For contemporary illustrations cf. J 99, figs. 78-9 (Watzinger's *Kanaanitisch*); G III, pl. CL (First Semitic of Macalister). Nos. 22-3 are pattern-combed in the fine stroke characteristic of smaller and better-made vessels; cf. TBM I, § 7. Good illustrations of the fine pattern-combing come from Tell el-Ḥesī and Gezer in the south, and from Beth-yerah and Tell el-Qassīs in the north, among sites already excavated or explored. Nos. 35-40 are inverted rims of the typical EB form (cf. TBM I, § 8); all are burnished with red ocher (haematite) slip in various shades of red and brown, while Nos. 35, 38-40 are pattern-burnished on the inside. In our previous publication we could not report the ascription of any such sherds to stratum J; we now have ample material of certain stratigraphic provenience. Note the various patterns illustrated by our sherds; No. 38 has a criss-cross design,

No. 35 offers horizontal lines (concentric with the rim) crossed by transverse lines at an oblique angle, Nos. 39 and 40 have a band of concentric lines at the rim, followed by a wide band of parallel oblique lines, after which come more concentric lines as we approach the center of the inside. Cf. the examples illustrated BM, pl. 27: 3, 7-9.

5. On pl. 1: 7-10 are shown four vases, all of which probably belong to stratum J, but of which we can only say, stratigraphically, that they antedate G. Typologically, however, all belong to J except possibly No. 7, which we cannot duplicate at present elsewhere. No. 8, a squat jug with two vestigial lug-handles and a brownish buff slip, burnished in vertical strokes, has very close analogies in Tomb A of Jericho (JG), especially in pl. VI: 17, which has the same form and size, but has two vertical loop-handles, and in pl. VIII: 17, which has the same form and also has four vestigial handles of our type. Another jug of our form, but with handles like VI: 17, is XII: 11 = XX: b: 2, in a context parallel to our J-H. No. 9, which was originally covered with a burnished red slip, illustrates the typical form of bowls with inverted rims in EB II-III; for parallels cf. JG, pl. IV: 19, etc. No. 10, a one-handled juglet, with traces of burnished red slip on a buff surface, belongs to a type illustrated by a great many examples in Tomb A of Jericho (JG, pl. II, especially No. 5, with nearly the same size and shape, and with red burnished slip). J, pl. 21, Watzinger illustrates some juglets of this general type, calling them *Kanaanitisch*, which nearly everywhere corresponds to Garstang's Tomb A period. Similar vases appear also BM, pl. 24: 4J, 5S, where they are assigned to the early pre-Israelite age. CPP 60: T 5-6 assigns them erroneously to "Dyn. XV," solely on the basis of fancied analogies in form with the Tell el-Yahūdiyeh jugs.

### III. THE POTTERY OF STRATA I AND H (MIDDLE BRONZE I).

6. Stratum I has not fared as well as we had hoped in our latest campaign, though there can be no doubt whatever that it represents an independent stratum. However, thanks to the great relative increase in our pottery of certain H provenience, found mostly in the rich H deposit in a cave in SE 13, we can now distinguish more clearly between I and H. In particular, we find that the folded wavy ledge-handle (the envelope-handle of Guy) is apparently restricted to I, since it was found again this season in a level below the H stratum, and it does not appear at all in homogeneous J or H deposits. Our results thus confirm the previous conclusions (TBM I, § 15) in this respect. In addition to what was said before about its distribution in Palestine, it should be added that Guy has found numerous examples of this type of handle at Megiddo, also in association with the decadent EB pottery of our period.

The samples of I sherds given in TBM I, pl. 3, are correctly attributed, except perhaps in the case of a very few intrusive J sherds. These samples were collected from the I stratum just inside the city wall south of the East Gate, and since they came from below the ash level separating I from the next higher stratum, H, with no visible break in the continuity of the layer of ash, we cannot admit intrusion from above, though intrusion from stratum J is quite possible, since sherds of the earlier age may have been washed down or otherwise displaced from higher elevations on the site, which slopes from the center toward the line of the city wall. I represents a true transition from EB to MB I, with the latter dominant (see below for further data on the pottery of I).

7. Thanks to our extensive new material from stratum H, this period can be described much more clearly than before. We have now, in particular, a large number of complete or nearly complete vessels. In our discussion we shall, of course, presuppose TBM I, §§ 11-19. Since many of our types begin in period I, we shall discuss I as well, when the occasion arises. On pl. 2 are illustrated store-jars of H, all characterized by a slender ovate body with flat base, by a flaring neck and mouth, which joins the body at a relatively sharp angle, and by incised decoration on the shoulder; nearly all are provided either with vestigial lug-handles (No. 7) or with conical knob-handles (Nos. 1, 3-4). The paste is most characteristic, being grayish buff, yellowish gray, or gray with a greenish tinge in most cases, with comparatively little grit, and lightly baked as a rule (reddish buff color is rare). All this pottery is hand-made. For photographs of these vases see pl. 19: 2-4, and for sherds see pl. 20: 2-5 and 21: 1, 8-9, 13-4, 23, as well as TBM I, pl. 3: 1-3 (from I), 4: 38, 40-1, etc. Up to the present this type of store-jar is little known in Palestine, and examples have only been published from Jericho (J 108-9, figs. 54-7—No. 97 has a profile and plastic band with finger impressions like our No. 8, except that the band is lower on the shoulder—; JG, pl. XII: 10) and from Tell el-'Ajûl, where the parallel material is probably more archaic, as we shall see presently. The examples from Jericho belong to Watzinger's *Spätkanaanitisch*, which corresponds closely to our I-H, especially to the former, as was shown in TBM I. Here also the ware is described as light in color with the same nuances ("rosarot oder hellbraun bis grau"), and the pottery is made by hand. Watzinger also calls attention to the fact that this pottery shows a great advance over EB ware in the direction of more homogeneous paste and more even firing. At Tell el-'Ajûl (TA I, §§ 14-6; II, §§ 6-9) Petrie found three types of tombs in a necropolis which he assigned to the "Copper Age," and synchronized roughly with the Fifth-Sixth Dynasties in Egypt—a relative date which is too high, as we shall see. In the tombs

of the earliest type (A) he found pottery which seems to belong to an early phase of our I-H, perhaps in part contemporary with the former. This pottery, illustrated TA II, pl. XXIX: 30F-J, consists largely of ovate, flat-based jars, often with a shoulder-spout, and nearly all provided with two vestigial wavy ledge-handles (like our example, pl. 20: 1), sometimes reduced to a plastic band with wavy contours. All this ware is weakly baked and yellowish gray ("pale drab") in color. With these large jars occur smaller ones of practically the same form as some of our I-H types; cf. below. In the tombs of later form (B and C) are found taller ovate jars resembling ours more closely both in form and often in incised decoration, though vestigial ledge-handles still occasionally appear. The proportions are still, however, less elegant than in our ovate jars (pl. 2); the ratio of height to diameter is 1: .70-.75 in the former and 1: .55-.57 in the latter. Unfortunately no complete jars from stratum I are preserved, so we cannot tell whether the tombs of class B correspond more closely to I or to H. The absolute date will be discussed below.

8. On pl. 3 are whole and reconstructed vessels of H. Most interesting are the caliciform bowls and cups, Nos. 1-3, 5, 8-9, nearly all decorated with incised ornament. Sherds of caliciform vases with incised ornament are shown in pl. 20: 9-15; 21: 6-7, 26. Numerous other sherds of this type are illustrated in TBM I, pl. 3-7, where some appear to be wrongly attributed to G-F. During our fourth campaign we were unable to find any positive proof that this type survived into G-F, whereas we obtained an abundance of negative evidence. It would seem, therefore, that the sherds of this type listed previously as belonging to G were in part intrusive, *i. e.*, were washed or brought down in some way from exposed remains of period H higher up on the hill into the G-F strata lower down. Others we may have attributed erroneously to stratum G because of their resemblance to those found in loci which were certainly between the H and the F conflagration levels. That the type survived sporadically into G-F is, however, to be considered as probable, though by no means certain. In his "Copper Age" pottery of Tell el-'Ajûl Petrie records four cups of this class, shaped much like our 3: 9, but half again as large; all are decorated with plain incised bands or lines. Here again our H ware represents a definitely more advanced stage. A very important difference is that, whereas all the Tell el-'Ajûl pottery of this age is hand-made, according to Petrie, many of our smaller vases, in particular the caliciform vases, are wheel-made, though not in the finished technique of MB II.

9. The bowls and wide-mouthed jugs of stratum H are fairly varied in form. For the buff vase 3: 4 cf. also the photo, 20: 6; the flanged rim implies

the use of a lid. The reddish buff vases 3:6 and 14 seem to be unique; the latter is hand-made and is decorated with horizontal furrows. Nos. 7 and 11, both buff, decorated with band-combing, are interesting because of the combination of a tendency toward carination with a flat base; the same general form appears in 24 F at Tell el-'Ajûl (cf. also the contemporary bowl 22 N 6). A similar form is No. 15, a grayish buff bowl with slight carination and flat base, where the shoulder is provided with two conical knob-handles of the same form as on the large ovoid jars. The most common type of bowl, however, is one which cannot be illustrated yet by a complete drawing; sherds are exceedingly abundant. This is the ribbed bowl with inverted rim and flat base, discussed TBM I, § 12, end, which was employed to a greater or less extent throughout I-F, especially in H-G. For photos of sherds cf. pl. 20: 7-8a, 21: 10-12, 15-6, 18-22, 27-9, as well as the photos previously published. The ribbed bowls numbered 6 R at Tell el-'Ajûl (TA I, pl. XXXVII) are somewhat similar, but have more pronounced ribbing and more vertical shoulder, standing thus between the ribbed bowls of EB (found, *e. g.*, at Bâb ed-Drâ') and ours of I-F. This relation again appears to indicate a slightly higher age for the material from Tell el-'Ajûl.—The bowl 3:12 is not very distinctive; we know of no exact parallel.

10. Comparatively few types of loop-handled or lug-handled vessels appear at Tell Beit Mirsim in stratum H. By far the most common form is 3:10, a squat two-handled jug with flat bottom, generally with incised decoration on the shoulder. Sherds are illustrated pl. 20: 17-9, 21: 8a. In form it is almost identical with the jugs from the "Copper Age" at Tell el-'Ajûl listed by Petrie as 33 M (TA I, pl. XLIV), except for M 9, which is a cross between this type and the ovoid jars. These jugs, however, are seldom decorated with incised ornament. Moreover, at Tell el-'Ajûl there are a few occurrences of the closely parallel type 69 L and 69 L 2, TA II, pl. XXXV), in which a narrow neck takes the place of our wide one. Now, the narrow-necked type was common in EB (cf. two vases belonging to Watzinger's *Kanaanitisch*, J, pl. 20, B, 4a-b; cf. also BPM 3, pl. II: 2-3, 5-6, etc.), though wide necks also occurred, so we may again perhaps see an earlier stage in Tell el-'Ajûl than in our I-H stratum. In the *Spätkanaanitisch* of Jericho we find both forms, but the wide neck predominates (cf. J 108, fig. 93, and pl. 22: 1-2b), and the same incised decoration is found as with us. Here then, is another proof that this stratum at Jericho corresponds closely to our I-H, while the "Copper Age" at Tell el-'Ajûl is earlier.

11. The juglet with pointed base and double loop-handle, 3:13, vertically burnished on a reddish buff slip, seems to belong to our stratum, but an attribution to G would also be possible. It appears to be a forerunner of the

Tell el-Yahūdiyyeh vase, and may even be intermediate in type, as well as in date, between the EB III juglet, pl. 1:10, and the former.

12. Additional material bearing on both chronology and provenience of our class of pottery has become available since the preparation of TBM I (1931-2). Petrie has argued from a comparison of carnelian beads from a "Copper Age" tomb with similar Egyptian beads that this age is to be synchronized with the Fifth and Sixth Dynasties, particularly the early Sixth, which he dates about 3300 B. C. (our date is cir. 2350-2200);<sup>8</sup> see TA I, § 14. If the beads were of Asiatic make, as may well be the case, there is no reason to fix their date so precisely as is done by Petrie, since we should then have to reckon with a certain lag. Moreover, the beads in question assume an intermediate position with respect to form between Egyptian beads of the Fifth-Sixth Dynasties and carnelian beads from the jar deposit of Byblos, which dates from  $\pm$  1800 B. C. (see below, § 24), as may be seen by comparing, e. g., Montet, *Byblos*, pl. LXVI, No. 540. Tenuous as the argument is, it still furnishes a slight corroboration of our chronology, according to which G belongs to the 19th-18th century, and I-H consequently falls between the 21st and the 19th centuries.

13. Since Egypt is excluded from the range of possible sources for our pottery, as shown in TBM I, Syria becomes the probable source *a priori*. In TBM I, §§ 13-4, we showed that this view was strongly supported by archaeological evidence. We are now in possession of additional evidence, to which we may briefly refer. In addition to the comparative material from Mišrifeh (Qatna) and Dnebi, du Mesnil has now published pottery from his soundings at Ḥān Šeiḥūn, 40 km. north of Ḥamā, and the neighboring Tell 'As (*Syria*, XIII, 171-88). Moreover, the results of Pézard's work at Tell Nebi Mend (Kadesh on the Orontes) have now appeared in book form, with full account of his pottery (*Qadesh*, Paris, 1931). Our tall ovoid jar bears a rather close resemblance in form (aside from the rim?) to one from Dnebi, Tomb 1 (*Syria*, XI, pl. XXXII, col. 5). Other pottery from this same tomb bears a rough general resemblance to some H forms, but the group is oriented toward Mesopotamia rather than toward Palestine. The caliciform vessels have a rudimentary stem, placing them in a general relationship to the chalices of Tell Billah 3 (Speiser, *Museum Journal*, XXIII, 273 ff., pl. LX ff.). The latter date from the 17th-16th centuries, as is shown by comparison of their ornamental repertoire with that of pottery from Syria and Palestine, as well as by the fact that the same type of chalice appears in its later

<sup>8</sup> For this chronology cf. our observations ANNUAL VI, 72 f. Eduard Meyer's latest reduced chronology would make Dynasty VI last from cir. 2423 to cir. 2280 (cf. his brochure, *Die ältere Chronologie Babylonien, Assyrien und Ägyptens*, p. 68).

unpainted form at Nuzi near Kirkûk in a stratum of the 16th-15th century (dated by a mass of cuneiform material).<sup>9</sup> The same type of chalice that is found at Dnebi, but with richer painted decoration, occurs also in abundance at Hân Šeiḥûn, in the lowest level, called "zone A" by du Mesnil. Since this level is followed by thick deposits called, respectively, B and C, and since the C deposit dates, as we shall see, from the 18th century, it is impossible to date "zone A" later than the end of the third millennium, in approximate agreement with du Mesnil's date, "fin du III<sup>e</sup> millénaire, commencement du II<sup>e</sup>." Still earlier are the tombs of the necropolis at Tell 'Âs and Tomb IV of el-Mišrifeh. Both groups exhibit caliciform vessels with flat base and incised lines (generally straight horizontal lines, sometimes alternating with curved lines). If we add the types found by Petrie at Gaza to our repertoire from strata I-H, we find considerable resemblance to the Syrian groups under discussion, though the latter are unmistakably older (du Mesnil seems to have shifted his chronology downward half a millennium since he assigned the not unreasonable date of 2400 B. C. to Tomb IV at Mišrifeh, because he now dates the necropolis of el-'Âs in the first half of the second millennium, which is much too low). In his "Amorite" stratum at Kadesh, Pézard found sherds with the same type of incised decoration in straight and wavy lines and bands, lines of points or strokes, etc., as we have in I-H (*Qadesh*, pp. 64-5, pl. XXXV-VI, *passim*). As we have seen in TBM I, the incised decoration of vases from the 18th century deposit under the Qubbet Lût ("Cupole de Loth") at el-Mišrifeh is also identical with ours, though the forms of vases are nearly all later, corresponding roughly to those of our G, as we shall see. Going further east into northeastern Mesopotamia, we find caliciform vessels somewhat resembling ours, occasionally bearing incised decoration in straight and wavy bands, in Billah 4, which apparently belongs to the beginning of the second millennium, and which presumably illustrates a culture which was diffused over all northern Mesopotamia. It is, then, from northern Mesopotamia that we must probably derive the influences which were ultimately responsible for the principal characteristic of the I-H ceramic.

#### IV. THE POTTERY OF STRATA G AND F (MIDDLE BRONZE II).

14. During the 1932 season we obtained a much clearer picture of the ceramic of stratum G, thanks to our greatly increased area, as well as to the discovery of several houses belonging to this period, only one of which, however, was well preserved. As has been stated above, § 8, we are now convinced

<sup>9</sup> The evolution from painted to unpainted, from burnished to unburnished, is the usual one, though there may be exceptions, of course.

that the characteristic H ceramic only survived sporadically in the G period, and that a sharp line may, *in general*, be drawn between the pottery of the two successive strata. We must, therefore, modify our chronological classification slightly, and assign G and F to MB II rather than to MB I. In some respects it would be preferable to divide MB into three phases, I (H), II (G-F), III (E-D), but it seems better to avoid making too minute subdivisions of our major periods at this stage of our investigation. It is now possible to distinguish the G ceramic as a separate group at Tell el-'Ajûl, and to point out close analogies in Syria. As will be seen in § 24, the latter are very helpful in dating our pottery to the first half of the eighteenth century, with a probable backward extension into the nineteenth century.

15. The most interesting type of pottery in G is a class of small carinated bowls, illustrated in drawings, pl. 4: 1-12, 14, and photos of sherds, pl. 22: 26-7, 30-32, 36. The distinction between G and F depends entirely, at this stage of our knowledge, on stratigraphic indications, which often fail us in distinguishing such relatively thin deposits as those of G and F. 4: 1 (G-F) is buff, comb-faced, with flat disc-base and grooved rim. 4: 2 (G-F) is buff to reddish buff, otherwise the same. 4: 3 (G) is pinkish buff with brownish red slip, horizontally wheel-burnished, with grooved rim. 4: 4 (G) is horizontally hand-burnished on reddish slip. 4: 5 (G) is reddish buff, irregularly burnished on shoulder, with flat base and grooved rim. 4: 6 (G) is pinkish buff, with vestigial grooved rim. 4: 7 (G-F) has horizontally burnished red slip with knob-handles (cf. TBM I, pl. 6: 44-5, 53). 4: 8 (G-F) also has horizontally burnished red slip. 4: 9 (F?) has a buff to gray surface, horizontally burnished. 4: 10 (G- possibly H) is a brownish buff bowl, with wheel-marked interior (smoked), and does not perhaps belong to our category. 4: 11 (F) is buff, covered with horizontally wheel-burnished red slip. 4: 12 (G-F—E possibly) has a light reddish brown surface, hand-burnished. As proved by the sherds of strata G-F, the great majority of carinated bowls belonging to this period are wheel-made, have reddish slip, highly burnished, and have a flat or disc base and a grooved rim or lip. Pl. 22: 26-7, with parallel strokes of dark-red burnishing on disc-bases, illustrate another common peculiarity, not found in later periods, that of burnishing the disc-bases. Nos. 30-32 come from the upper part of carinated bowls: 30 has red slip on rim and exterior, horizontally burnished on shoulder and vertically below; 31 is the same, but not burnished below shoulder; 32 is reddish buff, with no slip, and with vertical strokes of burnishing. No. 36 = 31, but has a less distinctly grooved lip. For further illustrations and additional details see TBM I, §§ 20, 23, 27 (the supposed E bowls described in § 27 are probably G-F, since we now have a mass of certain E pottery of this class, none of

which exhibits the grooved rim, though it is true that it nearly all belongs to the end of E).

16. Employing our characteristic carinated bowls of G-F as a clue, let us consider possible occurrences of our G ceramic elsewhere in Palestine and Syria. The closest parallel is found at Tell el-'Ajûl, where the pottery of the "Courtyard Cemetery" (TA II, viii, §§ 9, 58), ascribed by Petrie to the Tenth-Eleventh Dynasty, resembles our G ceramic closely. Most strikingly similar are the five carinated bowls, pl. XXVIII, Nos. 25 E 4, G 5, S, 28 P 3, 5. Though the drawings are sketchy and inadequate, it is clear that these bowls have the same forms, the same type of flat or disc bases, and in at least two cases similar grooved rims. Other parallels will be noted below, and the date of the Courtyard Cemetery will be fixed in § 23. We have not been able to identify our type elsewhere in Palestine, though this is almost certainly due to the inadequacy of the publication of most sites. In Syria a closely related group of carinated bowls seems to occur; cf. especially du Mesnil's sketch of the pottery of Tomb I and the Qubbet Lût at el-Miṣrifeh (Qatna), *Syria*, VIII, pl. X, 1, pl. XII, 2; XI, pl. XXXIII, cols. 7-8. The carinated bowls with disc-base are unmistakably similar. The other pottery of these loci also bears a certain resemblance to our G-F types, so that a rough synchronism appears to be established. The chronological meaning of it will be considered below.

17. As has always been recognized, the form of our carinated bowls requires metal prototypes. Good illustrations of these prototypes are found among the ex votos in the foundation jar of Byblos (*Byblos*, pl. LXXI: 605 [silver], 607 [copper]), which dates, as we shall see, from the first half of the 18th century B. C., or a little earlier. In our previous study, TBM I, 15, we maintained that a Mesopotamian origin of the carinated type was likely, though not demonstrable. It is now possible to show that this theory is probable, thanks to Speiser's work at Tell Billah in Assyria proper. In § 13 we have pointed out that certain important characteristics of our H ceramic appear in Billah 4, where they had a good Mesopotamian background, as shown by the work at Assur and elsewhere. Now Billah 4 also exhibits fully developed carinated pottery of our general class; see *Museum Journal*, XXIII, pl. LVI: 1-5, LVIII: 1, 3, 5, LIX: 2-3. It is unquestionably as old or older than our G pottery, and it already exhibits an exceptionally wide repertoire of forms. An older Mesopotamian background is suggested by the carinated bowls of Billah 6 (pl. LI), but since the latter belongs to the beginning of the third millennium or slightly before, no direct connection can be established.

18. Second to the carinated bowls in chronological importance at our present stage of knowledge comes the painted pottery of G-F, represented

pl. 4: 13, 15-6, 22: 1-10, 29. Ever since the beginning of our excavation at Tell Beit Mirsim, we had occasionally found examples of this peculiar painted ware, but until the fourth campaign we remained in doubt as to its precise stratigraphical position. There is no longer the slightest doubt that most of this material belongs to G-F. Aside from the painted pieces 4: 15, 22: 6-7, all of the examples found reflect a strikingly homogeneous technique, the nature of which will appear from our description of the examples. Pl. 4: 13 (= 22: 1-1b) is the upper part of a store-jar, with the characteristic rim of G-F, never found outside of these strata (for sherds cf. 22: 16-7, 20-22); the surface is covered with white lime wash, on which red paint is applied, forming bands with reticulate design between them. Traces of paint remain on the rim. 4: 15 is the upper part of a large bowl, covered with cream slip, horizontally burnished, decorated with red burnished bands. Since it was found 75 cm. below the F tower in SE 14, there can be little doubt of its G date. 4: 16 (= 22: 5) is part of the shoulder and neck of another store-jar, also covered with white lime wash, on which are painted straight lines and bands and wavy lines, in which red alternates regularly with dark blue; all the wavy lines are in blue, while the straight ones are partly blue and partly red. 22: 2 is buff, comb-faced (in the delicate plain style found throughout MB II), with a wide band of white wash on which is painted a reticulate band in red. No. 3 is like 1, to which it may belong; 4 is the same. No. 6 is lustrous (burnished) red on a burnished buff slip, with a reticulate band in red. No. 7 (found under SE 24 F-2, and unquestionably G in date) belongs to an imported vase with globular body, and has finely levigated paste, varying from creamy gray to grayish buff, painted in black (faded in places to bistre and brown) with a reticulate design of quadruple-line bands; its date and provenience will be discussed below, § 25. Nos. 8-10 resemble No. 5, though belonging to different vases. 22: 29 is a sherd from a store-jar, like Nos. 1 and 5, painted with a reticulate band in red on a white wash.

19. The best parallel to the G-F painted ornament comes from Byblos, and is found in the famous foundation jar already mentioned, § 17. For this jar see the photo, *Byblos*, pl. LX, and the excellent drawing published by Dussaud, *Syria*, XI, 170 (the drawing offered by Montet, *Byblos*, p. 112, is very incorrect). The surface of this store-jar is comb-faced in the delicate style of G-F; the painted ornament, in red, consists of straight and wavy lines and reticulate bands in alternation. The Byblos vase dates from the first half of the eighteenth century, or slightly earlier, as we shall see below, from wholly independent considerations, so our synchronism is perfect. Second we must mention the painted jars found by du Mesnil in a tomb in the Butte de l'Église at el-Miṣrifeh (*Syria*, XI, 158, pl. XXXII, col. 2, Nos. 195-7).

Owing to a fancied analogy with the decoration of Susa I a, du Mesnil has dated these jars about 2600 B. C., whereas they should be placed about 1800 B. C., in close relation to the pottery of Tomb I and the Qubbet Lût. With forms which point distinctly to the transition from MB I to II, they exhibit a painted decoration consisting of alternating straight and wavy lines and reticulate bands, as at Byblos and Tell Beit Mirsim.

20. The rest of the pottery from stratum G (including F) is rather heterogeneous, so far as form goes. Pl. 4:17 (G-F) is the upper part of a large bowl (?), covered with an irregular white wash, applied horizontally. Pl. 5:1 is part of a large bowl with cylindrical side-spout; the surface is reddish buff, and the rim is curiously folded. 5:2 (G-F) belongs to a vessel with a compressed rim (evidently a vestigial form of the folded rim of 5:3), now covered with alternate bands of red and white wash (probably once white wash covered with alternate bands of red and blue, a technique often illustrated by potsherds from this general period). 5:3 (G) is the top of a similar vessel, pinkish buff in color. 5:4 (G-F) is an unusual cooking pot, reddish buff (smoked) in color, with numerous round holes below the rim, and decorated on the shoulder with horizontal grooves or furrows. 5:5 (F) is an early form of a bowl which became later very common (cf. TBM I, § 35, p. 24); the surface is buff, with centripetal burnishing, and a cruciform design in burnished red slip is applied to the interior, with a band of red around the brim. 5:6 (G) is the lower part of an amphora, with rounded base. 5:7 (G, early phase) is an enigmatic clay object, with one side broken and no aperture in the other; the paste is gritty, and the surface reddish buff to grayish buff. 5:8 (G) belongs to a vessel of nearly globular body; the surface is irregularly comb-faced in horizontal strokes.

21. Turning to the sherds from G represented in pl. 22:11-36, we note the sherds from flat-bottomed cooking pots with holes below the rim, and plastic bands bearing finger-prints, Nos. 11-5. These cooking pots came in during period I, and have been fully discussed TBM I, § 15, etc. During this campaign we secured ample additional evidence for the correctness of our earlier conclusions regarding their date and scope; no modifications seem to be necessary. Nos. 16-7, 20-22 are amphora or store-jar rims; see above, § 18. The narrow ridge, coming to a point below the lip, is most characteristic of G-F, and never seems to occur elsewhere in our site. Nos. 18-9 are typical loop-handles with smooth oval section, showing that the typical forms of MB II were already in use, though still relatively rare; No. 19 is a pitcher handle, with a creamy buff surface, burnished in vertical strokes. No. 23 is a double handle, with creamy buff paste. No. 24 is another double handle, belonging to a piriform or ovoid juglet, with dark red slip and vertical lines of burnish-

ing. The vase may have had a bottom like No. 35, belonging to an elongated vessel with a small flattened base, finished in the same way as No. 24. No. 25 is a triple handle in reddish buff, without slip. Nos. 26-7 have been described in § 15. No. 28 belongs to the inverted rim of a bowl, covered with red slip on the rim and interior, burnished by hand in horizontal strokes on the rim and just inside it, and with centripetal strokes in the interior (for a discussion of this type see TBM I, § 35). This type of bowl became abundant later in MB II. For No. 29 see above, § 18; Nos. 30-32, 36 are described in § 15. No. 34 illustrates a simple type of combed bands which remained very common in G-F.

22. On pl. 21: 30-65 are shown numerous sherds from above the floor of a house belonging to stratum F. Their F origin is thus certain except in cases where the sherds may have come from the interior of falling adobe walls, though this danger has been obviated in this instance by selecting only those sherds which belong to types which constantly recur in floor-levels of stratum F. The detailed descriptions have been mislaid, so we shall limit ourselves to a brief analysis of the types represented. No. 30 is like 22: 11-15. Nos. 31-2, 35, 38-39, 43, 46, 47, 57 belong to carinated bowls, practically always covered with slip (which has sometimes been rubbed off); No. 31, from the outside of the neck of a bowl of this type, shows a continuous W-pattern in burnishing, not infrequently found in G-F. Nos. 33 a-b and 36 belong to MB II cooking pots with everted rims. Nos. 37, 40-41, 44-5 are rims of large amphoras or store-jars; note the typical form of 41 and 45 (cf. 22: 16 ff.). The section of the lip of No. 40, which is quite common in G-F, seems to resemble that of the contemporary foundation jar of Byblos. Nos. 42, 52, 53 belong to large shallow bowls with inverted rim, like 22: 28; the red band on the interior of No. 53 belongs to a bowl with cruciform ornament, like 5: 5, also from stratum F. No. 48 is the top of a typical bottle of MB II, with lip having a round section. Nos. 54-6, 65 illustrate typical comb-faced surfaces of F (also of G), showing the same delicate finish which we later have in strata E-D, and which is also found on the foundation jar of Byblos. Nos. 63-4 exhibit the combed band of this period; cf. 22: 34. Nos. 58-62 are loop-handles; No. 61 already shows the typical MB II thickening of the lower end of the handle; No. 60 is marked with a *tau*, which appears not infrequently on MB II pithos-handles. All handles have a smooth oval section, without ribbing.

23. We are now ready to consider the new light shed by Tell el-'Ajûl, Byblos, and other sites on our chronology. In § 16 we pointed to the parallelism between the pottery of the Courtyard Cemetery at 'Ajûl and our G-F ceramic. In addition to the carinated bowls, some other equally close resem-

blances may be mentioned here. The neck and rim of the large amphora 43 E 4 (TA II) is identical with our typical G-F ones (cf. 4: 13, 21: 41, 45, 22: 16 ff.), and the body and handles are so typically MB II that we may consider the identity of type as absolute. The rim of the large amphora 43 E 5 seems to be the same as our 21: 40. The large shallow bowls with inverted rim, 21 D, P, M 2-3, X 2, correspond perfectly to our G-F bowls, though the type lasted into D. Important for the synchronism with G-F is the fact that all seem to have flat or disc-bases, no concave disc-bases or ring-bases being shown. The elongated ovoid jugs, with a loop-handle and a small flat base, 'Ajûl 35 R-R 2, also appear at our site; cf. § 21 on 22: 24 and 35. Aside from the fact that the base is flat instead of being button-shaped or in the form of a small disc, this type of jug is virtually identical with vases from the end of the twelfth and the beginning of the Thirteenth Dynasty at Byblos (two examples, Tomb I, contemporary with Amenemmes III, 1843-1795, *Syria*, 1922, pl. LXIII, LXVI; many examples, Tomb II, a generation later, *Byblos*, pl. CXVI; foundation deposit of cir. 1800 B. C., *Byblos*, pl. XLVII, Nos. 130-132), and at Ugarit (*Syria*, XIII: 5, 7, 12-18 substitutes a small flat bottom, and thus approximates our type even more closely), where they appear in the second stratum, dated by Egyptian monuments and scarabs to the Twelfth and Thirteenth Dynasties. This type also appears rarely in Palestine; for Jericho cf. J, pl. 22: A, 4 ("Israelite" level). There can be little doubt that both the piriform jugs with button-base and the elongated one-handed jugs with pointed base represent modifications of it—a result which is useful for our relative chronology. From the preceding observations it is evident that neither Petrie's relative date in the Xth-XIth Dyn. nor his absolute date, cir. 2800-2600 B. C., is acceptable. On the other hand, his sequence of cultures at Tell el-'Ajûl is correct, since it may be shown with ease that Palace I, assigned by Petrie to the VIIIth Dyn., cir. 3200 B. C., really contains Egyptian pottery of the XIIth-XIIIth Dyn.(!),<sup>10</sup> while

<sup>10</sup> How Petrie can have overlooked this is unclear. With TA II, category 4 F, cf. *Qau and Badari III*, 2 H (cf. 9 A); with 31 V 6 cf. 72 B, H, M (and the vases from Palace II, our E., 31 V 7-8); with 19 N 3 cf. 9 A, B (cf. 9 M, etc.), having the same wavy incised decoration. TA II, 9 Q is shaped exactly like Egyptian vessels of the type of the obsidian chalice from Tomb I at Byblos, dating from late Dyn. XII. To Asiatic MB II point the "Anatolian" bowl 19 Q 1 (cf. below, § 60) and the cooking pot 33 B 8, which bears an unmistakable resemblance to the cooking pots of MB II figured below, pl. 13. The pottery strainers 67 Z 3' and 6 bear a general resemblance to strainers of MB II (cf. § 35). A 19th-18th century date seems, therefore, to be established for the First Palace of Petrie. That it is pre-Hyksos may be considered as absolutely certain, but the period of abandonment before the construction of Palace II need not be over a century (say 1775-1700 B. C., to make a guess).

Palace II, instead of belonging to the XIIth Dyn., corresponds perfectly to our E<sub>1</sub>. The Courtyard Cemetery then represents the native culture from the time of Palace I, or perhaps immediately after its destruction, and must be dated about the first half of the 18th century.

24. The equally cogent parallel to G-F offered by the foundation jar of Byblos (see above, § 19) provides an opportunity for utilizing the rich material found inside the jar as a check on our chronology. It is true that many of the objects may be considerably older, so that caution must be employed. The collection of scarabs represented *Byblos*, pl. LXV, can, however, be dated with a close approach to precision, thanks to the valuable material secured by Reisner at Uronarti in Nubia, described in the *Bulletin of the Boston Museum of Fine Arts*, XXVIII (1930), 47-55, with elaborate illustrations. A collection of 5000 clay jar-sealings, from 500 different seal-patterns, all dating "clearly from Dynasty XIII, and probably from the first half of that dynasty," provides chronological evidence of unequalled value. Most of the scarab-seals are private, and contain every possible variation on the scroll and loop design. The resemblance of the dominant designs to those employed on the scarabs from the Byblos deposit is so great that the latter must also belong to the first half of the XIIIth Dyn., and perhaps also to the end of the XIIth Dyn., *i. e.*, *cir.* 1800-1750 B. C. Montet's date (*Byblos*, p. 127 ff.) about the end of the Sixth Dynasty is much too high, and even Dussaud's date about 2000 (*Syria*, XI, 171 f.) and Vincent's date in the 20th century (RB, 1925, 173 ff.) are too high; in no case can the jar antedate the second half of the nineteenth century.

25. The Ugarit parallels are indirect for the most part, though there is an unmistakable resemblance in several vase types, as we have already observed. It is, moreover, of particular interest to note that the closest single parallel to our imported vase, 22:7, is perhaps the vase from Ugarit, stratum II, published *Syria*, XIII, pl. XII:2, exhibiting the same bands of quadruple and quintuple lines in black or brown on a buff surface.<sup>11</sup> Stratum II dates, as

<sup>11</sup> This pottery is common in the MB of Cyprus; cf. the discussion TBM I, § 39 A (p. 26) on the vases Mayānah No. 70, etc. For additional parallels, with full discussion of the Cyprian material see Robinson, Harcum, and Hiffe, *Greek Vases at Toronto*, I, 7-8, Nos. 30 (a network of quintuple bands) and 31 (made in Egypt with the wheel). It may be added in this connection that the pottery discussed TBM I, 27 (§ 39 A) has now been found in quantity at Tell el-'Ajūl (TA I, pl. XXVIII-XXXIII, II, pl. XXXVIII-XL), though Petrie has not apparently made a comparative study. Its ultimate provenience seems to be from Northern Mesopotamia and Syria; cf. the numerous parallels in motive between Petrie's list, TA II, pl. XLII, and Speiser's table, *Museum Journal*, XXIII, pl. LXIV, especially the eight-spoked ornament. Speiser's

we have noted, from the late Twelfth and early Thirteenth Dynasties, so the contemporaneity is assured. In the case of strata G-F, therefore, our former chronology remains unchanged in any respect.

#### V. THE POTTERY OF STRATUM E (MB II).

26. In the third campaign we found few remains of stratum E, and the absence of houses of this period made it impossible to distinguish clearly between the closely similar ceramic of E and of D (cf. TBM I, § 27). In our fourth campaign we were so fortunate as to discover extensive and well-preserved remains of stratum E, which now is better represented than D. E was an important period, which fell in the early and the middle Hyksos age, between cir. 1750<sup>12</sup> and the latter part of the seventeenth century, whereas D was a shorter period, representing the decline of the Hyksos culture, between the end of the 17th century and the conquest of Palestine by the Egyptians of the XVIIIth Dynasty, cir. 1560-1550 B. C. (for the chronology see TBM I, §§ 46-7). In our previous publication we erroneously reversed the duration of the two periods, owing to the relative inferiority of the E remains found near the D palace. Now we can speak with confidence, since we found at least three, perhaps four successive levels of stratum E, which we must divide into two phases, while D is characterized by only one phase, with two sub-phases in the palace.<sup>13</sup>

27. The pottery of stratum E represents the climax of MB II ceramic. The use of beautiful metallic forms and of rich burnished slip seems to have been most widely diffused about the middle of this period, as indicated by the sherds found in deposits assigned to E<sub>1</sub>. The high development of the potter's art corresponds to the probable external situation, since the middle of period E would correspond to the climax of the Hyksos empire, which seems to have

material comes from the 17th-16th century stratum 3 at Tell Billah (see § 13, above), and is thus contemporary with ours.

<sup>12</sup> For this date see provisionally TBM I, § 27; we hope to discuss the chronology of the Hyksos period soon elsewhere. Meanwhile, Borchardt's extraordinary discovery of a great genealogical table of Memphite priests (*Sitzber. Berlin Akad.*, 1932, pp. 618-22) has established the essential correctness of the current low chronology (originally set up by him). Between Sesostri III (died cir. 1845) and Amosis I (cir. 1575—) there were eleven generations of priests, which would yield the entirely reasonable average of 24.5 years for each generation, several years higher than the average for the entire sixty generations.

<sup>13</sup> A number of scarabs and a seal-cylinder, all certainly from stratum E, found in the fourth campaign, are published in the *Bulletin*, 47, figs. 3-5 (= *AJA*, 1932, 558-9, figs. 1-3). The most important scarab bears a corrupt inscription of the early Hyksos prince *Y'qb-hr*, and cannot date from before the early 17th century.

fallen in the middle of the 17th century, or a little earlier. All over Palestine and southern Syria we find a homogeneous ceramic culture, illustrated especially by the contents of innumerable tombs of the Hyksos age, belonging to the feudal lords of the country.

28. Store-jars or pithoi of stratum E are represented in section on pl. 6, 7: 1-10, 11: 3-7, and in photo on pl. 19: 5 (= 6: 2), 24: 1-2, 10-13. The store-jars almost always have a very graceful form, tapering symmetrically from the shoulder to a small flat (or very slightly rounded) base. They generally have four handles or none; the handles adapt themselves remarkably well to the shape of the vase, they have a smooth oval section, and almost invariably have a thickening and prolongation of the lower end which gives MB pithos-handles so characteristic an appearance (pl. 6: 1-2, 24: 1-2). The small flat base is characteristic of MB II, and disappears very early in LB. The profile of the rim varies greatly in store-jars of E-D, but we have not been able to note any clear mark of differentiation between the forms of the two periods. Pithos-rims of E vary from such simple forms as 7: 10 to such complex profiles as 11: 3-7, 24: 11-12. Combed decoration seems to be more common than in D, as might be expected; the comb-faced surface occurs frequently (cf. 7: 1, 10, 24: 22), while incised decoration in straight and wavy lines and bands is often found (cf. 7: 3, 10) on the shoulder. A ridge sometimes occurs near the base of the neck, as in the trumpet-footed vases, from which it is evidently imitated. The decoration with a plastic band or band bearing herring-bone imitation of a cord occurs (cf. 24: 22), but is distinctly less frequent than in stratum D. The principal distinction between store-jars of E and of D is that the former tend to be more carefully made, to have more original forms and decoration, and to show more graceful shapes. In practice, we found it comparatively easy to tell them apart, after a little experience.—In addition to the parallels from other excavations which are listed TBM I, § 29, note the store-jars from Tell el-'Ajûl published by Petrie, TA II, pl. XXXI: 43 A 2, A 4', which Petrie assigns to Palaces II and III, both contemporaneous with E, roughly speaking. The store-jar from Palace I, with base and rim missing, cannot be controlled; the context places it in the early 18th century (see above, § 23).

29. Stratum E exhibits an extraordinary variety of carinated bowls and other vessels of the most graceful forms and often of the most exquisite finish. Deposits of sherds belonging to earlier phases of E (called E<sub>1</sub> for convenience) show that this class of pottery had begun to decline by the end of period E, to which most of our vessels naturally belong. The use of burnish was already becoming less common, a process which continued during the following period D, so that we can hardly be surprised to find the practice of burnishing almost

extinct in period C. Since we have already discussed the origin and provenience of this class of ceramic in dealing with strata G-F (§§ 15-17; TBM I, §§ 20, 33-4), we will pass on to describe the individual vases on pl. 7-8. Characteristic of the latter part of MB are the carinated vases with trumpet-foot, shown in section pl. 7: 11-5, 17-8, 20-21, 23: 1-5, 8. Most of them are continuously burnished on a rich dark red slip (7: 12-4, 18); the burnishing may be applied horizontally with the wheel in motion (wheel-burnished), or it may be applied by hand, or both processes may be employed successively. The color sometimes appears as orange-brown (7: 17, smoked in places to dark brown), or as buff (7: 11, 20). Cream slip also appears (7: 15 hand-burnished, 7: 21 wheel-burnished). No. 19 (buff, partly smoked) represents perhaps a modification of the same form, in inferior paste and execution. No. 16 (creamy buff surface, horizontally burnished) is very like certain G forms (cf. TBM I, pl. 41: 1, also with burnished cream slip), and the groove on the inner side of the slip is suspicious; on the other hand, the context was E (though not altogether satisfactory) and the outline of the neck and rim resembles that of the class under consideration, so a date in E<sub>1</sub> would be most suitable typologically. The class in question is so well-known that no discussion is needed; cf. now the vases from the Hyksos age of Jericho, JG, pl. XXXIX: 14-5 (cream slip), XL: 48-9 (two with cream slip).

30. On pl. 8 are shown sections of typical carinated bowls of stratum E; for photos of selected examples see pl. 23: 6-7, 9. These bowls vary extraordinarily in details of form and finish; in period D the variation is considerably reduced. 8: 1 is reddish buff, with coarse grits, without slip; a date in D is not excluded by the context. 8: 2 is grayish buff, without slip. 8: 3 is of coarse paste, cream colored, without slip, and with pronounced wheel-marks. 8: 4 is light reddish buff, 8: 5 is reddish buff; neither has a slip. 8: 6 is creamy gray and 8: 7 is creamy buff; neither has a slip. 8: 8 has hand-burnished red slip below and similarly burnished buff surface above. 8: 9 is grayish buff, unburnished. 8: 10 has a buff surface, with horizontal (wheel) burnishing on the shoulder. 8: 11 is grayish buff, unburnished. 8: 12 has a wheel-burnished cream slip. Nos. 13-4 belong to a peculiar type well represented in MB II, as at Shechem (Balâṭah, unpublished), Jericho (JG XXXVI: 1), Tell el-'Ajûl (TA I, pl. XXXIX: 23 W). For a fine example from our stratum D see TBM I, pl. 43: 6. This type has a high trumpet-foot, like the jars described in § 29; our example, No. 13, has a burnished grayish buff surface. No. 14, with reddish buff surface, wheel-burnished inside and outside, may not have had the high foot, but may be parallel to such examples as Tell el-Fâr'ah 23 K 22 (CPP), Bethshemesh No. 674 (BSG 129). 8: 15, with a buff, wheel-burnished surface, seems to have

had a low base. 8:16 does not belong to our class at all, but may be included here for convenience; the clay is brick-red, wheel-burnished outside and perhaps inside, but without slip. The form is characteristic of MB II; cf. the examples figured BPM 3, pl. VI. Sherds from carinated bowls are shown in photo on pl. 24:14-7. Nos. 14-6 are trumpet-bases belonging to bowls of this class. No. 14 is of brick red clay with a slip of the same color, wheel-burnished on the outside of the body above the base. No. 15 is creamy gray, without a slip and unburnished. No. 16 has a burnished cream slip. No. 17 belongs to the upper part of a reddish buff bowl, wheel-burnished on the shoulder.

31. Sections of jugs of the Tell el-Yahūdīyeh and related types will be found on pl. 9:1-6; photographs are given on pl. 23:13 and 24:5-6, 9. Pl. 9:1 is distinct from the others, though it probably shares a common origin with them in the jugs described in § 23, above. It is covered with a rich red slip, vertically burnished in continuous strokes. The pinched lip and form of the mouth belong with the elongated one-handled jugs described § 46, below, but the double handle and (to a certain extent) the shape of the body (the lower part of which is unfortunately missing) belong with the piriform jugs of our class. No. 2 is buff, with a burnished red slip; the roughly flat bottom is very common in this period, differentiating the jugs which have it from other jugs with the same upper part, but with a piriform lower part provided with the characteristic button-base. There seems to be no chronological difference between the two types. No. 3, with a single handle, a piriform body, and a button-base, is covered with a continuously burnished orange-brown slip. No. 4 has the typical Tell el-Yahūdīyeh technique, a burnished black surface, with bands of punctured ornament, the punctures being filled with chalk, which stands out against the black background. Though this vase has a double handle, it differs from the usual vessel of the type by the rounded shape of the body, which is distinctly not piriform. No. 5 (= 23:13) is covered with a thick, continuously burnished slip, varying in color from buff to dark gray and brown. The vessel has a flattish base and a double handle, like No. 2, but differs in having a plastic button set at the point where the handle joins the rim; this button is characteristic of the class. No. 6 is covered with a dark red slip, burnished in continuous vertical strokes; the form is characteristic of the piriform jug as a group. 24:5 is placed so as to show part of the rim, the double handle, and the shoulder of an unburnished buff vase. No. 6, also buff, unburnished, is the double handle of a similar vase, with the button at the rim. No. 9, again buff, is part of a double handle, with the button.

32. The problems connected with the chronology, provenience, and distri-

bution of the types discussed in the preceding section were already treated TBM I, § 39, where the most important literature is cited. The most important new discussion is that of Pézard, *Qadesh*, pp. 70-72, which was written, however, in 1921-2, before the appearance of the works previously cited by the present writer. Pézard drew the erroneous conclusion that the Tell el-Yahūdiyeh pottery was contemporary with the XIIth-XIIIth Dynasties, and passed out of use with the coming of the Hyksos. Our material shows that the pottery in question came into use in G-F, but did not become abundant until stratum E, when it enjoyed its greatest development. In D it became rarer, and showed increasing poverty of form and decoration. Our evidence thus opposes a high date for the introduction of this class of pottery. Since the Egyptian material *proves* only importation before the close of Dyn. XII, we would now alter the date of its appearance in Egypt from before 1900 to before 1800 (contrast TBM I, § 23, end, where I followed Junker too closely). In § 23, above, we have indicated the probable origin of the class.—In the early Hyksos palaces of Tell el-'Ajûl, II and III, which are roughly contemporaneous with our E period, there are many examples of our class, listed under 60 and 74 (TA I, pl. LXII; TA II, pl. LV).

33. Pl. 10:1 (= 23:11) and 4 belong to a class of tall vases with wide mouths and bodies which are either roughly cylindrical or which bulge slightly below. The base is generally of the concave disc type. Both of our examples are reddish buff, without slip or burnish. This type seems to occur elsewhere in Palestine, so far as the material is published, only in the Hyksos levels at Tell el-'Ajûl: TA I, pl. XLII: 31 gives a painted vessel of this form, V 5, as coming from Palace III ("Dyn. XV"), and two others, V 2, 4, were found in a single tomb of this age; TA II furnishes two other examples, 31 V 7-8, both from Palace II. All five examples have disc-bases, though the degree of concavity is unfortunately not indicated, and all have more or less bulge below and more or less flare at the rim. It is naturally interesting to find them all in the two palace-levels which correspond most closely with our E. At Byblos a very interesting example of our class was found by Montet in Tomb IV (*Byblos*, p. 202, pl. CXVII: 815), which seems to belong to the early XIIIth Dyn. (early 18th century). In Tombs II and III ( $\pm$  1800 B. C.) were found many caliciform vases with disc-bases (*Byblos*, pl. CXVI, CXVIII, No. 802), which form perhaps the transition from the caliciform vase of MB I in Syria (cf. our H type) to our class of vessel. CPP (after 101) Petrie compares vase 815 with an Egyptian form of the late XIIth Dyn. (*Kahun*, pl. XII: 5).

34. We shall consider next the large shallow bowls, generally with inverted rim, which are so characteristic of strata E-D (cf. TBM I, § 35). Examples

are illustrated on pl. 10:2-3, 5-10; 24:24, 27, 29-33. 10:2 has a thickened, slightly inverted and everted rim; it is ring- (*i. e.*, wheel-) burnished on a brownish buff surface inside. 10:3, with a similar rim, is reddish buff, unburnished. 10:5 has a typical inverted rim; it is pinkish buff, unburnished. 10:6, with a rim both inverted and everted and two loop-handles, is made of a coarse, gritty paste, with a reddish buff surface. 10:7 is like 10:5. 10:8 is a bowl of unusual type, since nearly all our bowls have a concave disc-base; it has a reddish buff surface, covered with a red slip, hand-burnished, with strokes running in all directions. 10:9, with typical inverted rim, is brownish buff, unburnished. 10:10, also with inverted rim, has a buff surface, originally covered with ring-burnished brownish red slip (now lost except where burnished). Turning to the photographed sherds in pl. 24, No. 24 belongs to a bowl with inverted rim, and with ring-burnished reddish buff surface; form and technique are equally characteristic. No. 27 shows the interior of a bowl with inverted rim; the buff surface is burnished with the wheel (ring style) on and near the rim, while nearer the center it is hand-burnished obliquely to the rim. This technique of burnishing is rare in this period. No. 29 has a reddish buff surface with centripetally burnished red slip; the base is a concave disc. Nos. 30-33 are concave disc-bases of similar bowls; note the smooth finish and the almost complete erasure of the wheel-marks. No. 31 is comb-faced outside.

35. Miscellaneous types of stratum E are illustrated by occasional examples, which we may now describe. Pl. 10:11 is a pottery cult-stand, of coarse clay, buff in color, with the top missing. These stands seem to have been employed for the support of earthenware bowls in which incense was burned, but stands of the same form served also as holders for sacred plants; for a discussion, with references to the current literature, see TBM I, § 42. 10:12 is a typical MB II lamp of stratum E; for a discussion of the type cf. TBM I, § 38. 10:13 is a most unusual type, with both top and bottom unfortunately missing. The vase is covered with a creamy buff slip, baked to a light red on one side; it is horizontally hand-burnished on the sides and vertically hand-burnished below. I know of no parallel in the published material. 11:8 is a typical cooking pot of the period; for sherds illustrating the forms of the plastic band in E see pl. 24:18-21, 23, 25. A more pointed rim, contrasting with the flat rim which is nearly always found in period D, occurs commonly in E; cf. the Jericho vase of the same general age, JG, pl. XII:4. The holes in the outer rim, above the plastic band, which are so characteristic of strata I-F, do not seem to occur after the beginning of period E; they are never found, at all events, in later E or in D; cf. the discussion of these types TBM I, §§ 15, 36. 11:9 is another unique vase, with an oval horizontal sec-

tion, shown in longest and shortest diameter; the surface is reddish buff to gray, unburnished.—Turning to the remaining sherds on pl. 23-4, we note first the cup-strainers, which are very characteristic of stratum E. 23: 14 has a complex triple handle, with a second (false) triple handle under the first. No. 15 has a single handle. No. 16 is the strainer of a third one, the top being broken off. Until the recent excavations at Tell el-'Ajûl and at Jericho, this class of cup-strainer seems to have been unknown. Garstang found a perfect example in Tomb 9 (JG, pl. XXXV: 6), which we would date typologically between 1750 and 1650, because of the obvious connexions with our G-F and contemporary material on the one hand, and with E-D on the other. The scarabs belong in part to XIIIth Dyn. types now so well-known from Reisner's work at Uronarti, and in part to characteristic Hyksos types.<sup>14</sup> Tomb 9 would then correspond chronologically to our E. Garstang's strainer has a disc-base, but the position of the handle is identical with that of No. 15. Petrie has also found several broken cup-strainers, TA I, pl. XLIX: 67 Z 6-7; one of them has a loop-handle (broken off) in the same position as No. 15, and the strainers are all like ours. Two of them are assigned by Petrie to the level which he now refers to Palace III, our E<sub>2</sub>, roughly speaking. Pl. 24: 3-4 are loop-handles placed on the shoulder of a large jug, in characteristic MB II fashion. No. 8 is an equally typical double handle in the same position. No. 7, creamy gray in color, belongs to a wide-mouthed pitcher. Nos. 26 and 28 illustrate the rare painted ornament of E. Both belong to large vases with carinated body, perhaps shaped like the class described in § 29, as suggested by the ridge in No. 28, between the neck and shoulder. No. 26 has a creamy gray slip, with red paint, both burnished (the paint is therefore called "lustrous"). No. 28 has red paint on a cream wash (not slip), hand-smoothed. I know of no published parallel, but it is interesting to note that Petrie reports the "waggle" motive (a wavy line between two straight ones) as particularly common in Palace II at Tell el-'Ajûl, and as becoming very rare thereafter (TA II, pl. XLII).

36. On fig. 1 are shown photos of sherds with plastic serpents from MB II, *b* and *c* belonging probably to E. Sherds *b* and *c* (both inadvertently placed upside down) belong to large jugs with a double handle on the shoulder and a coiled serpent decoration beginning below the spring of the handle and running up the cleft of the handle. Sherd *b* still represents a clear serpent, while *c* (which may belong to stratum D) shows a highly conventionalized double coiled serpent motive. Sherd *a* resembles the serpent sherd described

<sup>14</sup> The scarabs from Tomb 9 are published JG, pl. XXXVII and pp. 47 ff. Newberry's relatively low dates are evidently due in part to lack of acquaintance with the Uronarti material.

TBM I, § 37 in its typically pitted body. In addition to the references given in our previous study, note the double handles with serpents from Tell el-'Ajûl (TA I, pl. XXXV: 112-3).

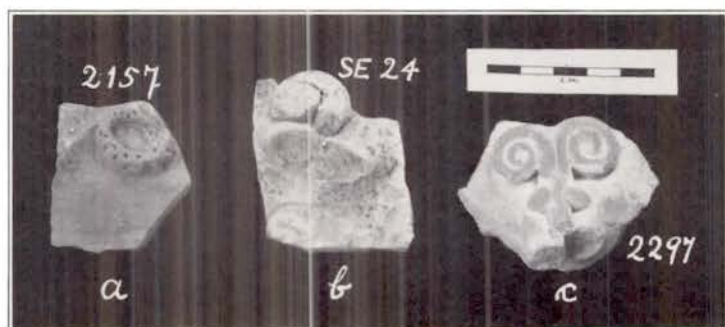


Fig. 1. Sherds of MB II with Serpent Ornament.

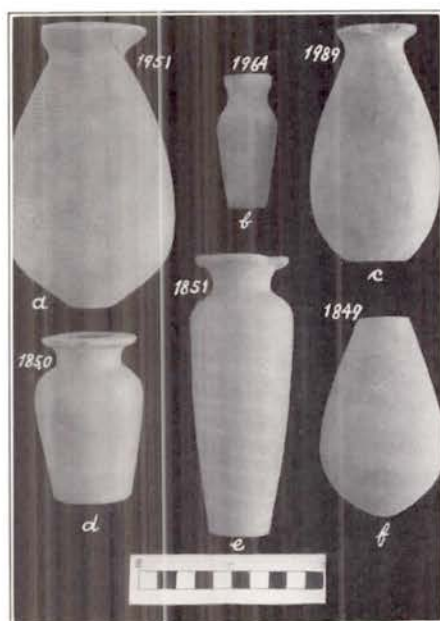


Fig. 2. Alabastra from E.

37. Six alabastra from stratum E (all from rooms of level E) are illustrated in section on pl. 9: 7-12 and in photo on fig. 2. Three of them (Nos.

7-9) have an oval (elliptic) horizontal section on the outside, the inside section being naturally round. This elliptic section is extremely common in alabastra from Egypt and Palestine, belonging to this age. Owing to lack of space, we have not considered it advisable to make an exhaustive comparative study of the alabastra, which were made in Egypt and imported into Palestine (cf. TBM I, § 40). The closest parallels come now from Tell el-'Ajûl. No. 8 resembles TA I, pl. XXV: 24. No. 9 is something like TA I, pl. XXIV a, which is a little larger, and TA II, pl. XXIII: 42 also resembles it. No. 10 resembles TA I, pl. XXV: 25-6, and No. 11 is like TA II, pl. XXIII: 43 (cf. TA I, pl. XXV: 27, 38). With Nos. 7 and 12 compare the Egyptian example, *Sedment I*, pl. XLI: 29. G III, pl. XLII: 7 is like No. 9, though a little larger.

38. On pl. 11: 1-2 are represented two faience lentoid flasks, both found in rooms of stratum E, so that there can be no question about their date. Both have been subjected to a conflagration which has changed their color, originally greenish blue, with decoration probably in black or bistre. I must confess my inability to find any parallel in published material of the Middle Empire or Hyksos date. These pieces may become extremely interesting for chronological purposes, since their date cannot be far from the third quarter of the 17th century.

#### VI. THE POTTERY OF STRATUM D (MB II).

39. The chronology of stratum D has already been considered in TBM I, §§ 45-7, and above, § 26 and note 12. There can be little doubt that this stratum represents the period from somewhere in the latter part of the 17th century to about the middle of the 16th century. The scarabs found this season in stratum D will be discussed elsewhere; they add nothing of importance to the evidence already presented in TBM I.<sup>15</sup> For the problem of the duration of MB II, and the date of the transition to LB I see below, § 50. It will not be necessary to go into much comparative detail, since period D was adequately covered by the material excavated in the second and third campaigns, published in TBM I.

40. Pl. 12: 1-7 illustrate carinated bowls with low base, either of the disc or of the ring type. As stated above, §§ 29-30, there is a perceptible decline in the use of burnished slip on vases of this class; the beauty of the finish is at its height in G-F and E<sub>1</sub>, becomes less in E<sub>2</sub> (E), and is greatly reduced

<sup>15</sup> For photographs of these scarabs see *Bulletin*, No. 47, fig. 9 (= AJA, 1932, 561, fig. 7). They are in part almost identical with scarabs previously found in D, and are very characteristic of the developed Hyksos style of the late 17th and early 16th century. For a discussion of the class cf. TBM I, § 45.

in D. Of our bowls, only No. 6 shows traces of original burnishing; its form and creamy buff surface show that it belongs with the imported vase published TBM I, pl. 43: 6, found in the D palace. No. 1 is buff, No. 2 is reddish buff, No. 3 has a hand-smoothed cream slip, No. 4 is creamy buff, No. 5 is brownish buff, and No. 7 is like No. 5. The forms of bowls from stratum D are distinctly less varied and less elegant than those of E, as will be seen by comparing the plates of this pottery in TBM I and here. Pl. 12: 9-11 are carinated vases with trumpet-foot, like those of E treated above, § 29. No. 9 is identical in type with pl. 7: 11 ff.; it has a light reddish brown slip, wheel-burnished. No. 10, which may possibly belong to C<sub>1</sub>, so far as stratification is concerned, has a squat trumpet-foot; it is covered with a vertically burnished cream slip. No. 11, which is a late, inelegant form of 9, has a red slip, wheel-burnished on the shoulder and hand-burnished below, *i. e.*, vertically below and horizontally above.—No. 8, which may be included here for convenience, is like 8: 16 (E), but the proportions are much less elegant; the color is buff, it has a very close resemblance to the similar pedestal bowls from Beth-shan, figured BPM 3, pl. VI.

41. In pl. 12: 12-18, 13: 1-2, we figure large bowls, generally shallow and with inverted rims; cf. the discussion of D bowls of this class previously found, TBM I, § 35, and of E bowls from this campaign, above, § 34. 12: 12 is reddish buff, with concave disc-base. 12: 13 is buff, with comb-faced exterior; there is a ring-base. 12: 14 is buff, with concave disc-base. 12: 15 is reddish buff, of gritty clay, very strongly wheel-marked in the interior; the rim is grooved. 12: 16, with everted rim, is grayish buff and is smooth inside but wheel-marked on the outside. 12: 17 is creamy gray, with slightly everted rim. 12: 18 has two handles, and is buff in color. Pl. 13: 1 is creamy gray, with concentric bands of red in the interior. 13: 2 is brownish buff, smoked; it has four curious ledge-handles, formed by bending conical rolls of clay into a spiral.

42. The cooking pots of stratum D belong to two classes, coarse hand-made pots with flat bottom and plastic band below the rim (13: 3-6; cf. TBM I, § 36, and above, § 35), and finer, wheel-made pots with rounded bottom (13: 7-11; cf. TBM I, § 55, on pl. 21: 52, which may now be assigned to D with confidence). The first class is by far the more numerous in D, before which period the second class seems, indeed, to be rare at our site. At Tell el-'Ajûl it appears earlier (TA I, pl. XL: 28 M-N; cf. pl. LXII). It is not necessary to say anything further about the first class. The second, however, is particularly interesting since it undoubtedly represents the prototype of the familiar cooking pots of C and B, with profiled and collared rims. This is evident in the shape of the body, with a sharp bend below the rim, above

which the latter flares outward, and in the triangular projection of the rim in such examples as Nos. 7 and 11. It is interesting to note that the triangular section of the rim becomes regular in southern Palestine during  $C_1$ , and is not replaced by more complex and varied profiles until  $C_2$  (or perhaps about the second half of  $C_1$ ). Cooking pot rims with the latter type of section are very common, *e. g.*, on the surface of the mound of Ai (et-Tell near Bethel), which was destroyed, according to Israelite tradition, immediately after Jericho. This fact agrees remarkably well with Garstang's apparent demonstration that the fall of Jericho must be dated  $\pm 1400$  B. C., *i. e.*, at the end of  $C_1$  or the beginning of  $C_2$ .

43. The large pots figured pl. 14: 2-3 resemble the second class of cooking pot in the shape of their rim, but they differ in texture and color, the texture being less gritty and the color plain buff in our case. No. 2, with a concave disc-base and with two loop-handles, is unique, so far as I know. No. 3, which stands on three loops, has parallels in Tomb 9 at Jericho (JG, pl. XXXIII: 5-8, 7 being a close parallel, except in the rim) and elsewhere (*e. g.*, Beth-shan, PEFQS, 1932, 146).

44. On pl. 14: 4-14 are shown complete and broken store-jars (pithoi) and water-jars (amphoras). Nos. 4-6, 9-14 are store-jars, like those of D already published, TBM I, § 28. In height they range from 70 to 90 cm. In type they are almost indistinguishable from jars of E, having the same general shape, the same flat or slightly convex base, the same alternation between plain and elaborately profiled rims, and between four handles and none (with some exceptions). There is, however, a difference in the paste which became evident to the eye after prolonged experience during our fourth campaign, and a less elusive difference in form, the E jars tending to curve outward more gracefully between shoulder and base, while D jars show a marked inclination to flatten the curve, so that the line between shoulder and base becomes straighter. By accident, none of this group of store-jars is comb-faced, though numerous sherds of similar jars with this decoration were found, as before. For a comparative discussion see TBM I, § 28, and also above, § 28. The water-jars, pl. 14, 7-8, have the same general shape, but are smaller; whether they are amphoras or have no handles is unclear.

45. On pl. 15: 1-6 we have vases more or less related to the Tell el-Yahūdiyeh type (see above, §§ 31-2). In period D this type becomes rarer than in E (taking the frequency of sherds also into consideration), and both form and decoration are very inferior. The true Tell el-Yahūdiyeh group, with piriform body, button-base, double handle, white punctured decoration on black burnished surface, seems to have become extinct, or nearly so. No. 1 is dark gray; the surface is badly worn. No. 2 is black, burnished in vertical

strokes. No. 3 is burnished buff, with a vestigial double handle (the division is indicated only by a line incised lengthwise of the handle). No. 4, black burnished, has lost the button-base, replaced by a slight projection). No. 5 is black, with worn surface. No. 6 is burnished buff, with a double handle.

46. On pl. 15:7-11 are represented a group of elongated, pointed, one-handled jugs, of a very common type (see for stratum D the discussion TBM I, § 32). Originally the type in question had a small flat base instead of a sharp point, as has been noted above, § 23, in discussing a class of vases illustrated by examples from Tell el-'Ajûl, Jericho, Byblos, and Ugarit. In Tomb 9 of Jericho some vases otherwise of our type still exhibit small flat bases, a fact which is of chronological importance in dating this group (cf. JG, pl. XXXII: 1, and compare with 2-4 and pl. XXXV: 9-12). 15:7 is buff, burnished with vertical strokes. 15:8 is light buff to dark gray, burnished; the handle is set on skew. 15:9 is buff, unburnished. 15:10 is reddish buff, unburnished; the attribution to D is not stratigraphically certain. 15:11 is reddish buff, unburnished. The relative frequency of our type in D is most curious when we note its apparent total absence in E, a situation reflected by sherds as well as by complete vessels. We cannot use this negative evidence as a chronological indication, since it may be explained in various ways.

47. On pl. 15:12-4 are shown three one-handled jugs. No. 12 has a double handle on the shoulder, as usual in MB II; cf. TBM I, § 31. Nos. 13-4 are wide-mouthed jugs or pitchers, of a characteristic MB II form, which invariably exhibits a pinched lip; cf. the example TBM I, pl. 42:10. Close parallels are now available at Tell el-'Ajûl; see TA I, pl. XLV: 36 G, etc. All three are plain buff, unburnished.

48. Lamps of stratum D resemble those of E (see above, § 35, on 10:12, and for our previous discussion cf. TBM I, § 38). On pl. 15:18-20 and fig. 3: a-c, f, four examples are reproduced. This is the typical lamp of MB II, which is so common that no further discussion is necessary.

49. Lastly, we shall describe the alabastra and a faience vase from stratum D. The former are shown in section on pl. 15:15-7. 15:15 is in two pieces, the upper one of which is shown also in horizontal section; their function is not clear. 15:16 belongs to a very common type, already found in stratum D (TBM I, pl. 43:2). In addition to previous comparisons, note TA I, pl. XXV: 17, II, pl. XXII: 7-8 (which have a flat bottom). 15:17 is intermediate in form and height between the two alabastra of E, pl. 9:9 and 11; cf. TA I, pl. XXV: 27-8. The faience vase, pl. 14:1, somewhat resembles another from D published TBM I, pl. 44:15, so far as we can tell, the design being almost obliterated. In addition to the parallels from Palestine and

Egypt cited TBM I, § 41, note one from Tomb 22 at Jericho, dating from the 17th century, JG, pl. XLI: 4, which resembles the first one from D more in form, as well as two more from Tell el-Fâr'ah (TF II, pl. XLIII: 17, pl. XLIV: 45). Both in form and in decoration our new example is very much like one from Tell el-Fâr'ah, TA I, pl. VI: 15. All the examples from Tell el-Fâr'ah come from tombs of the Hyksos age. For form and decoration cf. also the small vessel from the contemporary level at Beth-shan, X A (PEFQS, 1932, pl. III: 8).

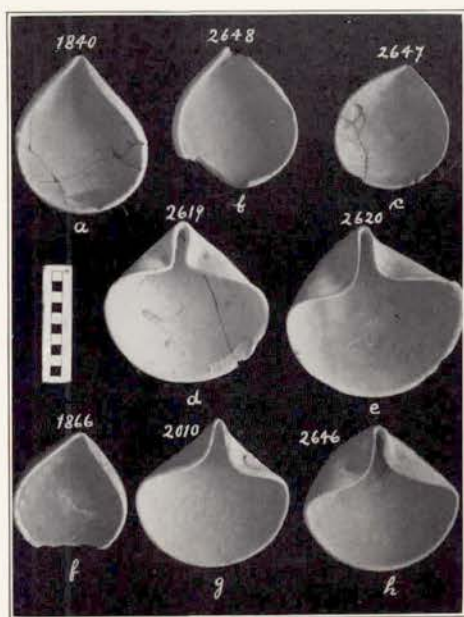


Fig. 3. Lamps of D (a, b, c, f) and C (e, g, h). No. d is C or B.

#### VII. THE POTTERY OF STRATUM C (LATE BRONZE I-II).

50. Since the appearance of TBM I, new evidence for the date of the transition from MB II to LB has come from Jericho, Tell el-'Ajûl, and Beth-shan. When all this material is fully published, we shall be able to fix the date as exactly as can be expected in ceramic chronology. So far nothing seems to have been found to disprove the conclusions of the writer, TBM I, §§ 46-8, that the transition fell between 1550 and 1480, except that the latter date may have to be reduced to 1450. Garstang's relevant data from Jericho

have not yet been published except in the form of preliminary descriptions of his results, without detail. The writer has been able to examine some of his material, and has heard from him and others about the results of the fourth (1933) campaign. Without entering into detail, it may be said that his excavations in the cemetery of the Bronze Age have yielded extremely important sequences, dated by scarabs bearing Egyptian royal names. In his third campaign he found scarabs of the joint reign of Ḥatshepsut and Tuthmosis III (cir. 1490-85) and of Amenophis III (cir. 1415-1380) in Tombs 5 (fourth layer) and 4, respectively (PEFQS, 1932, 152; JG 36). The pottery found associated with the former reign appears to be still partly MB II in type, but LB material is said to become abundant about this time. In his fourth campaign Garstang discovered extensive remains of a characteristically LB occupation in the city itself, running parallel with the latest deposits in the necropolis. His conclusion that Jericho was destroyed about 1400 B. C., or a few years later, thus seems to be established. At Tell el-'Ajûl Petrie found a sherd bearing the cartouches of Ḥatshepsut and Tuthmosis III (cir. 1490-85) in the palace area, between Palace IV and Palace V (TA II, § 4, pl. VIII: 117, pl. LV). Immediately below we have MB II pottery; directly above, LB ceramic is recorded. To judge from Petrie's levels, however (pl. XLIX), the sherd belongs to the lower level rather than to the upper, since the nearest walls of IV rise to levels 1090 and 1110, whereas the sherd is marked 1089, so Petrie's correlation of it with Palace V seems very doubtful. It may well be that the sherd belongs to the first occupation after the fall of IV, but precedes the construction of V. If Palace IV, which corresponds to our D, was destroyed by Amosis about 1560 B. C., as is likely *a priori*, this view would be very reasonable. At Beth-shan Fitzgerald has found a considerable filling below the foundations of the Makal Temple of stratum IX, containing quantities of characteristic LB sherds, which included a large proportion of painted fragments, some belonging to imported white slip ware (Cyprian milk-bowls); see PEFQS, 1932, 146. If we were absolutely clear about the attribution of the Makal Temple to the reign of Tuthmosis III (cir. 1483-51), the character of the filling would force us back to the late sixteenth century for the end of MB II at Beth-shan; unfortunately this is not the case, and the discovery of Mycenaean pottery in this stratum (cf. TBM I, § 60) is probably to be taken as evidence of a lower date, in the second half of the fifteenth century. The Beth-shan evidence favors an early date for the end of MB—before the end of the first quarter of the fifteenth century at the latest, in agreement with the evidence from Tell el-'Ajûl and apparently also with that from Jericho. In future we should perhaps substitute 1500 for 1600 as the conventional date of the transition from MB to LB.

51. In our fourth campaign we were disappointed in our hope of obtaining clear evidence for the ceramic peculiarities of stratum C<sub>1</sub>. The burned levels separating lower C from upper C were, in fact, found to be so irregular, in spite of their thickness in places, that we may have to reckon with several phases of partial destruction and reoccupation. Nor could a sufficient number of clear criteria for a distinction between the pottery of C<sub>1</sub> and C<sub>2</sub> be found to warrant an addition to what has already been said, TBM I, ch. IV, *passim*. Our previous observations with regard to the relative absence of Mycenaean sherds in C<sub>1</sub> were amply confirmed; cf. below, § 61. No Mycenaean sherds could be attributed to C<sub>1</sub> with confidence, though nearly all the other C pottery found this season undoubtedly belongs to this phase. The destruction which preceded the last phase of C may, therefore, be safely attributed to the first half of the fourteenth century (cf. TBM I, § 49).

52. The bowls shown pl. 16: 1, 4-5, 7-9, 11-2 are of the same type as those described TBM I, §§ 50-51, to which we may refer for a comparative discussion. All are of various shades of buff unless otherwise indicated. No. 4 is very carelessly made, of gritty paste. Nos. 7-8, 11 have coarse wheel-marks on exterior and base. The remaining bowls may be described in more detail. No. 2 is made of a gritty paste; the ring-base is centripetally bevelled, following a very common LB technique (cf. TBM I, §§ 50, 59). No. 3 is creamy gray, of gritty paste, with pronounced wheel-marks. This bowl is a direct offspring of the carinated bowl of MB II; its attribution to C<sub>1</sub> is fixed equally well by stratification and by typology. No. 6 also belongs to C<sub>1</sub>, being found under the C room SE 23 sub C-9; it is reddish buff, with a slip of the same color, unburnished, with wheel-marks. The typology agrees with the stratification. No. 10, with an inverted rim, has a creamy gray slip. No. 13 belongs either to D or to C<sub>1</sub> (more probable). No. 14, of a gritty paste, represents a very common type of high bowl with two handles and inverted rim (described TBM I, § 54); from it is descended the EI I type described TBM I, § 92. Cf. the examples published by Grant, BSG II, pl. XXX: 35-8, all from stratum IV. No. 15 belongs in the same category, but both handles are missing; in form of body and rim it resembles Grant's No. 38 quite closely. No. 16 is made of fairly fine paste, but is very poorly baked; note the plastic ring around the body. The form is apparently unique, though a distant family relationship with the pots BSF, pl. XLII: 19, XLVI: 13-14, and XLIX: 22 is unmistakable; all the latter date from between 1400 and 1200.

53. The lower parts of two store-jars are figured on pl. 17: 1, 3. Characteristic of LB store-jars and water-jars is the knobbed base, which lasts for centuries, passing out of use late in period B. Cf. BSG II, pl. XLI: 17, 21, 23, etc., all from LB, and the Tell el-Fâr'ah vases shown CPP 43 H 1, etc.

The knobbed base may go back to a base of the type shown BSF, pl. XLII: 13, dating from the end of the fifteenth century (pre-Amenophis III level), itself derived from the small flat MB II base.

54. On pl. 17: 2, 4-8 are shown a number of typical cooking pots of stratum C, all but one with typically collared or projecting rims; see TBM I, § 55 for a full discussion, with references. The exception, No. 2, belongs to the MB II class described above, § 42, end. Stratigraphically it seems to belong to C<sub>1</sub>, but a D provenience is possible.—17: 9 is a large, shallow bowl, which rather resembles 16: 6 in shape; it is not a cooking pot.

55. On pl. 18: 1-4 are illustrated a number of jugs and related vases of various types. No. 1 is grayish buff without burnish; it had no handles. No. 2, with a buff surface, resembles the small jugs from the 13th-12th century level at Beth-shan, BSF, pl. XLVIII: 17-20, which are of about the same height. No. 3 is reddish buff, with traces of cream slip; it is like the pitcher BSF, pl. XLVI: 20, from the 13th century level, in shape, but with a squatter body. No. 4 belongs to the class of amphorisci which survived into EI II, discussed TBM I, § 108. Our example is probably without a button-base, and so not in the direct line of ascent, which goes back to the LB types illustrated CPP 55 W 4-7. It has nearly the same shape and the same height as the late 14th century example figured BSF, pl. XLV: 3, though it is more coarsely made than the latter. Even closer is the resemblance to the larger amphoriscus figured BSG II, pl. XL: 10, also from LB (cf. p. 31, *ad* 1733).

56. Several typical lamps of C are represented pl. 18: 7-9, with photos fig. 3: *e*, *g-h* (*e* = No. 9, *g* = No. 7, *h* = No. 8). For a discussion of the type and of its evolution from MB and into EI I see TBM I, §§ 38, 59, 93, esp. 59. Fig. 3: *d* dates from either B or C, probably from the former; it is creamy buff, decorated with a band of brownish red on the rim (otherwise unique, so far as we know).

57. The native painted pottery of stratum C is illustrated on pl. 18, Nos. 10-12, and 26: 10-33, 27: 1-45. 18: 10 is part of a one-handed, wide-mouthed jug, like TBM I, pl. 47: 15, also of C; the surface is creamy buff, with design in dull brick-red. 18: 11 belongs to the class of lentoid flask discussed TBM I, § 57; it is reddish buff, continuously hand-burnished, decorated with concentric rings, white between red in each group of rings. The decoration is somewhat similar to that on the LB (?) flask BSG II, pl. XLII: 5. 18: 12 (= 26: 10) comes from the upper part of a bowl of the crater type. On a buff surface with horizontally hand-burnished cream slip is applied reddish brown paint, faded to light brown; the ibex-palm motive is very common in LB. Pl. 26: 11 (red on creamy gray, burnished slip), 12 (reddish brown on buff surface), 13 (ditto) exhibit variations of the same theme. Nos. 14-6,

all reddish brown on buff, come from the walls of large jugs. No. 17 is the upper part of a deep bowl with straight sides and pointed rim, reddish brown on buff. No. 18, also reddish brown on grayish buff, belongs to a large jug with sharp carination below the painted ornament. No. 19 is similar, but from a much smaller vessel. No. 20 is reddish brown on buff. No. 21 belongs to the wall of a very large jug, 17 mm. thick, of coarse ware; the color is as before. No. 22 is reddish brown on buff, burnished with irregular vertical strokes. No. 23 is dark red on reddish buff, hand-smoothed. No. 24, with a pattern of alternating straight and zigzag lines, is reddish brown on buff. No. 25 belongs to a coarse jug with carinated body; the shoulder is decorated with metopes in dark red paint, with faded wavy lines in the compartments. No. 26 is also carinated, with ornament of the same color. No. 27, from the neck and shoulder of a jug, has red on buff design. No. 28 has a creamy gray slip, with decoration in light red. No. 29 has the same slip, on which are reddish (faded) wavy lines between straight black ones. No. 30, from the upper part of a bowl, has a creamy buff surface, on which are wavy red lines between black (faded) bands. No. 31 is the rim of a bowl with straight vertical sides; the decorative scheme consists of alternating straight and wavy lines, set in groups obliquely to the rim, and of the same color as before. No. 32 is dark reddish brown on buff. No. 33 belongs to the top of a wide-mouthed pitcher, with buff surface, horizontally burnished on the rim, with painted red band below and vertical strokes of burnishing below that. A date in period B is possible.

58. Continuing our catalogue of painted sherds from C, let us turn to pl. 27. No. 1 belongs to a shallow bowl, with groups of concentric reddish brown rings on a buff surface. Nos. 2 and 3 belong to the same class, with black between red on buff, and brown on grayish buff, respectively. No. 4 comes from a bowl with inverted rim, decorated with reddish brown on buff; the wavy lines may possibly symbolize water. No. 5 belongs to the same type as 4; the decoration consists of concentric red rings on a buff surface, as before. No. 6 comes from the inside of a shallow bowl, with pronounced wheel-marks, decorated with a dark red cross, unburnished, on buff surface. No. 7, also from the inside of a bowl, is decorated with groups of straight and wavy lines in red, arranged in cruciform fashion on buff surface. No. 8 belongs to a lentoid flask with concentric rings in reddish brown on a burnished cream slip (cf. TBM I, pl. 14:1-2). No. 9 is the same, except that the rings are of faded red and black, in alternation. No. 10 is a tilted horizontal loop-handle, decorated with red and black bands of paint on a light buff surface, all unburnished; this type imitates Mycenaean ware. No. 11 is a handle, decorated with red paint on cream, unburnished. No. 12 is buff, decorated

with red lines. No. 13 comes from the outside of a thick-walled, shallow bowl, decorated with grayish white and red concentric lines and bands, with wavy lines. Nos. 14-6 are characteristic loop-handles of LB, with a red spoke-design on a buff surface; cf. TBM I, pl. 19: 1-3, etc. No. 17 has a grayish cream slip, hand-smoothed, on a reddish surface; the handle is decorated with black bands. No. 18 comes from the top of a white-slip bowl with tilted horizontal loop-handle; the decoration is in brown. Nos. 19-22 are sherds from the tops of similar bowls: 19 has red lines on buff with band of paint inside rim; 20 is the same, but with wider band inside rim; 21 is bistre (faded black) on grayish buff; and 22 has a network design above horizontal lines, red on buff. Nos. 23-31 are all sherds from large vases, decorated with painted bands. No. 23, a jug with flaring mouth, has reddish brown paint on hand-smoothed grayish buff surface. No. 24 has black bands between red ones on brownish buff surface. No. 25, a jug with a flaring mouth, has light red on buff. No. 26 has reddish brown on buff. No. 27, from the shoulder of a large jar with flaring mouth, has alternating red and white bands. No. 29 has reddish brown on buff, with a white band above. No. 30 has a white band between reddish brown ones. No. 31 has faded reddish brown on buff. No. 32 offers a simple geometrical design of the band and metope variety, reddish brown on dark gray. Nos. 33, 34 *a-c*, 44-5 are sherds which probably all belong to the same vase, a large jug with reddish-to-grayish buff surface, decorated with vertical streamer ornament, each streamer consisting of a black wavy line between reddish brown (nearly purple) straight ones. No. 34 is reddish brown on buff. No. 35 comes from the outside of a bowl with hand-smoothed interior surface; the decoration consists of purple vertical lines on a burnished buff slip. No. 36 shows a metopic design on the shoulder of a jug; between the compartments are groups of alternating straight and wavy lines in reddish brown on reddish buff surface. No. 37 belongs to the rim of a bowl with flat lip and straight sides, slightly bulging below; the decoration is black (faded to bistre) on buff. No. 38 belongs to a jug with red lines on buff. No. 39 belongs to a small amphora with typical knob-base of LB; it is decorated with purple bands on a creamy gray slip. No. 40 belongs to the lower part of a jug with ring-base, decorated with intersecting groups of parallel lines in red on hand-smoothed buff surface. No. 41 comes from the wall of a similar vase. No. 42 has dark red paint on a grayish buff surface. No. 43 is the shoulder and rim of a carinated jug, like No. 36; the decoration is reddish brown (nearly purple) on creamy gray. We refrain from entering into comparative details, since the pottery of C has already been described rather fully, and it is identical in the main with LB from other parts of Palestine. No other ceramic period in Palestine is so well known as this one, and the only serious chrono-

logical difficulty is the exact date of its beginning and end (see above, § 50, and below, § 63).

59. The imported wares of period C will now be considered. First in importance comes the so-called base-ring class, consisting of vases with hard metallic paste and forms imitating metal work. For a comparative discussion see TBM I, § 63 and the references given there. Two reconstructed vases are shown on pl. 18: 5-6 (= 25: 86 and 25: 44, respectively). Pl. 25: 45-50 belong to the upper parts of small skew jugs. Nos. 51-61, etc. come from the upper parts of large oenochoes. No. 60 shows a rare decoration on the shoulder, rhomboids of network. Nos. 62-6 are handles of similar oenochoes. Nos. 79-82 are trumpet- or ring-bases of oenochoes; Nos. 71, 83-5 are bases of small skew jugs. Nos. 87-8 are sides and rims of bowls like No. 86; Nos. 89-93 are handles of similar bowls (89-90, 92 are wishbone handles, 93 is a tilted horizontal loop-handle with nearly the same section, and 91 is a prong-handle). Sherd No. 78 is decorated with a plastic band, on which is a row of oblique notches; I know of no parallel.

60. On pl. 25: 1-43 and 26: 1-9 are shown numerous fragments of white-slip ware. All our examples, without exception, belong to wishbone-handled bowls; in color they are either cream, creamy gray, or bluish, the proportion of the last color seeming to increase as we go downward stratigraphically (*i. e.*, backward chronologically). The two principal types of decoration are well illustrated by 26: 2 (with double horizontal band and links) and 26: 1 (single band without links). Both types may appear on the same vase, as in 26: 2, 25: 11. As was observed TBM I, § 64, it is not possible at present to distinguish any regular chronological sequence of decorative types within LB. However, Petrie's recent work at Tell el-'Ajûl has brought extremely important new data for the chronology of the first appearance of this pottery on the coast of southern Palestine, as well as for its oldest decorative typology; see TA I, pl. XXXIV; II, pl. XXXVII. What Petrie calls "Anatolian" ware is really an older phase of "Cypriote" from MB; the latter replaced the former at Tell el-'Ajûl in Palace III, which corresponds roughly to our E<sub>2</sub>. It follows, accordingly, that the "Cypriote" type of bowl came into use at Tell el-'Ajûl before the base-ring ware, if we are to accept Petrie's data TA II, pl. LV; the latter first appears in Palace IV, contemporaneously with its appearance in stratum D. Actually, however, one may doubt the completeness of his records in this respect, and suspect that the two types came into use at Tell el-'Ajûl more or less simultaneously in period III, which corresponds to our E<sub>2</sub>, whereas they appeared in the hill-country somewhat later, during the early part of our period D. Typologically, it is now quite certain that the links are a debased form of the bands of lozenges which are so characteristic of the painted white-slip ware of Cyprus in MB.

61. Very few Mycenaean sherds were found during this campaign, none of them in a clear C<sub>1</sub> stratum. The reason for their paucity is precisely that we dug comparatively little in the upper levels of C. Fig. 4 illustrates the few sherds of this category which we found. Nos. *a-b, e* belong to a single *Bügelkanne*, decorated with the usual bands and lines, very much faded. Nos. *c* and *g* are vase-rims, *c* belonging to a flaring rim; both are bistre on cream. No. *d*, from the wall of a vase, is red on cream; No. *f* is part of a base, also red on cream. For a comparative discussion cf. TBM I, §§ 61-2.

62. Only one piece of faience of sufficiently clear character to merit reproduction was found during the fourth campaign; it is figured pl. 18: 13. It must be said, however, that a D provenience is also possible, and is, indeed, supported by external analogy. The surface was originally greenish blue, now

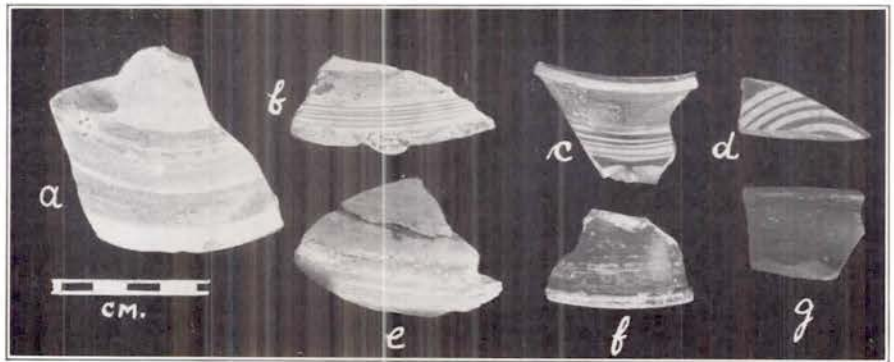


Fig. 4. Mycenaean Sherds from C.

faded almost to white. The painted ornament was reddish brown or perhaps originally black, while the dots were gilt. The closest parallel available seems to be the sherd from Palace III (older "level II"), TA I, pl. XXXII: 55, which seems to exhibit identically the same pattern as the outside of our piece. However, the sherd from 'Ajûl belongs to a unique class of ceramic, hitherto known only, it would appear, from 'Ajûl, and described by Petrie (p. 10 a) as having the "body quite white, the colouring chocolate," and as being "the finest ancient fabric known." The description sounds rather like a foreign imitation of Egyptian faience.

63. No new evidence bearing on the date of the close of period C was discovered during our fourth campaign. At Tell el-Fâr'ah, however, Starkey has secured extremely valuable evidence bearing on the chronology of the Philistine period of occupation and influence, our phase B<sub>2</sub>. As will be

recalled, we employ the date of the commencement of the period of Philistine influence as an important argument in fixing the end of C in the second half of the 13th century (TBM I, § 71). We have discussed Starkey's new material in the *Bulletin*, 48 (Dec., 1932), 17, to which we may refer. It may be added here that the pre-Philistine cemetery, No. 900, which Petrie and Starkey bring down to the reign of Ramesses VIII, actually cannot be traced to a reign later than Ramesses IV; the scarab shown TF II, pl. LVII: 375, with a very badly worn surface (cf. the photo, pl. LVI, center row, second from right) can hardly belong to the ephemeral Ramesses VIII, but is probably to be attributed to Ramesses III or IV, as will be seen on comparing the photo and drawing with the material published by Petrie, Hall, and Gauthier, bearing in mind that the lower part of the scarab is illegible. We are not, therefore, justified in going below cir. 1150 (my chronology) or 1170-60 (current chronology) for the latest dated object in the pre-Philistine cemetery. This agrees absolutely with our conclusions, TBM I, §§ 72-5. —Petrie and Starkey date the end of the Philistine period conjecturally about the middle of the eleventh century, whereas we date it about 1000, a date which is historically more reasonable.



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## LIST OF ABBREVIATIONS

## TABLE OF ARCHAEOLOGICAL PERIODS

## INDEX to the Pottery on the Plates

## LIST OF ABBREVIATIONS

AJA	<i>American Journal of Archaeology.</i>
ANNUAL	<i>Annual of the American Schools of Oriental Research.</i>
BM	Bliss and Macalister, <i>Excavations in Palestine.</i>
BPM	<i>Bulletin of the Palestine Museum.</i>
BSF	Beth-shan Publication: FitzGerald, <i>The Pottery.</i>
BSG	Grant, <i>Beth-shemesh</i> , Haverford, 1929.
BSG I, II	Grant, <i>Ain Shems Excavations</i> , Parts I, II, Haverford, 1931-2.
<i>Bulletin</i>	<i>Bulletin of the American Schools of Oriental Research.</i>
CPP	Duncan and Petrie, <i>Corpus of Palestinian Pottery.</i>
G	Macalister, <i>Gezer.</i>
J	Sellin and Watzinger, <i>Jericho.</i>
JG	Garstang, <i>Jericho: City and Necropolis</i> (Liverpool <i>Annals of Archaeology and Anthropology</i> , Vol. XIX, pp. 3-22, 35-54, and pl. I-XXIII, XXVI-XLV).
JPOS	<i>Journal of the Palestine Oriental Society.</i>
PEFQS	<i>Palestine Exploration Fund Quarterly Statement.</i>
RB	<i>Revue Biblique.</i>
TA I, II	Tell el-'Ajûl = Petrie, <i>Ancient Gaza</i> I, II.
TBM I	<i>Tell Beit Mirsim I</i> (ANNUAL, Vol. XII).
TF I, II	Tell el-Fâr'ah = Petrie, Starkey, etc., <i>Beth-pelet</i> I, II.
THB	Bliss, <i>A Mound of Many Cities.</i>
ZAW	<i>Zeitschrift für die Alttestamentliche Wissenschaft.</i>

## TABLE OF ARCHAEOLOGICAL PERIODS

STRATUM	PERIOD	DATE	CONTEMPORARY PERIODS ELSEWHERE
J	EB III	cir. 23rd-21st centuries	{ Jericho: <i>Kanaanitisch</i> , City B, Tomb A. } End of Old Empire in Egypt.
I	MB I }	cir. 21st-19th centuries	{ Jericho: <i>Spätkanaanitisch</i> . } Tell el-'Ajûl: "Copper Age."
H			
G	"	19th-18th cent.	{ Tell el-'Ajûl: Palace I, Courtyard Cemetery. } Byblos: Foundation Jar.
F	"	18th "	
E <sub>1</sub>	MB II	18th-17th "	{ Tell el-'Ajûl: Palaces II-III. Hyksos Age. } Jericho: <i>Israelitisch</i> (City C), Tomb 9.
E <sub>2</sub>		17th "	
D	"	17th-16th "	{ Tell el-'Ajûl: Palace IV. Hyksos Age ends. } Jericho: City C, end.
C <sub>1</sub>	LB I-II	15th-14th "	Jericho: City D.
C <sub>2</sub>	LB II	14th-13th "	Late Dyn. XVIII-Dyn. XIX.

## INDEX OF THE POTTERY IN THE PLATES

The bold-faced numbers refer to the plates in which the pottery in question is illustrated. The serial numbers (SN) of the pottery objects are given, in order to facilitate later reference to the lists of provenience which will appear in Vol. II of the Tell Beit Mirsim publication. Pieces without serial numbers will be identified there by reference to our plates.

- Pl. **1**: 1-6 (§ 2), 7-10 (§ 5).—SN: 2 = 2562, 4 = 2559, 8 = 2637, 10 = 2622.
- 2**: 1-9 (§ 7).—SN: 1 = 2232, 5 = 2324, 7 = 2558.
- 3**: 1-3, 5, 8-9 (§ 8), 4, 6-7, 11-2, 14-5 (§ 9), 10 (§ 10), 13 (§ 11).—SN: 1 = 2567, 5 = 2566, 6 = 2457, 10 = 2183, 13 = 2570, 15 = 2628.
- 4**: 1-12, 14 (§ 15), 13, 15-6 (§ 18), 17 (§ 20).—SN: 2 = 2569, 5 = 2613, 10 = 2565, 12 = 2606, 13 = 2633, 14 = 2262, 16 = 2634.
- 5**: 1-8 (§ 20).—SN: 4 = 2561, 7 = 2602.
- 6**: 1-6 (§ 28).—SN: 1 = 2398, 2 = 2371.
- 7**: 1-10 (§ 28), 11-9 (§ 29).—SN: 1 = 2323, 11 = 2272, 12 = 1956, 13 = 1962, 14 = 1963, 19 = 2264.
- 8**: 1-16 (§ 30).—SN: 1 = 2489, 2 = 2463, 3 = 2329, 4 = 2092, 5 = 25607, 7 = 2322, 9 = 1955, 11 = 1957, 12 = 2462, 13 = 2007, 14 = 2563, 15 = 2425, 16 = 2568.
- 9**: 1-6 (§ 31), 7-12 (§ 37).—SN: 1 = 2012, 2 = 2399, 3 = 2611, 4 = 2630, 5 = 1914, 6 = 2631, 7 = 1951, 8 = 1849, 9 = 1964, 10 = 1850, 11 = 1851, 12 = 1989.
- 10**: 1, 4 (§ 33), 2-3, 5-10 (§ 34), 11-13 (§ 35).—SN: 1 = 1953, 2 = 2429, 4 = 2085, 6 = 2401, 8 = 2460, 9 = 1863, 11 = 2617, 12 = 1866, 13 = 2321.
- 11**: 1-2 (§ 38), 3-7 (§ 28), 8-9 (§ 35).—SN: 1 = 1990, 2 = 2604, 9 = 2455.
- 12**: 1-11 (§ 40), 12-8 (§ 41).—SN: 2 = 2459, 3 = 1833, 4 = 2397, 5 = 1838, 7 = 2423, 8 = 2421, 9 = 1827, 10 = 2369, 11 = 2326, 12 = 2424, 13 = 2226, 14 = 1784, 15 = 2325, 16 = 2336.
- 13**: 1-2 (§ 41), 3-11 (§ 42).—SN: 1 = 2428, 2 = 2571, 3 = 1960, 4 = 2009, 5 = 1864, 6 = 2513, 8 = 1961.
- 14**: 1 (§ 49), 2-3 (§ 43), 4-14 (§ 44).—SN: 1 = 2164, 2 = 2227, 3 = 2145, 10 = 2458, 13 = 2013, 14 = 1905.
- 15**: 1-6 (§ 45), 7-11 (§ 46), 12-4 (§ 47), 15-7 (§ 49), 18-20 (§ 48).—SN: 1 = 2087, 2 = 1777, 3 = 1802, 4 = 2632, 5 = 2579, 6 = 2152, 7 = 2151, 9 = 2379, 10 = 2380, 11 = 2585, 12 = 2023, 14 = 2180, 15 = 2181, 16 = 1816, 17 = 2179, 18 = 2647, 19 = 2648, 20 = 1840.
- 16**: 1-16 (§ 52).—SN: 3 = 2328, 4 = 1738, 6 = 2575, 7 = 1767, 8 = 2242, 9 = 2081, 10 = 2142, 11 = 1782, 12 = 1876, 13 = 2377, 14 = 1855, 15 = 1892, 16 = 2339.
- 17**: 1, 3 (§ 53), 2, 4-9 (§ 54).
- 18**: 1-4 (§ 55), 5-6 (§ 59), 7-9 (§ 56), 10-12 (§ 57), 13 (§ 62).—SN: 1 = 2021, 2 = 2020, 3 = 2091, 4 = 2083, 5 = 2378, 6 = 2564, 7 = 2010, 8 = 2646, 9 = 2620, 12 = 1727, 13 = 2605.



- 19: 1 = 1: 4, 2 = 2: 1, 3 = 2: 4, 4 = 2: 3, 5 = 6: 2.
- 20: 1-19 (§§ 7-10), 20-40 (§§ 2-4).— SN: 25 = 2549.
- 21: 1-29 (§§ 7-10), 30-65 (§ 22).
- 22: 1-10 (§ 18), 7 (§ 25), 11-36 (§§ 15, 18, 21).— SN: 1 = 2633 (4: 13), 5 = 2634 (4: 16).
- 23: 1-5, 8 (§ 29—No. 5 also § 40), 6-7, 9-10 (§ 30), 11 (§ 33), 12 (§ 35), 13 (§ 31), 14-6 (§ 35).— SN: 1 = 2015, 2 = 1963 (7: 14), 3 = 1962 (7: 13), 4 = 1827 (12: 9), 5 = 1956 (7: 12), 6 = 1957 (8: 11), 7 = 2329 (8: 3), 8 = 2272 (7: 11), 9 = 1955 (8: 9), 10 = 1838 (12: 5), 11 = 1953 (10: 1), 12 = 2009 (13: 4), 13 = 1914 (9: 5), 14 = 2667, 15 = 2666, 16 = 2668.
- 24: 1-33 (§§ 28, 30, 31, 34-5).
- 25: 1-43 (§ 60), 44-93 (§ 59).— SN: 44 = 2564 (18: 6), 86 = 2378 (18: 5).
- 26: 1-9 (§ 60), 10-33 (§ 57).— SN: 1 = 2652, 2 = 2314, 9 = 2651.
- 27: 1-45 (§ 58).

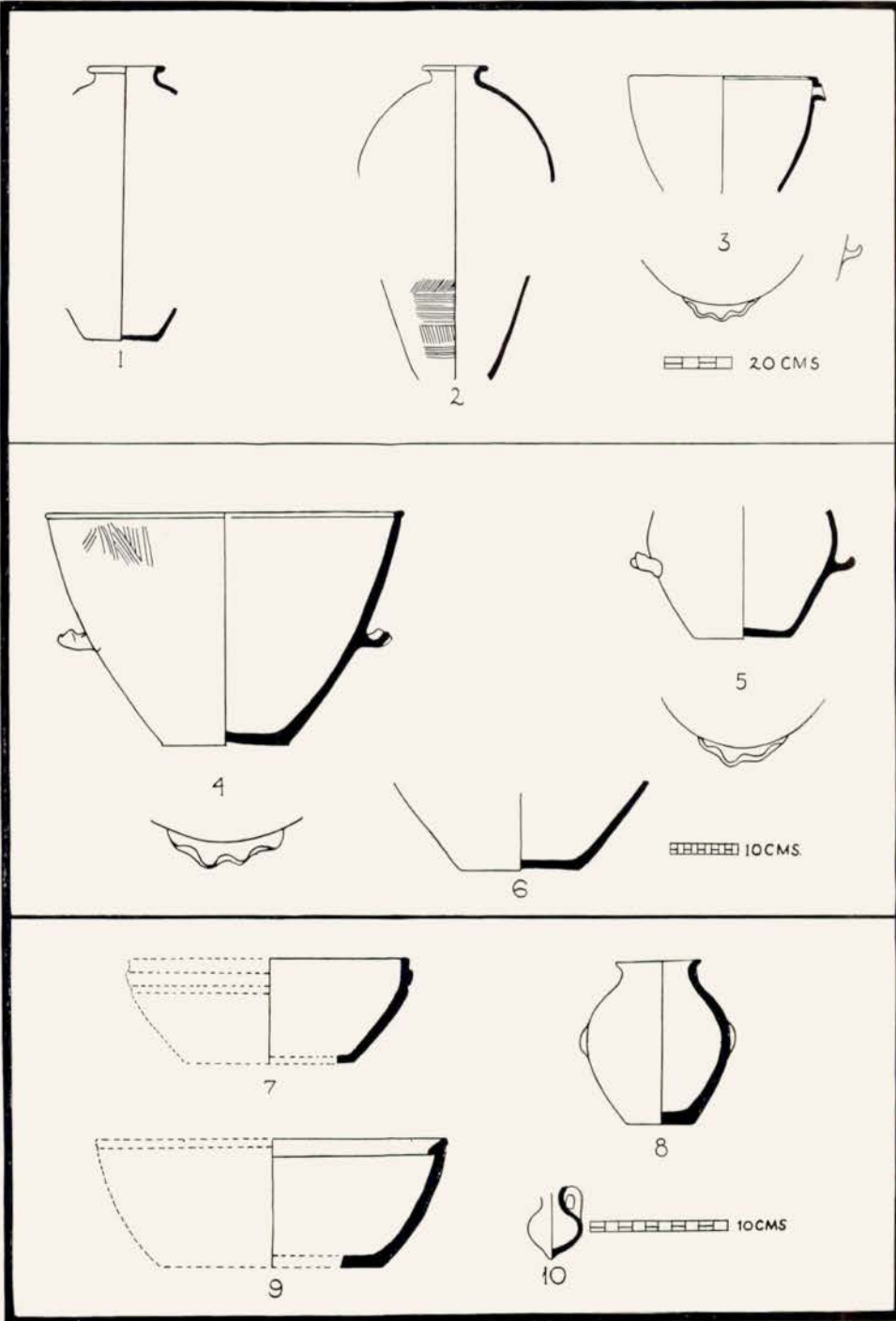


PLATE 1 (J)  
47

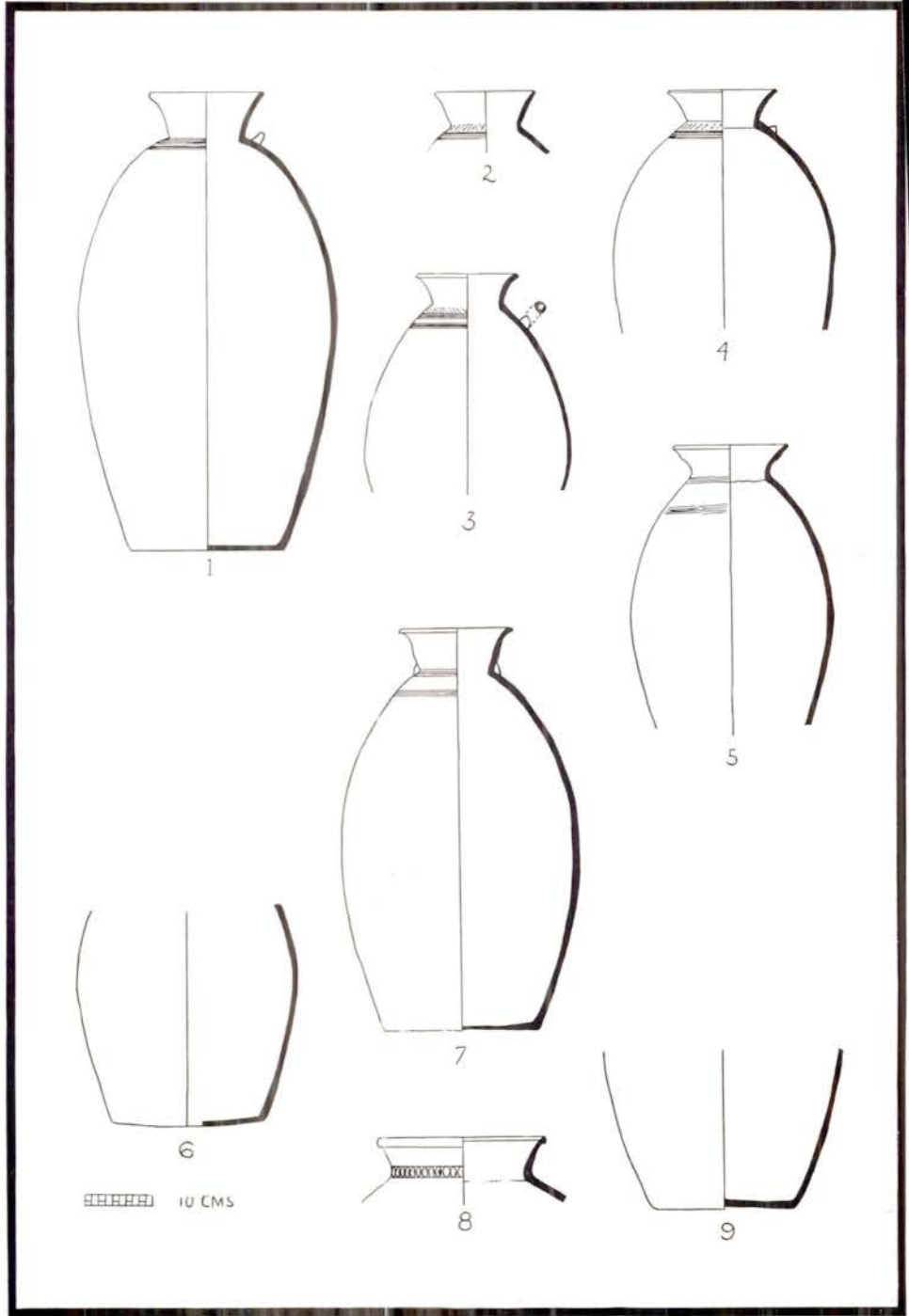


PLATE 2 (H)

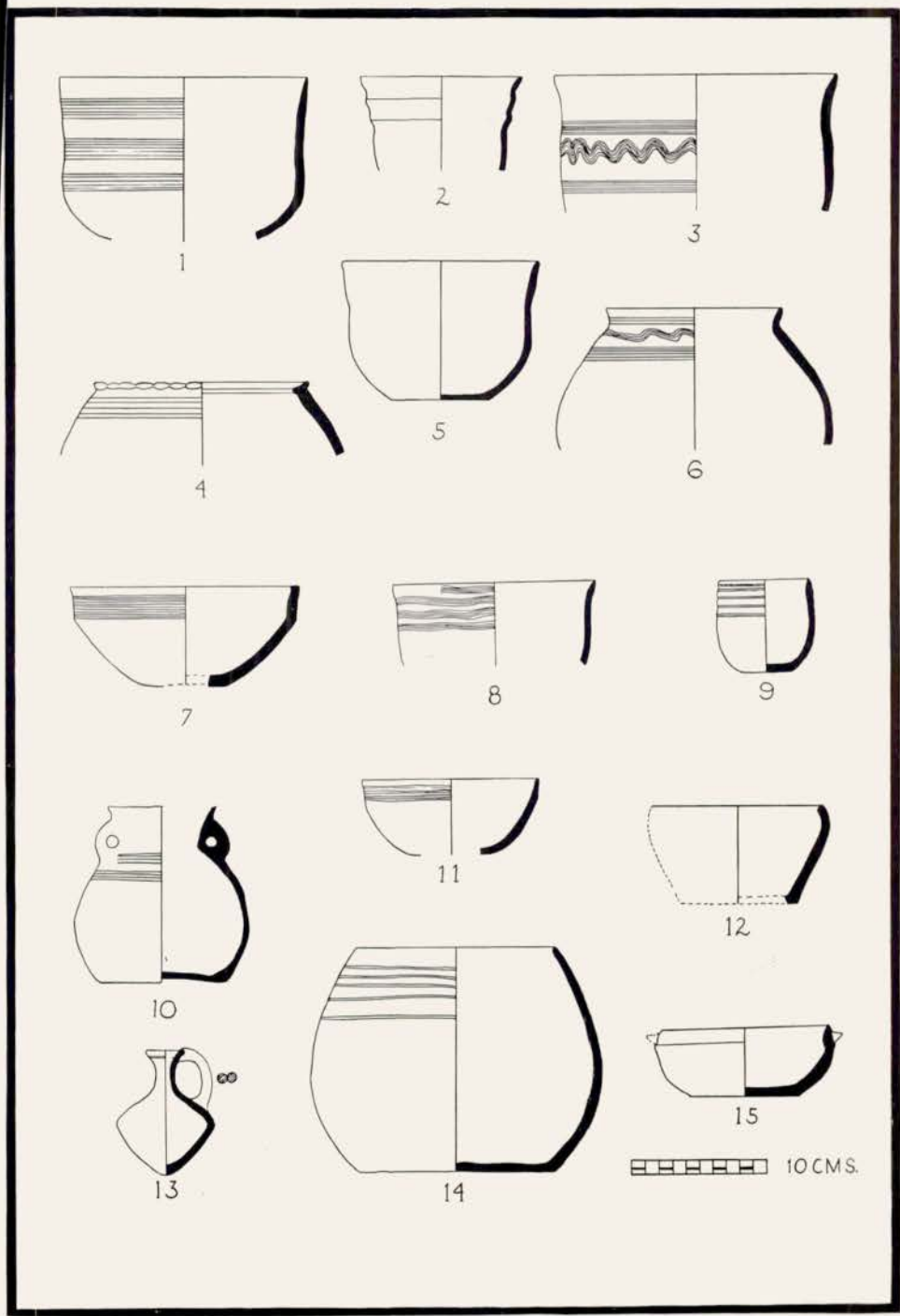


PLATE 3 (H)  
49

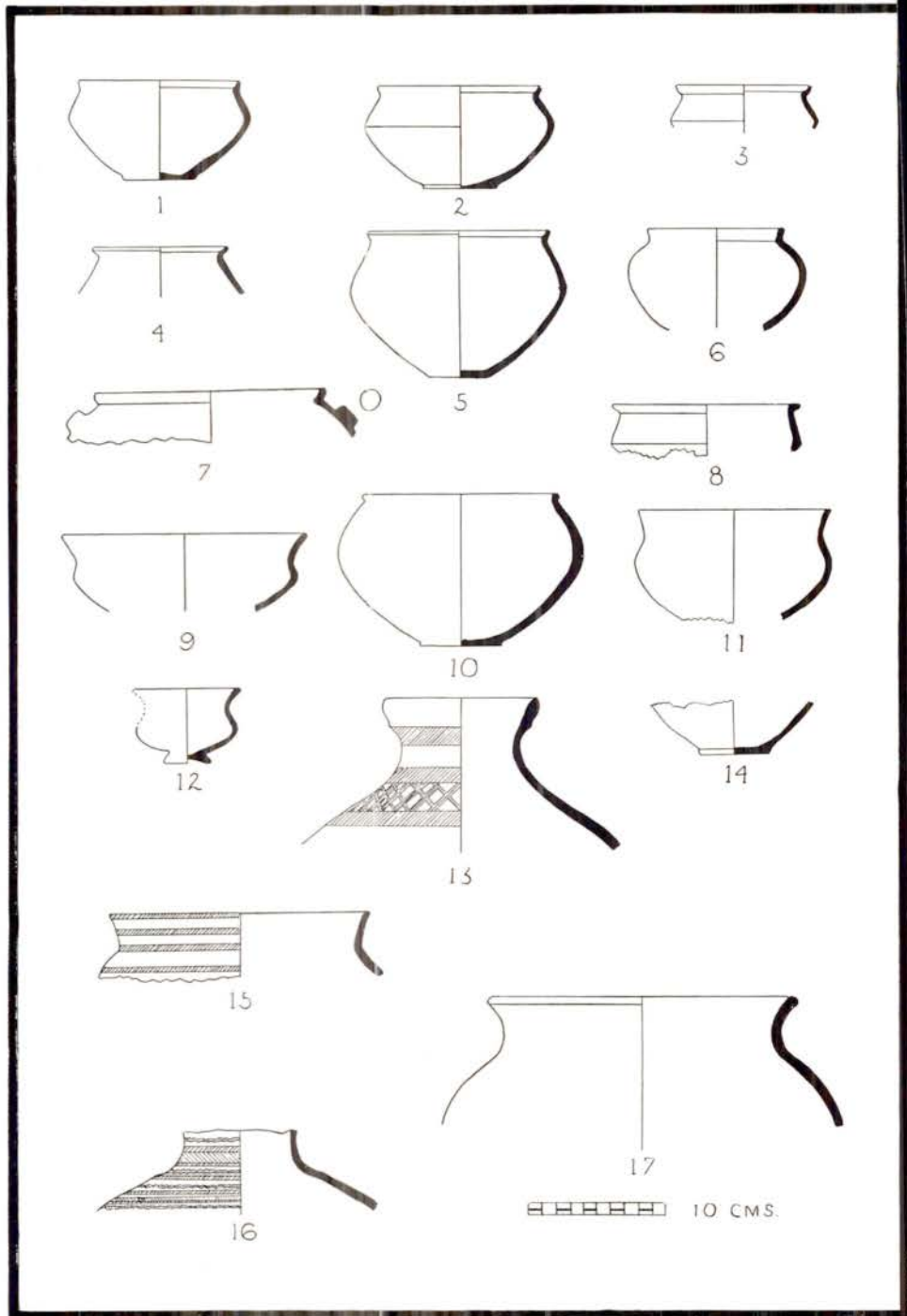


PLATE 4 (G-F)

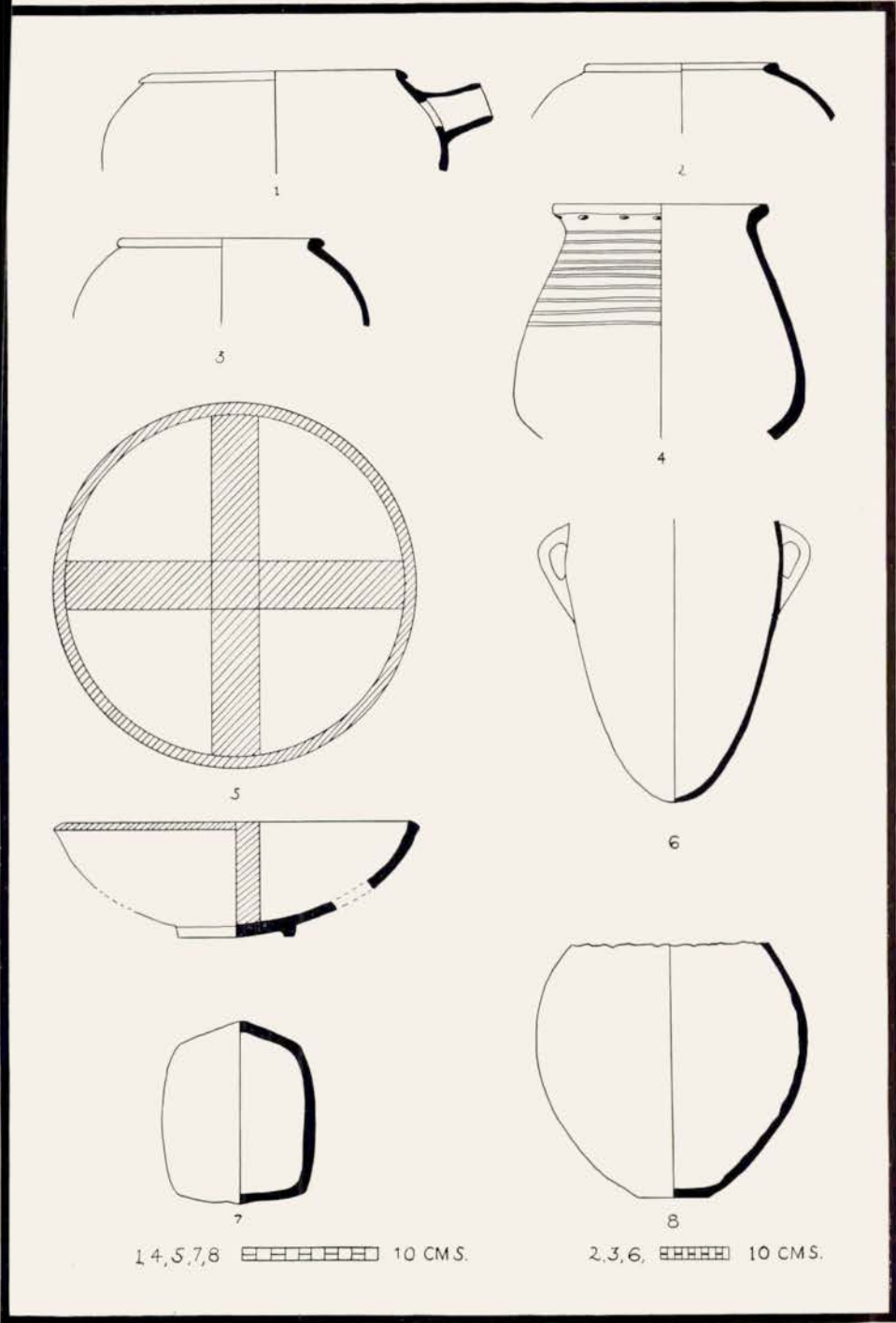


PLATE 5 (G-K)

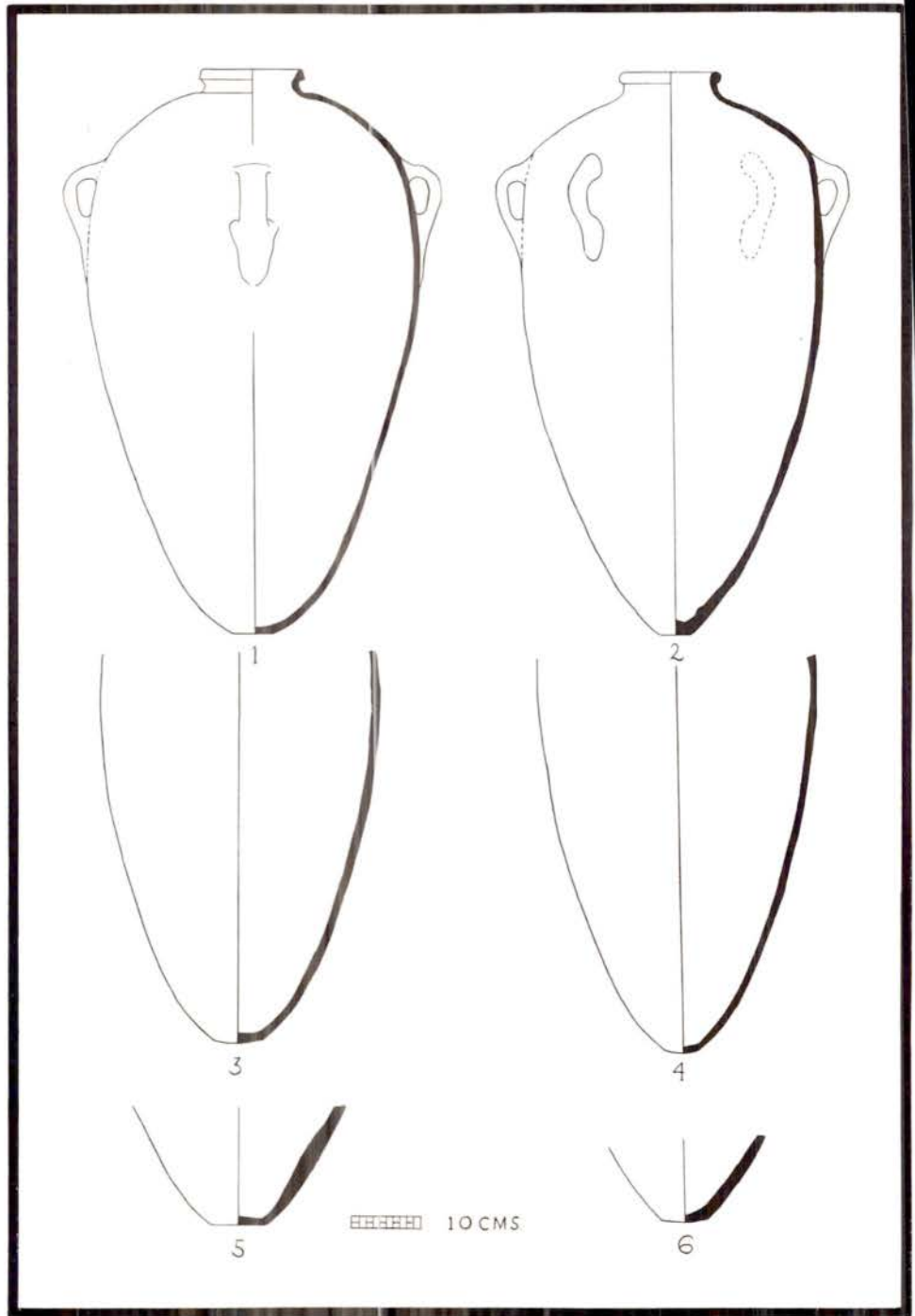


PLATE 6 (E)

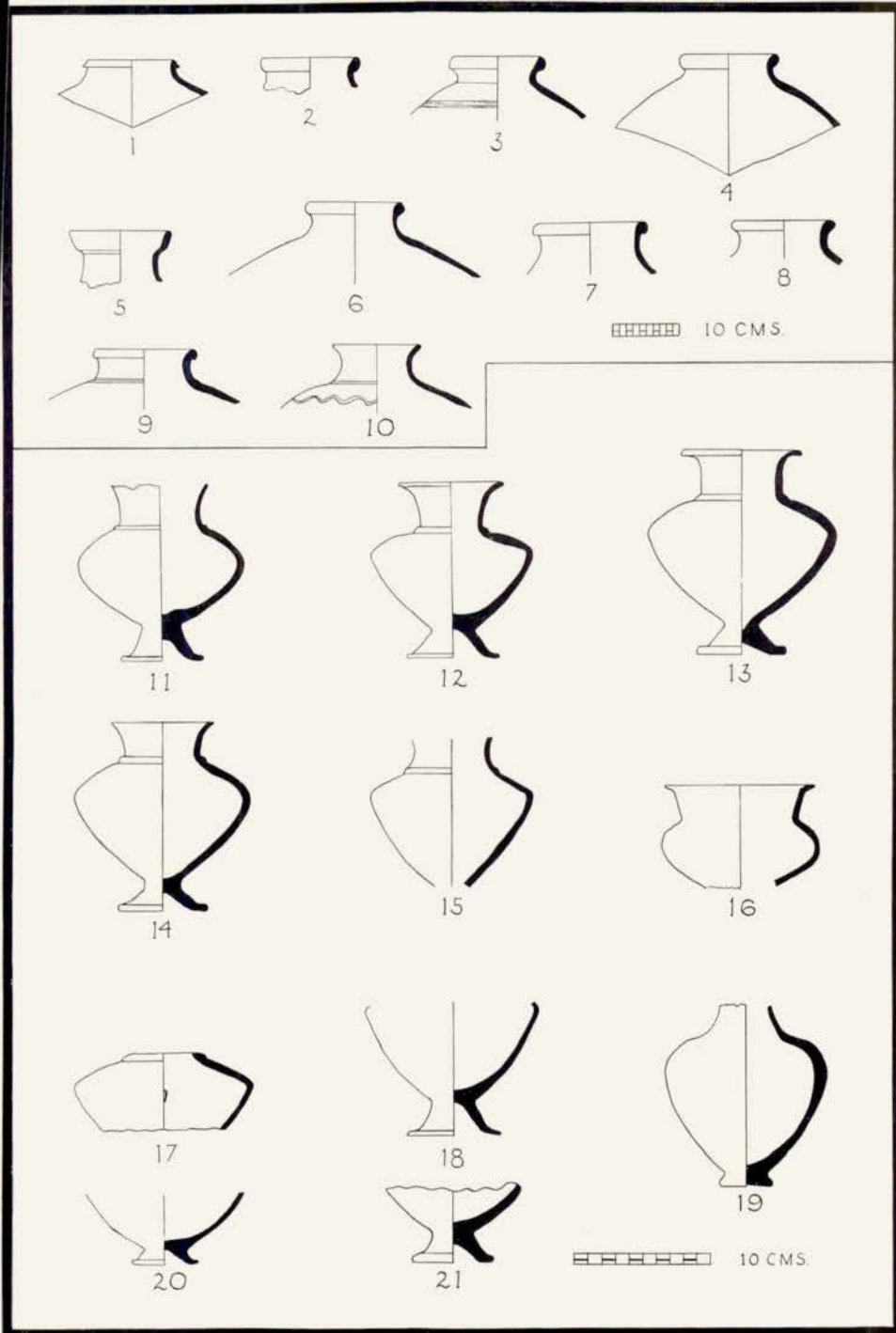


PLATE 7 (E)

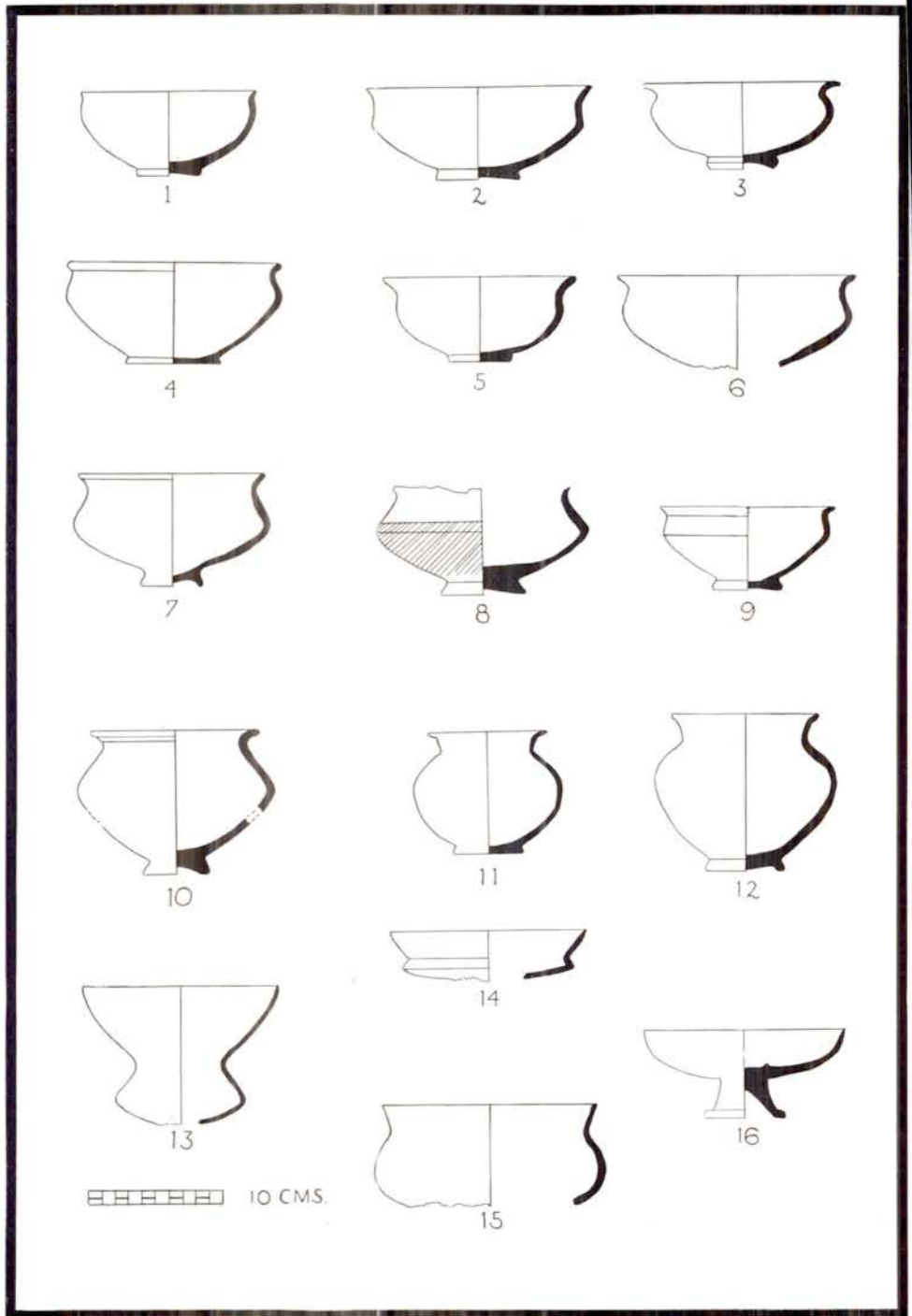


PLATE 8 (E)

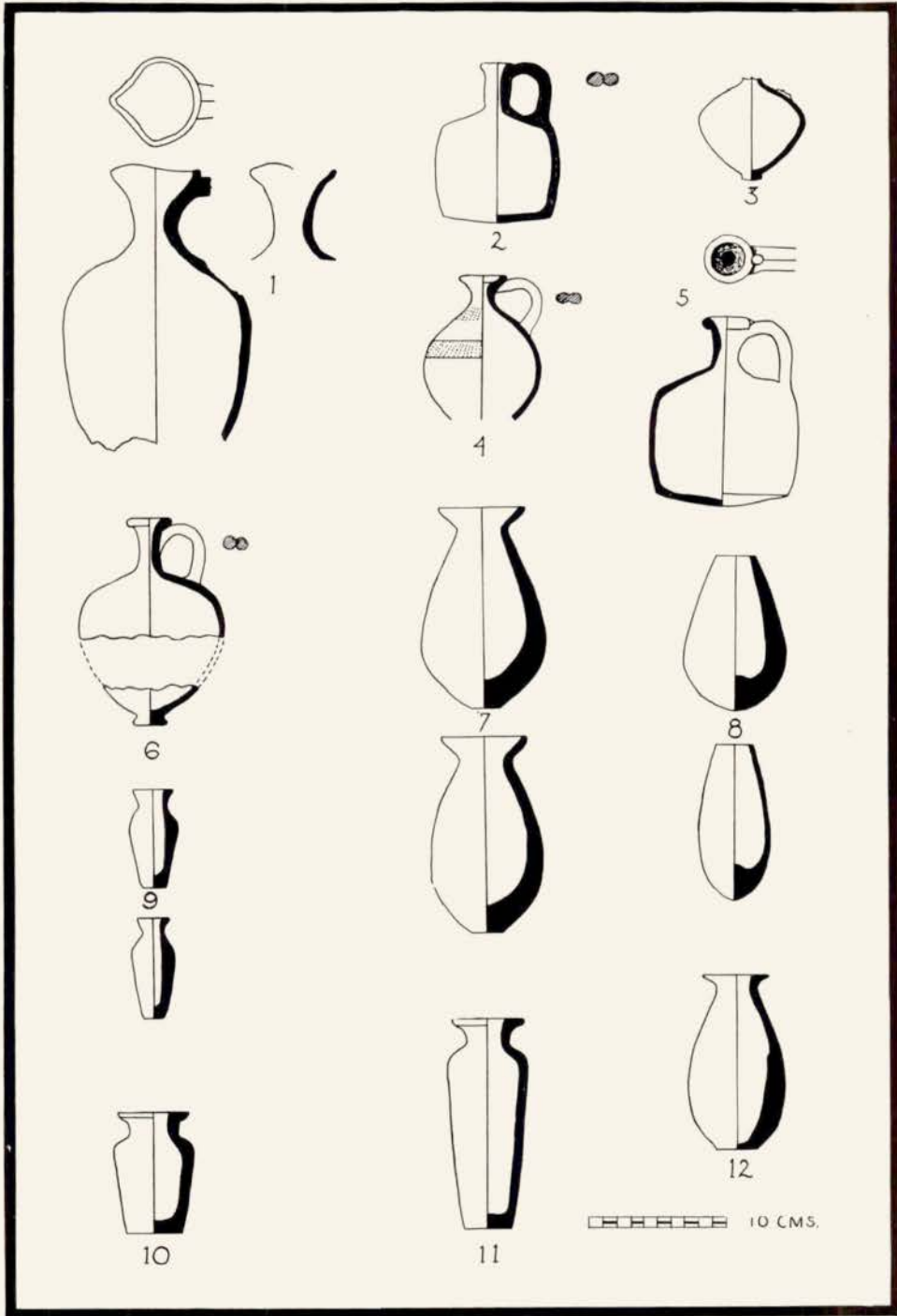


PLATE 9 (E)

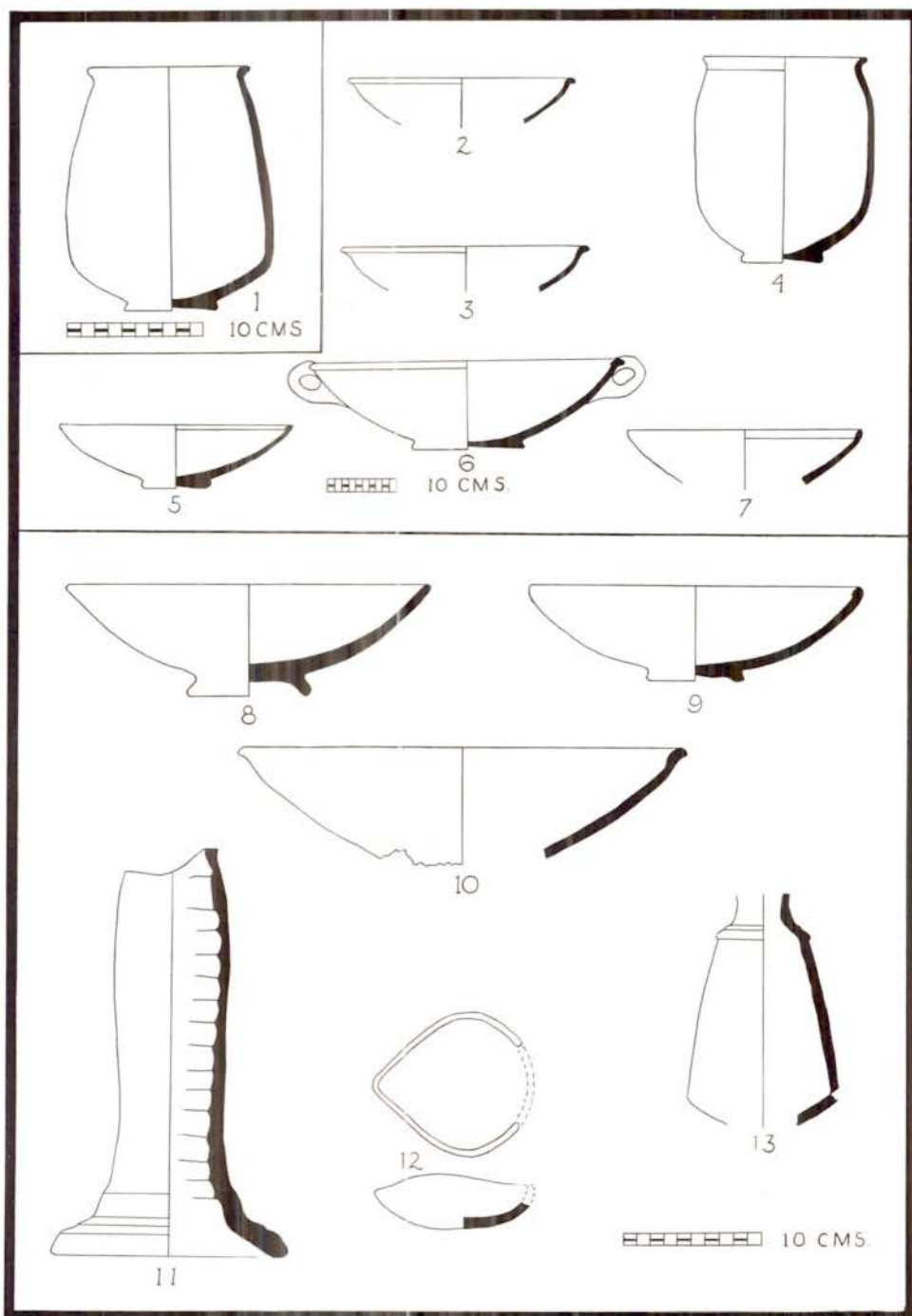


PLATE 10 (E)

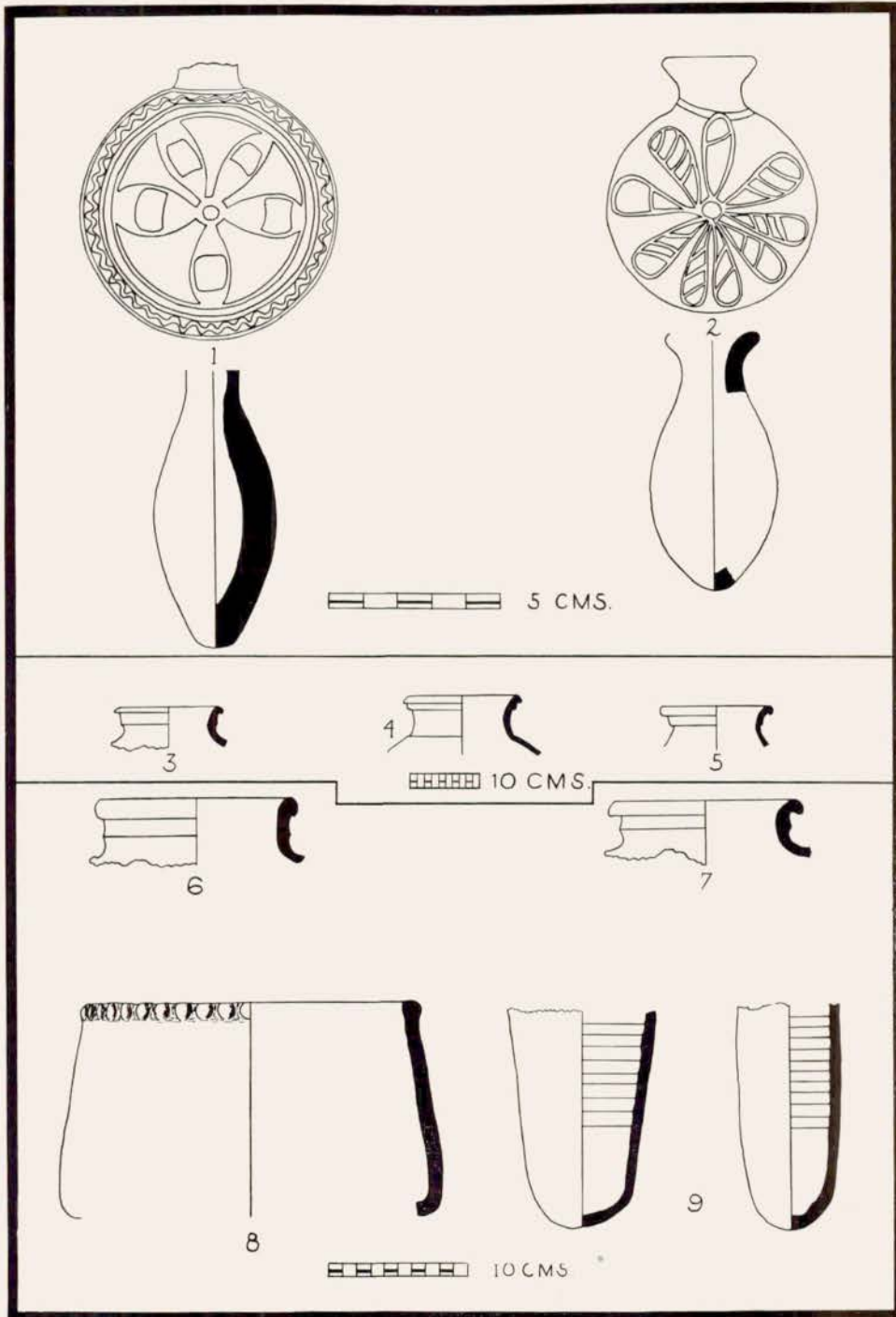


PLATE 11 (E)

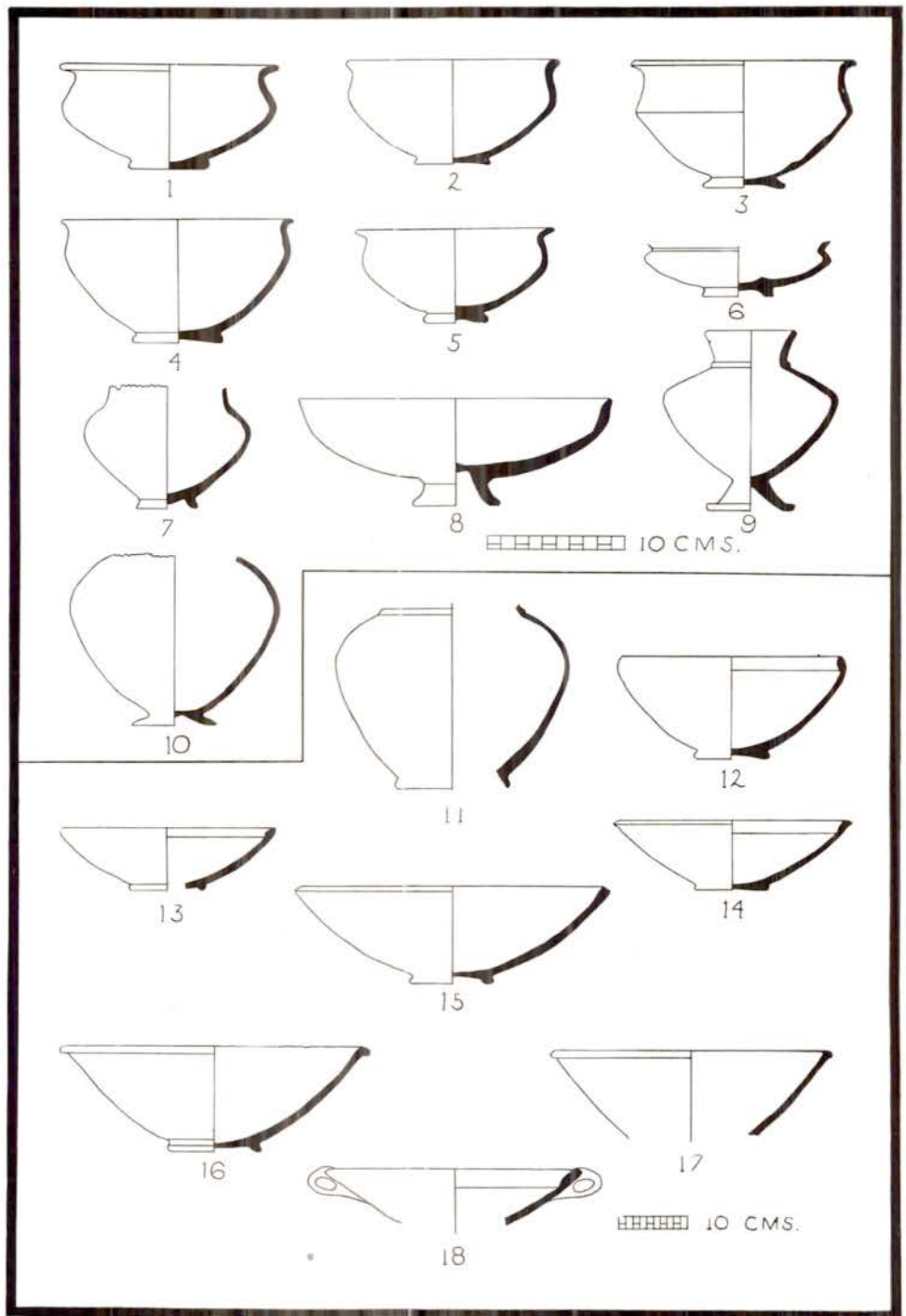


PLATE 12 (D)

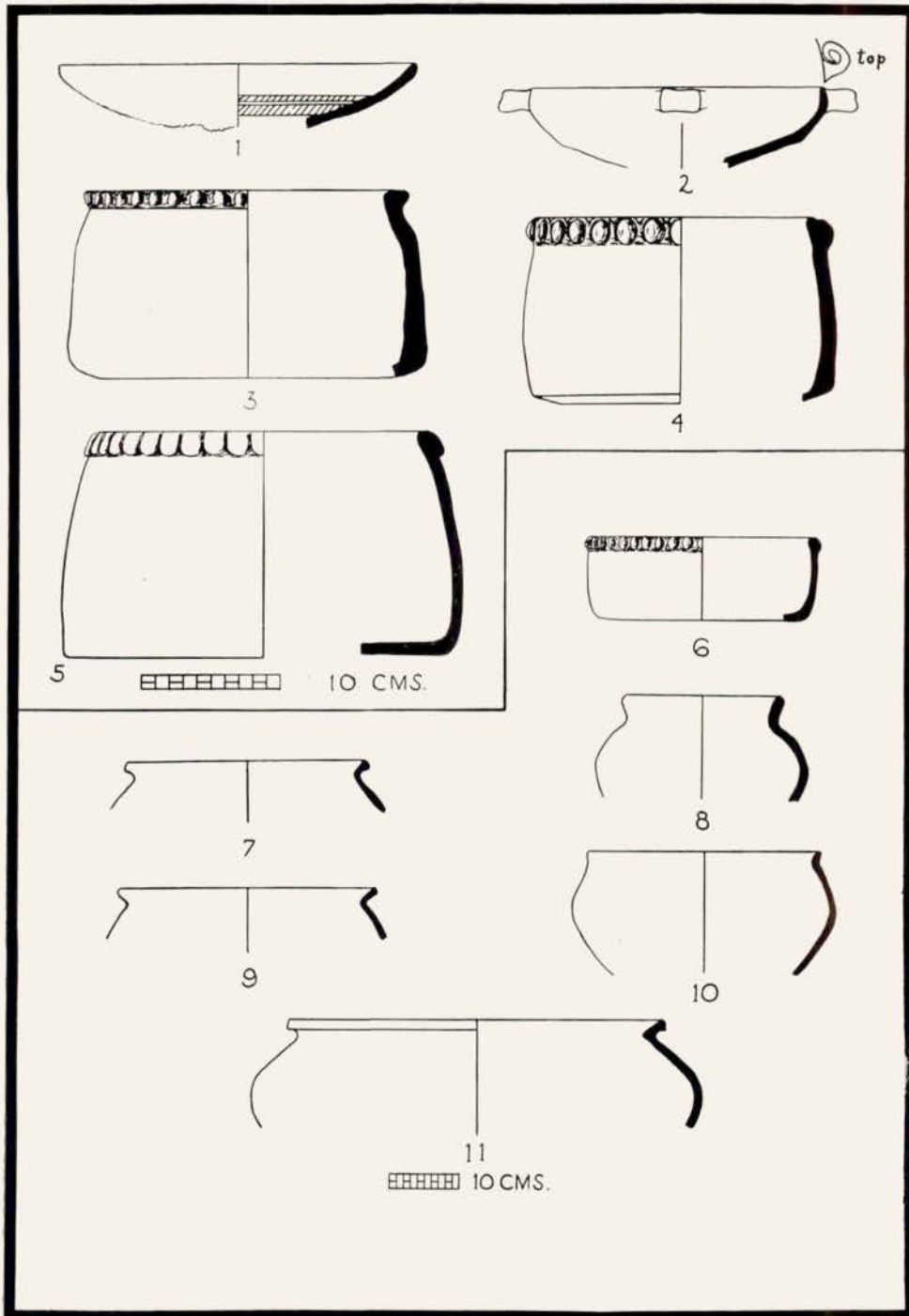


PLATE 13 (D)

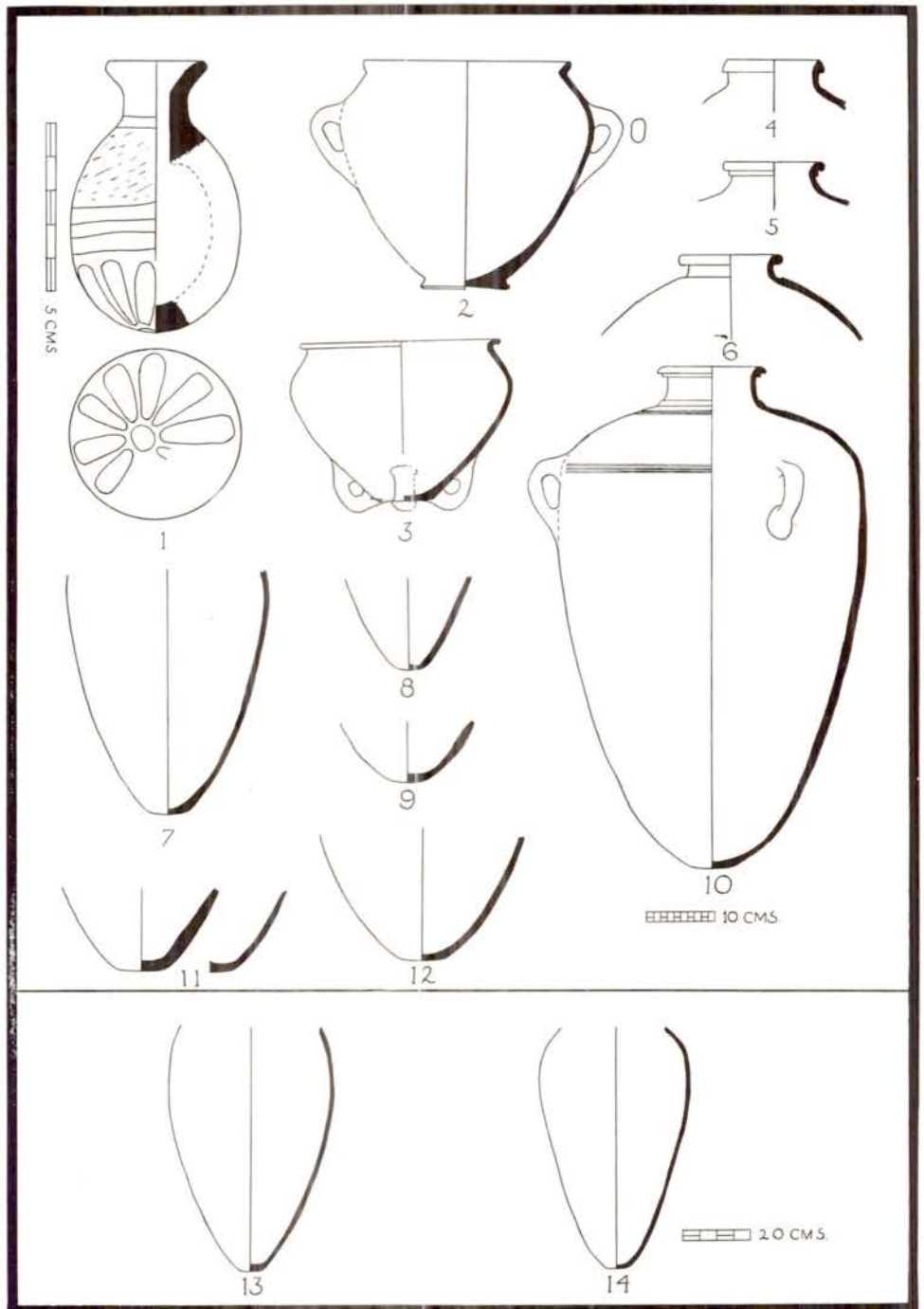


PLATE 14 (D)

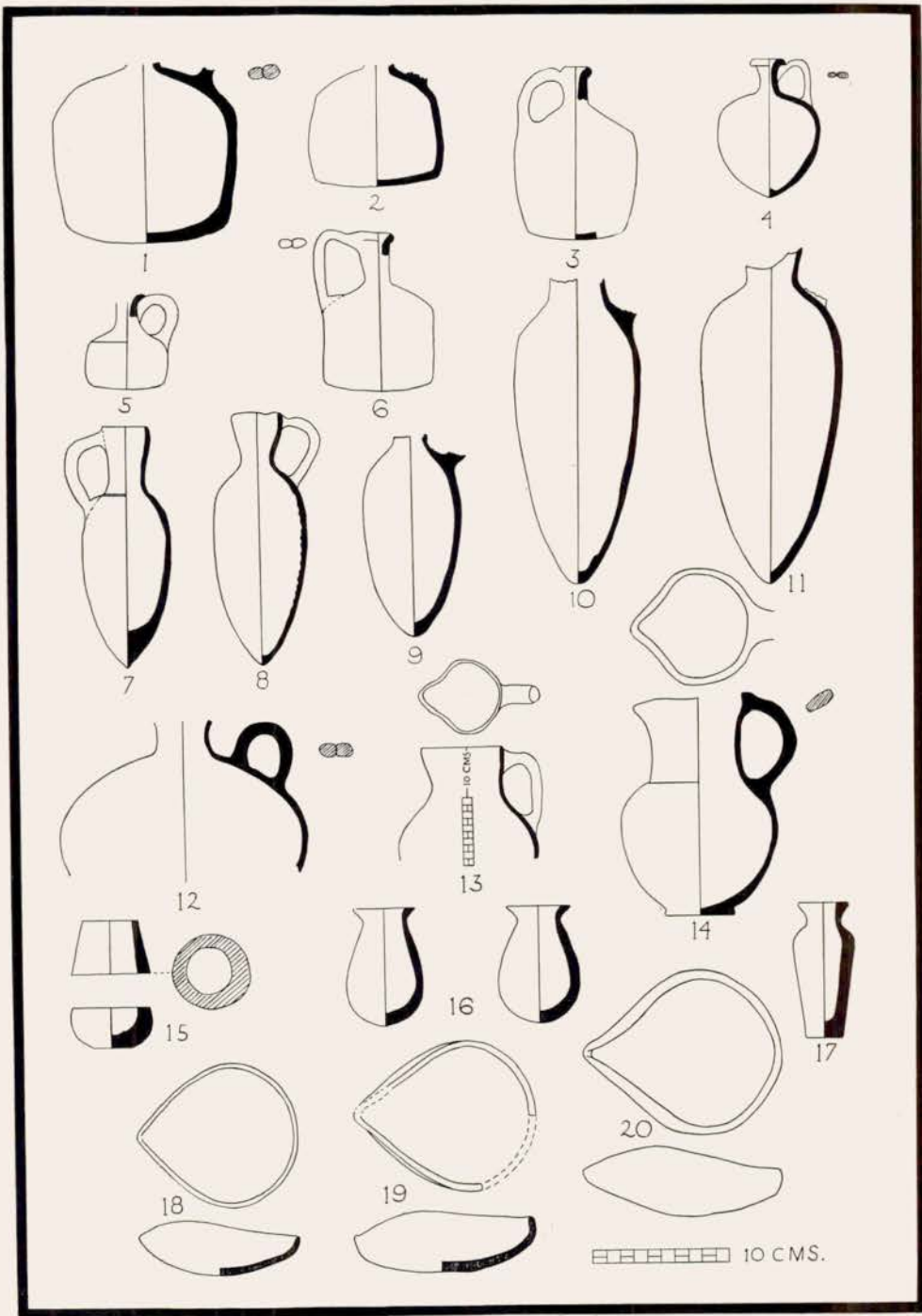


PLATE 15 (D)

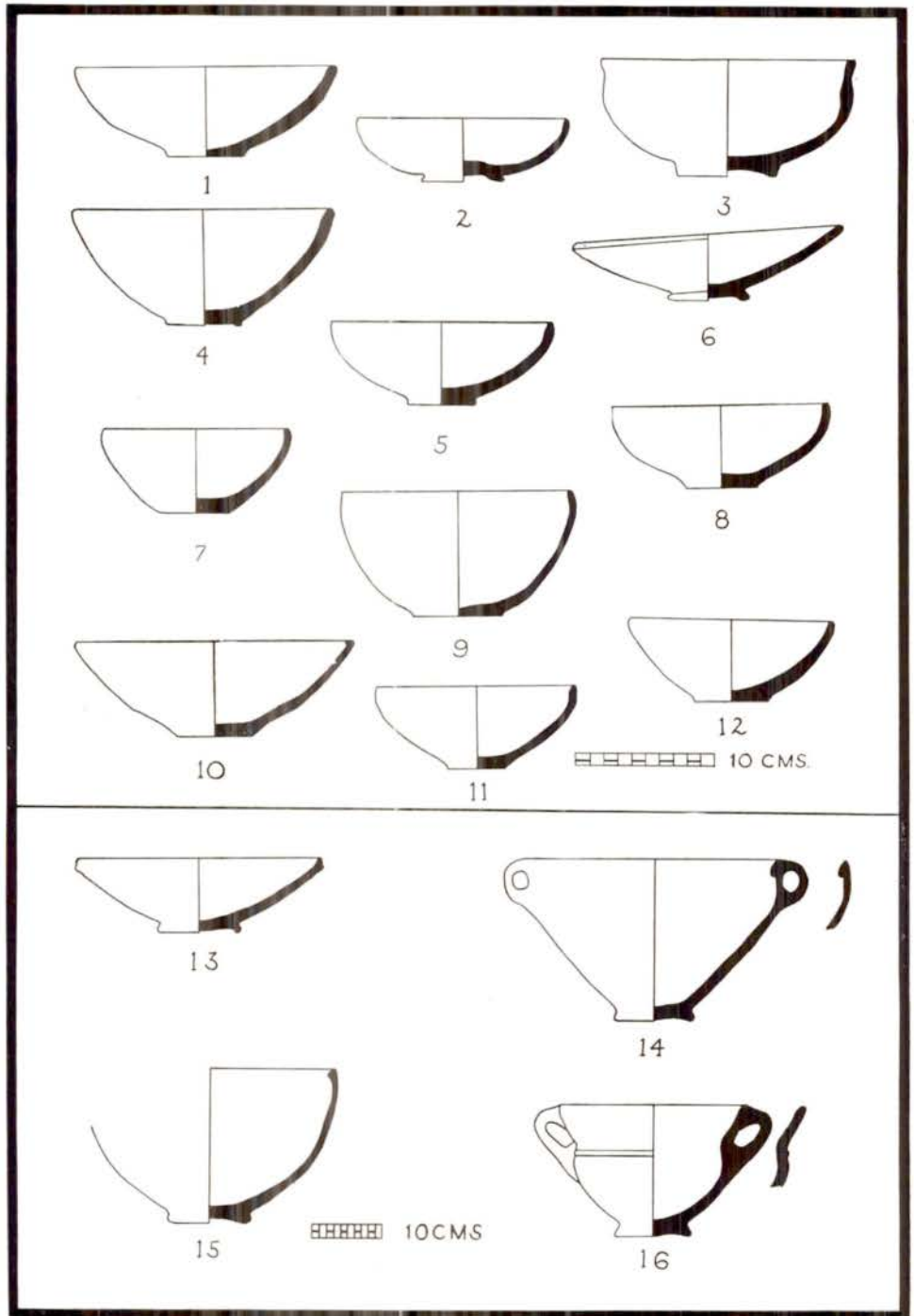


PLATE 16 (C)

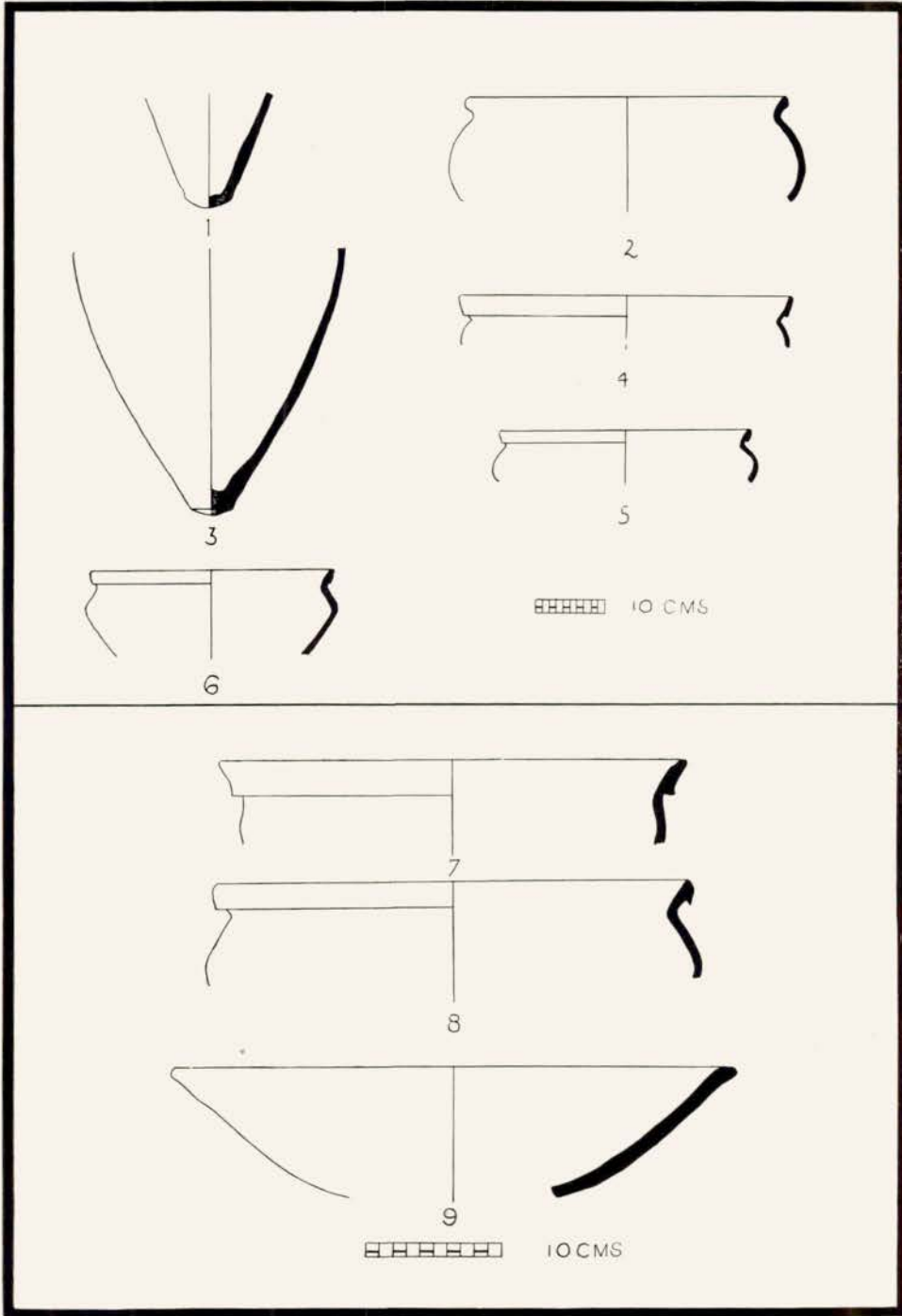


PLATE 17 (C)

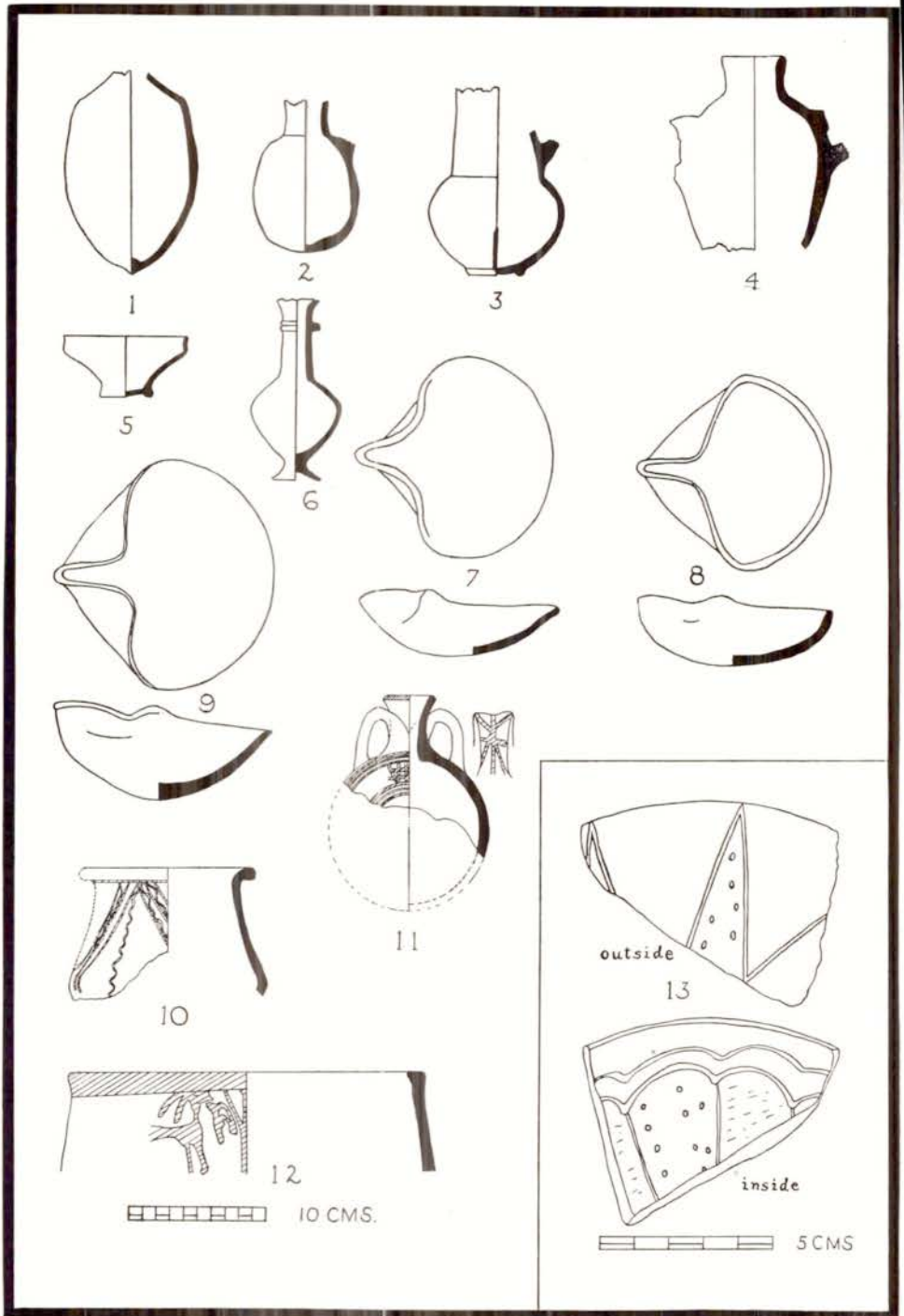


PLATE 18 (C)

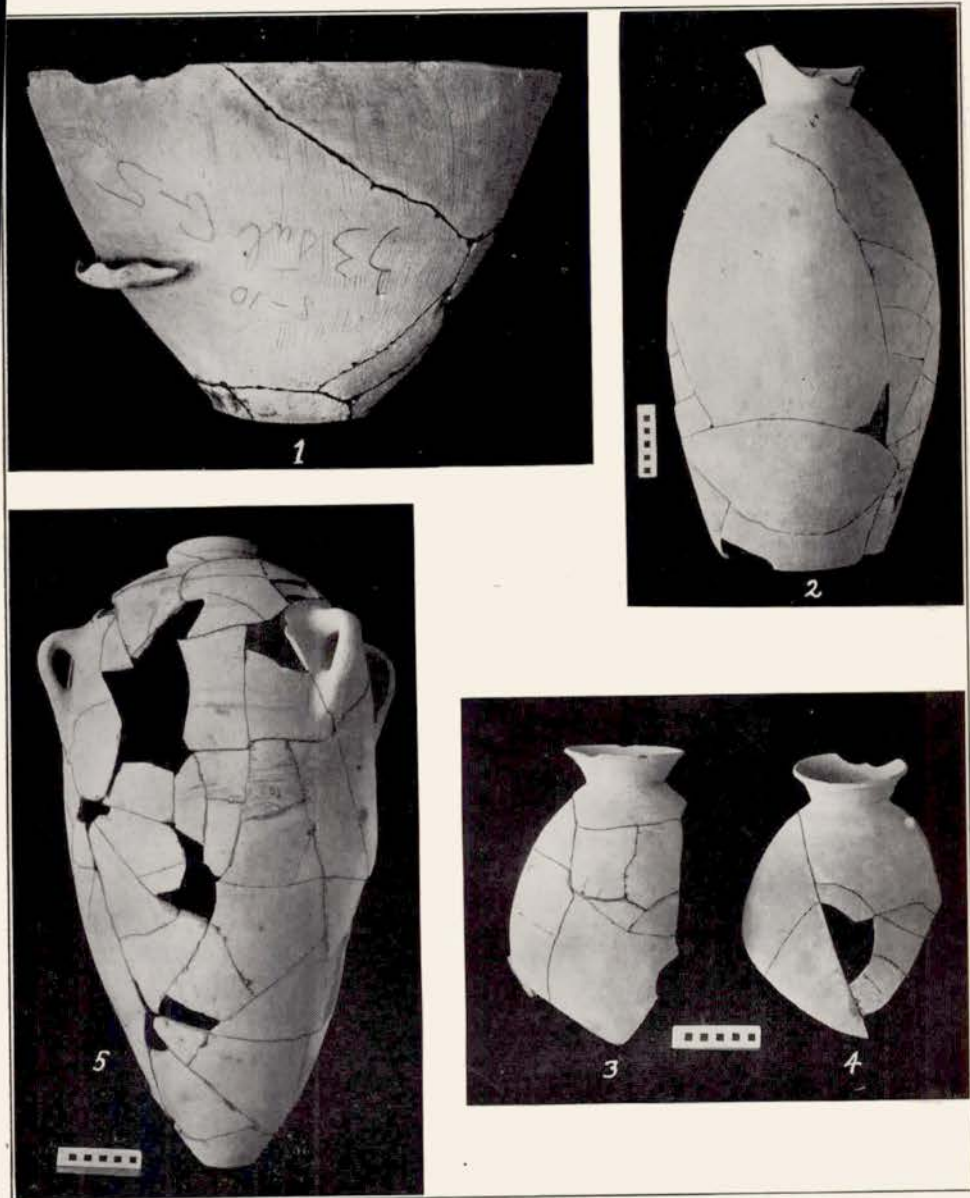


PLATE 19 (J: 1, H: 2-4, E: 5)

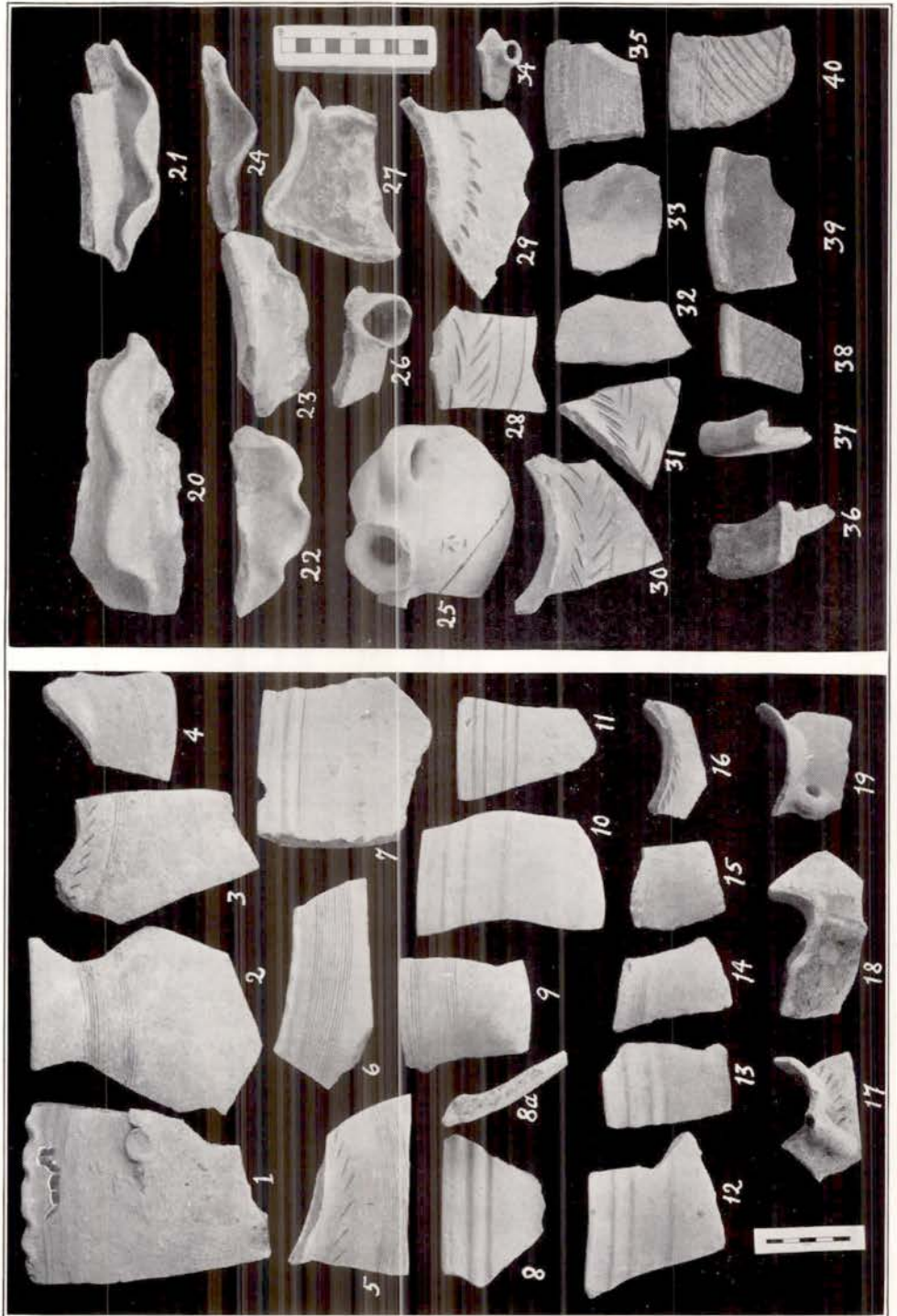


PLATE 20 (J: 20-40; I-H; 1-19)

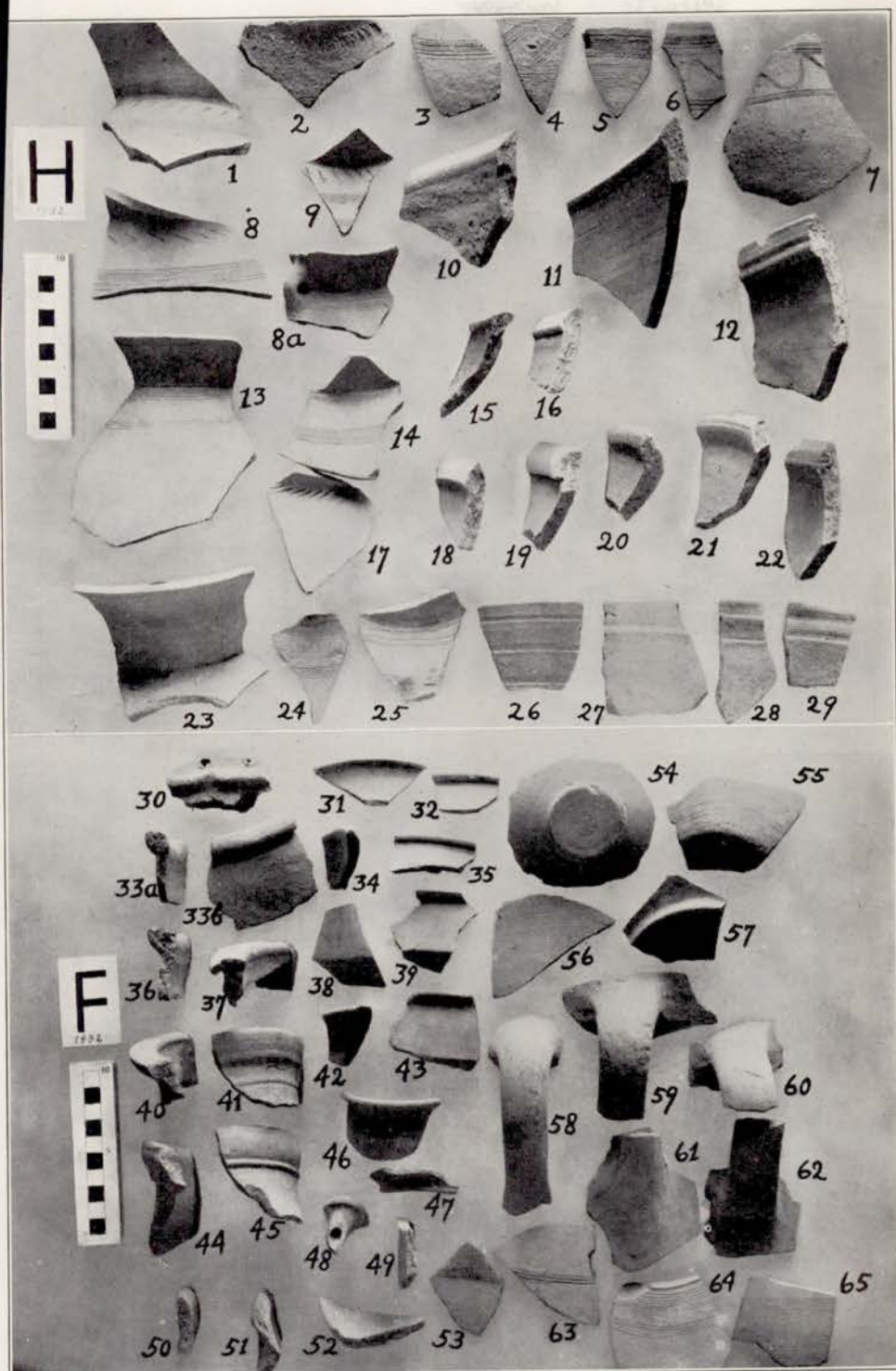
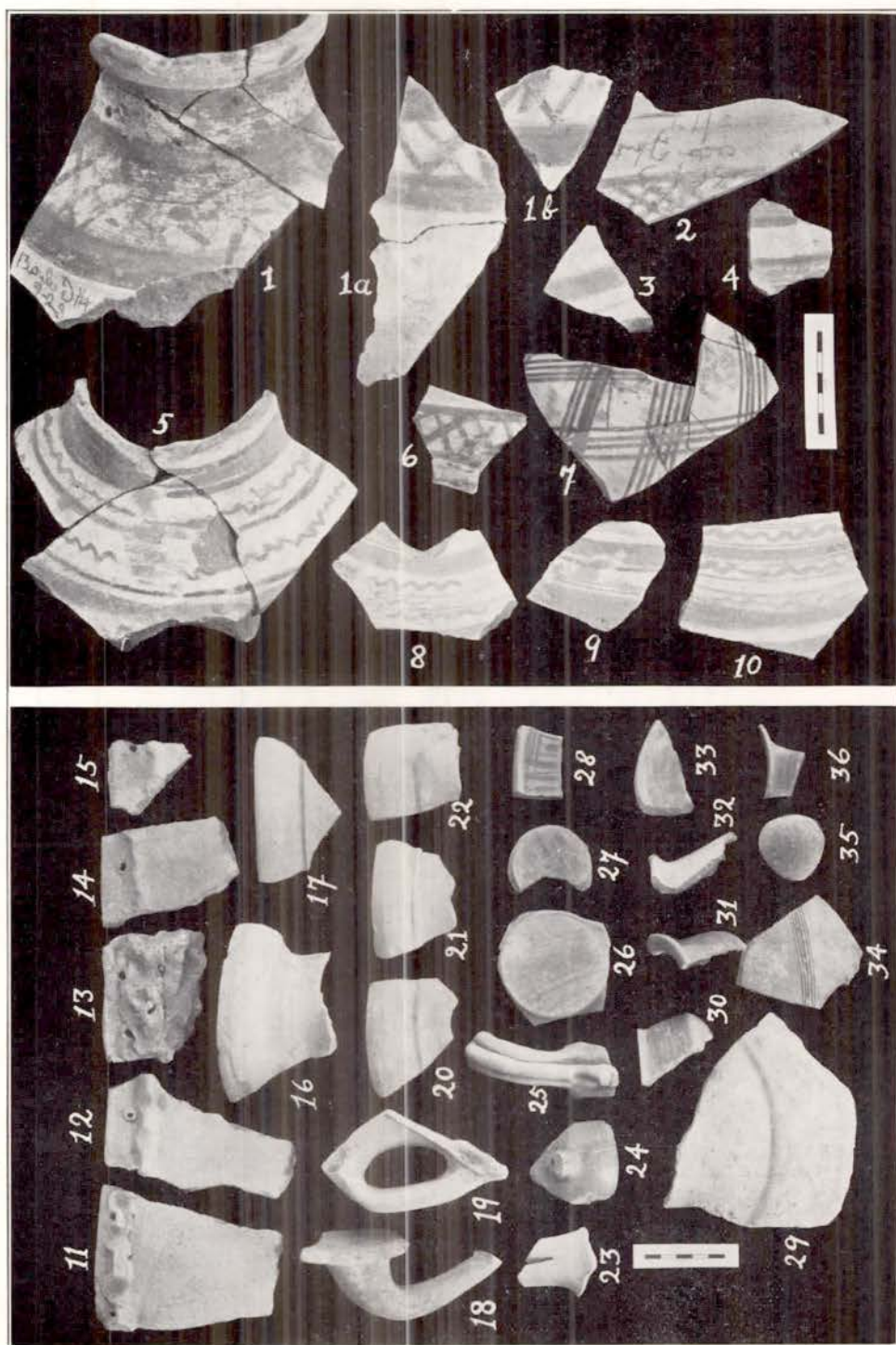


PLATE 21 (H: 1-29; F: 30-65)



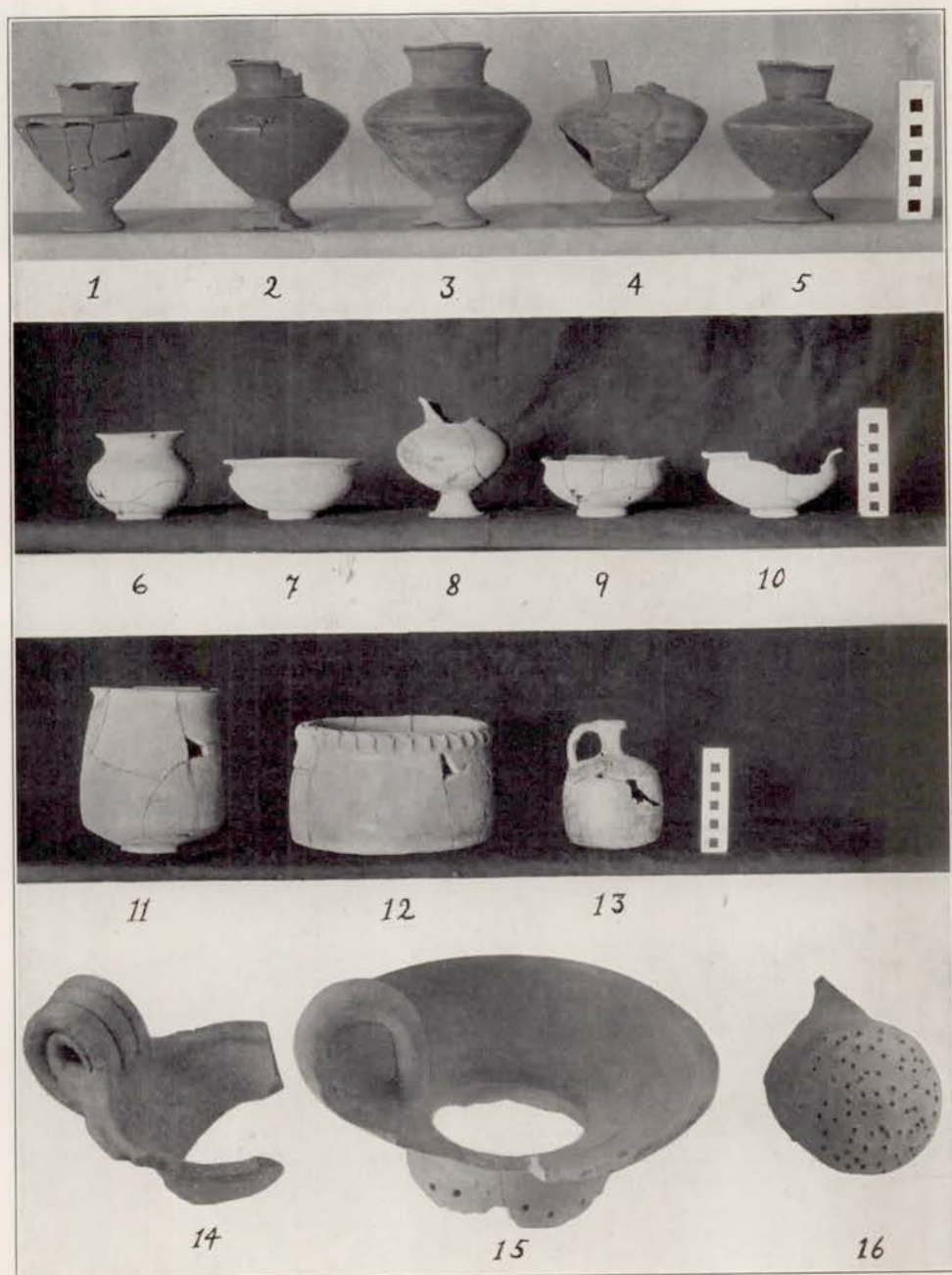
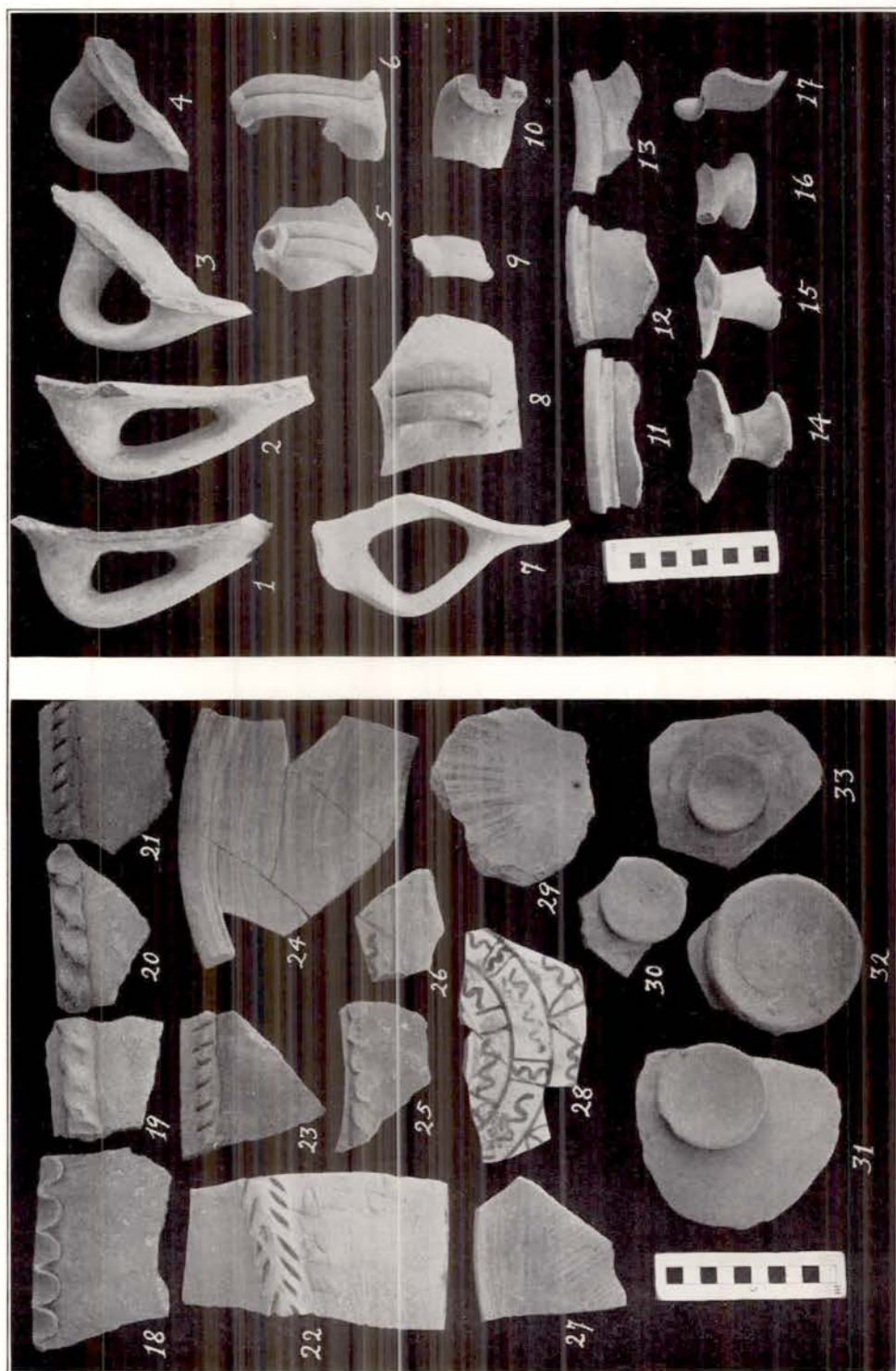


PLATE 23 (E: 1-3, 5-9, 11, 13-16; D: 4, 10, 12)



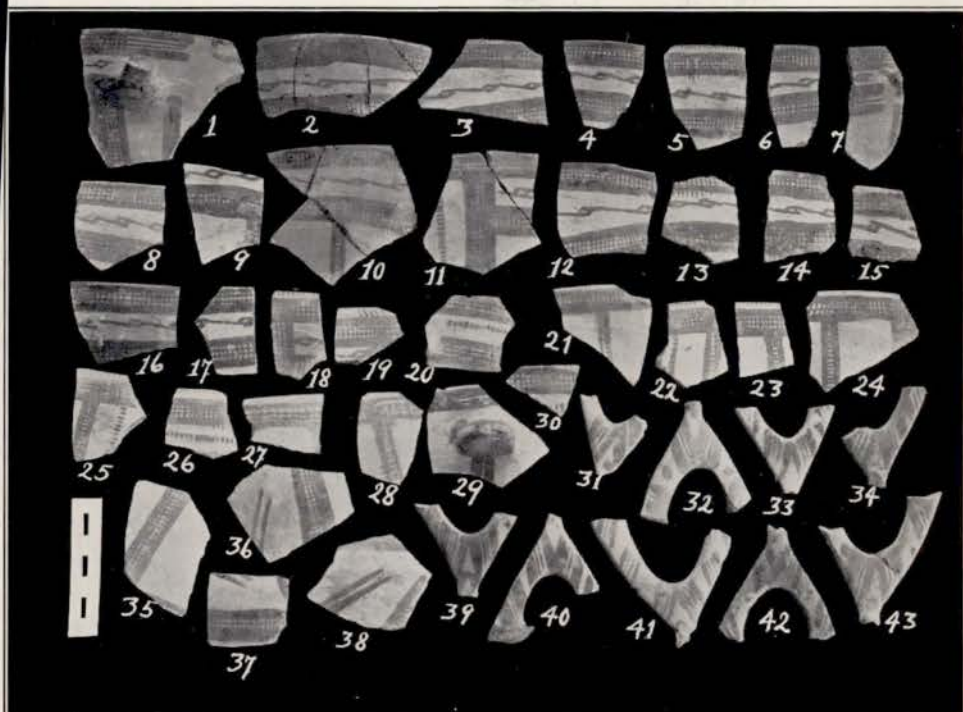


PLATE 25 (C)

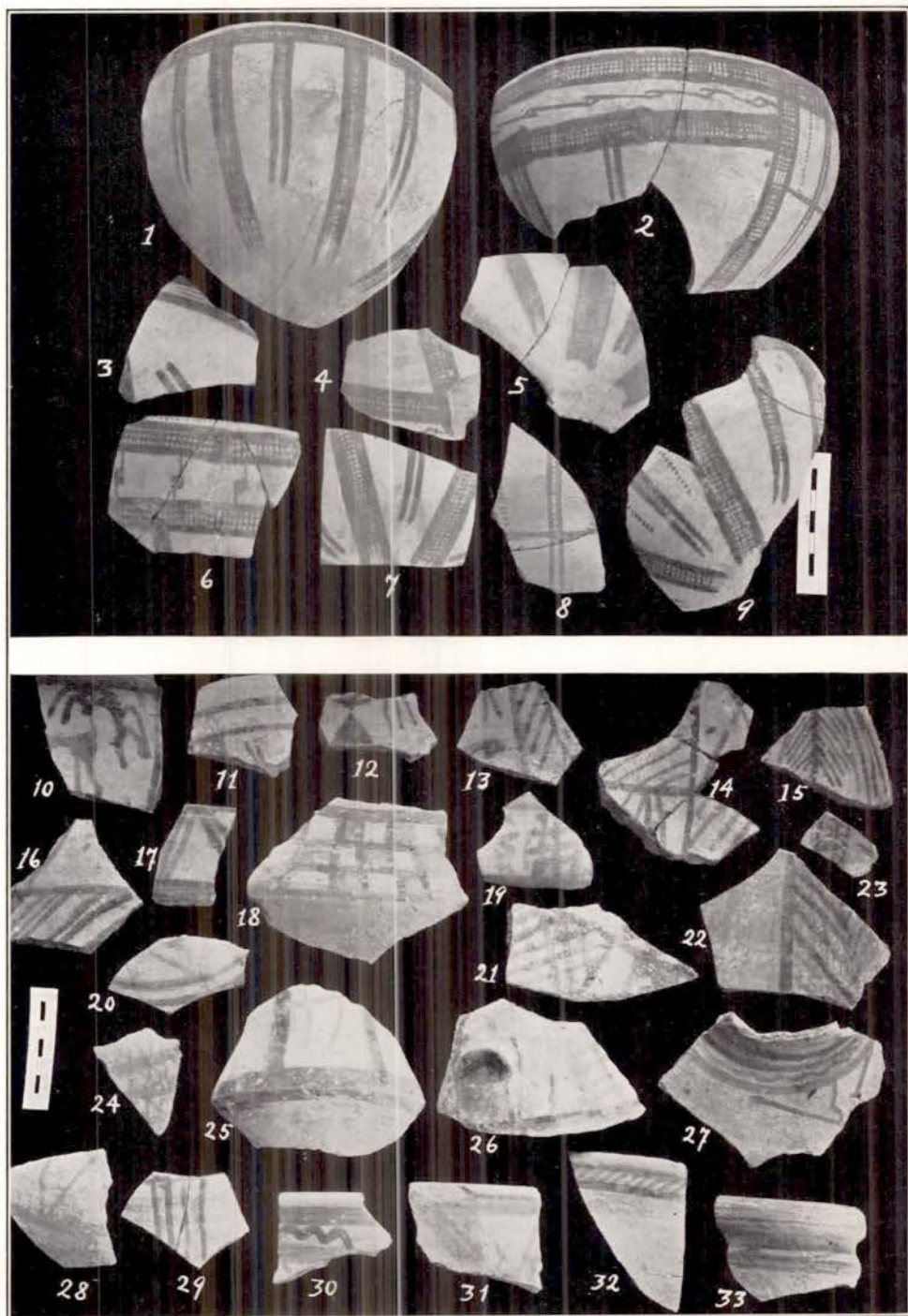


PLATE 26 (C)

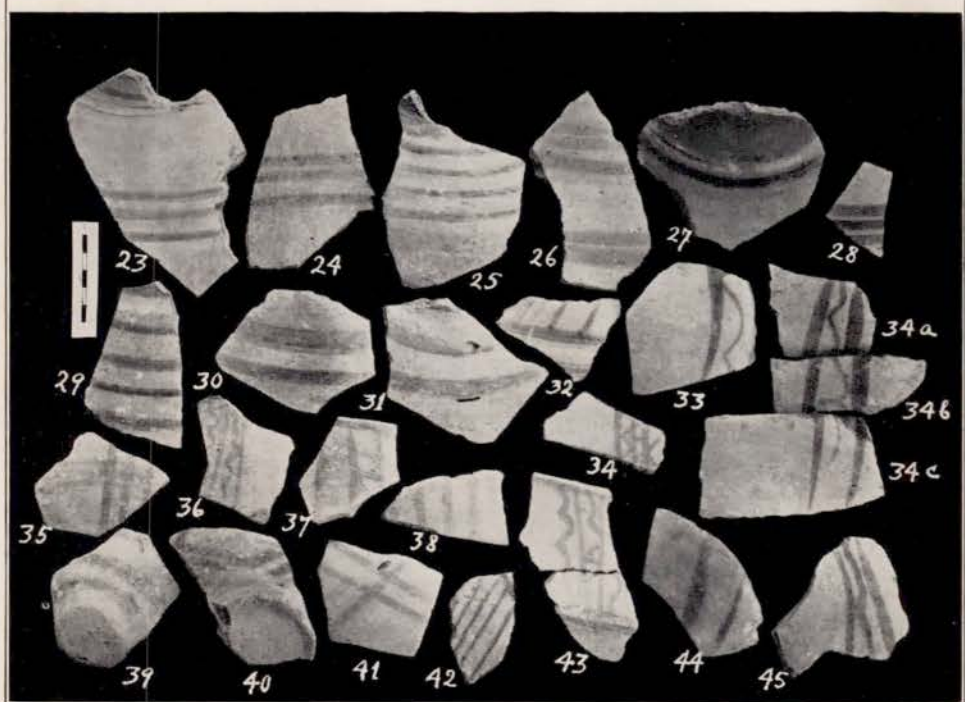
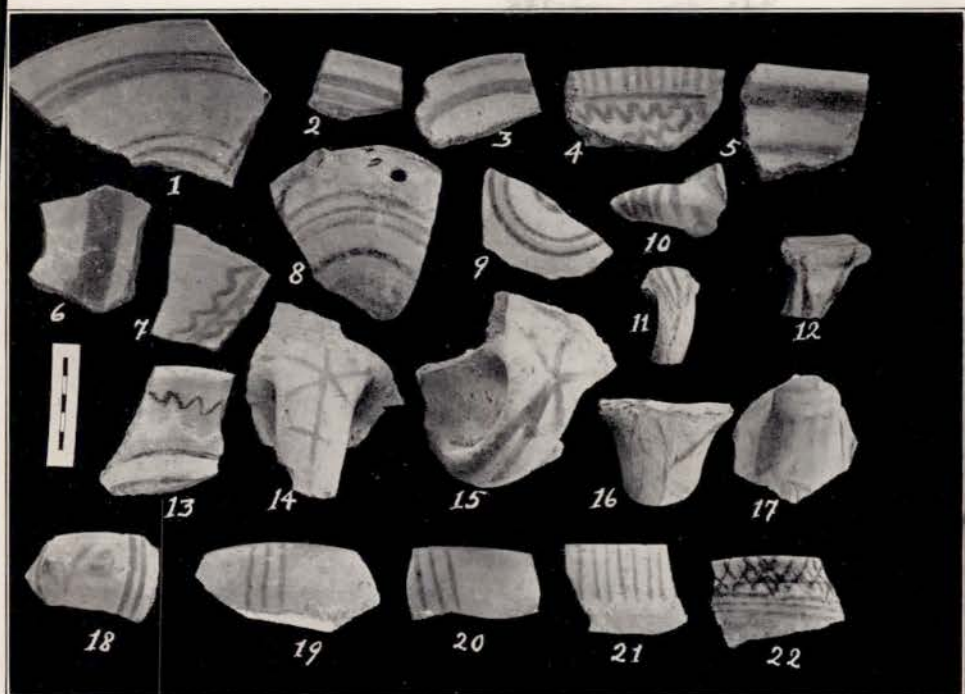


PLATE 27 (C)