

MIDDLE BRONZE AGE POTTERY.

INTRODUCTION.

The inhabitants of Palestine¹ in the Middle Bronze II period (c. 1800 - 1550 BC) were Canaanites, and shared in the general civilisation of the coastal area of Syria. They had, of course, close connections with the rest of the Near East.

The physical features of Syro-Palestine prevent it from being a single geographical or political unit. The mountains, plains, and valleys tend to accentuate local differences, and in ancient times this favoured a political organisation based on the city-state. Each city-state would have its own chieftain, sheikh, or tribal leader, as we read of in the Amarna Letters. These city-states were themselves the successors of old established towns, whose ruins had in many cases built up an artificial mound, or *tell*.

The value of pottery for dating a *tell*, a ruin, or any other archaeological discovery, especially in a country such as Palestine, which lacks epigraphic material in any quantity, need hardly be stressed here. Each period in the archaeological history of Palestine has its characteristic pottery, the date of which can often be established by a study of the objects found in association with it.

The following article is an attempt at making some kind of pottery sequence for the Middle Bronze II period. The period will be divided into six phases, each phase of more or less fifty years duration. It is hoped that the study may be of some use to those archaeologists interested in the ceramics of the Middle Bronze II period in Palestine.

THE POTTERY TYPES.

Bowls: Inverted Rim.

Straight sides.

Bowls are either shallow or deep; small, medium or large, and all are wheel-made. Those of Middle Bronze I mostly exhibit a combination of horizontal combing by the wheel with vertical hand burnishing on a red or orange slip. The burnish is elaborately applied to the inside of the bowl or the outside, and sometimes to both. The rims of the bowls are mostly inturned and broad-ridged, and the bases generally flat or disc.

In the later phases of Middle Bronze I and phase I of Middle Bronze II we notice that the red-wash burnished technique becomes rare, and the broad-ridged rim is totally replaced by the inturned (inverted) rim which becomes very common in Middle Bronze II phases. The base is also changing from a flat disc to a slightly concave disc.

Meanwhile the straight-sided bowls² start to become dominant, replacing partially the inturned types until phase III of the M. B. II period, when the straight-sided are the most

¹ The term Palestine is used here and throughout, unless otherwise stated, very loosely, to include most of what was, until recently, styled Palestine and Transjordan.

² Albright, *AASOR* XIII, pl. 10; 5 and 8, from stratum E. Cf. also Macalister, *Gezer III*, pl. XLI: 5-6; Duncan, *Corpus of Palestinian Pottery*, type 21 B 1 (from Fara); Garstang, *AAA* XXI, pl. XX: 12 (Jericho Palace store-rooms).

common type. In phase III also red slip totally disappears, burnishing becomes very rare, and a plain wet-smoothed surface is frequent.

The bases of the straight-sided bowls range from a slightly convex disc base at the beginning, to a ring base at the middle, of the period of their use, and to a highly raised ring base by phase III of the Middle Bronze II period.

Carinated Bowls.

The great majority of carinated bowls are of first-class quality, made on a fast wheel, and appearing fully developed in the M.B.I. period (cf. Chart, fig. 3).¹ Many of the forms are remarkable for their sharp and angular profiles, strongly reminiscent of copper or bronze vessels. Good illustrations of metal prototypes are found among the ex-votos in the foundation jar of Byblos (*Byblos* I. Pl. LXXI : 605 (silver), 607 (copper)).

These bowls have a reddish slip with a high burnish², which was most probably intended to produce a metallic appearance. Some bowls exhibit a combination of horizontal combing on the wheel with vertical burnishing³.

The rim was turned out, generally grooved, i. e. hollowed inside as if to secure a lid⁴. The base was mostly flat or disc, and sometimes burnished, nearly always smoothed with the hand after being made on the wheel⁵ so as to remove the wheel-marks and give an illusion of metal-work.

Albright in *AASOR* XII, p. 14, states that these carinated bowls "were first imported into this part of Palestine (i. e. the region round Tell Beit Mirsim) in I-H, probably in the early part of this period, but they did not become acclimated, so to speak, until period G, when they are abundant and attain forms never surpassed in beauty later. . . . It may, of course, be that the pottery in question originated in Syria itself, in imitation of metal vases of Mesopotamian origin, but the latter have yet to be found".

The variety of these extraordinary carinated bowls of the most graceful forms and often of the most exquisite finish belonging to our earlier phases of Middle Bronze I shows that this class of pottery became exceedingly abundant, but the forms are generally not so delicate; the groove inside the rim is lacking, and the red burnished slip begins gradually to deteriorate; and this shows that the type had begun to decline in phase II, to which most of T.B.M. stratum E naturally belongs⁶ (cf. Chart, fig. 1). The use of burnish during the following phase III was already becoming less common⁷, a process which continued to the end of this phase, by which time it was almost extinct.

¹ University of London, Institute of Archaeology, *The Archaeology of Palestine*, 1953, p. 18; as to their origin, see Albright, *AASOR* XIII, pp. 69-70, and *AASOR* XIII, p. 14.

² Cf. Iliffe, *QDAP* V, 1935 (Ras el Ain); also Ory, *QDAP* VI, 1936 (Ras el Ain); Albright, *AASOR* XII, pl. 41. Petrie, *AG*, II, (Courtyard Cemetery) pl. XXVIII, nos. 25 E4, 25 G5, 28 P3, 28 P5 have also the same type of flat or disc base and some have the grooved rims.

³ Iliffe, *op. cit.*; Albright, *op. cit.* XII, pl. 41: 3-5.

⁴ Iliffe, *op. cit.* fig. I, nos. 52, 64. See also Ory, *op. cit.*

⁵ Albright, *AASOR* XII, pl. 41 (G-F).

⁶ Albright, *AASOR* XIII, pp. 76-77, pl. 8, nos. 1-10 and pl. 23, nos. 6-7, 9 and 10.

⁷ Albright, *ibid.* pl. 12: 1-6; pl. 9: 5, 6, 7.; *AASOR* XII, pl. 42, 4-8.

High Shouldered Bowl: "Goblet".

This form is a fine goblet, with low or disc base, rounded body, flaring rim, ending with a wide mouth. It appears in phase I on my Chart with a red burnish. The base changes from a disc in the earlier periods to a ring base in the later periods.

On the Chart (fig. 1) phase I, the example from Megiddo tomb 3137¹ is an artistically, well-fired work, with a spaced horizontal red burnish. In the other Megiddo tombs of later period, e. g. T. 3175², one with a horizontal burnish was found; T. 2143 had a cream slip with a burnish outside, T. 2026³ had a gritty, wet-smoothed surface without any burnish, and T. 2145⁴ had also been only wet-smoothed, without any burnish.

From Tell Beit Mirsim stratum E⁵ two examples of this type are illustrated. The first is plain while the second is burnished. In stratum D the burnish totally disappears⁶.

If we accept those in G-F of Tell Beit Mirsim⁷ as of the same family (irrespective of size) we confirm that the type was in use in Middle Bronze I in Palestine, which may strengthen our views on the position at Megiddo.

At Jericho⁸ one can see the same development as at Megiddo and Tell Beit Mirsim. The goblet found in the kiln's front is of red ware, gritty and has a tan slip with a burnish, while that of the Palace store-rooms⁹ is of buff ware with a white slip and brown decoration and unburnished.

The type was common in Jerico Tomb 9¹⁰. In the lower layers E and D, pl. XXXVI: No. 5 has a cream slip and is burnished; No. 6^a a burnished cream slip with an out-turned rim; No. 8, 12, 14, and 15, are wet-smoothed; nos. 7 and 11 have a burnished slip and No. 13 has a slip.

In the upper layers (A-C) on the other hand, none is burnished. On pl. XXXI, No. 6b is wet-smoothed, No. 7b has a cream slip, No. 8c a black slip, and 9a is wet-smoothed.

At Ajjul one may recognize some examples of this type, though the drawings are not clear. In city level 740 = 1040 there is one represented in *Ajjul* III: pl. XXXVI: 4IR², and in *Ajjul* IV, pl. LII: 40j, four are recorded from level E764; two others were found and may be taken probably as parallels¹¹.

This type may be considered as the prototype and predecessor of the triple loop-footed bowls (goblets), and may provide a clue to the origin of the Jericho goblets, though both were in contemporaneous use in M. B. II sites in Palestine.

¹ *Megiddo*, II, pl. 28; 10.

² *Ibid.* pl. 36: 10.

³ *Ibid.* pl. 36: 12.

⁴ *Ibid.* pl. 28: 12.

⁵ *AASOR* XIII, pl. 8: 11-12.

⁶ *Ibid.* pl. 12: 7 and 13; 8.

⁷ *Ibid.* pl. 4: 6, 11, 12.

⁸ *A.A.A.* 1933, pl. XVIII: 32.

⁹ *Ibid.* pl. XIX: 12.

¹⁰ *A.A.A.* 1932. Cf. also. Tomb 19, *A.A.A.* 1933, pl. III, nos. 2 and 3; Tomb 31, *ibid.* pl. V, nos. 4a, 5c. and 76, and Tomb 31, *ibid.* fig. 4, nos. 7a and 8a.

¹¹ Petrie, *AG.* I pl. XLIII: 32 A⁹, and pl. XLVI: 40 H 2.

They do not appear at Fara (Beth-Pelet) and Duweir. In Syria they appear at Ras Shamra¹, Sin el-Fil (Lebanon)², and in Ruweisé³.

Shipton says of them that these vessels "have the same wide geographic distribution as the red wares of strata XV- XIII" ^{4, 5}.

Jericho Goblets.

The trumpet-foot vessels, as Albright describes them, have an angular or rounded shoulder on a body which tapers to join a flared pedestal base. The neck is wide in proportion to the foot, and the rim is often well everted. In a later stage of development a ridge (collar) appears at the junction between neck and shoulder, and possibly in the last phase of its development another is added where the body joins the foot.

In phase II A the surface is continuously burnished on a rich dark slip. The burnishing may be applied horizontally with the wheel in motion or it may be applied by hand or both processes may be employed successively. Those of Tell Beit Mirsim⁶ "are mostly burnished on a rich red slip". Very common in stratum E, a few others were found in D⁷.

At Jericho they are so common that I am inclined to name them 'Jericho goblets'. They are more rounded in outline than those of Tell Beit Mirsim and the greater number are burnished on a cream slip; others of later phases are of plain drab or buff ware, and are wet-smoothed, without a burnish.

At Megiddo the type seems to appear only in two tombs, T. 4043 and T. 4004. In the former it appears in the earlier of two levels⁸. It is of fine, buff ware, with minute grits and well fired, and is well burnished outside. The second example (T. 4004) is of doubtful provenance and may be dismissed here.

Ajjul⁹ produced one example only, with rounded shoulders and a collar (ridge) on neck and base; and so at Gezer¹⁰ but with highly angular carinated shoulders, a close parallel to that from Tell Beit Mirsim, stratum E¹¹. The type was also found at Tell el-Far'ah (Nablus), Owes el-Tin (Bethlehem) and Kalandia Air Port (Jerusalem), and in the Amman Citadel tombs discovered recently by the writer. Only two of these goblets were found at Megiddo (none in the structural tombs there), and none has been found in the Tell Aviv Harbour cemetery, Al-Jiar cemetery, Nahariya or Beth-Pelet.

Thus one may suggest that the type was a product of inland cities, whereas in the coastal areas the other type of goblet, the high pedestal trumpet goblet (Megiddo goblet) was preferred

¹ Schaeffer, *Syria* XIV, fig. 10: 6.

² Schaeffer, *Stratigraphie*, fig. 73, no. 5, in M.B. I context.

³ *Ibid.* fig. 75, no. 2, and fig. 76, T. XXV: 3, in a M.B. II context.

⁴ Shipton, *Notes on the Megiddo Pottery*, p. 24.

⁵ Since this was written, excavations on the Citadel Hill, Amman, in 1958 have revealed M.B. tombs in which were found goblets similar to those discussed here. These will be published later.

⁶ *AASOR* XIII, pl. 7: 12 - 14 and 18; and p. 77.

⁷ *Ibid.* pl. 12: 9 and *AASOR* XII, pl. 43: 4a.

⁸ *Megiddo* II, pl. 44: 9.

⁹ *AG.* III, pl. XXXIX; 62 Q.

¹⁰ *Gezer* III, pl. XXXVIII: 2 (Cave 28 II).

¹¹ *AASOR* XIII, pl. 23: 1.

(see below). Both types appear on the Chart (fig. 1) for the first time in phase II, burnished with a red slip. The burnish started to decline, and the red slip disappeared, and by the end of the period of their popularity, i.e. the very beginning of phase III, these vessels were wet-smoothed with a buff-cream slip, and without any burnish at all.

High Pedestal (Trumpet) Goblets : "Megiddo Goblets".¹

This type is closely related to the class described above, but shows a variety of forms. They are sharply carinated vessels, on a high trumpet foot, with flaring shoulders and a wide mouth. None of those found has red slip burnishing; they are mostly wet-smoothed, and few are burnished at all.

This type of goblet appears to have started in phase II B (see Chart), later, therefore, than the Jericho Goblets. The one represented in *Megiddo* II, pl. 15:10, is erroneously ascribed to Stratum XIV. The other objects found with it are a wet-smoothed dipper (*Megiddo* II, pl. 12:13), a wet-smoothed ring-base bowl (pl. 14:23), and a lamp of type 2. These associated objects clearly show that the goblet really belongs to a much later stratum than XIV, and it falls obviously within my phases II and III and not earlier.

Among the twelve goblets found at Megiddo² none has the red burnished slip. One found in the structural tomb 3095, which is the earliest, has a vertical burnish outside, while all the others are wet-smoothed and without any kind of burnish.

Ajjul produced an incomplete example from a grain pit, shown in *AG* I pl. XXXIX:23W. None is known from Beth-Pelet.

At Tell Beit Mirsim³ one appeared in stratum E with a burnished greyish-buff surface, another in stratum D covered with a rich white slip. Gezer cave 28:II⁴ gives us one example; Jericho Palace Store-rooms 30 and 39⁵ produced two unburnished ones. The absence of this type in all the tombs discovered at Jericho by Garstang in 1932-34 suggests to me that the type was more favoured in the coastal regions, and although Dr. Kenyon found some in her Jericho excavations of 1952-56, yet the type remains rare at Jericho and was probably introduced there at a later period than the "Jericho Goblets" discussed above.

Triple Looped-foot goblets⁶.

The body is rounded, the base is made up of three vertical looped feet, adhering to the bottom of the goblet. They may or may not have a spout or handle but they are all plain and unburnished.

¹ Examples of this type of goblet were found in the Amman Citadel tombs (as yet unpublished). Some of them (painted) are of the 16th century, others (plain and polished) are a century earlier.

² *Megiddo* II, pl. 29:5 (burnished); pl. 29:3, pl. 37:5, 7 and 8, and pl. 44:24, 25, 26 and 27 (all wet-smoothed. One notices that this type is common in the structural tombs, but not in any other tomb.

³ *AASOR* XIII, pl. 8:13 (stratum E) and *AASOR* XII, pl. 43:6 (stratum D).

⁴ *Gezer* III, pl. XXXIX:4.

⁵ *A.A.A.* XXI, 1934, pl. XXI:2, with a brick-red slip (Room 30) and pl. XXII:14 with a cream slip (Room 39).

⁶ Goblets of this type were also found in the tombs on the Amman Citadel.

At Megiddo¹, one buff gritty goblet, wet-smoothed, was found in tomb 3064 (phase II B on the Chart); another similar type was found at Tell Beit Mirsim² stratum D, but this differs slightly in the rim, that of Tell Beit Mirsim appearing to be somewhat earlier, and more related to those found at Jericho in the lowest levels of tomb 9.

At Jericho³ they appear in the lowest layer of tomb 9. They have an out-turned rim, a spout and a handle, and the base is slightly rounded. They are smoothed with no decoration.

In the upper layer of the same tomb the handle and spout disappear, the out-turned rim is replaced by a long flaring neck, and the base changes from being rounded to somewhat flattish. Similarly in tomb 31 the same features appear in level (a), with the same decoration of concentric lines around the upper half of the body⁴.

In tomb 4 they appear with an attractive decoration of dark purple colour, with a collar round the base of the long neck⁵; and in type they are similar to those of tomb 9, layer (a) and to the only one from Megiddo. All are found unburnished. One base fragment was found at Ajjul.

This type has been considered by Shipton to be reminiscent of the goblets discussed above, represented on the Chart (fig. 1) phase I, no. I. But one should not ignore the fact that they were in contemporaneous use at M.B.II sites in Palestine and Transjordan.

The type is not known from Fara, Gezer, Duweir, the Megiddo structural tombs, or the Jericho Palace store-rooms.

Piriform Juglets⁶.

For the sake of facilitating the study of this very important type of juglet, I shall divide them according to their surface treatment into (a) burnished, (b) pricked, and (c) plain.

In the Early Bronze Age, especially in E. B. III, juglets of a piriform shape are very common. They differ from M. B. juglets in their neck-form and proportions, and in being largely hand-made. Moreover, in the E. B. — M. B. period there are no corresponding vessels. It is therefore probable that there is no connection between the juglets of the two periods, at least in Palestine.

In Megiddo tomb 911 A. of the M. B. I period, we find the style with a somewhat flattish base, and a longer ridged neck⁷. It has also been recognised in tombs of strata XIV and XIII. Shipton states that "on the Megiddo evidence alone, it appears that this was the forerunner of the so-called Tell el-Yahudiya Juglet"⁸. One should note the close parallels between those of Megiddo and Ras el Ain⁹.

¹ *Megiddo II*, pl. 38: II.

² *AASOR XIII*, pl. 14: 3.

³ *A.A.A.* 1932, pl. XXXII: 5 and 8.

⁴ *Ibid.* pl. XXXII: 6; *ibid.* 1953, p. 10, fig. 4.

⁵ *Ibid.* 1933, tomb 4, pl. XVI.

⁶ The Amman Citadel tombs produced very close parallels to these piriform juglets as regards shape, but none was pricked, and they were mostly plain or burnished.

⁷ *Megiddo Tombs*, pl. 28, nos. 41 and 42.

⁸ Shipton, *Notes on the Megiddo Pottery*, p. 29.

⁹ Ory, *QDAP VI*, (1936), fig. 69: 36 and 37.

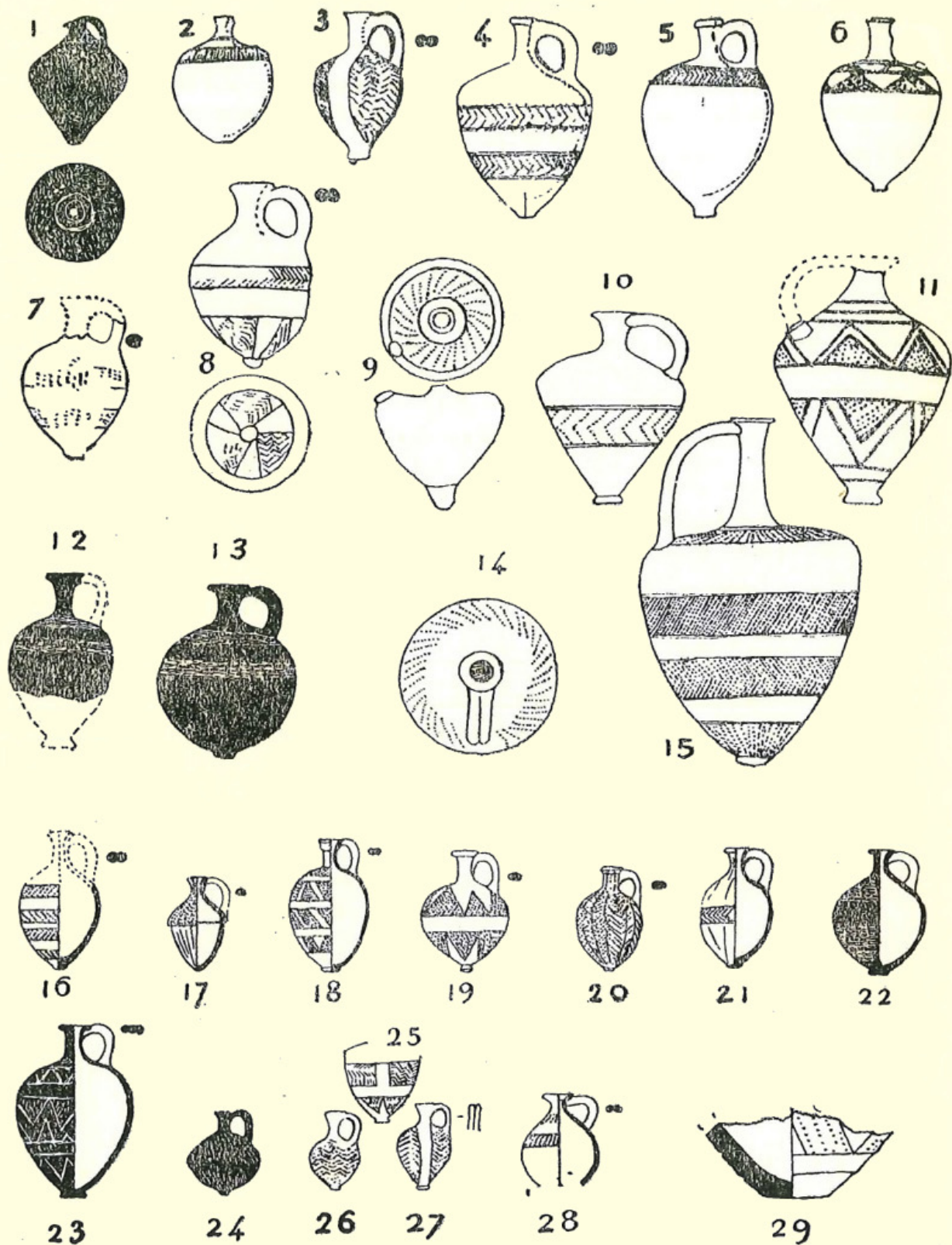


Fig. 2. — TELL EL-YAHUDIYA JUGLETS.

At a later stage, i.e. the very beginning of M.B. II, these piriform juglets started to become common in use, as seen in Megiddo Tomb 24¹, the early levels of Jericho tomb 9² and Gezer tomb I³, as well as in other later tombs at other sites, and we see the M.B.II potters producing several types of the same family. The body is sometimes squat and rounded, though the majority are elongated. The loop handle extends from rim to shoulder and is either plain or with a button, and it may be single or double or (very rarely) triple. They may have either a pointed, or rounded (i.e. knob or button), or a disc or ring base. The ware is mostly black or grey brown, with usually a black or grey slip, and burnished. All are wheel-made.

One may see from the Chart (fig. 1) that the rounded globular body appears earlier than the elongated body, and the former is more common at Megiddo and Gezer than at any other inland town of Palestine. The burnished piriform juglets are common in the early M.B. period, abundant in the first two phases of M.B. II and are contemporary with the pricked piriforms, while in the later phases they are gradually replaced by the cylindrical juglets, though the piriform and the cylindrical juglets were in use contemporaneously for a short period at the end of phase II.

The pricked technique and the Tell El-Yahudiya Juglets

The pricked technique is a style of ornamentation introduced about the 19th century. It was mostly used on juglets having a slipped and burnished surface. The technique consisted of pricking the design on the surface of the vessel and filling the marks with a white chalky paste or pigment. The juglets were mostly piriform with rounded or elongated bodies (cf. fig. 2), but this kind of decoration also occurs on cylindrical juglets⁴ and on vases, mostly of a miniature type. Their size, and the fact that they are decorated, suggests that they were used for perfumes and perhaps for oil.

The first evidence for the use of this pricked decoration comes from Jericho Tomb A, layer 4 (fig. 2, no. 1) It was first stated by the excavator to belong to M.B. I. but subsequently he changed this to E.B. III. The juglet is described as being of black ware, piriform, with slightly elongated bottom. The upper half, rim and handle, are decorated with white spots. The shape of the body is similar to that from Gezer (fig. 2, no. 9) and those, burnished and undecorated, from Nahariya⁵.

It would appear therefore that this style of decoration was in use in E. B. III. It is not, however, found in EB-MB. A date early in the M.B.I period is suggested for other pricked juglets. They are found together with four-nozzle lamps, for example at Nahariya (fig. 2, no. 29) which is unique in the shape of its base. At Byblos⁶ the pricked technique is seen in Tombs I and II, where the four-nozzle lamps are also found.

This technique of pricked ornamentation becomes common and more elaborate in the Middle Bronze I period. It is practised now on the truly piriform Tell el-Yahudiya juglet

¹ *Megiddo Tombs*, pl. 23, nos. 24-26 and 38.

² *A.A.A.* 1932, pl. XXXIV: 2, and pl. XXXIV: 1.

³ *Gezer III*, pl. LX, nos. 7 and 9, pl. LXII, nos. 35, 41 and 43.

⁴ *Megiddo Tombs*, pl. 28, no. 40 (Tomb 911 A1).

⁵ Ben Dor, *QDAP* 1950, p. 32 fig. 26 c and d.

⁶ Schaeffer, *Stratigraphie*, fig. 65, no. E 914. For other juglets see *ibid.* F. 915 and G. 917, and fig. 73, no. 3 (Sin el-Fil).

that spread throughout Transjordan and Palestine. The body is now all covered with pricked ornamentations of different designs. The base of the juglets becomes more symmetrical than nos. 1 and 9 on fig. 2. Types of base include the flat disc base of no. 2; the disc button base of no. 3 (from Jericho) and 27 (Ajjul Courtyard Cemetery), which are exactly parallel, and the button bases of 26 (Ajjul) and 20 (Megiddo), which seem to be very close to each other. We can also see that the pricked decoration on Tell el-Yahudiya juglets of the M.B. II period, phase II, has geometrical decoration which is better in design than that of the M.B. I period, as seen e.g. on nos. 4, 6, 8, 11, 18 and 25. In the latter part of phase II of the M.B. II period, the pricked ornamentation starts to decline, as seen e.g. on nos 5, 7, 21, 24 and 28, and it suddenly disappears at the end of phase II and is replaced by the cylindrical types.

Albright states that the pottery in question came into use at Tell Beit Mirsim in strata G-F, but did not become abundant until stratum E, when it enjoyed its greatest development, while in stratum D the type was not in existence at all. The type was not found in Jericho Palace store-rooms, nor in Ajjul Palaces I-II, nor at Beth-Pelet (Tell Fara).

Plain piriform (Yahudiya) juglets.

During phase II of M.B. II the plain piriforms appear for a very short period and disappear at the end of it, when the piriform type is totally displaced by the cylindrical.

Conclusion.

It should be clear now from the description of the pricked Yahudiya juglets, and from the plates and and that one cannot accept the statement Engberg¹ that "while there are numerous pottery forms typical of the Hyksos period in Palestine, not all of them concern us here. For our purpose, it will suffice to mention a few which are Hyksos products *par excellence*. The best known is the so-called 'Tell el-Yahudiya type'.... It is readily seen, that such types once they were recognised as Hyksos products, became an invaluable aid in the detection of the Hyksos occupation of a site". Soderbergh² discussed this point of view and stated that Enberg's view of the Tell el-Yahudiya juglet was in his opinion "wholly unwarranted. First of all it is a very dangerous method to deduce ethnic movements from the presence of a certain type of ceramic ware only, if there is not at the same time some important change in burial customs, and it can often be proved that a change in the archaeological material is simply due to trade. Moreover, the typical Tell el-Yahudiya jugs are gradually developed in Palestine and Syria, and their appearance there marks no sudden change in the ceramic tradition". One can only agree with Soderbergh that "in Egyptian territory they (Tell el-Yahudiya juglets) were introduced long before the arrival of the Hyksos, and are found in tombs in Lower Nubia dating from a time when the Hyksos had hardly even reached Middle Egypt. The most that can be said about the connection between the Hyksos and the Tell el-Yahudiya jugs is that the Hyksos perhaps liked them, and that possibly greater quantities were imported when the Hyksos rulers controlled the trade than when it was handled by a more conservative Egyptian Government. It should also be stressed that these jugs were used in Egypt after the unpopular Hyksos had been expelled".

¹ *The Hyksos Reconsidered* (S.A.O.C. no. 18), 1939, p. 18.

² *J.E.A.* vol. 37 (1951) p. 53 ff.

In Cyprus, it has been stated, "the black lustrous juglets of the puncture-decorated Tell el-Yahudiya type, which are common on the mainland and have been related to the Hyksos, appear in Cyprus along with Syrian juglets in wheelmade red-lustrous ware"¹.

Thus, we see that this pricked ornamentation was first practised in Transjordan and Palestine, and the pricked Tell el-Yahudiya piriform juglets were not a product *par excellence* to the so-called Hyksos period. That the pricked piriform juglets were actually made in Palestine is proved by the discovery of kilns for these vessels by Ben Dor at Affula.

Cylindrical Juglets².

Cylindrical long necked juglets, with double or single handles, some of which have a clay pellet attached near the rim to simulate a rivet, are common in Palestine. They have rounded, slightly convex, or straight sides, ending with a slightly convex or flat base.

They are occasionally decorated with pricked dots arranged in various ways, which were originally filled with a white substance, probably lime, to accentuate the design.

At Gezer³ we can recognise a burnished prototype dated by the excavator to the "First Semitic" period; although the neck is slightly longer, and the handle is somewhat more bulging, yet the size is the same as those from Megiddo, and other features show it to be of the same type.

At Ras el-Ain⁴, one having a squat base and a double handle was found in Grave 2. The ware is brown, covered with a red slip and continuously burnished all over. A thumb impression left on the body indicates that the grooves were made by pressing the thumb against the vessel while turning on the wheel. The contents of the grave are of M. B. I type. Though this particular cylindrical juglet is not exactly of the usual type, yet it may be fairly accepted as a prototype.

At Megiddo excellent cylindricals have been found, one from tomb 4016⁵. This is of buff, gritty ware, lightly fired, with a well made thick red wash, and vertical burnish outside. Shipton's remark that "the presence of this form in stratum XV is unfortunate" is no doubt a reflection of the general opinion prevailing among archaeologists at the time. He wrote that the form was only typical of the M. B. II "Hyksos" period, despite the fact that the provenance of this jug from Megiddo is sound and the other contents of the tomb are a homogeneous M. B. I group. The others from Megiddo come from tomb 911 A I, a shaft grave of M. B. I⁶. Though reused, the contents of this tomb found with the juglets are also M. B. I.

At Tell ed-Duweir⁷ two examples were found under the "glacis" defence. The first is pricked, and second burnished.

¹ *Handbook to the Nicholson Museum* (2nd ed.) p. 146.

² Examples from the Amman Citadel Tombs, as yet unpublished, date from the 16th (painted) and 17th centuries (plain and polished).

³ *Gezer* III, pl. CXLIII: 5, also *Gezer* II, p. 139.

⁴ Ory, *op. cit.* fig. 87 and pl. XXIX: 5.

⁵ *Megiddo* II, pl. II: 4.

⁶ *Megiddo Tombs*, pl. 28: 39 and 40.

⁷ Tufnell, *Lachish* IV, pl. 77, no. 750, 751.

At Jericho one was found in Tomb 5, layer G, while in layer F the type disappears and in E appears again. This feature, recognised in Jericho Tomb 5, gives us the history of the cylindricals as noticed also at Megiddo: they appear very rarely in M.B. I tombs, disappear in phase I of the M. B. II period, and became abundant at the end of phase II and very common in phase III, by which time they have totally replaced the piriform Tell el-Yahudiya juglets. Tell Beit Mirsim produced a good number in strata E and D, but all are burnished, and none pricked or plain, i. e. the early type and the late M. B. II type are missing.

Albright¹ states that "there seems to be no chronological difference between the two types" (i. e. cylindricals and piriforms). With this I do not agree as regards Tell Beit Mirsim itself, since the provenances of the piriform Tell el-Yahudiya juglets which appear in strata G-F there² were sound, that type having been proved to have originated in Palestine about the M. B. I period, and since the piriforms survive until stratum D, though at no other site do they occur at the end of the M.B. II period, c. 1600-1550 B.C. (I think this is a low dating for stratum D of Tell Beit Mirsim., as I will show later). The cylindricals, on the other hand, were rare in E and abundant in D, which is the reverse of the case of the piriform Yahudiya juglets.

Trefoil and Pinched Mouth Jugs.

These trefoil mouth jugs have a semi-rounded body and a wide neck, with a triple, double or single handle, stretching from rim to shoulder. The body ends with a rounded base in its earliest period, a disc base later and with a ring base towards the end of the period of its use. The jugs vary in size and are long, medium or short. At the beginning they are burnished, though plain and wet-smoothed juglets are the most common and are abundantly found, especially at Megiddo.

I am inclined to consider the coastal region as their place of origin, e. g. Ajjul, and if we are to consider the trefoil mouthed jug of the Courtyard Cemetery (tombs nos. 1410 & 1413, pl. XXX, 34B9 & 34Z9 in *AG II*) found by Petrie to be of the same family, they are dated to M.B. I.

Megiddo tomb 5171 produced one³, described as of buff to pink-buff ware, white grits, well fired, and poorly made, as is that from Ajjul. It is hand-finished, wet-smoothed and has red decoration. The other contents of the tomb are of the M.B.I. period.

The technique improved at Megiddo, and the potters were producing very attractive, well made trefoil jugs by the beginning of the M. B. II period. Tombs 3072 and 3073 at Megiddo⁴ produced two well burnished jugs dated by other contents to the M. B. II period, while all the other trefoil mouth jugs found at Megiddo are wet-smoothed and have no burnish at all. The tombs fall clearly into our phases IIA, IIB, and III. The type is very common in the structural tombs.

¹ *AASOR XIII*, p. 78.

² *Ibid.* p. 65 and pl. 3: 13; *AASOR XII*, p. 17 and pl. 4: 17.

³ *Megiddo II*, pl. 11: 14.

⁴ *Ibid.* pl. 33: 30 (burnished) and pl. 34: 1 (with vertical burnish on neck, horizontal on body).

Gezer¹ cave 28: II produced three with a trefoil mouth and another with a pinched lip exactly as has been noticed in Megiddo tomb 24². One was found having a rounded vase in the M. B. II cemetery near Tell Aviv Harbour³.

At Jericho⁴ one was found in tomb 9, level (a) having one triple handle ending in a curl, with a ring base. The body is covered with a yellow slip. None was found in the earlier layers in this tomb or in any other tomb at all. This feature, added to the negative evidence from Tell Beit Mirsim stratum E, suggests to us that the trefoil mouthed jugs started on the coast region in the M. B. I period, and became common at Megiddo in M. B. II (our phases IIA and B), and from there were carried to Jericho and other inland cities.

The trefoil mouthed jugs do not appear at Ajjul, Beth-Pelet, or Duweir. It is the second type, which invariably exhibits a pinched lip, that occurs there, exactly as in Tell Beit Mirsim stratum D. These wide-mouthed jugs or pitchers, as Albright called them, also appear at Megiddo and Gezer together with the trefoils, but in heterogeneous tombs⁵. Albright speaks of them as a characteristic M. B. II form, with which I agree. Parallels to those discovered in Tell Beit Mirsim stratum D⁶ are available at Tell Ajjul (*AG* I pl. XLV: 36G); while that with pinched lip⁷, of our phase IIB, has a very close parallel at Tell Fara (*CPP*. 34 P3). All of them are unburnished, as are those found at Jericho⁸. Thus we may consider that jugs with a pinched lip are rare in phase IIB, while the trefoil mouth variety is rare in phase I, abundant in phase III and disappears suddenly afterwards.

Elongated Dippers.

Elongated dippers, with a loop handle and slightly pinched lip, are very common and well known, and little discussion is necessary to establish their date and range. They vary in length from about 10-25 cms. They first appear in M. B. I with a flat base, an elongated body and a red burnish. The base is finished off sometimes with a kind of knob. At the beginning of phase II (cf. Chart) the elongated pointed dippers start to appear. Red burnished slip rarely occurs and when it does the burnishing is badly done. Meanwhile the wet-smoothed plain dippers become dominant and the flat base begins to disappear. Rare distinctive characteristics may be noticed at the end of phase II, in the form of a ridge around the neck, and a divided handle.

At the very end of phase III the elongated pointed style disappears and is replaced by a small dipper, elongated with rounded base, and wet-smoothed. This type remains dominant until the end of phase IV.

Albright⁹ states that these elongated single handled jugs die out very rapidly in Late Bronze I and were replaced, probably before the beginning of Late Bronze II, by a type

¹ *Gezer* III, pl. XXXIII: 3 (with a highly carinated shoulder); pl. XXXVII: 3 (with rounded body), pl. XXXIX: 11 (similar). See also pl. XLI: 10.

² *Megiddo Tombs* pl. 23: 18, 20 and 21.

³ Kaplan, *Atiqot* I, fig. 2. no. 3.

⁴ *A.A.A.* XIX, pl. XXXII: 8.

⁵ *Megiddo Tombs*, pl. 23 (tomb 24) and *Gezer* III (cave 28: 11).

⁶ *AASOR* XIII, pl. 15, nos. 13 and 14.

⁷ *AASOR* XII, pls. 9: 4 and 42: 10 (stratum D).

⁸ *A.A.A.* XXI, pl. XVIII: 25, 30 and 33; pl. XX: 1.

⁹ *AASOR* XII, p. 21.

superficially much the same in appearance as those of my phase II, but of medium size, and showing marks of vertical paring with a knife all round the body¹.

Single Shoulder-handled Jugs.

These vessels have a long history. They either have a rounded body or a bellying one, with a long neck and flaring mouth. The handle is mostly divided, and rests on the shoulder. Those of Megiddo stratum XIII are obviously derived from the red burnished forms of stratum XIV. Examples from Megiddo Tomb 911 are shown at the top of my Chart (fig. 1). They are also found in the Ajjul Courtyard Cemetery² and Ras el-Ain³ in the M. B. I period. In phases A and B of M. B. II they tend to disappear; in the later phases they come back again but in debased forms.

In Syria they have been found in M. B. I contexts at Ras Shamra⁴. In Egypt the divided handle type can be traced back to the 12th Dynasty.

CONCLUSION.

It is no easy task to arrive at satisfactory conclusions based on the study of certain types of pottery vessels, and to draw up a chronological sequence for a period of 250 years based on typological series. The difficulty is even greater when an area of 36,000 square miles is to be covered. The most important sites in this area from the present point of view are Megiddo in the north, Gezer and Tell Beit Mirsim in the centre, Jericho in the Jordan rift, and Ajjul and Beth-Pelet in the south⁵.

I must draw attention to the fact that my phases are not rigidly set to a fixed number of years, but may vary by some 10-25 years. Most of the typological changes in the pottery are due to natural development or degeneration in the styles. It was, no doubt, a period of considerable movement of populations, but the basic culture remained the same, foreign elements being absorbed, and only in isolated instances might it be suggested that new forms or fashions are due to new elements in the population.

At the same time the ancient elite⁶ of the Palestinian Canaanites were also emigrating to neighbouring regions, particularly to Egypt.

I do not think that any of the pottery vessels represented on my Chart have been imported in the strict sense of the term. Some of the ideas, of course, may have been. The vessels themselves were certainly made in the country, as is shown by their characteristic local fabric. There are, on the other hand, some definite importations discernible in the ruins of M. B. I and II sites, and in burials of the period⁷.

¹ Many examples of elongated dippers come from the tombs on the Amman Citadel, as yet unpublished.

² Petrie, *AG.* II, pl. XXXV 68 T (tomb 1412).

³ Iliffe, *op. cit.* p. 125, no. 74.

⁴ Schaeffer, *Stratigraphie*, fig. 47, D.

⁵ To this list should now be added Amman, which has, since the above was written, produced some exceedingly important material of the Middle Bronze Age.

⁶ I.e. the rich aristocratic tribal rulers, with their followers of shepherd sheikhs.

⁷ It is hoped to discuss those imported objects on a later occasion.

The distinctive feature of the pottery of the M. B. II period is that it is virtually all wheel-made; no object illustrated on the Chart has been shaped by hand, though of course some of the cheapest types of cooking pot and similar wares were hand-made. The shapes are generally very graceful, especially the bowls, which have beautifully proportioned curves. It has been agreed by most archaeologists that the sharp carination noticed on bowls points to metallic prototypes, as I have mentioned in my treatment of carinated bowls. The metallic illusion was heightened in the earlier periods by the use of a red slip, which was carefully burnished all over with a stone or a spatula of bone until it shone like copper or silver. This technique has been noticed particularly in the early M. B. period, and remained common in the Palestine region until phase II A, when it began to disappear gradually until by phase II B we see a cream slip appearing. In phase III the vessels are burnished but without the red slip, and in phase IV the burnish also becomes rare, and the majority of vessels are plain and wet-smoothed. This development may be considered as a common feature of most of the types of vessels represented on the Chart.

As to the types of the different pottery vessels, a detailed description for each kind has been given above and now it only remains for me to explain the Frequency Graph (fig. 3).

The inverted rim of the phase I bowls replaces the painted broad rims of the earlier period and is a characteristic feature also of the bowls of phase II A. Meanwhile another type of bowl with straight side starts to appear, replacing gradually the inverted rimmed types until phase III, when straight sides are the characteristic feature.

The carinated bowls are either angular or flared. The angular carinated type has a long and early history. It has a red slip and is burnished. It dies out in phase III, and the flared carinated type, which has no red burnished slip becomes common. Traces of burnish with a self-slip are hardly to be seen in phase III, while in phase IV and V these flared bowls are mostly wet-smoothed.

Columns 5 and 6 refer to the piriform juglet, including both the Tell el-Yahudiya and cylindrical types. Piriform juglets are first abundant in M. B. I and M. B. II, phase I, and many are characterised by the pricked decoration of the Tell el-Yahudiya type which becomes very rare in phase II A, and totally disappears in phase II B, when it is replaced by the plain burnished style of decoration. But even this burnished technique disappears at the end of phase II, and plain black piriforms are in use for a short period until they, too, are totally replaced in phase III by the cylindrical juglets. These latter were in frequent use in phase II A and are fairly common in the latter phases, but one should bear in mind that occasionally earlier types of the cylindricals have pricked ornamentation and grey burnish while later they have burnish alone, and finally are plain, degenerating as regards decoration and technique, exactly as do the piriform types.

The goblets represented on the Graph are divided into two separate groups named after the sites where they are most frequent. The Jericho goblets with angular shoulders are descended from the type represented on the Chart as from tomb 3137 of Megiddo. They appear frequently in phase I, are common in phase II A, and rare in phase II B. The Megiddo goblets, which have a flaring carinated shoulder, seem to appear later in phase II. They are rare in phase II A and common in phase II B at Megiddo, as, conversely, the other type is at Jericho common in phase II A and rare in phase II B. But on the whole the Jericho goblet appears earlier and disappears sooner than the Megiddo type, except at Jericho itself, where it continues in use until the end of the M. B. period.

As the Jericho goblets are descendants from those of M.B. I, so the Megiddo goblets are also descended from the flared bowls of phase I represented on the Chart from Megiddo tombs 2145 and 3110. In technique they have practically the same historical development as has the Jericho type: first a red burnish, or a burnish and a cream slip, and then plain wet-smoothing only. But a red burnish slip is very rare, and wet-smoothing is the most common finish.

The pitchers either have a trefoil mouth or a pinched lip. The former has a long and early history, while the latter has a short and late one, i.e. starting only in phase II B and ending in phase IV, but appearing also in later periods in different shapes and forms.

Lamps may be considered as a characteristic feature of the M.B. II phases. None has been found in tombs of M.B. I, i.e. before 1750 B.C.. (Lamps were, of course, used in tombs in the earlier EB.-MB period, but these were of a distinctive four-spouted type).

To sum up: the derivation of all the M.B. II pottery discussed above from the fine wares introduced at the beginning of the period (i.e. phase I) is clear. The needs of the growing population, which undoubtedly included immigrants and displaced people from neighbouring countries, demanded a mass production in which fine craftsmanship disappeared. In the course of the M. B. II period, therefore, the standard of the pottery shows a definite decline, though the types of vessels and the advanced technical methods introduced at the beginning of the period survive throughout.

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CHRONOLOGICAL TABLE

M.B. I (1900-1800 B.C.)	Megiddo Tomb 911, and strata XV-XVII; Ras el-Ain; T.B.M. strata G-F-E; Tell el-Ajjul Courtyard Cemetery.
M.B. II Phase I (1800-1750)	Gezer tomb I and (probably) lower level of cave 28: II
Phase IIA (1750-1700)	Megiddo XI T.B.M. Stratum E Ajjul tomb 303 Jericho tomb 9 and tombs 4 and 5 (lower layers). Gezer cave 28: II upper levels (contents mixed).
Phase II B (1700-1650)	Megiddo early structural tombs Megiddo stratum X. T.B.M. stratum D Ajjul Palace 1 and tombs 300 Jericho tombs of 1952-56 excavations.
Phase III (1650-1600)	Megiddo: some structural tombs. T.B.M. stratum D Ajjul Palace 1 and Ajjul tombs 600-640. Jericho Palace store-rooms.
Phase IV (1600-1550)	Jericho Palace store-rooms Beth-Pelet Bilobate tombs 551, 550 & 559 and others. Ajjul tombs 600-640
Phase V (1550-1500)	Ajjul horse burials Duweir Fosse temple, structures I & II. Megiddo stratum IX - VIII.