

The River Qoueiq, Northern Syria and its Catchment

Studies from the Tell Rifa'at
Survey 1977-79

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Part I

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EARLY BRONZE IV

J. Matthers

1. Parallels Outside the Area

Much of the pottery found fits well with that found in the Royal Palace G of Tell Mardikh, called Mardikh II B 1, the latter level being dated 2400-2250 B. C. by the excavators, but they have yet to show that this ware did not start earlier. They could do this by showing tightly stratified layers of Mardikh II A (2900-2400). Instead they admit that: "Almost nothing is yet known of the occupations of the first half of the third millennium." (Matthiae 1980, page 52.) The excavator goes on to mention some architecture from this period as well as some Khirbet Kerak type pottery which characterized this period. But nothing is said as to whether the EB IV types are to be found in earlier levels.

In a recent publication, H. de Contenson suggests a gap in occupation at Ras Shamra from 3500-2900 B. C. and the following dates for III AI (2900-2400 B. C.), III A2 (2400-2250 B. C.) and for IIIA3 (2250-2000 B. C.). In this way Ras Shamra IIIA2 is contemporary with Mardikh II B1. (H. de Contenson 1979, pages 857-862.) Which leaves unexplained the continued presence of Khirbet Kerak ware at Ras Shamra, and its complete disappearance in Mardikh II B1.

Other published groups which are said to compare are those from the earlier levels of Hama J and Amuq I-J. There are indeed many similarities, but this material does not help us as to when these types first appeared.

The large and useful group of EB IV pottery from Hadidi (edited Freedman, Dornemann figures 12-19, 1979), still does not help us with our question about a chronology.

There are some other groups of EB IV pottery recorded, as the Hypogeum Tomb at Til Barsib, Tell'As etc. But they are too isolated to solve our question.

2. Parallels within Our Area

The recent excavation of an EB IV tomb by the Syrian Department of Antiquities under A. Suleiman at Annsar (Ansari) has yet to be published.

A sounding was made by the Dutch at Tell Akhtareine (Van der Meer and Hiller, page 191ff.). A glance at their illustrations is enough to show that they have got mixed layers: the EB IV levels are mixed with MB.

A site which deserves our attention is Tell Rifa'at. In 1956, Area F was excavated by an expedition in their first season. They were sponsored by the Institute of Archaeology, London University, under the direction of Dr. V. Seton-Williams. Area F was a small trench away from the tell. It

lay to the south-west of the tell and was sited next to a pathway. It is important as it was the only area excavated to bedrock in the 1956-1964 seasons.

As the trench was cut into a slope, the first ten layers were found to be mixed erosion fill. When this had been removed, the area was divided into two small squares, F1 and F2. Immediately below the erosion fill were clear layers of Iron II, characterised by the red slipped and burnished platters intrusive in the lower levels of this Iron II phase, in F1 (14) and FII (3), were sherds from EB IV. Below the Iron II horizon were 2 clear levels of EB IV. The upper being made of F1 (16) (18) and FII (4), and the lower consisting of FI (19) and FII (5). Within these 2 levels were 5 burials, 3 of which had grave goods. Below the EB IV down to bedrock only a small amount of material is recorded, but it seems to cover most phases after pre-ceramic and some before it. As was stated the recording of the material was not adequate. For example there is one piece that might be Khirbet Kerak ware. Altogether it is too scanty to be definitive about this or other questions.

The Field Notebook on the area, has the following notes:

A. For the Upper Layer of EB IV

- FI (16) "Below silo, a layer of black ash and brown red brick, small stones and much broken pottery. It appears to have been a destruction level. Stones were resting on it in the north-west corner."
- FII (18) "Dark chocolate earth at 1.47 m below base line. Fallen brick in north-west corner spilling over the south and east. Much ash was spreading out from pit (2) on the south-east. Pit (3) was packed with mud brick and defined by a plaster line on the north-west. Line of red and grey mud brick against it. Burial 1."
- FII (4) "Chocolate coloured soil with ash at south, much red brick earth. Burial 2."

B. For the Lower Level of EB IV

- FI (19) "Grey with much ash and brick. Line of boulders along north face above it. Burial 3."
- FII (5) "Grey-brown with some ash and brick earth. The line of stones against the north wall continues from FI (19). Burial 4."

C. For the Burials

- Burial 1 "Cut into the brick in FI (18). Skull 1.55 m (below base line)."
- Burial 2 "Found in FII (4) running into east wall below stones and set in mud brick. At least 2 bodies, 1 a child, with a baby in a pot. 6 vessels in grave."
- Burial 3 "Found in FI (19), 3 cm below stones."
- Burial 4 "Found in the steps in FII (5). Contained only one skull and one broken pot. The mud brick was above the skull. (On demolishing the steps the body was found to be covered and backed with mud brick.)"

Burial 5 "On cleaning the section on the last day, it was found in west section with 2 pots, one a tripod vessel. (Found in FI (19).)"

The pottery from these different layers are illustrated. They add what seems to be an important contribution to our knowledge of the period.

3. The Findings of the Survey 1977-1979

During the course of this Survey, many types were found which were identified as EB IV. Our most important find was at Tell Kadrich. We had just filled in the details and taken the necessary photographs, when one of the local people informed us that in digging pits for plaster, they had accidentally come across a pottery factory. On further inspection it appeared that they had stumbled upon a kiln dump dated to EB IV. There were masses of pottery, exclusively of this period. They consisted mainly of the smaller and finer wares. Among them were many obvious wasters, characterised by a discoloured and buckled surface, but they had all had some imperfection in them, all being wasters. We brought back a sample of the clear wasters as well as a sample of the most prevalent types present.

Restricting ourselves to 3 main types which cannot be mistaken, we still find EB IV pottery to be widely distributed.

1. The goblet, plain and often ribbed sides. This type is the hallmark of Mardikh II BI, early Hama J, Amuq I-J, the two levels at Tell Rifa'at, and at Tell Kadrich.
2. The small bowl with the upright rim, the rim is somewhat inverted and has a groove below it on the outside. They are published from Mardikh II BI (Matthiae 1980, fig. 16—3rd row, fig. 17—top row), and Tell Kadrich.
3. Bowls with a Crescentic Rim and a Cordon below the Rim on the Outside. Apart from the personal communication of P. Matthiae (Matthers et al., page 138), Tell Rifa'at Lower Level of EB IV and especially Tell Kadrich.

The chart showing the distribution of these 3 types and their variants involves 43 sites.

Other clear types of EB IV are illustrated. The simpler and less ambiguous types have been chosen, e.g. the Simple Inverted Bowl and Crescentic rims have not been included, as they can be claimed for many periods. Both diagrams lead us to the conclusion that occupation during this period was extensive.

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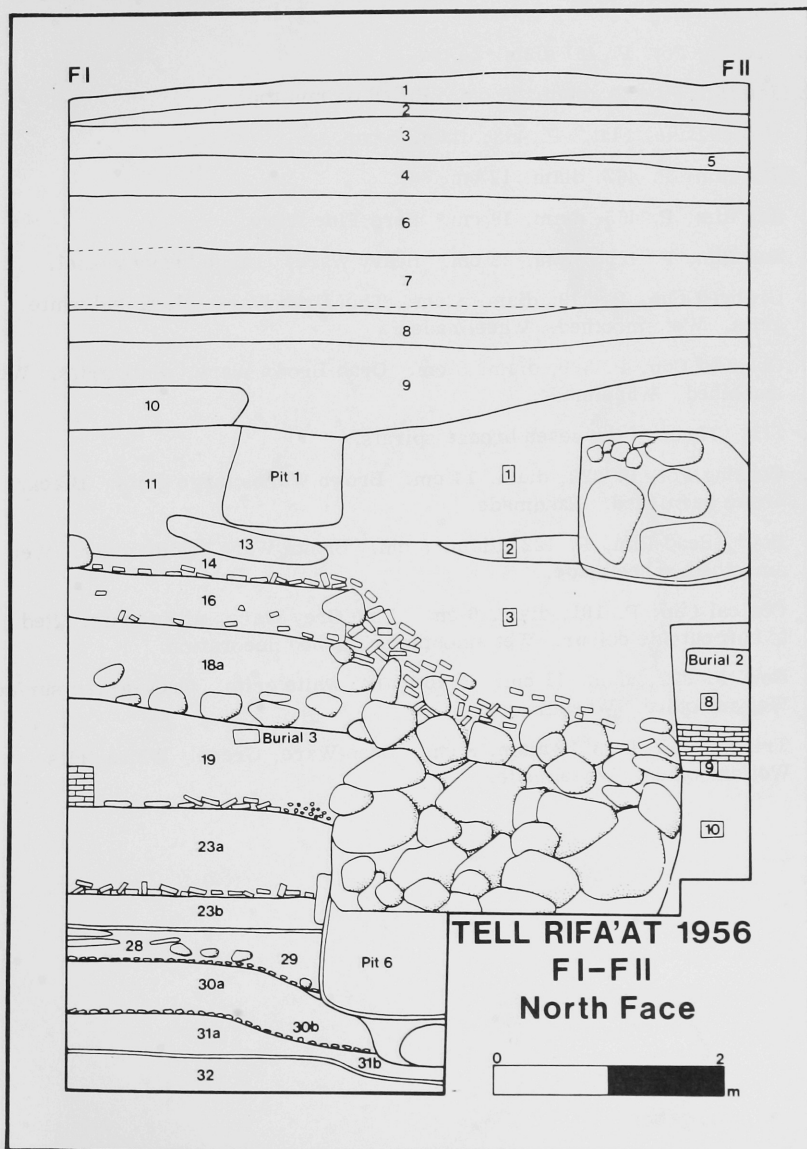


Fig. 203 North section of Area F 1-11,

Key to Fig. 204 Intrusive Sherds into F. I (14) and F. II (3), nos. 1-8 and Pottery from Tombs 2, 4, 5 nos. 9-16

1. Bowl P. 463, diam. 19 cm. Hard, Light grey Ware.
2. Bowl P. 464, diam. 20 cm.. Hard Reddish grey Ware. Fine white grits. Burnished.
3. Cooking Pot, P. 481 diam. 24 cm.
4. Jar Rim P. 482, diam. 26 cm. Rilled on rim top.
5. Goblet Base, Flat. P. 483, diam. 5 cm.
6. Jar Rim P. 462, diam. 12 cm.
7. Jar Rim, P. 465, diam. 18 cm. Hard Fine Ware.
8. Jar Rim, P. 425, diam. 22 cm. Heavy Ware. Large heavy vessel.
9. Grooved Cup, P. 319, diam. 8 cm. Thin Drab Ware, black and white grits. Wet smoothed. Wheelmade.
10. Grooved Cup, P. 320, diam. 8 cm. Drab Brown Ware, white grits. Wet smoothed. Wheelmade.
11. 111. Three of the seven bronze spirals.
12. Cooking Pot, P. 323, diam. 14 cm. Brown Ware, large grits. Black/brown burnished. Handmade.
13. Bowl, Bead Rim, P. 122, diam. 8 cm. Brown Ware, white grits. Wet smoothed, wheelmade.
14. Conical Cup, P. 101, diam. 6 cm. Fine Grey Ware, white grits. Red to buff outside colour. Wet smoothed. Ribbed decoration.
15. Bowl P. 322, diam. 11 cm. Drab Ware, white grits. Grey-green surface. Wet smoothed. Wheelmade.
16. Tripod Bowl, P. 321, diam. 8 cm. Drab Ware, Green. White grits. Wet smoothed. Wheelmade.

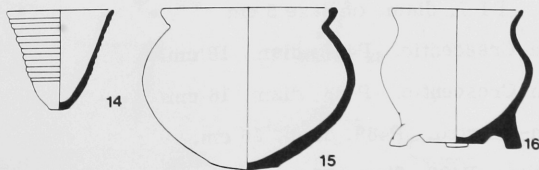
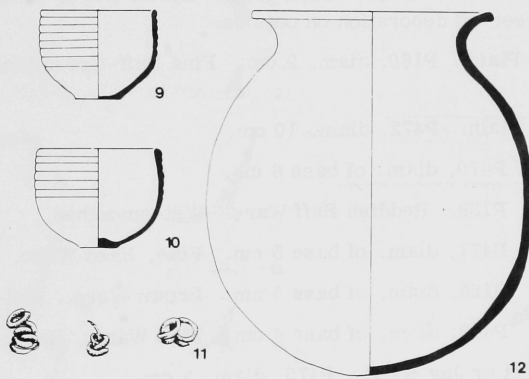
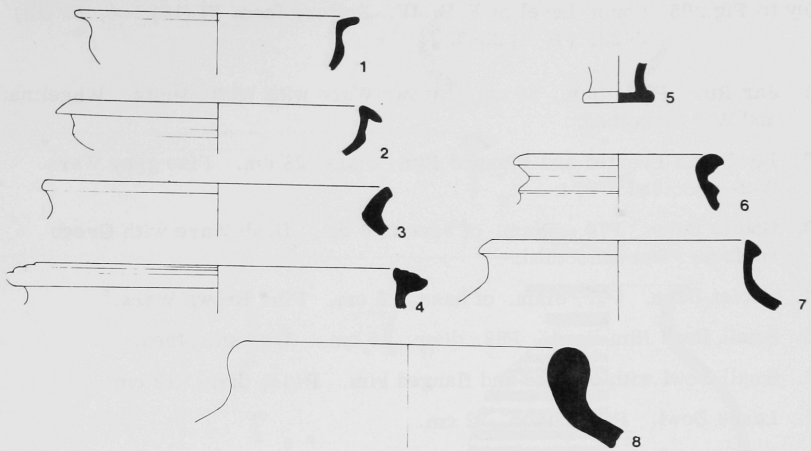


Fig. 204 Intrusive sherds and pottery from Tombs.

Key to Fig.205 Upper Level of E. B. IV: Pottery from FI (16) 1-4, FI (18)
5-22, FII (4) 23-33

1. Jar Rim, P71, diam. 24 cm. Brown Ware with White Grits. Wheelmade and Wet-smoothed.
2. Bowl with Everted and Flanged Rim, diam. 28 cm. Fine grey Ware. Wet-smoothed. P74.
3. Goblet Base. P76. Diam. of base is 6 cm. Drab Ware with Green surface. Wet-smoothed.
4. Goblet Base. P77, diam. of base 3.5 cm. Fine Brown Ware.
5. Small Bead Rim Bowl. P88. diam. 10 cm. Wet-smoothed.
6. Small Bowl with everted and flanged rim. P484, diam. 12 cm.
7. Large Bowl. P485, diam. 22 cm.
8. Goblet Rim, Plain. P486, diam. 7 cm.
9. Goblet Rim, Painted. P235. Dark grits. Brown Ware, Bands of black paint with reserved decoration on outside.
10. Goblet Rim, Plain. P160, diam. 9 cm. Fine Buff-Green Ware. Wet-smoothed.
11. Goblet Rim, Plain. P472, diam. 10 cm.
12. Goblet Base. P470, diam. of base 6 cm.
13. Goblet Base. P159. Reddish Buff Ware. Wet-smoothed.
14. Goblet Base. P471, diam. of base 5 cm. Fine, Hard Ware.
15. Goblet Base. P158, diam. of base 5 cm. Brown Ware. Wet-smoothed.
16. Goblet Base. P469, diam. of base 4 cm. Fine Ware. Hard.
17. Mouth of Juglet or Jug Spout. P475, diam. 3 cm.
18. Upper Part of Jar. P119, diam. 10 cm. Outside has Black Painted Lines, two have Reserved Decoration. Hard Red Ware.
19. Crescentic Jar Rim. P478, diam. 14 cm. Fine Hard Ware.
20. Large Store Jar Rim. P479, diam. 18 cm.
21. Base of Fine Jar. P476, diam. of Base 8 cm. Fine Ware, Well Fired.
22. Jar Base. P477, diam. of Base 5 cm.
23. Bowl Rim-Crescentic. P487, diam. 16 cm.
24. Bowl Rim-Crescentic. P488, diam. 16 cm.
25. Bowl Rim-Everted. P489, diam. 16 cm.
26. Platter Rim. P490, diam. 25 cm.
27. Goblet Rim Plain. P491, diam. 10 cm. Grooved on exterior. Hard Ware.

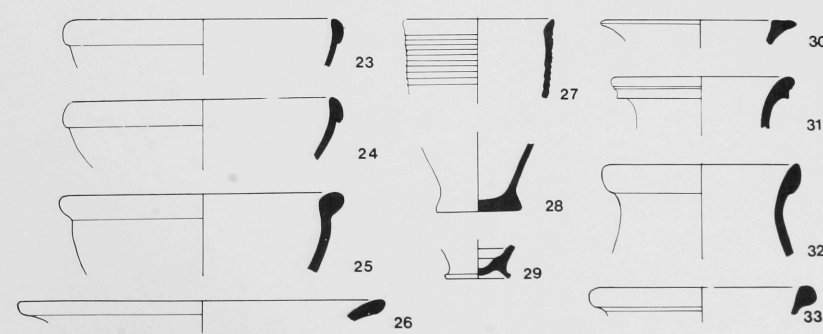
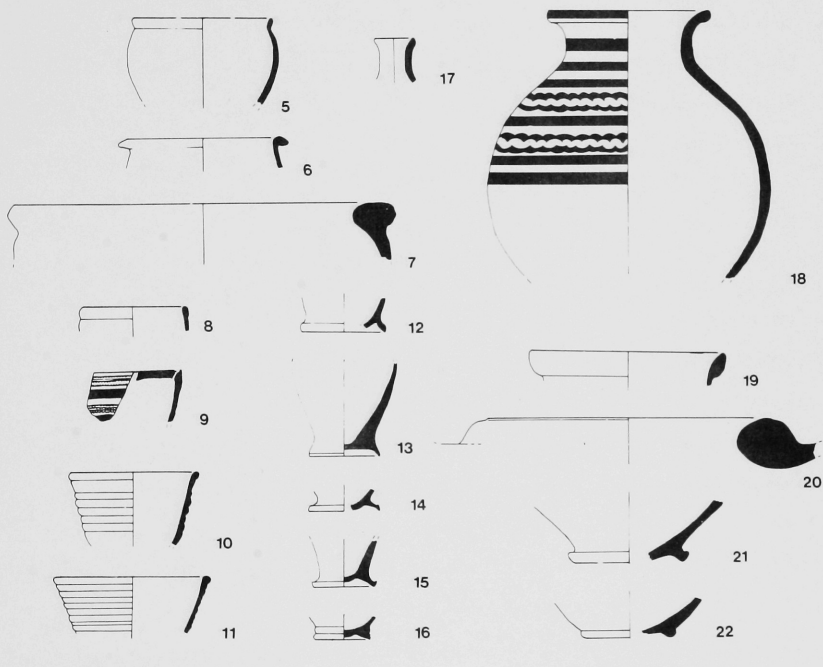
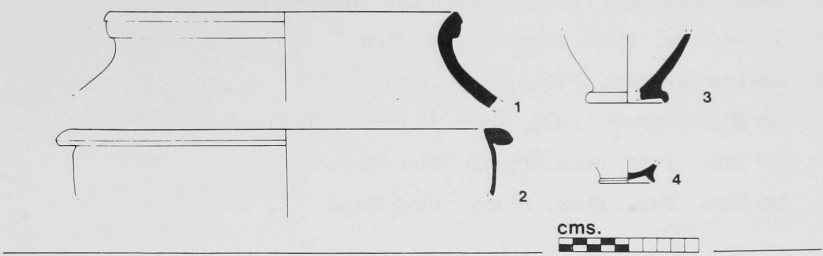


Fig. 205 Upper level of EB IV.

28. Goblet base, flat. P492, diam. 6 cm. Hard Ware.
29. Goblet Base. P493, diam. of Base 5 cm.
30. Bowl or Jar Rim. P494, diam. 14 cm.
31. Jar Rim-Everted. P495, diam. 12 cm. Well Fired.
32. Jar Rim. P496, diam. 13 cm. Fine Ware.
33. Jar Rim. P497, diam. 16 cm. Hard Ware.

Key to Fig. 206. Lower Level of E. B. IV. Pottery from FI (19) 1-21;
FII (5) 22-31

1. Bowl, P. 498, diam. 16 cm. Hard Ware.
2. Bowl, P. 499, diam. 30 cm.
3. Goblet Rim, P. 229, diam. 8 cm. Greenish buff clay, black grits. Bands on black paint with reserved decorations on outside.
4. Goblet Base, P. 500, diam. 3 cm.
5. Goblet Base, P. 120, diam. 5 cm. Hard Ware, white grits. Wet smoothed, wheelmade. Ribbed decoration.
6. Goblet Base, P. 501, diam. 6 cm.
7. Goblet Base, P. 502, diam. 6 cm. Hard, Fine Ware.
8. Jar Base, P. 503, diam. 6 cm. Grey Hard Ware.
9. Jar Rim, P. 504, diam. 10 cm. Fine Hard Ware. Everted rim, cordon below.
10. Jar Rim, P. 505, diam. 10 cm. Rim everted, cordon below.
11. Jar Rim, P. 300, diam. 11 cm. Fine Brown Clay, fine grits. Wet smoothed. Wheelmade. Ridge on shoulder.
12. Jar Rim, p. 506, diam. c. 36 cm.
13. Jar Rim, P. 507, diam. 10 cm. Everted rim, cordon below.
14. Jar Rim, P. 508, diam. 12 cm. Fine Ware. Everted Rim, Crescentic.
15. Jar Rim, P. 509, diam. 16 cm. Everted rim, Crescentic.
16. Jar Rim, P. 510, diam. 17 cm. Everted Rim, flattened top.
17. Jar Rim, P. 511, diam. 17 cm. Everted Rim, flattened top.
18. Jar Rim, P. 299, diam. 20 cm. Fine, Green Clay. Large black and white grits. Wet smoothed.
19. Cooking Pot, P. 512, diam. 25 cm. Brownish Hard Ware.
20. Cooking Pot, P. 513, diam. 24 cm. Hard, Fine Ware.
21. Cooking Pot, P. 514, diam. 28 cm. Large Bowl, Everted rim.
22. Cup/Bowl, P. 105, diam. 8 cm. Fine Grey green clay. Wet smoothed, wheelmade.
23. Bowl, Bead Rim, P. 123, diam. 11 cm. Brown Clay, white grits. Wet smoothed, wheelmade.
24. Small Jar Rim, P. 162, diam. 9 cm. Brown Clay, white grits.
25. Bowl Rim, Carinated, P. 167, diam. 9 cm. Brown Clay, black and white grits. Wet smoothed.
26. Bowl, Bead Rim, P. 161, diam. 12 cm. Fine Brown Ware, white grits. Wet smoothed.

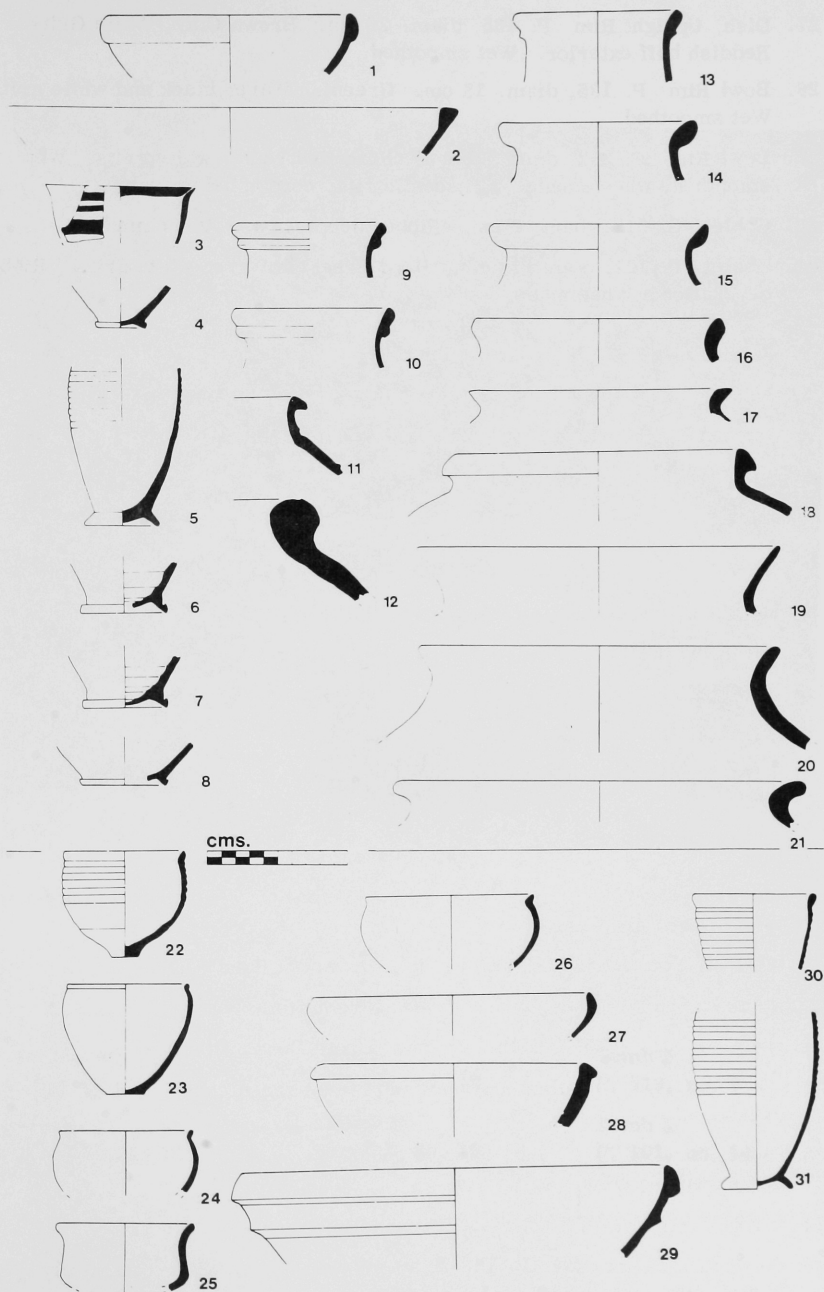


Fig. 206 Lower level of E BIV.

27. Dish, Upright Rim P. 165, diam. 20 cm. Brown Clay, White Grits. Reddish buff exterior. Wet smoothed.
28. Bowl Rim P. 135, diam. 18 cm. Greenish Ware, black and white grits. Wet smoothed.
29. Bowl Rim P. 282, diam. 30 cm. Hard Red Ware, white grits. Wet smoothed, wheel-made. Crescentic rim, cordon below.
30. Goblet, P. 515, diam. 8 cm. Ribbed decorations. Wheelmade.
31. Goblet, P. 121, diam. 13 cm. Hard Greenish Ware, white grits. Ribbed decoration. Wheelmade.



Fig. 207

FII(5) no. 22
P. 105

Tomb 2
P. 320, no. 10

Tomb 2
P. 323, no. 12

Tomb 5
P. 322, no. 15

Tomb 2
P. 319, no. 9

Tomb 5
P. 101, no. 14

Key to Fig. 208 The Main Pottery Types Found in the Kiln Dump at Tell Kadrich

1. Small Bowl with Inverted Rim. Diam. 12 cm. Fine hard ware, 7.5 YR 5/4 (Brown). Grey core. Ext. Colour 5YR 5/6 (Yellowish-Red). White Grits.
2. Small Bowl with Inverted Rim. Diam. 12 cm. Fine Hard Ware. 7.5 YR 5/4 (Brown). Ext. Colour 7.5 YR 6/4 (Light brown). Fine White Grits.
- 3-7. Simple Bowls with Upright Rim, and Inverted with a carination.
 3. Diam. 16 cm. Fine Hard Ware, with clay colour 2.5 YR 5/2 (Greyish Brown). Ext. Colour varies from 7.5 YR 6/4 (Light Brown) to 10 YR 5/3 (Brown). White Grits. Air bubble near rim on outside.
 4. Diam. 17 cm. Fine Hard Ware, with clay colour 2.5 YR 5/6 (Red). Core dark Grey. Ext. Colour 2.5 YR 6/4 (Light Reddish Brown). Black and White Grits.
 5. Diam. 17 cm. Fine Hard Ware with clay colour 7.5 YR 6/4 (Light Brown). Ext. Colour 10 YR 6/3 (Pale Brown). White Grits.
 6. Diam. 19 cm. Fine Hard Ware with clay colour 10 YR 7/3 (Very Pale Brown). Ext. colour 10 YR 6/3 (Pale Brown). White Grits.
 7. Diam. 19 cm. Fine Hard Ware. Clay Colour 10 YR 4/2 (Dark Greyish Brown). Ext. Colour 10 YR 6/4 (Light and yellowish Brown). White and Black Grits. Air bubble coming up outside rim.
- 8-9. Simple Bowls with Crescentic Rims.
 8. Diam. 18 cm. Fine Hard Ware. Clay Colour 10 YRV 6/4 (Light Brown). Ext. Colour 7.5 YR 6/4 (Light Brown). White Grits.
 9. Diam. 23 cm. Fine Hard Ware with Clay Colour 7.5 YR 5/4 (Brown). Ext. Colour 7.5 YR 6/4 (Light Brown). White Grits.
- 10-14. Bowls with Crescentic Rim and Cordon below Rim on Outside.
 10. Diam. 19 cm. Fine Hard Ware with Clay Colour 7.5 YR 5/4 (Brown). Ext. Colour 7.5 YR 6/4 (Light Brown). White Grits.
 11. Diam. 23 cm. Fine Hard Ware, with Clay Colour 7.5 YR 5/4 (Brown). Ext. Colour 7.5 YR 6/4 (Light Brown). Large and small white grits. Air bubbles appearing outside rim.
 12. Diam. 23 cm. Fine Hard Ware with clay Colour 10 yr 7/3 (Very Pale Brown). Small White Grits.
 13. Diam. 23 cm. Fine Hard Ware, with clay Colour 5 YR 5/6 (Yellowish Red). Ext. Colour 5 YR 6/4 (Light Reddish Brown). Fine White Grits.
 14. Diam. 28 cm. Fine Hard Ware with Clay Colour 7.5 YR 5/4 (Brown). Ext. Colour 7.5 YR 7/4 (Pink). White Grits.
- 15-18. Plain but Ribbed Goblet rims
 15. Diam. 7 cm. Fine Hard Ware with Clay Colour. 7.5 YR 5/4 (Brown). Dark Grey Core. Ext. surface ribbed, and 5 YR 5/4

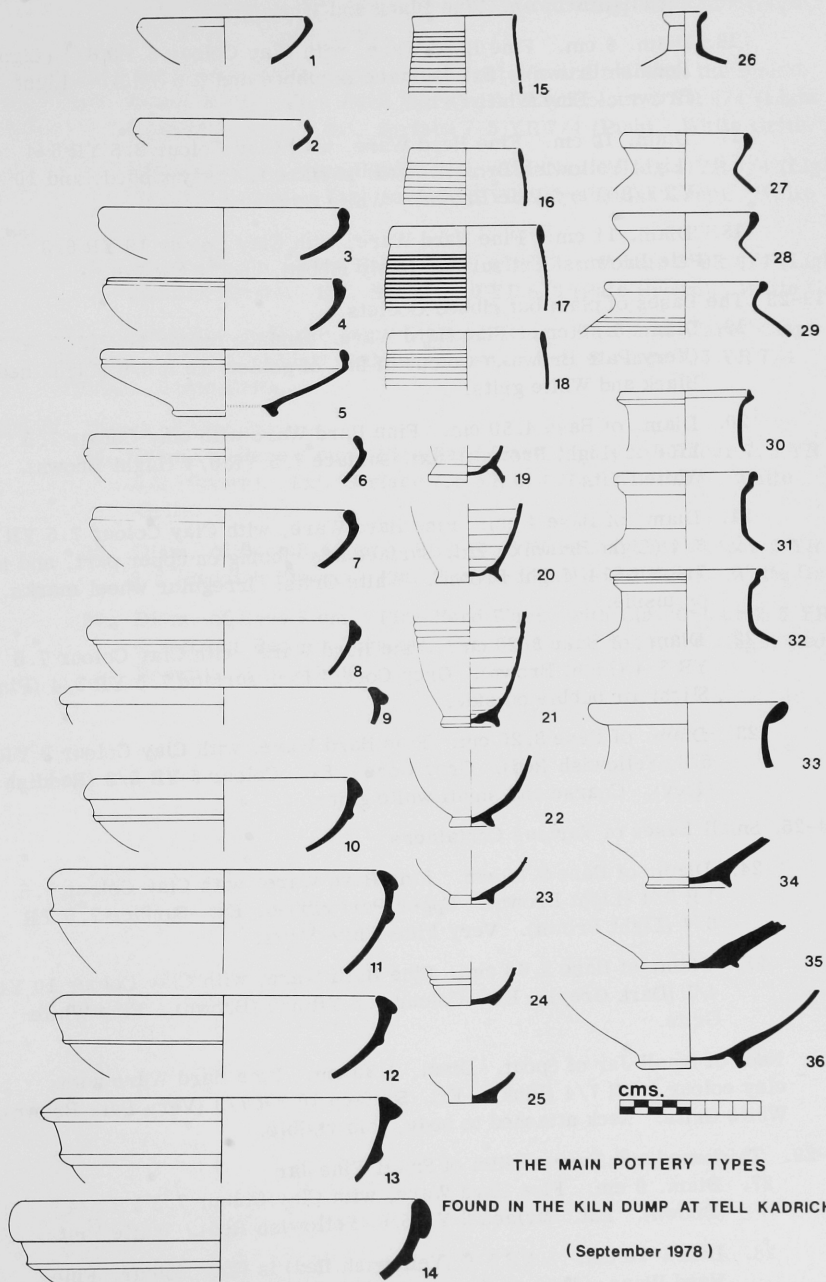


Fig. 208 The Main Pottery Types found in the Kiln Dump at Tell Kadrich.

(Reddish Brown). Fine Black and White grits.

16. Diam. 8 cm. Fine Hard Ware, with Clay Colour 5 YR 6/4 (Light Reddish Brown). Ext. surface is ribbed and 7.5 YR 6/4 (Light Brown). Fine White Grits.
 17. Diam. 10 cm. Fine Hard Ware, with Clay Colour 2.5 YR 6/4 (Light Yellowish Brown). Ext. surface is finely ribbed, and 10 YR 7/3 (Very Pale Brown). White Grits.
 18. Diam. 11 cm. Fine Hard Ware, with Clay Colour 10 YR 6/3 (Pale Brown). Ext surface finely ribbed, and 10 YR 7/3.
- 19-23 The Bases of plain but ribbed Goblets.
19. Diam. 5.60 cm. Fine Hard Ware. Surface colour 10 YR 7/4 (Very Pale Brown). Colour of Int. of goblet, 10 R 6/6 (Light Red). Black and White grits.
 20. Diam. of Base 4.80 cm. Fine Hard Ware with clay Colour 7.5 YR 6/4 (Light Brown). Ext. surface 7.5 YR 6/4 (Light Brown). White Grits.
 21. Diam. of Base 4 cm. Fine Hard Ware, with Clay Colour 7.5 YR 6/4 (Light Brown). Ext. surface has ribbing on upper part, and is 7.5 YR 6/4 (Light Brown). White Grits. Irregular wheel marks on inside.
 22. Diam. of Base 3.20 cm. Fine Hard Ware, with Clay Colour 7.5 YR 6/4 (Light Brown). Grey Core. Ext. surface 7.5 YR 7/4 (Pink). Slight air bubble on side.
 23. Diam. of Base 3.20 cm. Fine Hard Ware, with Clay Colour 5 YR 5/6 (Yellowish Red). Grey Core. Ext. Colour 5 YR 5/2 (Reddish Grey). Coarse and small white grits.
- 24-25. Small Bases of Various Containers
24. Diam. of Base 3.20 cm. Fine Hard Ware, with Clay Colour 7.5 YR 6/4 (Light Brown). Upper Part ribbed, Ext. Surface 7.5 YR 6/4 (Light Brown). Very Fine White Grits.
 25. Diam. of Base 3.60 cm. Fine Hard Ware, with Clay Colour 10 YR 4/1 (Dark Grey). Ext. Colour 7.5 YR 5/2 (Brown). Fine White Grits.
26. Neck of Small Jar of Spout. Diam. 2.80 cm. Fine Hard Ware with clay colour 5 YR 7/4 (Pink). Ext. Surface 10 YR 7/3 (Very Pale Brown). White Grits. Neck attached to body, join visible.
- 27-29. Thickened and Everted Rim of Small Fine Jar
27. Diam. 9 cm. Fine Hard Ware, with Clay Colour 7.5 YR 5/4 (Brown). Ext. Surface 5 YR 5/6 (Yellowish Red). White Grits.
 28. Diam. 10 cm. 5 YR 5/6 (Yellowish Red) is Clay Colour, Fine Hard Ware. Ext. surface is 7.5 YR 7/4 (Pink). White Grits.
 29. Diam. 12 cm. Fine Hard Ware, with Clay Colour 7.5 YR 6/4

(Light Brown). Ext. Surface has Fine Ribbing, and Colour 7.5 YR 7/4 (Pink). White Grits.

- 30-32. Fine Jar Necks with a Cordon on the outside and a denton the inside.
30. Diam. 9 cm. Fine Hard Ware with Clay Colour 5 YR 6/4 (Light Reddish Brown). Ext. Surface 7.5 YR 7/4 (Pink). White Grits.
31. Diam. 10 cm. Fine Hard Ware, with Clay Colour 5 YR 6/4 (Light Reddish Brown). Ext. Surface 5 YR 6/2 (Pinkish Grey). White Grits.
32. Diam. 11 cm. Fine Hard Ware, with Clay Colour 5 YR 6/4 (Light Reddish Brown). Ext. Surface 10 YR 6/3 (Pale Brown). White Grits.
33. Crescentic Rim of Large Jar. Diam. 14 cm. Fine Hard Ware, Clay Colour. 5 YR 6/4 (Light Reddish Brown). Ext. Surface 7.5 YR 7/4 (Pink). White Grits.
- 34-36. Bases of Fine Jars.
34. Diam. of Base 6 cm. Fine Hard Ware, and Clay Colour 7.5 YR 5/4 (Brown). Ext. Surface 7.5 YR 6/4 (Light Brown). White Grits.
35. Diam. of Base 5.80 cm. Fine Hard Ware and Clay Colour 5 YR 5/4 (Reddish Brown). Ext. Surface 2.5 YR 5/6 (Red). White Grits.
36. Diam. of Base 8 cm. Fine Hard Ware, with Clay Colour 2.5 YR 6/4 (Light Reddish Brown). Ext. Surface 2.5 YR 6/6 (Light Reddish Brown). White Grits.



Fig. 209 Some wasters found in the Kiln Dump at Tell Kadrich.

	GOBLETS				BOWL WITH CRESCENTIC RIM, CORDON BELOW					
	Rim	Compressed ring base	High ring base	Small bowl, upright rim	TYPE					
					1	2	3	4	5	6
T. Asjar	x			x						
T. Aar	x			x						
Aazaz	x	x			x		x	x	x	
T. Ahmar	x		x							
T. Akhtareine	x	x	x		x				x	
T. Archaq	x			x	x				x	
T. Bahouerte	x	x	x	x	x		x		x	
T. Banat	x	x	x	x	x	x		x	x	
T. Bararhite	x	x	x						x	
T. Battal Chimali	x	x						x	x	
T. Berne	x		x							
T. Botnan	x		x	x						
T. El Cadi	x									
T. Chair	x		x	x	x	x		x	x	
T. Dabiq	x	x	x		x					
Douabiq	x	x	x	x	x		x			x
T. Fafine	x		x	x		x		x	x	x
Ain Fuwwar	x		x					x	x	
T. Hallane	x			x	x					x
Haour en Nahr				x						
T. Haourane	x					x				
T. Jaadiveh		x	x	x	x					
T. el Jijane	x		x	x	x		x	x	x	
T. Kadriah	x	x	x	x	x			x	x	
T. Karmine				x						
T. Kassiha		x			x				x	
T. Khibi				x	x			x		
T. Maksour				x						
T. Maled	x	x	x	x	x					
T. Mouslimiye			x							
T. Nef	x	x	x	x			x		x	
T. Nourbol	x	x	x						x	
Qara Kibupru		x								
T. Qaramel	x	x	x	x					x	
Qol Srout	x									
T. Rail	x	x	x		x					x
T. Ramousse				x						
T. Rifa'at										
T. Sfeir										
T. Sourane A	x	x	x	x	x			x	x	x
T. Soussiane	x			x						
Tourhleu				x						
Yel Baba	x	x	x		x					

Fig. 210 The distribution of some EB IV Types.

	SMALL FINE JARS, THICKENED RIM			Solid foot	Hollow foot	HOLE MOUTH JAR, BULBOUS THICKENED RIM				GOBLET, HARDIHK II, B, 2	
	Type 1	Type 2	Type 3			Small Type 1	Small Type 2	Large Type 3	Large Type 4	Flat bases	Painted rims
T. Asjar											
T. Aar										x	
T. Aarane			x								x
Aazaz				x							
T. Akhtareine	x				x			x		x	
T. Archaq			x			x	x	x	x		
T. Bahouerte	x	x	x	x	x						
T. Banat						x	x		x		
T. Bararbite				x							
T. Battal Chimali			x						x		
T. Berne			x							x	x
T. el Cadi			x								
T. Chair		x				x					
T. Dabiq	x					x	x				x
Douabiq		x	x					x			
Ain Fuwwar								x			
T. Hailane		x	x	x					x		
T. Jaadiyeh	x				x					x	x
T. el Jijane			x					x	x		
T. Kadrieh	x	x	x		x						
T. Kaffine											x
T. Karmine										x	
T. Kassiha		x		x		x	x				
T. Maled				x		x	x	x			x
T. Malek				x							
T. Mousimiyeh		x	x								
T. Nef		x									
T. Noubbol									x		
Qara Keupru										x	
T. Qaramol				x	x			x			
T. Qoubessine		x	x	x					x		
T. Rahhal					x					x	
T. Rail		x				x					
T. Sourane A		x			x						
T. Soussiane					x				x		
T. Soussiane		x									
Yel Baba				x	x		x				

Fig. 211 The distribution of some EB IV Types.

PETROLOGICAL EXAMINATION OF BRONZE AGE IV FABRICS

John A. Riley

The Sample

10 waster pieces of Type 17 and Type 30 from Tell Kadrich were compared petrologically with nine normally fired samples of these types as well as Type 17 from the same site. These were then compared with a sample of clay from Tell Kadrich considered to be a likely source of potting clay.

In addition, 23 samples of the same forms from six other sites in the region between Jebel Seman and Jebel Shawa were thin-sectioned and compared with the sample from Tell Kadrich.

Method

The principles and methods of petrological analysis have been extensively discussed (Shepard 1965, Peacock 1977 and references). In summary, these involve considering pottery as a metamorphosed sedimentary rock and using geological techniques to identify the rocks and the minerals within the clay of the pottery. These are then related to the likely geological sources which are most compatible with the archaeological evidence. The procedure adopted was to mount a fragment (ca. 1 cm²) of pottery onto a glass microscope slide and to grind it to a thickness of 0.03 mm, so that it is transparent and suitable for examination under a petrological microscope. The advantages of this method are that it is relatively cheap, the conclusions can easily be checked, and the results relate directly to geology.

Results

Of the 42 samples of local forms, 38 belong clearly within one petrological group. The remaining four samples (P21, P28, P29, P30) are related geologically and are distinguished on the basis of relative proportions of certain minerals, mainly carbonates and plagioclase feldspar. Three fabric groupings could be distinguished.

Fabric 1 (P1-P20, P22-P27, P31-P42)

This fabric is rich in foraminifera and calcite (average frequency ca. 10-15 per mm², and with an average diameter of ca. 0.2 mm). In cases where the foraminifera/calcite is not clear (e.g. P7, P9, P10), there are numerous voids containing traces of carbonates at the edges. It seems likely that in these cases the carbonates were largely burnt out during firing. Angular grains of plagioclase feldspar (andesine/labradorite) occur frequently (ca. 6-8 per mm²); these are well sorted with an average size of ca. 0.1-0.2 mm across. Clinopyroxene grains (measuring up to 0.2 mm across) are regular (at least one grain per mm²), and epidote, altered ferromagnesian minerals and small lumps of limestone are scattered throughout the

samples. Other less frequent inclusions include fine grained yellow siliceous fragments (the preservation of these fragments is not good, but they may be chert), occasional lava fragments (0.1-0.2 mm across), and rare detrital quartz (ranging in size from 0.1 to 0.4 mm across). Small fragments of basalt are also occasionally present.

Origin

The petrology suggests that the origin of Fabric 1 is a mainly sedimentary area, but with the presence of volcanic rock which has undergone low grade metamorphism in the vicinity. This well fits the geology of the Tell Kadrich region (as well as the area surveyed in general), which comprises Tertiary marine deposits punctuated by areas of basalt (see Fig. 212).

Fabric 2 (P21, P29)

The two samples contain an abundance of plagioclase feldspar (average frequency ca. 30 per mm²), which is well sorted, with an average size of ca. 0.1 mm across. Pyroxenes occur regularly (as with Fabric 1), as do epidote, occasional pieces of chert and lava fragments. Carbonates are not present, although these may have been present in the rounded voids in the samples.

Origin

The mineralogical composition of this fabric is similar to that of Fabric 1 and certainly well fits the geology of the area. This may be of a different origin to Fabric 1 (but within the area covered by the Survey), or may represent a different clay recipe. Further research is necessary to define this.

Fabric 3 (P28, P30)

This group comprises two samples. These contain abundant calcite and foraminifera (8-10 per mm², ranging in size from 0.1-0.5 mm across). Plagioclase feldspar is rare, and pyroxene was not noted. Other minerals include fine grained yellow siliceous fragments (possibly chert) — these are abundant in P30, but poorly represented in P28 — and regular rounded iron ore grains.

Origin

The mineralogical assemblage suggests a sedimentary origin for this fabric, and well fits the geology of the region. However, there is no basaltic component in the clay, which suggests the use of a different clay source (or a different mix of clays) from Fabrics 1 and 2. This fabric occurs only at Tell Kaffine.

Clay Sample from Tell Kadrich

A sample of malleable clay from Tell Kadrich was re-fired to both 900°C and 950°C and remained at those temperatures for one hour. On cooling the clay crumbled, providing confirmation that it could not have been used by itself without 'filler' for pottery making. No plagioclase feldspar nor carbonates are noted in thin-section. There is a sparse quantity (ca. 4-5 per mm²) of small, well sorted quartz grains (0.1 mm across), occasional altered ferromagnesian minerals, a little epidote, pyroxene, iron ore and fine grained yellow siliceous fragments (possibly chert).

From this examination, this clay would not have been used by itself in the production of any of the fabrics identified in thin section above. However, the use of this clay in conjunction with other clays cannot be ruled out.

Conclusion

The distinctive geology of the area covered by the Tell Rifa' at survey is reflected in the rocks and minerals within the pottery fabrics. This allows ready petrological identification of imported ceramics. There is also evidence that finer distinctions within the area can be made, although a much larger sample is necessary to confirm this.

There is little variation in the mineralogical composition of the individual samples comprising Fabric 1. Technologically, this suggests that the same clay recipe was being used for all these samples. This would support the hypothesis that the Tell Kadrich workshop produced all the examples of Fabric 1. Fabric 2 suggests another recipe, possibly from another workshop or source within the region; this fabric has only been noted in the central part of the area covered by the Survey. Fabric 3 occurred only at Tell Kaffine and may be related to a source in that area, although a larger sample is necessary to confirm this. Although up to three different workshops may be represented in this programme of analysis, the repertoire of forms seems to have been constant in all of these. Of the four samples of Fabrics 2 and 3, three were of Type 17 and one was of Type 30.

Appendix

List of Survey Pottery Sampled

Survey Pottery Sampled

- P1 Tell Kadrach, Type 17, Rim, waster sherd
- P2 Tell Kadrach, Type 17, Rim, waster sherd
- P3 Tell Kadrach, Type 30, Rim, waster sherd
- P4 Tell Kadrach, Type 30, Rim, waster sherd
- P5 Tell Kadrach, Type 30, Base, waster sherd
- P6 Tell Kadrach, Type 30, Base, waster sherd
- P7 Tell Kadrach, Type 30, Base, waster sherd
- P8 Tell Kadrach, Type 30, Body sherd, waster
- P9 Tell Kadrach, Type 30, Body sherd, waster
- P10 Tell Kadrach, Type 30, Body sherd, waster

- P11 Tell Kadrach, Type 30, Rim
- P12 Tell Kadrach, Type 30, Rim
- P13 Tell Kadrach, Type 30, Rim
- P14 Tell Kadrach, Type 17, Rim
- P15 Tell Kadrach, Type 17, Rim
- P16 Tell Kadrach, Type 17, Rim
- P17 Tell Kadrach, Type 8-11, Rim
- P18 Tell Kadrach, Type 8-11, Rim
- P19 Tell Kadrach, Type 8-11, Rim
- P20 Khibi, Type 8-11, Rim
- P21 Tell Maled, Type 30, Rim
- P22 Tell Hailane, Type 30, Rim
- P23 Tell Hailane, Type 30, Rim
- P24 Tell Hailane, Type 30, Rim
- P25 Tell Hailane, Type 8-11, Rim
- P26 Tell Kaffine, Type 30, Rim

- P27 Tell Kaffine, Type 30, Rim
 P28 Tell Kaffine, Type 17, Rim
 P29 Tell Kaffine, Type 17, Rim
 P30 Tell Kaffine, Type 17 variant, Rim
 P31 Tell Kaffine, Type 8-11 variant, Rim
 P32 Tell Kaffine, Type 8-11 variant, Rim
 P33 Tell Hailane, Type 17, Rim (1978)
 P34 Soussiane, Type 30, Rim
 P35 Soussiane, Type 8-11, Rim
 P36 Soussiane, Type 8-11, Rim
 P37 Tell Battal, Type 30, Rim
 P38 Tell Battal, Type 30, Rim
 P39 Tell Battal, Type 17, Rim
 P40 Tell Battal, Type 8-11, Rim
 P41 Tell Battal, Type 8-11, Rim
 P42 Tell Battal, Type 17 variant, Rim

Note: The 'P' numbers are marked on each sherd. All sherds are from the 1977 survey except for the two Mycenaean sherds and P33.

Acknowledgements

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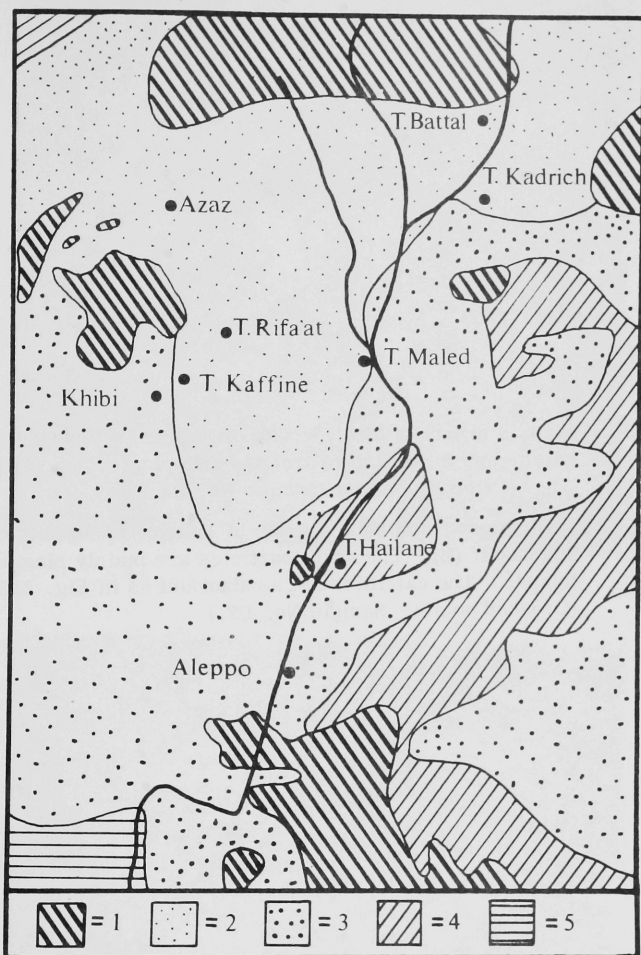
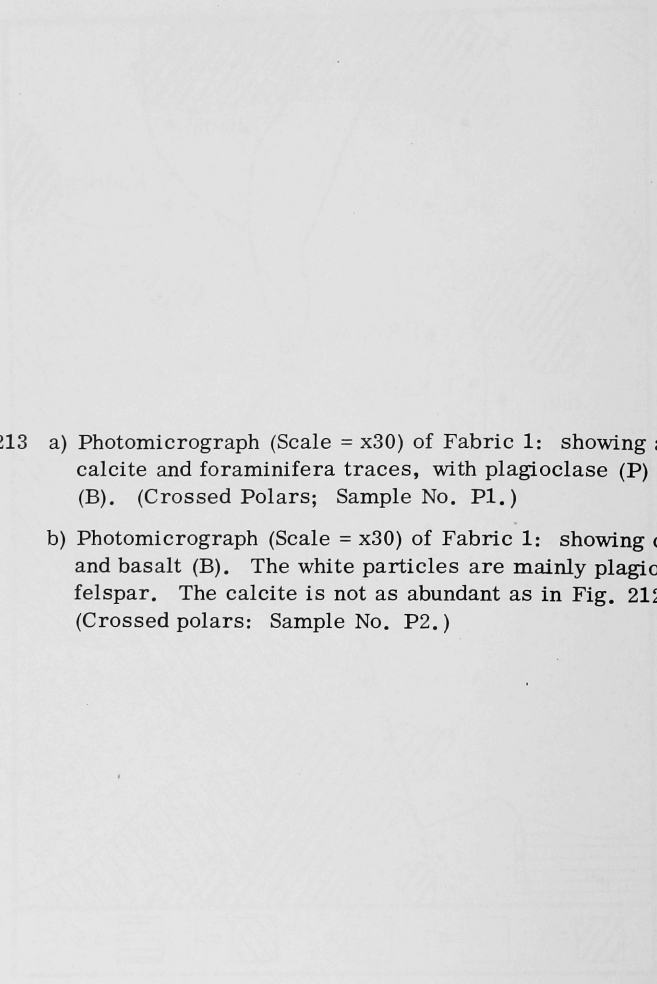
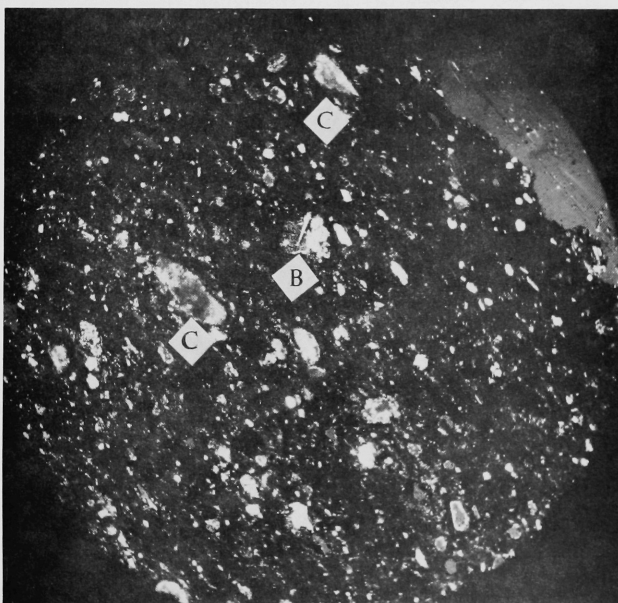
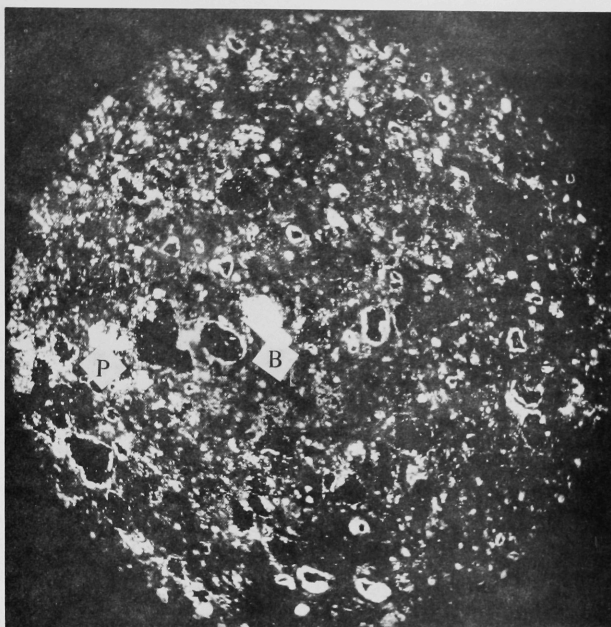
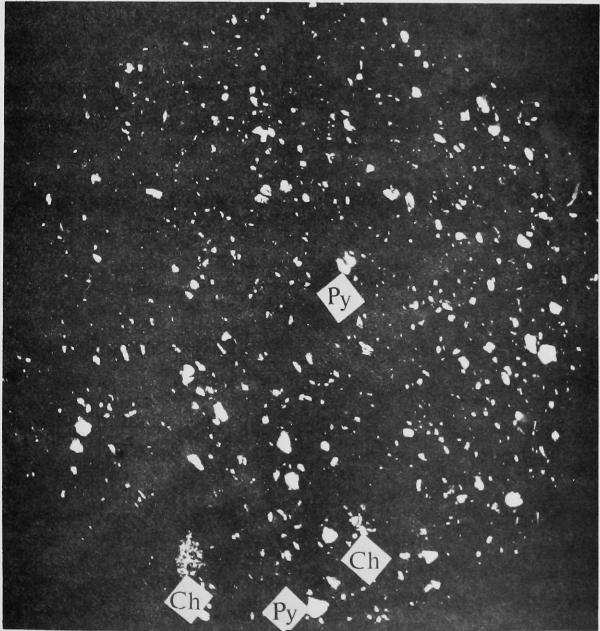
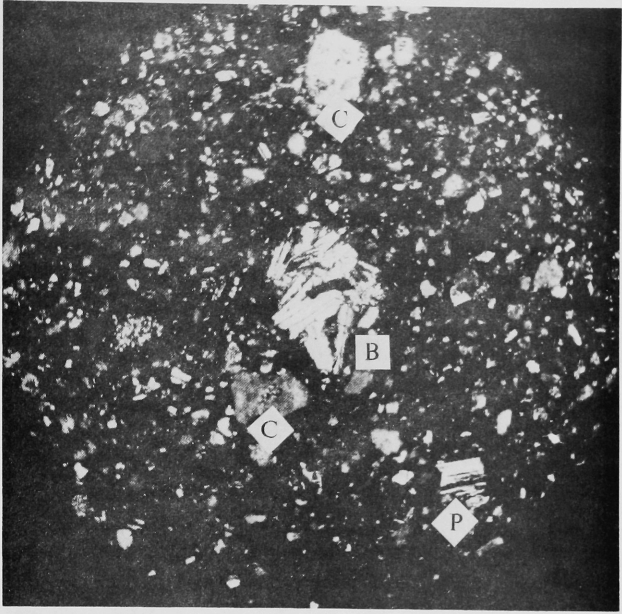


Fig. 212 Geological Sketch Map of the Area covered, Tell Rifa' at Survey (after Ponikarov 1964).
 Key: 1) Basalt; 2) Pliocene conglomerates, sandstone, limestone, marls and marine clays etc.; 3) Miocene limestone, marls and marine clays etc.; 4) Eocene chalky and nummulitic limestone and marls; 5) Alluvium.

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- Fig. 213 a) Photomicrograph (Scale = x30) of Fabric 1: showing abundant calcite and foraminifera traces, with plagioclase (P) and basalt (B). (Crossed Polars; Sample No. P1.)
- b) Photomicrograph (Scale = x30) of Fabric 1: showing calcite (C) and basalt (B). The white particles are mainly plagioclase feldspar. The calcite is not as abundant as in Fig. 212(a). (Crossed polars: Sample No. P2.)



- Fig. 214 a) Photomicrograph (Scale = x30) of Fabric 1: showing basalt (B), calcite (C) and plagioclase (P). The smaller white particles are mainly plagioclase. (Crossed polars; Sample No. P42.)
- b) Photomicrograph (Scale = x30) of Fabric 2: showing porportions of plagioclase (white particles), and also chert (Ch) and pyroxenes (Py). (Crossed polars; Sample No. P211.)



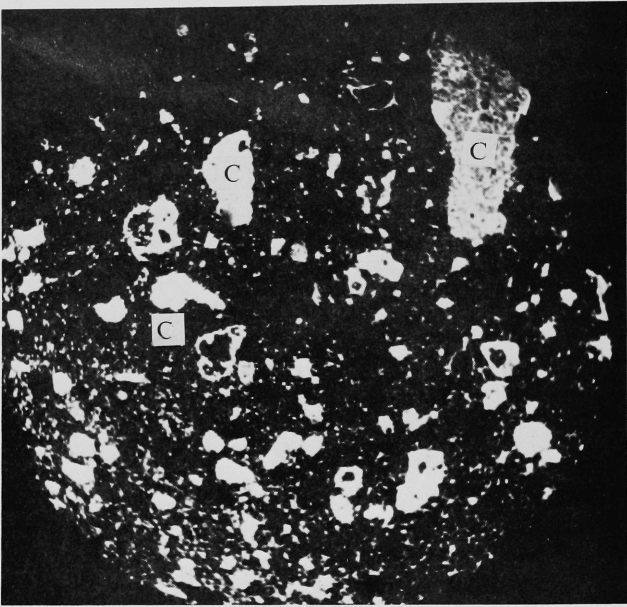


Fig. 215 Photomicrograph (Scale = x30) of Fabric 3: showing foraminifera and calcite (C). (Crossed Polars; Sample No. P28.)

THE KILN DUMP AT TELL KADRICH

Anne McGrath and Fiona Grabrovaz

The finds from the kiln dump at Tell Kadrich are particularly interesting. Some of the sherds exhibit classical ceramic faults. Others have more puzzling features. However it is possible to deduce a considerable amount about the fabric and manufacture from a close examination of the sherds. The discussion will begin with a general description of methods of clay preparation and production followed by a detailed analysis of the finds.

Clay Preparation

Clay may be taken from the banks of rivers and lakes or areas of swamp and in such instances may frequently be prepared for immediate use. If it occurs in lenses or is taken from deeper ground it may need more preparation. Stones and other extraneous matter are removed and the clay worked into a homogenous mass. It may be spread out on the ground or in shallow troughs exposed to the weather. Weathering improves the plasticity and working characteristics of the clay. In some cases clay is dried completely and pounded to a fine powder before being reconstituted with water ready for use.

Once cleaned and prepared the clay still needs to undergo treatment to expel air bubbles, create an even texture and remove a little of the moisture. It is customary to wedge it first, followed by kneading although some potters may use only one process. It is possible to handle large amounts of clay when wedging. The clay is cut in half with a wire or string and one half is lifted up and banged down on the other. The whole lump is then turned ninety degrees in a horizontal plain and the procedure is repeated until the air has been satisfactorily removed and the clay is well mixed. Kneading is a continuous two-handed movement which twists the clay in on itself. Eventually the lump of clay being manipulated is in effect turned inside out as the clay originally in the centre is pushed to the outside. This process dries the clay more than wedging because more of the clay comes into contact with the kneading surface. Clay is most easily manipulated when soft, particularly for making large items, even so it is necessary that it should be stiff and have body. Very thin pots are often easier to throw with slightly stiffer clay. Both wedging and kneading are essential to even the texture and expel the air bubbles before throwing.

The Wheel

The potters wheel is essentially a flat turntable mounted on a shaft. The method of fixing the shaft and the power used to turn it differs widely. For example, in Europe the shaft is attached to a flywheel which is powered by kicking, but in Japan the wheelhead has a notch into which a stick may be fitted in order to turn the wheel by hand. Wheels in use in the Near East

are similar in concept to the traditional European wheel. When the wheel spins centrifugal force causes anything on the wheelhead to be pulled out and spun off towards the circumference. The potter uses this force and controls it with counter pressures when shaping the clay.

Centreing

Before a potter can throw a pot the clay must be centred on the wheel. If the clay is not centred the outward force on the pot will be uneven and pull it out of shape. The clay is thrown down onto the wheelhead as close to the centre of the wheel as possible. The wheel is then spun rapidly in an anti-clockwise direction. In the far east the wheel is turned clockwise. The hands, using a little water to lubricate the clay, exert pressure first inwards and then downwards, in order to bring the clay into the centre. The inward pressure forces the clay up into a cone and the downward pressure pushes it back. These two movements are combined until the potter feels that the clay is centred.

Throwing

Once the clay is centred it is opened out using either the fingers, the thumb or the fist and as it is opened the wheel speed is slowed down. There are two basic shapes from which all thrown forms evolve, the bowl and the cylinder. The initial opening of the clay determines which shape is to be used. Throwing is a two handed activity, the hands frequently linked by the thumbs even if only by touch. When making large pots one arm is often locked into the body in order to keep it steady. Once opened out the clay is ready to be pulled up and shaped to form the vessel. When making a cylinder, the clay may be collared first in order to gain a little height before lifting or pulling up the walls of the pot. Both hands encircle the opened clay form and move upwards from the base with the wheel spinning quite fast. To lift or pull up, the left hand is inserted into the opened clay slightly higher than the right hand which is at the base on the outside. The clay is then lifted between these two pressure points, gaining height and thinning the walls as the hands move up the cylinder. A rib is frequently used to lift the clay replacing the fingers or knuckle of the right hand. It helps to compress the clay during throwing enabling the potter to throw thin walled vessels. A grooved or shaped rib may be held by the right hand against the exterior of the pot while the left hand supports the shape from the inside. This will cut or mould decorative bands on the outside of the pot or modify the profile.

When throwing the open bowl shape the clay is carefully controlled to prevent the centrifugal force pulling the clay so far out that it collapses. The internal form is vital as it determines the form of the whole pot. Consequently the initial opening out movements are of great importance. If the area of the wheelhead were a clock face the hands generally work somewhere between four o'clock and six o'clock if the motion of the wheel is counter clock wise as in the west.

Turning and Footrings

Certain forms require an excess of clay at the base to support the walls during the throwing process. When the pot is leather hard it may be pared

off so that the section of the pot is even. The pot is inverted on the wheelhead, centered and secured in one of several ways. Suction may be employed to hold the pot in the centre; the wheelhead and the rim of the pot are made damp and the inverted pot centered and then tapped lightly on the base. Another method uses small coils or pads of clay which are placed round the rim of the pot and pressed onto the wheelhead, wedging the vessel in place. Alternatively a chuck may be used, a technique which prevents any damage to the rim. A chuck is a thrown piece of leather hard clay. The shape is determined by the form of the vessel for which it is made. It is attached to the wheelhead and the pot is inverted either to fit over or into it. Turning is not invariably a functional necessity. It may be an aesthetic decision; footings may be turned out of the excess clay in order to elevate the pot manipulating, light, shadow and balance to delineate and modify form. Footings are not invariably formed by cutting into the excess clay on the base of a pot. A pot may be turned to even the section and a coil joined to the base may then be thrown to form the foot.

Drying and Firing

The finished pots are set aside to dry. The longer and slower this stage the better for the pots. If the atmosphere is such that it is a rapid process, the differential drying of the exterior and interior may result in the vessel fracturing. Only when the pots are completely dry may they safely be fired. If they are put in the kiln before they are dry the rapid expansion of the remaining moisture as it turns into steam will cause the pot to crack or disintegrate.

The pots are carefully and evenly stacked in the kiln chamber and the fire is started at the mouth of the fire box. The initial stages of the firing are slow and gentle to complete the drying of the pots and protect them from thermal shock. Gradually the fire is built up as the heat increases until the flames are allowed to reach the back of the fire box and eventually are drawn up through the setting. The increase in temperature may be accelerated once the temperature in the kiln chamber is above 573°C, a dull red heat. At 500°C the chemically combined water is driven from the clay exposing the ware to similar dangers to those of the early stages of the firing. At 573°C the quartz which is a major constituent of clay undergoes a reversible chemical change which increases its volume by 1%. If the pots are heated too rapidly at this stage the expansion will cause them to break. Once the kiln chamber reaches the required temperature the fire is raked out and the fire box closed to prevent draughts entering the chamber and damaging the ware through differential cooling. The kiln is left until the pots may be handled and are cool enough to be removed without sustaining damage.

The Body of the Tell Kadrich Sherds

Two distinct wares are present in the kiln dump at Tell Kadrich, small thin finely thrown pots and larger vessels with a coarser more open body. The smaller thin-walled bowls and cups occur with both a red and buff-coloured fabric. However, it seems probable that the same clay was used for all types of production. Examination of the sherds and wasters suggest that it was a very plastic clay of fine particle size with a high calcium content.

Calcium carbonate is often found in clay strata especially in chalk or limestone areas. Occasionally large nodules are formed. If the clay is not well cleaned small calcium inclusions can cause areas of the wall of the pot to flake off leaving an unsightly crater. The differing colour can be accounted for by the vagaries of firing and the varying texture is simply a matter of the quantity, size and type of filler used. The sherds show considerable variation in colour, vitrification and quantity of filler or tempering, indicating incomplete control of the kiln or materials in firing. Natural clays and artificially mixed bodies consist of clay, free silica and fluxes. Calcium carbonate is a flux that causes distortion and sudden collapse at temperatures between 960°C and 1100°C. The body for the small bowls and cups or goblets in some instances has a high percentage of filler and in others relatively little or none. This suggests experimentation to control the warping through shrinkage and the sudden collapse of vessels. The large open bowls and jars require a greater percentage of filler to strengthen the body during throwing. It also helps to decrease shrinkage which during drying will often produce fractures, particularly in the bases of large vessels.

The Fillers

The most common materials used as fillers are sand and grog, but numerous pulverised minerals and chopped vegetable matter are also known. The latter is particularly useful because it burns out in firing leaving small cavities in the fabric of the pot which contribute to the porosity of the vessel, a useful attribute in a hot climate where liquids may be cooled by evaporation. It is possible that sand was used in these bodies, especially in the larger wares, but another material was also incorporated. The particles are very white and have a dull surface which suggests crushed limestone or shell. However, there is considerable evidence that these pots were fired to quite high temperatures and if lime is heated above 820°C it becomes quick-lime. Any contact with water would cause it to slake and the pots to disintegrate.

Fillers are added to a clay body to decrease plasticity and shrinkage and improve drying by minimising warping and cracking. Plasticity appears to be a function partly of the plate-like shape of the clay particles which when wet stick together, partly of the fineness of the particles or crystals and partly of the chemical attraction between them. The carbonaceous matter ordinarily present in clay also contributes to the plasticity. Although plasticity is necessary for a clay to be suitable for throwing too great a plasticity creates problems for the potter. Apart from the difficulty of drying the pots it is not easy to throw large forms because they have a tendency to sag or sit down on themselves. The filler increases the strength of the clay at the throwing stage and helps it to stand up allowing larger pieces to be made. Plastic clay can be thrown very thin for fine vessels, but shrinks a great deal and tends to warp in the firing. Fillers make the body more open so that it shrinks less and therefore warps less. A plastic clay is very strong when fired and a filler weakens the fired body. A careful balance must be maintained between strength before firing and strength after firing.

The Kiln

The pottery in this scatter is clearly kiln fired: most of the sherds have reached maturing temperature which for most earthenware bodies lies somewhere between 1020°C and 1100°C. Many of the wasters were pots spoiled by extreme overfiring, in some cases so bubbled by hot gasses and fused into lumps that they resemble pumice stone. It requires quite a sophisticated kiln to reach such temperatures.

A number of large lumps of coarse material found with the sherds, melted and vitrified on one side, and olive green in colour suggesting the presence of iron in a reducing atmosphere are indicative of intense heat and are plainly part of the interior of a kiln. The vitrified surface has been a viscous, but flowing glaze at the higher temperatures. The substance of these fragments appears to be a diatomaceous earth which although similar to clay in appearance is not like a mixed material, the structure is as found. Diatomaceous earth is used at the present time as an insular for kilns and is cut out of the ground in brick sized units. The Tell Kadrich kilns could either have been built with cut bricks or excavated. One fragment of triangular section, vitrified on flow, is almost certainly a segment from the top of the arch leading from the firebox into the kiln chamber. Judging by the form of this section the arch may well have been slightly pointed or ogival in shape. The firebox exit and the kiln chamber entrance is always the hottest part of the kiln and diatomaceous earth has a tendency to melt rapidly. This fragment shows that that section of the kiln has been subjected to repeated firing to well over 1100°C.

The kiln was most probably a small simple updraught kiln, a primary form found all over the world and known in Western Asia. The most probable fuel is wood, but dried animal dung and thorn bushes are both possibilities. There are several disadvantages with this type of kiln. Much of the energy from the fuel is wasted because of the gases escaping from the flue are excessively hot. The greatest heat strikes the setting at the base where the pots are under the greatest load and therefore least able to withstand it. It is very difficult to pack such a kiln so that firing temperatures will be even throughout the chamber: wherever the setting is more open the fire will follow this path, making it hotter than the rest of the chamber. As the temperature increases the draught becomes more concentrated in that area and this is aggravated as the firing proceeds resulting in very uneven temperature distribution with areas of serious overfiring and underfiring. The variation in colour and vitrification is constant and with this firing pattern. The kiln would necessarily be small because it would not be possible to stack the pots high.

The kiln was packed by stacking pots rim to rim. Some of the wasters illustrate this perfectly: where the pots have been subjected to too great a heat they have warped and collapsed into each other, fusing together so that they cannot be separated. Pots may be stacked inside each other in many instances depending on the form, but there is a danger of fracture during firing if care is not taken. Rim to rim stacking distributes the weight more evenly and is therefore safer. Many of the cups or goblets are very thin and stacking limitations must have been quite low for such fine ware. Clay goes through a very fluid state during firing if the body reaches maturing temperature and the weight that can be supported at this stage is limited.

The pots and sherds show considerable variation in colour, from red to buff, greenish-grey and black indicating that there was often incomplete control of the atmosphere in the kiln. It is quite difficult to maintain a clean oxidising atmosphere in a hand fed kiln. The smallest quantity of fuel above the needs of the fire will produce a murky atmosphere and black smoke from the chimney. The completely oxidised body fires red while in reduction it will be buff to green or grey. The pale colour is quite common place in clays with a high proportion of calcium, the colour loss occurring during reduction cooling. The green sherds indicate a high iron content in the clay: iron will go green in reduction. In these cases reduction was not strong enough to turn the body dark grey or black. Some fragments have a dark core showing heavy reduction followed by a period of oxidation insufficiently long for it to penetrate the wall of the vessel completely. When the cooling atmosphere is not clean, oxidation on the surface, but not on the inside is a frequent result.

A number of sherds are badly bloated, a phenomenon that may be caused by not maintaining a clean atmosphere during the early stages of firing. Too rapid a rise in temperature causing the surface to be prematurely sealed before all the gases are able to escape is a cause of bloating. When bloating is not due to bad firing conditions it may be caused by the body containing too much calcium carbonate. This is consistent with the occurrence of a buff coloured body in some vessels.

Throwing and decorative techniques employed at Tell Kadrich

Many of the sherds from the kiln dump come from the very fine thrown and turned cups. They were thrown exceedingly thin at the top, but with considerable excess clay at the base and shoulder to prevent collapse during throwing and the first stages of drying. The grooved decorative bands at the top on the outside were made whilst on the wheel probably with a grooved rib as described above. The rings on the insides of the cups are generally much broader and softer, consistent with throwing rings left by the fingers. One or two examples have narrower internal rings which appear to correspond with the decorative bands on the outside. Close rings such as these usually occur when the clay is compressed or squeezed rather than lifted.

When the pots stiffened they were inverted and turned. The marks on the sherds are characteristic of a metal tool, but it is possible that a very sharp edged stone or shell might leave a similar trace. The surface left by a wooden tool would probably exhibit a softer mark. Initial examination gave the impression that the foot ring on the small cups was formed by attaching a coil to the base of the turned pot and throwing it to the required shape. However, there is no visual evidence for a joined coil and it can usually be detected. Subsequent inspection suggests that the pots were probably turned while still quite soft, possibly on a chuck to protect the rims, to form a rough foot which was still soft enough for the final shaping to be by throwing. Some of the foot-rings are off centre showing that the pots were not properly centred for this operation.

Some of the wasters have small S-shaped fractures in the base characteristic of lack of compression when opening up the clay during throwing. This is frequently an indication of production throwing off the hump. Throwing

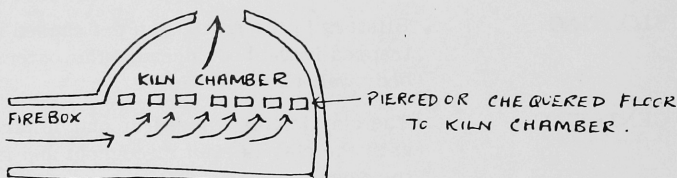
off the hump is a method of producing small repetition items with rapidity and ease. A large piece of clay is put on the wheelhead, but only the top portion is properly centred. The centred clay is thrown into the required form and then cut off the hump and put aside. The top is thrown up, recentred and another pot made, a process which continues until all the clay has been used. This is a faster and simpler technique than centring separate small pieces of clay for each item. The S-shaped fracture is the classic form of fracture caused through lack of compression, but other kinds of crack do occur. For example, water left in the base of the pot can also cause cracks. One sherd shows wipe marks where water has probably been mopped out of the interior of the bowl.

Amongst the larger wares are a number of dishes and bowls with decorative rims. In the case of the very shallow forms these rims have a practical as well as a decorative function, acting as a retaining lip. Many of these rims are formed by folding the rim back on itself, a manoeuvre requiring considerable care as air can become trapped inside and may in some cases lead to problems during firing. There are examples amongst the sherds where this has occurred although it may not have been the cause of the vessel being discarded as substandard or have caused the pot to break.

GLOSSARY

BODY	Clay is the material as dug from the earth. A body is a mixture of materials often from diverse sources designed to give good handling and firing properties.
BLOATING	Blisters in the fabric of a pot caused by expanding gases trapped in the body because the outer surfaces of the body wall have vitrified.
CENTREING	The clay is compressed up and inwards and then down until the clay is even throughout and in the centre of the wheel.
DIATOMACEAE	Microscopic unicellular algae with silicified cell walls and the power of locomotion.
DIATOMACEOUS	Consisting of the fossil remains of diatoms.
LEATHER HARD	Clay in this state has lost some of its moisture and can be handled carefully without deforming or fracturing the vessel. It is not dry and may be cut rather like cheese.
EARTHENWARE	A ware with a low maturing range, usually about 1020°C to 1080°C. The body has a porosity above 5% when fired.
FILLER	A non-plastic finely ground material mixed with a body to decrease plasticity, control warping and cracking during drying and firing, and improve handling.
FOOTRING	A ring of clay on the base of a pot, either turned or thrown on, which elevates the pot.

GROG	Fired clay ground up to be used as a filler. It is an ideal filler because it has the same properties as the body and will be assimilated into the body in firing.
MATURING RANGE	The range of temperatures in which a clay may be brought to the right degree of fusion and hardness without overfiring to the point of melting or the deformation of the shape of the ware.
OXIDATION	A plentiful supply of oxygen in the kiln giving complete combustion.
REDUCTION	An atmosphere of carbon dioxide in the kiln caused by incomplete combustion.
RIB	A shaped piece of wood or slate etc. generally held in the right hand and used to lift or shape the clay.
SETTING	The way that pots are packed in a kiln.
TEMPERING	See filler
THROWING	Using the outward momentum of a turning wheel to form various hollow cylindrical forms.
TURNING	Trimming excess clay away from the bottom of a pot using a sharp tool.
UPDRAUGHT KILN	A kiln in which the flame passes under and up through the setting to the flue.



WASTERS	Fired pots which are so damaged during manufacture that they are unsaleable. Usually they occur through overfiring, warping, bloating, fracturing etc.
WEDGING	Cutting, beating and turning a mass of clay to expel air and even the texture.

SOME PROBLEMS OF THE 2nd MILLENNIUM B. C.;
THE MIDDLE AND LATE BRONZE AGES

John Matthers

1. Parallels Outside the Area

One would expect to find more sites for comparison in the 2nd than in the 3rd millennium B. C., but the opposite is true. The real problem is to recognise the Late Bronze Age layers. The Middle Bronze Age is fairly well attested by distinctive types. The LB layers, if present, seem to be represented by undistinguished wares.

To the west of our area lie the coastal sites of Minet-El-Beida, Ras Shamra and Ibn Hani. The MB is represented by 'Niveau II' or by 'Ugarit Moyen I-III' at Ras Shamra. (Schaeffer 1949, pages 235ff. and by Schaeffer 1978, pages 196ff.) The LB has always been divided: 'Ugarit Recent I' (1600/1550-1450), 'Ugarit Recent II' (1450-1365) and 'Ugarit Recent III' (1365-1250/1200 B. C.) as found at Ras Shamra and Minet-El-Beida. (Schaeffer 1949, pages 135ff. and Schaeffer 1978, pages 221ff.) Important LB installations have been found at Ibn Hani, but so far only six pottery drawings of this period have been published (Bounni, E. and J. Lagarce, Saliby 1976, fig. 27. Nos. 1-6).

Still to the west of our area, but not so far away, lies the site of Alalakh, or Tell Atchana. The MB layers are XVI-VI, the LB are IV-I, with V as a transitional layer. The site is in the middle of the Amuq Plain where the Americans did some excavation. We are still waiting for the publication of the pottery of these layers. All we have so far are five drawings for MB, and eleven for the LB, in the doctoral thesis submitted to Chicago University by G. Swift in 1958.

South of our area lies Tell Mardikh. Some of its MB Pottery has been published as Mardikh IIIa and IIIb (Matthiae 1980, figs. 33-42). None of its LB pottery has yet been shown. Further south lies Hama where the MB layers are represented by H, and the LB by G (Fugmann 1958, pages 86ff.). The LB layer at Hama is scant and lacks the imports found on the more coastal sites. Some scholars believe the Hama G, like Amuq M, was only occupied, in LBI and was abandoned after about 1400 B. C. (Ingholt 1941, page 69; Swift 1958, chapters 2-3).

To the east of our area lies the large Tabqa Dam on the Euphrates where many excavations have recently taken place. 2nd millennium B. C. remains have been found at many of the sites. So far we have only been shown what Dornemann calls the 'LBI' from Tell Hadidi (Edit. Freedman 1979, fig. 19, 8-24; fig. 20, 1-37; and fig. 24, 1-12). In the same publication, much MB pottery is published from this site. Mumbaqaq, besides being to the east of the Euphrates, needs to have its preliminary reports carefully studied and a more complete report issued before it be taken into account.

Well to the south-west of our area lie the sites of Baghouz and Terqa (Tell Ashara). The excavator of Baghouz claims he found graves from the 16th-14th centuries B. C. (Du Mesnil du Buisson 1948, pages 30ff.). The whole corpus of 2nd millennium pottery as presented (Kelly- Buccellati and Shelby 1977 page 1ff.) is not divided with sufficient clarity to be of much use to us at present. In view of the discussion these sites have provoked (Tubb 1980, pages 61ff.) and their long distance from our area, it seems better not to draw any parallels there.

Figs. 216-219 is an attempt to show the main LB types found at these sites, recognises that it is incomplete both as regards sites and types.

2. Parallels Inside our Area

Obviously Aleppo was very important in the 2nd millennium B. C., being for at least some of the time, the capital of the area, Yamhad. But archaeologically practically nothing is known of this period for Aleppo. The soundings on the Citadel Hill never reached these levels, and the Tells of Akabe and Soda are encased with modern houses. The only indicators that these levels existed at Aleppo is a figurine in the Citadel Museum and the hittite hieroglyphic inscription on Akabe (Photograph, fig.12(a)). As noted above, the Department of Antiquities, under the direction of A. Suleiman, have made a small excavation into the MB levels just south of Aleppo, at a place called Ansar (Ansari). This work has yet to be published.

The soundings at Tell Akhtareine by the dutch (Van der Meer and Hillen pages 191ff.) mixed the EB IV and MB pottery. They did not date the wall around the base of the Tell. It is very tempting to call it a hittite cyclopean wall, but there is no archaeological or textual evidence for so labelling it. The most we can get from the dutch is the information that parthian-like graves were built up to and over the wall. They published in Figure 21 some grey-slipped and burnished bowls, interesting in the light of what we say later.

The only site which offers any evidence for the 2nd millennium B. C. is Tell Rifa' at. In 1960 two tombs were excavated in E4/5. Unfortunately their contexts or surrounding stratigraphy was lost. The only thing we are told is that Grave 2 was above Grave 1, and presumably Grave 1 and its contents are older than Grave 2. The low-waisted vessels, the seal impression and some of the other contents are shown on Figure 220 as well. The 2nd millennium character is set in the tombs by the low-waisted vessels, the inverted platters and the plainly folded rims. Parallels to our seal impression have been found at Nuzi, and published by Porada, they were dated to the 3rd and 4th generations at Nuzi, i. e. in the second half of the 15th century B. C. (Porada 1944-5, plate XXIX, 576, 580 and 581). The Seal impression confirms our dating of these tomb groups without fixing them more definitely.

In 1964 it was decided to excavate B23 lower, from the grid it was called H5. I present the east face section drawing and the pottery from H5 (14)-(18) (Figs. 222-6). It also has the stamp of the 2nd millennium about it: plain platters with plain rims, with rims that have been slightly raised/thickened and some sharply inverted rims, with some thin-walled and fine miniature vases. The rilled rim, inherited from the MB tradition, is still to be found.

The absence of the Iron Age burnishing and of any painted wares done under Mycenaean influence is also indicative. The rough dating of these levels to LB is confirmed in H5 (16) by the appearance of what seems to be an illegible and much worn hittite bead inscribed with hieroglyphics. Of these beads E. Masson says; ' Les sceaux sont en usage des le XVe siècle, mais c' est surtout durant les XIVe XIIe siècles qui' ils se sont multiplies' (Masson 1976, page 214) (Fig. 224.10). The last two Figures, H5 (18) have the same characteristics of LB with MB tradition, rather than being completely MB.

3. From the Survey 1977-79

On Fig. 227 is shown what was taken as MB pottery, all from the site of Tell Hailane. This site seems to have been abandoned during MB times, as foundation walls of houses with this type of pottery were found on the very top of the tell (Fig. 22a).

LB is normally distinguished by the mycenaean and cypriote imports. Figure 228 shows the few pieces found by the survey: a) from Tell Maled and has been identified as an imported piece of Mycenaean III A2/B, b) from Tell Aar, and is a piece of Cypriote White Slip 1, c) from Tell Ilbol, is probably a piece of a Syrian Spindle Bottle, d) from Tell Chair, and is a piece of local imitation Mycenaean III B2/A. To help the identification of LB further, it does not seem helpful to raise red herrings from the areas recorded as having LB imports.

The pottery types established for the LB are shown on Figs. 216-219. On Fig. 229 I have tried to pick types found only in the MB. In addition to these types, I suggest the following:

1. During the Survey 1977-79, many gray burnished platters/bowls were found. They roughly fall into the following categories: i) with a large rilled rim, ii) with a triangular rim, iii) with a rounded and sharply inverted rim, and iv) a miscellaneous type which does not sit well under the other headings. The distribution of these types is shown on Fig. 229A. I suggest that they belong to the 2nd millennium B. C. and that grayness is due to the process which Woolley called 'smother kiln'. However there is perhaps some indication that they belong to the first half rather than to the latter half of the 2nd millennium B. C.

2. The other suggestion relates to the many goblet feet found. They could be from a Mittanian source, or locally produced at Alalakh, where it was found in layers IV-II. The excavator states that though it is similar to 'Nuzu' ware, all the pieces found were locally produced. None of this 'White on a dark ground' ware was found by the Survey 1977-79. However a piece was found at Tell Rifa' at during the 1956-64 excavations. The bases were basically of two types: (A) with a 'ring' base. These were found at Tell Fafine (2), Tell Maled (2) and one at Yel Baba. (B) With string-cut flat bases. One at each of the following sites: Tell Bararhite, Jekke, Tell Kaffine, Tell Maled and Yel Baba.

4. Topographical Points

In their report, the Dutch suggested the identification of Tell Akhtareine with Hattarina of Ishtar (Van der Meer and Hillen 1951/2 page 193; and also Anet page 205). But just as there is nothing to prove the wall hittite, nor that the site was an important administrative centre in hittite times so it cannot be proved that Hattarina was in north Syria.

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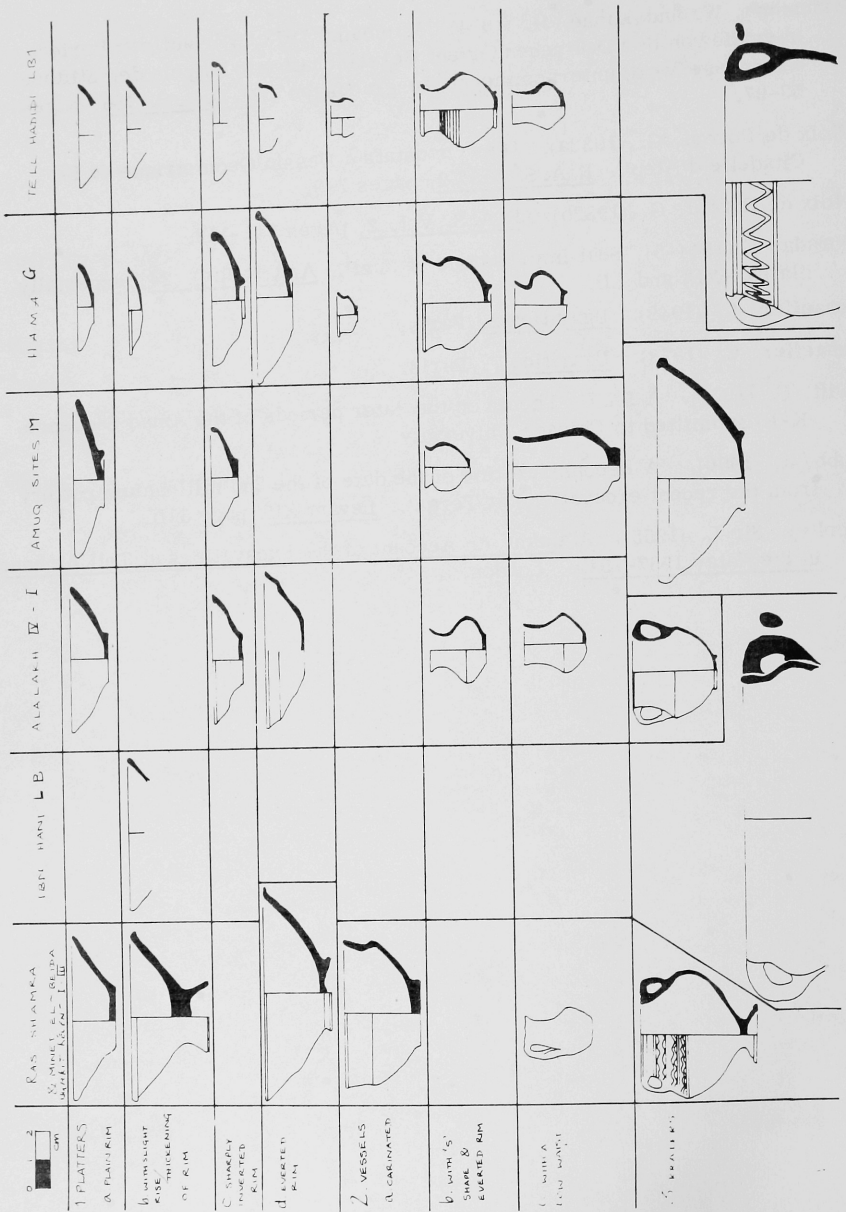


Fig. 216 Late Bronze Age types in neighbouring sites.





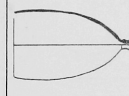

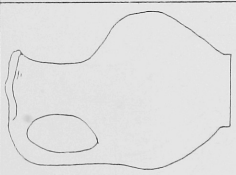
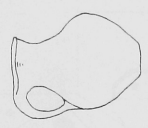
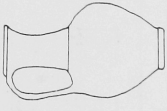

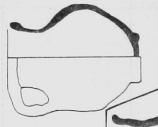



	RAS SHAMRA عراق عراق	IBN HANI L 3	ALALACH IV - 1	AMUQ SHEES N I	HAMA 4	TELL HADIDI LBI
0 1 2 CM						
4 MINIATURE CUPS						
4 a. FOOTED CUPS						
5 JUGS						
a. HANDLE FROM SHOULDER TO RIM						
i. TREEOIL						
5 a. ii. FLAIN						
6 HANDLE ON HIGHEST PART/SHOULDER						

Fig. 217 Late Bronze Age types in neighbouring sites.

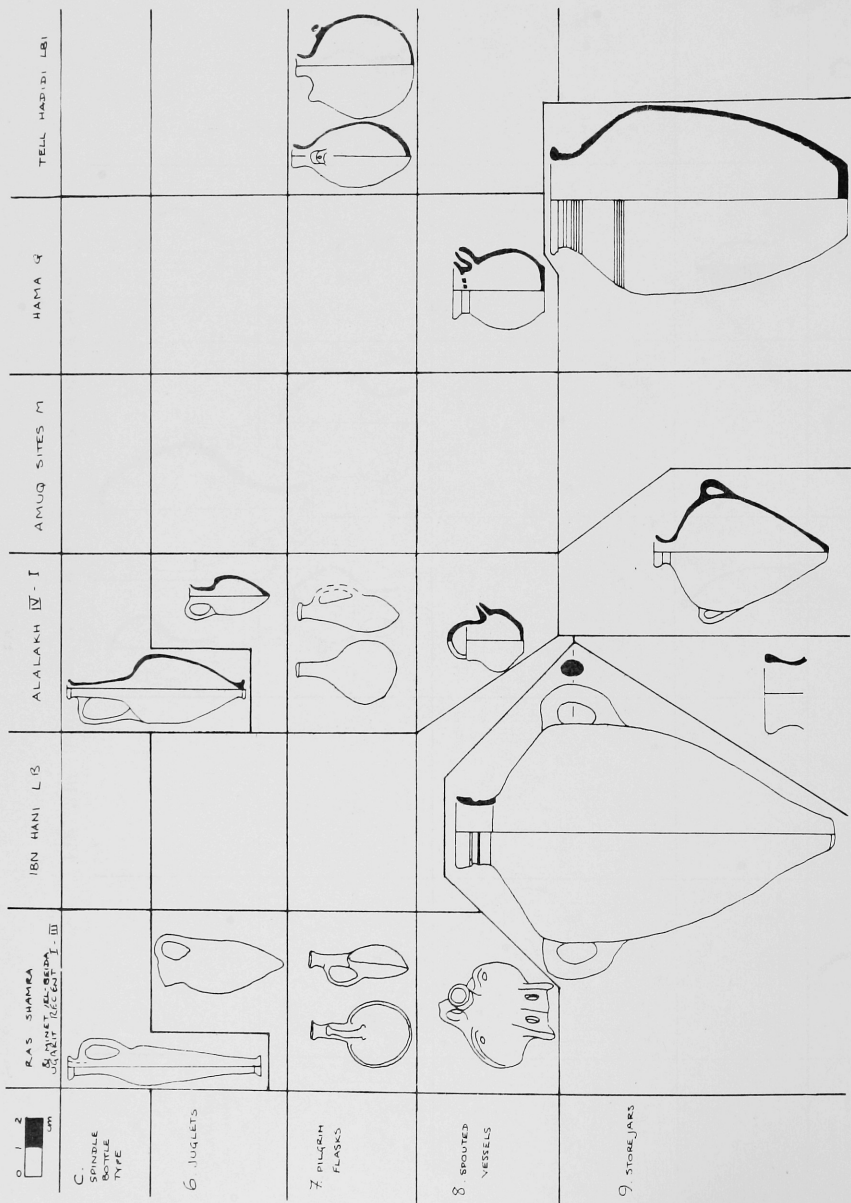


Fig. 218 Late Bronze Age types in neighbouring sites.

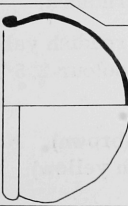

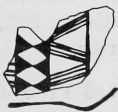

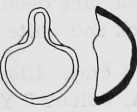





	RAI SHANEA & NIHET EL-SABA UGREIT KEC. CP. I. III	IBN HANI L B	ALALAKH IX. I	AMUQ SITES M	HAMA G	TEL HADIDI - 34
0 1 2 CM						
10. COOKING POTS						
11. LOCAL PAINTED WARE						VERY RARE
12. LAMPS						
13. JAR HOLDERS						

Fig. 219 Late Bronze Age types in neighbouring sites.

Key to Figure 220: Pottery from E 4/5 Grave 1 and Grave 2

1. S380 Bowl rim (diam. 20 cm) Clay 5 YR 5/6 (yellowish red). No surface decoration. Ext. colour 5 YR 7/6 (reddish yellow). White and black grits.
2. S382 Jar rim (diam. 12 cm). Clay 10 YR 6/2 (light brownish grey). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits.
3. S 381 Bowl rim (diam. 22 cm). Clay 5 YR 5/6 (yellowish red). Surface decoration: ring burnishing marks interior and exterior. Ext. colour 5 YR 7/4 (pink). Black and white grits.
4. S383 Jar rim (diam. 12 cm). Hard clay 10 YR 5/3 (brown). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). White grits.
5. 465/B Small Jar (diam. 6 cm). Fine clay (pink/buff). No surface decoration. Straw and grit. Hand-made.
6. S384 Jar rim (diam. 14 cm). Hard clay 7.5 YR 6/4 (light brown). No surface decoration. Ext. colour 7.5 YR 7/4 (pink). Black and white.
7. 465/c Miniature spouted Vase (diam. 5 cm). Buff ware clay. Straw. Heavy hand-made.
8. S385 Jar rim (cooking pot?) (diam. 19 cm). Clay 5 YR 5/6 (yellowish red). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits and mica.
9. S386 Ring base fragment (diam. 10 cm). Clay 10 YR 4/2 (dark greyish brown). No surface decoration. Ext. colour 10 YR 6/6 (brownish yellow). Black and white grits and straw.
10. S387 Flat base fragment (diam. 12 cm). Clay 7.5 YR 6/6 (reddish yellow). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits and straw.
11. 465/A Cylinder Seal. Grey stone.
12. P351 Complete Jar—slightly everted rim (diam. 8 cm). Buff clay. Grey core. Surface decoration: brown burnished.
13. S389 Bowl rim (diam. 12 cm). Clay 5 YR 6/6 (reddish yellow). Grey core. No surface decoration. Ext. colour 2.5 YR 6/6 (light red). Black and white grits.
14. S388 Jar base (diam. 4 cm). Clay 7.5 YR 5/4 (brown). No surface decoration. Ext. colour 5 YR 7/6 (reddish yellow). Small black and white grits.
15. S390 Painted body sherd of closed vessel. Clay becomes grey on inside 5 YR 6/4 (light reddish brown). Surface decoration: pattern of lines in red paint. Ext. colours 7.5 YR 7/4 (pink) and 5 YR 5/3 (reddish brown). Fine black and white grits.

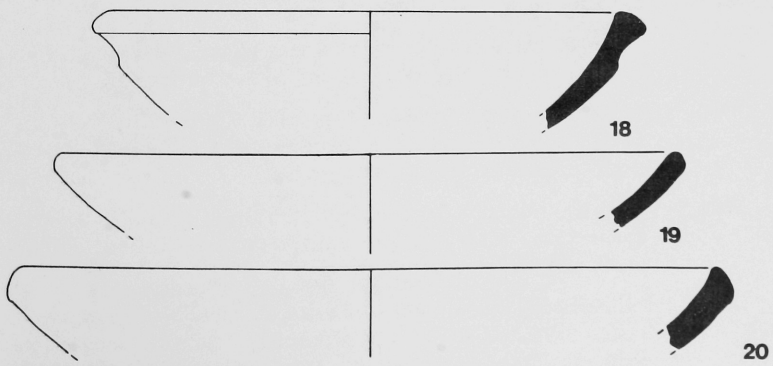
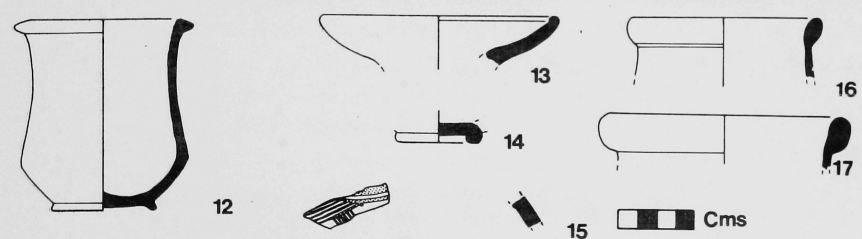
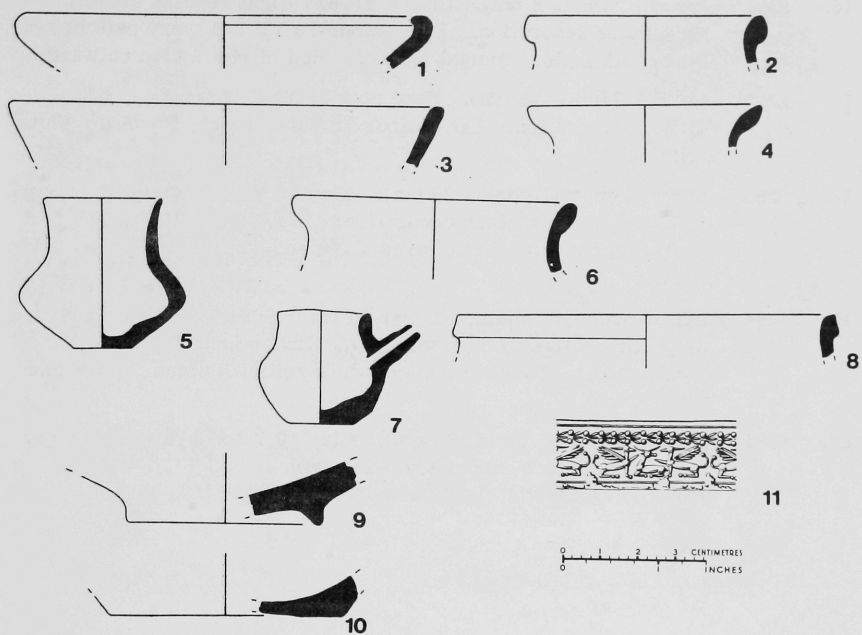


Fig. 220

16. S391 Jar rim (diam. 8 cm). Clay 5 YR 6/4 (light reddish brown). No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). Fine black grits. Special feature: sign of rim folded outwards.
17. S392 Jar rim (diam. 12 cm). Hard clay 10 YR 5/3 (brown). No surface decoration. Ext. colour 10 YR 6/3 (pale brown). White grits.
18. S393 Large Bowl rim (diam. 26 cm). Clay 10 YR 5/2 (greyish brown). Grey core. No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). Some large black and white grits, straw and mica.
19. S394 Large Bowl rim (diam. 32 cm). Clay 7.5 YR 6/4 (light brown). Grey core. No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Large black and white grits with some straw and some mica.
20. S395 Large Bowl rim (diam. 36 cm). Clay 10 YR 5/3 (brown). Grey core. No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Large white grits and straw.

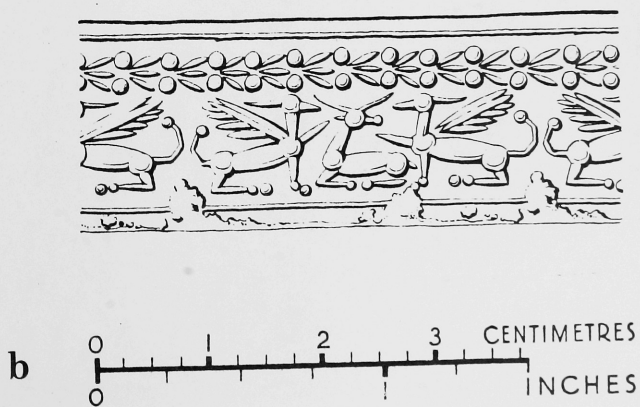


Fig. 221 a) Vessels and some contents of Grave 1 at Tell Rifa' at
b) A close-up of the Seal from Grave 1 at Tell Rifa' at

Key to Figure 223: Pottery from H 5 (14)/(15)

1. FN361 Plain inverted Platter rim (diam. 17 cm). Hard clay 2.5 YR 6/2 (pale red). No surface decoration. Ext. colour 7.5 YR 7/2 (pinkish grey). Black and white grits.
2. FN360 Platter rim (diam. 37 cm). Clay 10 YR 5/2 (greyish brown). Grey core. No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). Black and white grits, some large, and straw.
3. FN363 Jar rim and handle fragment (diam. 8 cm). Clay 10 YR 5/3 (brown). No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). Black and white grits, straw? Special feature: handle from rim, no indication where the handle on opp. side.
4. FN362 Jar rim (diam. 14 cm). Hard clay. Clay 2.5 YR 6/2 (pale red). No surface decoration. Ext. colour 7.5 YR 7/2 (pinkish grey). Many black and white grits.
5. FN121 Red burnished Bowl rim (diam. 30 cm). Clay 5 YR 4/6 (yellowish red). Surface decoration: red slip and burnished inside and outside. Ext. colour 10 R 4/6 (dark yellowish brown). Small black and white grits and straw.
6. FN353 Plain inverted Bowl rim (diam. 26 cm). Hard-fired clay 7.5 YR 5/4 (brown). No surface decoration. Ext. colour 7.5 YR 5/4 (light brown). Black and white grits and straw.
7. FN 359/a Small Bowl rim (diam. 10 cm). Thin ware clay 7.5 YR 6/4 (light brown). No surface decoration. Ext. colour 7.5 YR 7/6 (reddish yellow). Black and white grits.
8. FN356 Base of Juglet (diam. 5 cm). Clay 10 YR 6/3 (pale brown). No surface decoration. Ext. colour 10 YR 6/4 (light yellowish brown). White and black grits and straw.
9. FN 359/b Small Bowl rim (diam. 12 cm). Thin ware clay 10 YR 5/3 (brown). No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). Fine black and white grits.
10. FN355 Bowl/Jar rim (diam. 14 cm). Clay 10 YR 5/3 (brown). No surface decoration. Ext. color 7.5 YR 6/4 (light brown). Black and white grits and straw.
11. FN357 Bowl rim (diam. 18 cm). Thin hard ware clay 10 YR 5/2 (greyish brown). No surface decoration. Ext. color 10 YR 7/3 (very pale brown). Fine black grits.
12. FN352 Bowl rim (diam. 21 cm). Clay 7.5 YR 5/4 (brown). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Fine black and white grits.
13. FN351 Bowl rim (diam. 22 cm). Clay 7.5 YR 5/4 (brown). Grey core. No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits and straw.

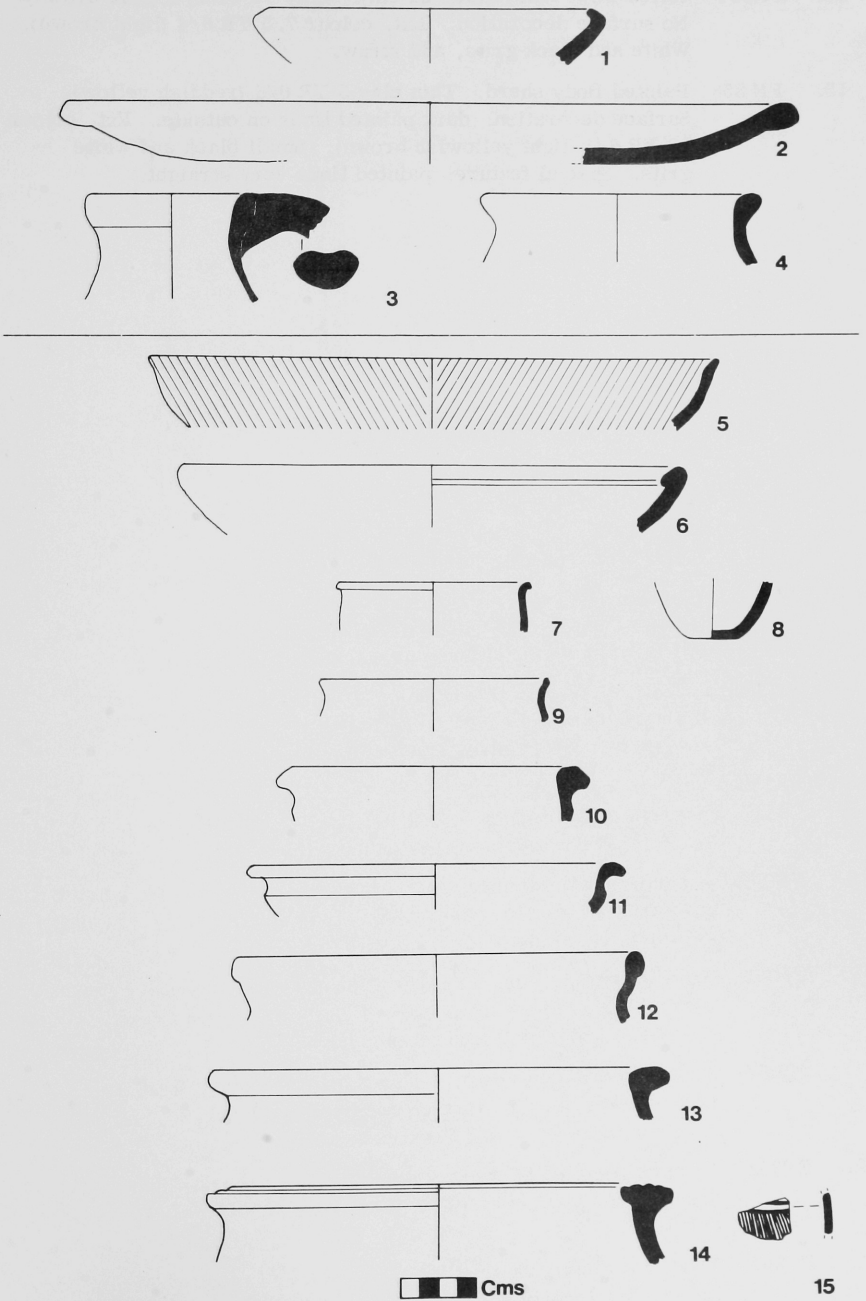


Fig. 223 Pottery from H5 (14) and (15).

14. FN354 Rilled Bowl rim (diam. 21 cm). Clay 10 YR 6/3 (pale brown). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). White and black grits, and straw.
15. FN 358 Painted Body sherd. Thin clay 5 YR 6/6 (reddish yellow). Surface decoration: dark painted lines on outside. Ext. colour 10 YR 6/4 (light yellowish brown). Small black and white grits. Special feature: painted lines very straight.

Key to Figure 224: Pottery from H 5 (16)

1. FN217 Jar, or small Bowl? (diam. 14 cm). Clay 2.5 YR 6/2 (pale red). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black grits.
2. FN223 Jar rim (diam. 11 cm). Clay 7.5 YR 5/6 (stroggn brown). No surface decoration. Ext. colour 2.5 YR 6/6 (light red). Black and white grits, straw?
3. FN220 Jar, or small Bowl? (diam. 16 cm). Clay 7.5 YR 5/4 (brown). No surface decoration. Ext. colour 5 YR 7/4 (pink). Black and small white grits.
4. FN227 Bowl or large jar (diam. 18 cm). Hard clay. Clay colour 7.5 YR 5/4 (brown). No surface decoration. 5 YR 7/4 (pink). Black and white grits.
5. FN219 Bowl rim (diam. 20 cm). Clay 5 YR 4/4 (reddish brown). No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). Black and white grits and straw.
6. FN216 Cook Pot Bowl rim (diam. 22 cm). Clay 7.5 YR 5/4 (brown). Grey core. No surface decoration. Ext. colour 10 YR 6/3 (pale brown). Many white and black grits.
7. FN218 Cook Pot vessel rim (diam. 26 cm). Clay 10 YR 3/3 (dark brown). No surface decoration: Ext. colour 10 YR 6/3 (pale brown). Black and white grits, sand or mica.
8. FN226 Rilled rim of large Bowl (diam. 36 cm). Clay 7.5 YR 6/4 (light brown). No surface decoration. Ext. colour 5 YR 7/4 (pink). Black and white grits and straw.
9. FN221 Large Bowl (diam. 40 cm). Clay 5 YR 6/6 (reddish yellow). No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). White and black grits and straw.
10. 501 Scaraboid Bead, bearing Hittite or Aramic signs?

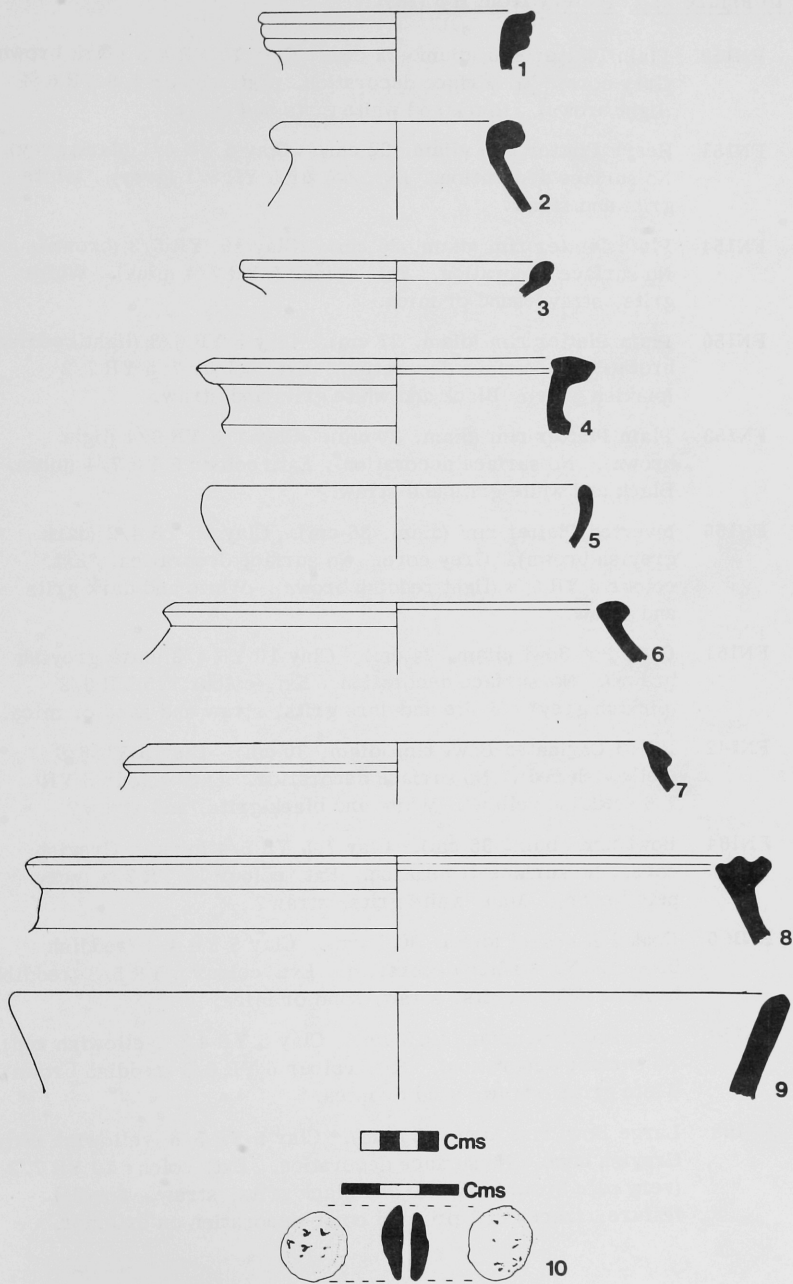


Fig. 224 Pottery from H 5 (16)

Key to Figure 225: Pottery from H 5 (18)i

1. FN152 Plain Platter rim (diam. 22 cm). Clay 10 YR 4/3 (dark brown). Grey core. No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits and straw.
2. FN151 Heavy Platter rim (diam. 22 cm). Clay 5 YR 4/1 (dark grey). No surface decoration. Ext. colour 5 YR 5/1 (grey). White grits and straw.
3. FN154 Plain Platter rim (diam. 26 cm). Clay 10 YR 5/3 (brown). No surface decoration. Ext. colour 5 YR 7/4 (pink). White grits, straw, sand or mica.
4. FN150 Plain Platter rim (diam. 27 cm). Clay 5 YR 6/3 (light reddish brown). No surface decoration. Ext. colour 7.5 YR 7/2 (pinkish grey). Black and white grits and straw.
5. FN153 Plain Platter rim (diam. 30 cm). Clay 7.5 YR 6/4 (light brown). No surface decoration. Ext. colour 5 YR 7/4 (pink). Black and white grits and straw.
6. FN155 Inverted Platter rim (diam. 36 cm). Clay 10 YR 4/2 (dark greyish brown). Grey core. No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). White and dark grits and straw.
7. FN161 Cook Pot Bowl (diam. 24 cm). Clay 10 YR 4/2 (dark greyish brown). No surface decoration. Ext. colour 7.5 YR 6/2 (pinkish grey). White and dark grits, straw and sand or mica.
8. FN142 Rilled Carinated Bowl rim (diam. 30 cm). Clay 5 YR 5/6 (yellowish red). No surface decoration. Ext. colour 5 YR 6/6 (reddish yellow). White and black grits, and straw?
9. FN164 Bowl rim (diam. 35 cm). Clay 7.5 YR 5/4 (pink). Greyish core. No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). Many white grits, straw?
10. FN160 Cook Pot vessel (diam. 30.5 cm). Clay 5 YR 4/4 (reddish brown). No surface decoration. Ext. colour 5 YR 5/3 (reddish brown). White grits, straw, sand or mica.
11. FN156 Cook Pot Bowl (diam. 40.5 cm). Clay 5 YR 4/6 (yellowish red). No surface decoration. Ext. colour 5 YR 5/3 (reddish brown). White grits, straw, sand or mica.
12. FN168 Large Bowl rim (diam. 33 cm). Clay 5 YR 5/6 (yellowish red). Greyish core. No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). White and black grits, straw. Special feature: traces of 7 pronged comb decoration on exterior.

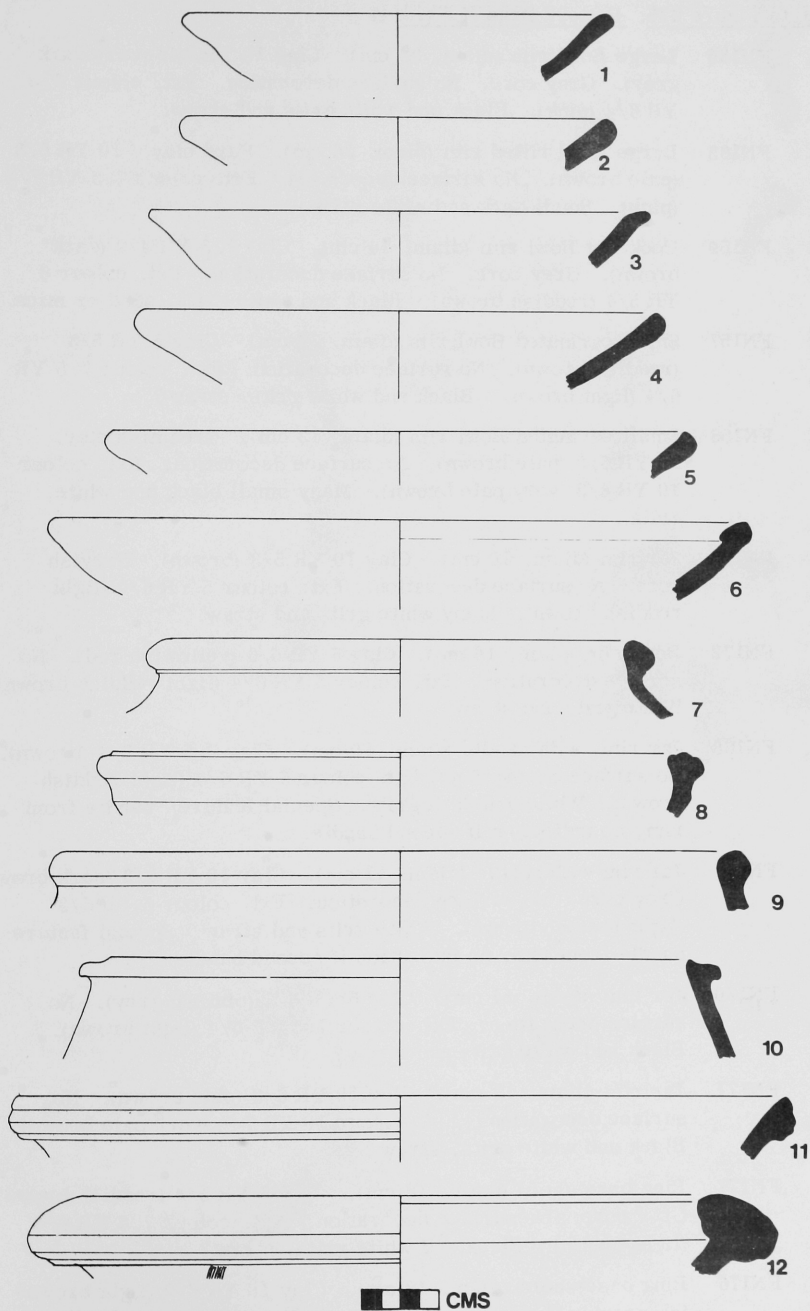


Fig. 225 Pottery from Tell Rifa' at H5 (18) i

Key to Figure 226: Pottery from H 5 (18) ii

1. FN165 Large Bowl rim (diam. 38 cm). Clay 10 YR 3/1 (very dark grey). Grey core. No surface decoration. Ext. colour 7.5 YR 6/4 (pink). Black and white grits and straw.
2. FN163 Large Bowl rilled rim (diam. 38 cm). Hard clay. 10 YR 6/3 (pale brown). No surface decoration. Ext. colour 7.5 YR 7/4 (pink). Small black and white grits.
3. FN159 Cook Pot Bowl rim (diam. 14 cm). Clay 7.5 YR 4/2 (dark brown). Grey core. No surface decoration. Ext. colour 5 YR 5/4 (reddish brown). Black and white grits, sand or mica.
4. FN157 Small carinated Bowl rim (diam. 16 cm). Clay 5 YR 5/3 (reddish brown). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits, straw?
5. FN158 Small carinated Bowl rim (diam. 13 cm). Creamish clay. 10 YR 6/3 (pale brown). No surface decoration. Ext. colour 10 YR 8/3 (very pale brown). Many small black and white grits.
6. FN153 Jar rim (diam. 10 cm). Clay 10 YR 5/3 (brown). Greyish core. No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). Many white grits and straw.
7. FN172 Bowl rim (diam. 10 cm). Clay 5 YR 5/6 (yellowish red). No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). White grits and straw.
8. FN168 Jar rim, with handle (diam. 10 cm). Clay 7.5 YR 5/4 (brown). No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). White and dark grits. Special feature: handle from rim, no indication if second handle.
9. FN167 Jar rim with handle (diam. 11 cm). Clay 10 YR 4/3 (dark brown). Grey core. No surface decoration. Ext. colour 5 YR 6/3 (light reddish brown). White grits and straw. Special feature: handle from rim, no indication if second handle.
10. FN170 Jar rim (diam. 14 cm). Clay 5 YR 6/2 (pinkish grey). No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits and straw?
11. FN171 Jar rim (diam. 13 cm). Clay 10 YR 6/3 (pale brown). No surface decoration. Ext. colour 10 YR 7 (very pale brown). Black and white grits, straw?
12. FN177 Ring base sherd (diam. 12 cm). Clay 5 YR 5/4 (reddish brown). Grey core. No surface decoration. Ext. colour 7.5 YR 6/4 (light brown). Black and white grits, straw?
13. FN176 Ring base sherd (diam. 12 cm). Clay 10 YR 6/2 (light brownish grey). No surface decoration. Ext. colour 10 YR 7/3 (very pale brown). White and black grits, straw.

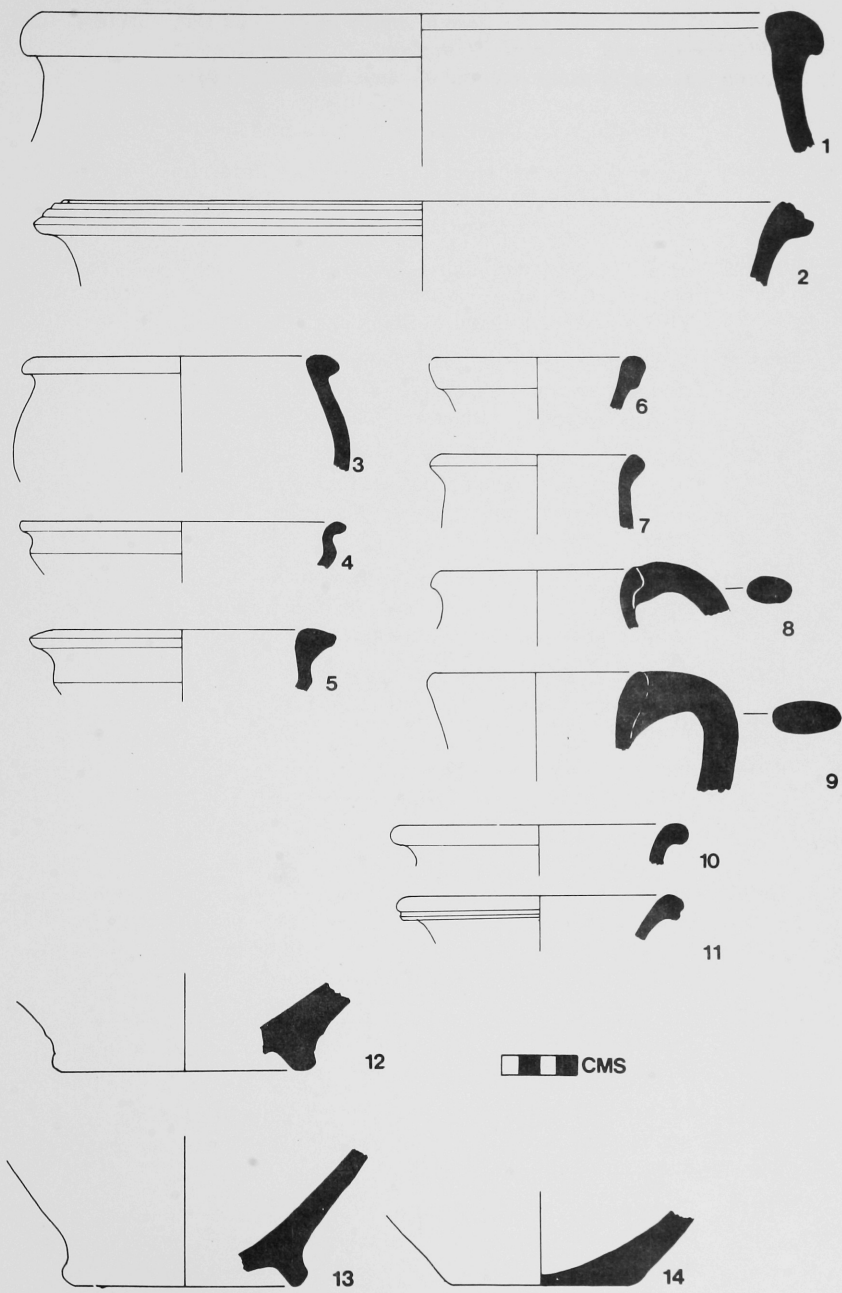


Fig. 226 Pottery from Tell Rifa' at H5 (18) ii

14. FN175 Flat base sherd (diam. 9 cm). Clay 10 YR 5/3 (brown). Greyish core. No surface decoration. Ext. colour 5 YR 6/4 (light reddish brown). White and black grits, and straw.

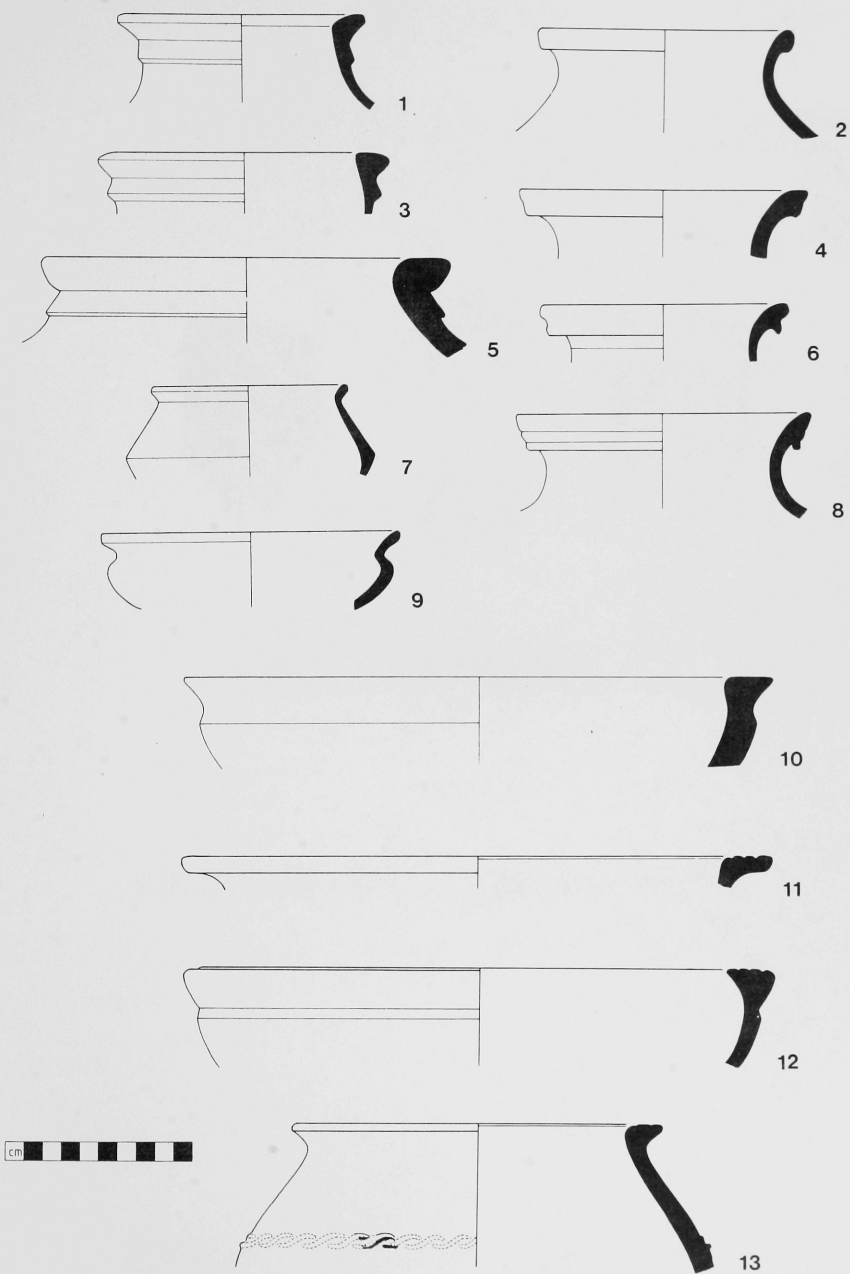


Fig. 227 MB Pottery from Tell Hailane

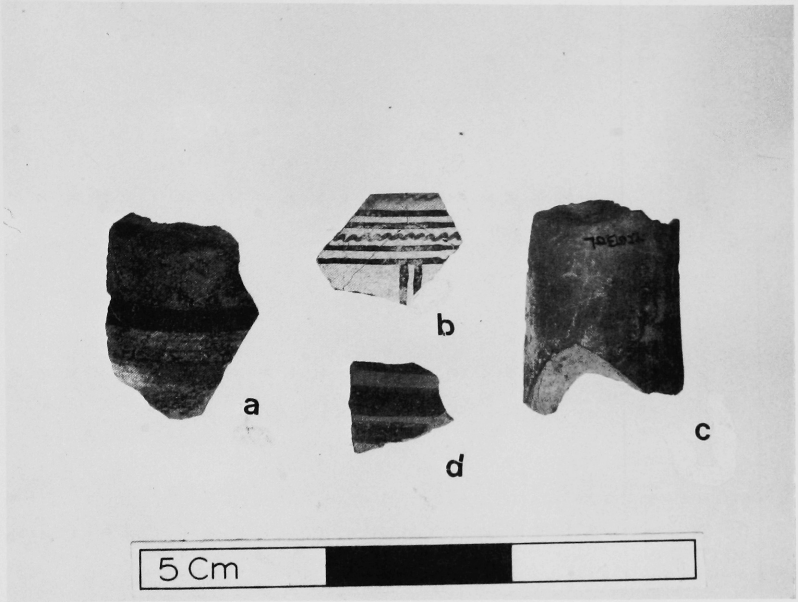


Fig. 227 Middle Bronze Age Pottery from Tell Hailane.

Fig. 229 Diagram of the distribution of MB types

	Small Closed Bowl with Carinated sides Fig. 226.7	Small Bowl with high Carination Fig. 226.9	Large Bowl with high Carination Fig. 226.10	Profiled jar rims Fig. 226.1,3,5	Rilling on top or side Fig. 226.11-13	Everted jar Rims Fig. 226.2, 4,6,8	Comb Decoration
T. Aajar	X	X	X	X	X	X	-
T. Aar	-	-	X	-	X	X	X
Aazaz	-	-	-	X	X	X	X
T. Akhtareine	-	-	X	X	X	X	-
T. Bahouerte	-	-	X	-	X	X	-
T. el Banat	-	-	X	-	X	X	X
T. Bararhite	-	-	X	-	X	X	-
T. Battal	-	-	-	-	X	X	-
T. Botnan	X	X	X	X	X	X	-
T. Cadi	-	-	X	-	-	-	-
T. Chair	-	-	X	-	X	X	-
T. Dabiq	X	-	-	-	X	X	-
Douabiq	-	-	X	-	X	X	-
T. Fafine	X	-	X	X	X	X	-
T. Hailane	X	X	X	X	X	X	X
T. Ilbol	-	-	-	-	X	-	-
T. Jaadiye	-	X	-	-	-	-	-
T. el Jijane	-	-	-	X	X	X	-
T. Kaffine	X	X	-	-	X	X	X
T. Karmine	-	-	-	-	X	X	-
T. Maksudour	-	X	-	X	X	X	-
T. Maled	X	X	X	X	X	X	X
T. Mouslimiye	-	-	-	X	-	-	-

Fig. 229 (contd.)

T. Nef	-	x	-	x	-	-	-	-
T. Noubbol	-	-	-	-	-	-	-	-
T. Qaramel	x	x	x	x	x	x	x	x
Qol Srouj	-	-	-	-	-	-	-	-
T. Qoubessine	x	-	-	x	x	x	x	x
T. Rahhal	-	x	-	x	x	x	x	x
T. Sifir	-	x	-	x	x	x	x	x
T. Sourane (Azaz)	-	x	-	x	x	x	x	x
T. Sourane (Bab)	-	-	-	x	x	x	x	x
T. Sousiane	-	-	-	x	x	x	x	x
Yel Baba	x	x	x	x	x	x	x	x
T. Zaitane	-	-	-	-	-	-	-	-

	GREY BURNISHED BOWLS/PLATES			
	Type 1 Rilled rim	Type 2 Triangular rim	Type 3 Inverted and rounded rim	Type 4 Miscellaneous
Aazaz				x
T. Akhtareine	x		x	x
T. Bahouerte	x			x
T. Bararbite	x	x	x	x
T. Battal Chimali	x	x	x	x
T. Dabiq	x	x	x	x
Douabiq				x
T. Fafine				x
Ain Fuwwar			x	
T. Hailane		x		
T. Jaadiyeh		x		
T. Kadrieh	x		x	x
T. Nef			x	
T. Qaramel			x	
T. Sourane, A	x	x	x	x
Tleilat			x	
Yel Baba	x	x	x	x



Fig. 229a The Distribution of Grey Burnished Wares

REPORT ON THE MIDDLE BRONZE AGE PAINTED POTTERY

Jonathan N. Tubb

The fifteen sherds (Fig. 230) collected during the Tell Rifa'at Survey belong to a type of pottery, current during the MBIIA period of Palestine and Syria, to which I have applied the term "Amuq/Cilician Ware".¹ Although by no means an ideal term, it serves to indicate that the main area of distribution of this type of pottery lies within the plains of Antioch and Cilicia. It forms the major element in the painted pottery of levels XVII-VIII at Alalakh (Woolley 1955, pls. LXXXIV, LXXXV, XC-XCIII) and occurs in phases K and L of the Amuq sequence at Judeidah (Swift 1958, figs. 1 & 2), as well as being reported from over forty of the other sites visited during the Amuq survey (Braidwood 1937, pp. 20-37). In Cilicia, it occurs in the MB levels at Tarsus (Goldman 1956, figs. 287, 291, 295 [some], 297 [some], at Kazanlı (Garstang 1938, pls. VIII [some], XIII [some]) and in levels XI-IX at Mersin (Garstang 1938, pls. LXVI-LXVIII, LXXI). It corresponds to Garstang's "Cilician Hittite Ware" at the latter two sites (Garstang 1940:p. 136). Amuq/Cilician Ware was found to extend as far west as Silifke during Gjerstad's survey of Cilicia in which he described the ware as "Painted I Ware" and "Handmade Painted Ware" (Gjerstad 1934:155-203). It was also found at numerous sites during the Cilician survey of 1951 (Seton-Williams 1954:131-133). No illustrations were published with this report, but examples from Yenice and Alapanur were illustrated in a previous article (Seton-Williams 1953, figs. 2:7, 4:7). It is not suggested that there is one centre of production for the ware, yet despite some variation in colour, hardness and temper type to be expected with regional clay variations, it is remarkably uniform and even undecorated fragments can be assigned to the ware with ease. Generally it is of a hard, pale pinkish-buff paste, well levigated and usually wet-smoothed or covered with a fine unburnished cream slip. The paint is reddish-brown, through dark brown to black and has a tendency to "crackle". Normally only one colour of paint is used but there are infrequent cases of bichrome decoration (see for example Garstang 1953, fig. 143:5). The repertoire of vessels decorated is not large. Open forms include carinated bowls of various sizes, footed bowls and craters. In Cilicia may be added a spouted jar or "teapot" with basket or loop handle (Goldman 1956, figs. 370:868, 871, 872). Of closed forms there is only one major type, the trefoil-mouthed pitcher, although variation in size and form occurs.

The most distinctive characteristic of the ware is the style of its painted decoration. It is typified by the use of friezes, bounded by horizontal bands, divided into metopes by simple geometric motifs, and applied, without exception, to the upper portion of the vessel. In general the decoration of the open forms is extremely simple with the metopes most frequently left unfilled. The simplest design consists of a frieze in which the metopes are produced by groups of vertical lines. The sherds from Tell Chair (Fig., 10), Tell Jijane (nos. 6 and 12), Tell Karmine (no. 8) and Tell Tifa'at (no. 11) belong to this

class and parallels are common at Alalakh (Woolley 1955, pls. XCI-XCII). The bowl sherd from Tell Qaramel (no. 7) shows a variant in which the metopes between the grouped verticals are filled with grouped vertical wavy lines. An example of the same combination, although applied to a pitcher, occurs at Alalakh (Woolley 1955, pl. XC: ATP/47/111). Another frequently found method of decorating the open series is by use of grouped opposing diagonals, forming a continuous frieze of vertical chevrons. Such a method of decoration is found at Tarsus (Goldman 1956, fig. 287:778) and it is illustrated from the survey collection by the bowl sherd from Tell Sourane (no. 5). One of the most distinctive and often encountered design motifs applied to the metopes consists of crossed diagonals. These are occasionally left without further treatment as appears to be the case with the bowl sherd from Tell Aajar (no. 9) and a parallel design is found on a footed bowl from Tarsus (Goldman 1937:264, fig. 9). More frequently, however, the two opposing triangles in the horizontal plane, formed by the crossed diagonals, are decorated either by filling in solidly or by dotting to produce the so-called "butterfly triangle" motif. It is a design common to both the open and closed series of vessels and is illustrated from the Rifa'at survey material by the bowl rim sherd from Tell Kaffine (no. 15). Here the "butterfly triangle" is dotted and a parallel, also on a bowl, occurs at Alalakh (Woolley 1955, pl. XCI: ATP/47/149).

The decoration of the pitchers tends to be more elaborate with naturalistic elements filling the metopes: a wide variety of animals, birds and even fish is found as are also representations of vegetation. Very often there are two friezes, one above the other. In such cases, the upper is very often non-metopic, consisting of a continuous frieze of vertical lines, cross-hatched triangles or other simple geometric motifs used singly or in combination: the lower frieze is used for the more elaborate naturalistic metopes often divided by "butterfly triangles". A very common and distinctive element used in the decoration of the pitchers, and incidentally the tea-pots, but rather infrequently encountered in the bowl series, is the "hour-glass" triangle. Here, the sides of the triangle are extrapolated to cross over so as to form a small opposing triangle on top. This design can be seen on the "tea-pots" from Tarsus (Goldman 1956, fig. 297:872, 868) and on the pitcher from Judeidah (Swift 1958, fig. 2). The pitcher shoulder sherd from Tell Qaramel (no. 1) illustrates this design. Here, the "hour-glass" triangles are interspersed with vertical wavy lines forming a continuous frieze and it is, therefore, possible for the reasons mentioned above, that the pitcher, from which the Tell Qaramel sherd came, had a second lower frieze. By far the most distinctive feature of the pitchers is the application of painted eyes to the rim, giving the vessel a somewhat amusing appearance. Frequently there is also an attempt to depict a mouth at the point where the handle joins the neck and this region is sometimes thickened to enhance the effect (see for example Woolley 1955, pl. LXXXIVa). On the Tell Rifa'at survey, an example of the painted eye decoration was found on the sherd from Tell Qaramel (no. 2): here too a rather splendid eye-brow has been added. The handle from Tell el-Malek (no. 3) is typical of those from the pitcher series, having a horizontal line running along its length. Many are more elaborate with horizontal cross-strokes and a branch-like motif on the body below the point

of attachment. At the junction of the neck and the handle, the Tell el-Malek piece shows an elaboration which may be associated with the "mouth design" referred to above. Although naturalistic elements are more commonly found on the pitchers, they are not unknown on the open series. The bowl sherd from Tell Chair (no. 4) is not entirely without parallel. This fragment depicts what is presumably a type of bird and birds too are found on bowl sherds from Alalakh (Woolley 1955, pl. LXXXIVc).

Amuq/Cilician Ware may be dated to the MBIIA period (c. 2000-1750 B. C.) on the basis of its occurrence at Alalakh in levels XVII-VIII and consequent correlation with Amuq phases K-L (Swift 1958, chapter 1). In Cilicia it does not appear before the Middle Bronze Age strata at Tarsus or Mersin and in the Amuq before phase K at Judeidah or level XVII at Alalakh (the lowest level investigated). Although painted pitchers do occur in phases I and J of the Amuq sequence some even with eye ornament (Braidwood and Braidwood 1960, fig. 317:5), the decoration is entirely different in conception and lacks the rigid formalism that distinguishes Amuq/Cilician Ware. That it does not persist into the second quarter of the second millennium B. C. is best illustrated at Alalakh where level VII, which must be dated c. 1750-1650 B. C., exhibits a very marked change in the pottery repertoire. Many of the forms such as the carinated and footed bowls, to which the painted decoration had been applied, disappear completely, and there is a virtual absence of painted pottery of any description (Woolley 1955:313-314). When painted decoration does return in level VI, the style is very different and lacks the tightly controlled arrangements of Amuq/Cilician ware (see for example Woolley 1955, pls. XLIV-XLV).

Further evidence for the dating suggested above is afforded by occurrences of Amuq/Cilician Ware outside of its major distribution area. On the Anatolian Plateau, it has been found as an import in Karum IV and II at Kültepe, the first phase of the Assyrian Colony, which must be dated to the first quarter of the second millennium B. C. (Özgtüç, 1952, pl. LX:327, 328, 331, 340, 341a-b, pl. LXXIX:616-617; Özgtüç 1955:460 & fig. 29). It is important to note in this respect that it does not appear in Karum Ib, the second phase of the Assyrian Colony. More recently, Amuq/Cilician Ware has been reported from Tilmen Hüyük, in the Plain of Islahiye, where it was found in levels IIIa and IIIb, a phase which the excavator dates between "the twentieth and first quarter of the eighteenth centuries B. C." (Alkım 1969:286-287).

In Syria, Amuq/Cilician Ware follows the course of the Orontes. A pitcher sherd from Hama, showing a bird, derives from period H (Ingholt 1940, pl. XVII:3), a phase which should also be equated with the MB II A period (Ingholt 1940:65; Tubb 1980:64). Pitchers of the ware were also found in Tomb I at Qatna (Du Buisson 1930, pl. XXI:61, 82). This tomb group must also be dated to the MBIIA period (Tubb 1980:64). Most recently, a pitcher sherd has been found in an MBIIA context at Qadesh and this represents the southernmost examples so far recorded.² Amuq/Cilician Ware is virtually unknown on the Syrian coast. A recently published pitcher from Ras Shamra (Courtois 1978, fig. 4:4 & 4a) provides the only available example, and this piece is of such a crude nature that it may represent an imitation. Other painted pitchers from Ras Shamra (Schaeffer 1949, fig. 131:16), Amrith (Dunand et al. 1954, pl. III:4).

and Tell Sukas (Thrane 1978, figs. 85, 87 & 92), although contemporary in date with Amuq/Cilician Ware, belong to a different tradition of painted pottery; a tradition which embraces the Levantine coast and northern inland Palestine. Although this is not the place for a detailed discussion of this latter tradition, suffice it to say that the pitchers are characterized by the use of continuous designs rather than metopic and do not display the painted eye ornament. Examples of this pottery, to which I have applied the term "MBIIA Palestinian Painted Ware",¹ also occur in Tomb I at Qatna (Du Buisson 1927, fig. 49), an incidence which serves to demonstrate the contemporaneity of the two painted traditions. In view of the almost complete absence of Amuq/Cilician ware on the Levantine coast, it is particularly interesting that an example should have turned up in Cyprus. A typical pitcher, decorated with "butterfly triangles" with bird and stag motifs, was found in Tomb 9 at Ayia Paraskevi in Nicosia: I have discussed this piece in a recent republication of the group (Merrillees & Tubb 1979, fig. 2 & Pl. XXIV:1-2).

The discovery of Amuq/Cilician ware on several sites on the Tell Rifa'at survey is very important, for it adds another area of its distribution, well to the east of the Orontes in Syria. Prior to this the only evidence for the occurrence of the ware as far east, has been a solitary sherd, showing the rear part of a quadruped in combination with a geometric motif, from Tell Mardikh (Matthiae *et al.* 1965, pl. XLI:5):³ Tell Mardikh lies some 75 km south-west of Tell Sourane (Bab) the most southerly site at which Amuq/Cilician ware was collected on the survey. The presence of Amuq/Cilician ware in this area is not, however, surprising. In his discussion of the Neolithic and Chalcolithic material collected during the 1977 season of survey, Mellaart pointed out "the vital position of the Aleppo region, halfway between the Euphrates and the Mediterranean, and halfway between Carchemish and Hama, a natural carrefour for trade in every direction" (Matthers *et al.* 1978:135). He indicated the presence of a trade route between the Amuq and the Aleppo region during these early periods (*ibid.*, fig. 7): clearly there is no reason to believe that this route did not exist later, during the Middle Bronze Age.

NOTES

1. Much of the material discussed in this report is based on J. N. Tubb's research for a PhD thesis for the Institute of Archaeology, University of London, entitled "The Development of Painted Pottery in Syria during the Early Second Millennium B. C.". The terms "Amuq/Cilician Ware" and "MBIIA Palestine Painted Ware" are there applied to distinguish two very characteristic styles of painted decoration.
2. I am grateful to Mr. P. J. Parr, the director of the Qadesh excavations for allowing this information to be published.
3. At the XXVI^{eme} Rencontre Assyriologique Internationale, held in 1979 in Copenhagen, Professor Matthiae announced the discovery of two rich burials at Tell Mardikh, one of which dates in part to the MBIIA period, and which contained "painted jugs" which he parallels with level XII at Alalakh. As yet, this tomb group remains unpublished, but it does seem that the presence of Amuq/Cilician ware at Tell Mardikh is confirmed.

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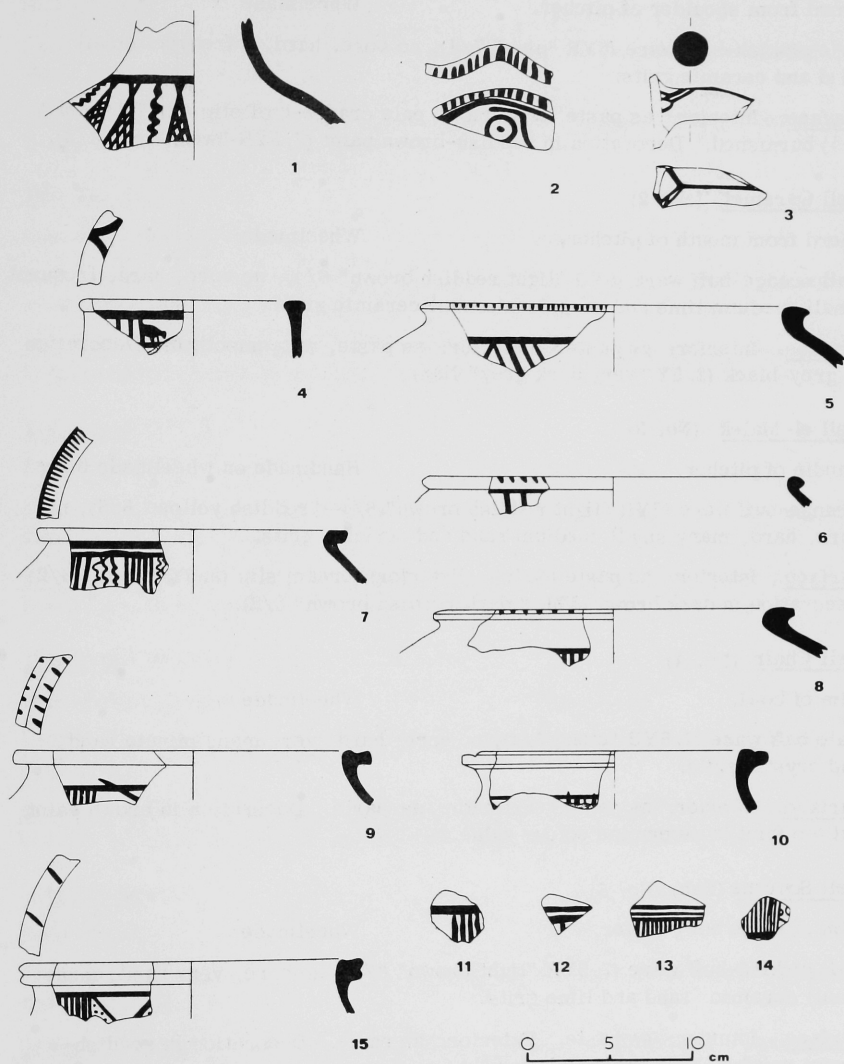


Fig. 230 Fragments of MB Painted Ware found by the survey 1977-9.

Fig. 230

Tell Qaramel (No. 1)

Sherd from shoulder of pitcher.

Wheelmade

Pale pinkish-buff ware (5YR "pink" 7/4), no core, hard, infrequent small sand and ceramic grits.

Surface. Interior: as paste. Exterior: pale orange-buff slip (7.5YR "pink" 7/4) burnished. Decoration in reddish-brown paint (2.5YR "weak red" 4/2).

Tell Qaramel (No. 2)

Sherd from mouth of pitcher.

Wheelmade

Dull orange-buff ware (5YR "light reddish brown" 6/4), no core, hard, frequent small-medium lime and occasional small ceramic grits.

Surface. Interior: as paste. Exterior: as paste, wet-smoothed. Decoration in grey-black (2.5Y "very dark grey" N3/).

Tell el-Malek (No. 3)

Handle of pitcher.

Handmade on wheelmade body

Orange-buff ware (5YR "light reddish brown" 6/4—"reddish yellow" 6/6), no core, hard, many small-medium sand and ceramic grits.

Surface. Interior: as paste (body). Exterior: cream slip (2.5Y "white" 8/2) Decoration in dark brown (5YR "dark reddish brown" 3/2).

Tell Chair (No. 4)

Rim of bowl.

Wheelmade

Pale buff ware (7.5YR "pink" 7/4), no core, hard, very many minute sand and crystal grits.

Surface. Interior: as paste. Exterior: as paste. Decoration in brown paint but too faint to determine colour value.

Tell Sourane (Bab) (No. 5)

Rim of large bowl/crater.

Wheelmade

Dull pinkish-buff ware (7.5YR "light brown" 6/4), no core, very hard, many small ceramic, sand and lime grits.

Surface. Interior: as paste. Exterior: as paste. Decoration in reddish-brown paint (2.5YR "reddish brown" 4/4).

Tell Jijane (No. 6)

Rim of bowl.

Wheelmade

Pinkish-buff ware (2.5YR "light reddish brown" 6/4), pale grey core; hard, many small ceramic and occasional small lime grits.

Surface. Interior: as paste. Exterior: as paste, wet-smoothed. Decoration in dull red paint (10R "dusky red" 3/4).

Tell Qaramel (No. 7)

Rim of bowl.

Wheelmade

Pale pinkish ware (5YR "pink" 7/4), no core, very hard, many small-medium sand, lime and ceramic grits.

Surface. Interior: as paste. Exterior: as paste, wet-smoothed. Decoration in purple-brown paint (10R "dusky red" 3/2).

Tell Karmine (No. 8)

Rim of large bowl/crater.

Wheelmade

Light orange-buff ware (5YR "reddish yellow" 6/6), no core, hard, infrequent small lime and ceramic grits.

Surface. Interior: as paste. Exterior: as paste, wet-smoothed. Decoration in thin reddish-brown paint (5YR "reddish brown" 5/4).

Tell Aajar (No. 9)

Rim of large bowl/crater.

Wheelmade

Pale pinkish-buff ware (5YR "pink" 7/4), no core, hard, many small sand, ceramic and lime grits.

Surface. Interior: as paste. Exterior: pale buff slip (7.5YR "pink" 7/4). Decoration in very dark greyish-brown (10YR "very dark grey" 3/1).

Tell Chair (No. 10)

Rim of bowl/crater.

Wheelmade

Pinkish-buff ware (7.5YR "pink" 7/4), no core, hard, some small-medium lime grits.

Surface. Interior: as paste. Exterior: pale buff slip (10YR "very pale brown" 7/3). Decoration in brown (5YR "dark reddish brown" 3/2).

Tell Rifa'at (No. 11)

Body sherd.

Wheelmade

Pale buff ware 7.5YR "pink" 7/4), no core, hard, some small sand, ceramic and lime grits.

Surface. Interior: as paste. Exterior: as paste, wet smoothed. Decoration in dark greyish-brown paint (10YR "very dark greyish brown" 3/2).

Tell Jijane (No. 12)

Body sherd.

Wheelmade

Pinkish-grey ware (5YR "light reddish brown" 6/4), no core, hard, some small lime and occasional small ceramic grits.

Surface. Interior: as paste. Exterior: pale pinkish-buff slip. (7.5YR "pink" 7/4). Decoration in dark greyish-brown paint (10YR "very dark greyish brown" 3/2).

Tell Kaffine (No. 13)

Body sherd.

Wheelmade

Cream-buff ware (10YR "white" 8/1), no core, very hard, very many minute sand and ceramic and occasional small lime grits.

Surface. Interior: as paste. Exterior: as paste. Decoration in brown paint but too faint to determine colour value.

Tell Jijane (No. 14)

Body sherd.

Wheelmade

Pinkish-buff ware (2.5YR "light red" 6/6), no core, hard, some small sand and ceramic grits.

Surface. Interior: as paste. Exterior: pinkish-buff slip (5YR "pink" 7/4). Decoration in reddish-brown (5YR "dark reddish brown" 3/4).

Tell Kaffine (No. 15)

Rim of large bowl/crater.

Wheelmade

Dull orange-buff ware (7.5YR "light brown" 6/4), no core, hard, many small lime and ceramic grits.

Surface. Interior: as paste. Exterior: as paste, wet-smoothed. Decoration in dark reddish-brown paint (2.5YR "dusky red" 3/2).

PETROLOGICAL EXAMINATION OF TWO MYCENEAN SHERDS

John A. Riley

The two sherds with Mycenaean decoration and considered to be foreign to the region were also analysed and compared with the local samples. These two sherds, both decorated with horizontal bands, were thin sectioned. The petrological findings closely agree with V. Hankey's conclusions for their origin, based on typological grounds and on visual consideration of the fabrics.

Southampton Aegean Project No. 1496 (Fig. 231)

(Tell Maled, body sherd with horizontal bands. MYC IIIa2/early IIIb; identified by V. Hankey.)

In thin section, the sample is very fine textured with no large inclusions. There are abundant, well sorted, minute shreds (ranging from 0.05-0.1 mm in length) of mica in the matrix, with regular, well sorted, small (average size ca. 0.05 mm across with a frequency of ca. 10-15 per mm²) quartz grains. There are occasional red opaques and some altered ferromagnesian minerals. Although this matrix would be compatible with sediments from many areas, it commonly occurs with fine textured Mycenaean sherds from stratified contexts at Mycenae. The fabric is clearly not local to the Tell Rifa'at area, and the petrology would support an Aegean origin for this sample.

Southampton Aegean Project No. 1497 (Fig. 231)

(Tell Chair, body sherd with horizontal bands. Considered by V. Hankey to be of Mycenaean influence but not Mycenaean in origin.)

Petrological investigation of this fabric reveals numerous grains of serpentine of an average size of 0.1-0.3 mm across (the average frequency is ca. 5-6 per mm²), common calcite (shell) inclusions of average size ca. 0.1-0.2 mm across and with an average frequency of ca. 10 per mm². There is occasional chert (to 0.2 mm across) and epidote together with rare quartz and plagioclase grains (to 0.1 mm across).

The origin of this fabric is to be found in an ophiolitic region and is clearly an import to the Tell Rifa'at area. A likely source is the serpentine rich greenstone which occurs in the Antioch region. A Cypriot source is also possible as greenstone also occurs in the Troodos massif area.

Acknowledgements

This study has been incorporated into a much wider petrological examination of Aegean Late Bronze Age pottery by the author in collaboration with Professor A. C. Renfrew and Dr. D. P. S. Peacock at the University of Southampton, and funded by the Science Research Council.

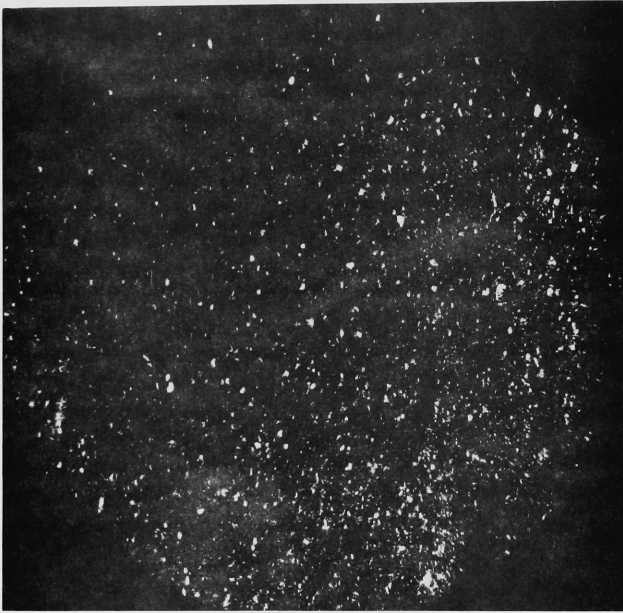


Fig. 231 Photomicrograph (Scale = x30). To show texture and size and frequency of quartz grains (small white inclusions). (Crossed Polars; Sample No. 1496.)

THE IRON AGE (c. 1200-700 B.C.)

John Matthers

1. Parallels Outside the Area of Survey

The sites with a comparative sequence for the 1st millennium B.C. are more difficult to find than for the 2nd millennium B.C. In fact only one site offers us such a sequence, and that is Hama which lies to the south of our area. On the tell of Hama, level E is Iron II, but it mainly represents the destruction level of 720 B.C. (Fugmann 1958, pages 150ff.) Rather small and isolated groups represent Iron I in level F. Cemeteries I-III were divided on topological grounds as they were stratigraphically inseparable (Riis 1948 pages 192ff.). They said to be in use c. 1200 to c. 800 B.C. Cemetery IV is situated away from the other three, and has the same types as were found on the tell in the destruction level of Hama E or 720 B.C. Hence it is dated to the 8th century B.C.

The finds for this period at Tell Afis, the Amuq sites and Tell Mardikh have yet to be published. The only other groups of material to help us are the assemblage from the Yunus Cemetery at Carchemish and the much discussed levels at Al Mina. Neither of these groups is normal in so far as we had only grave goods from one and imported pottery from the warehouses of the other. This period was entirely missing from the sites excavated in the Tabqa project on the Euphrates.

2. Parallels Within the Area

Several soundings were made on the Aleppo Citadel (Baurain 1923, page 80; Dussaud 1931a, page 95ff.; 1931b, page 66; 1934 page 300ff.; and Ploix de Rotrou 1932a, page 7ff.; 1932b, page 111ff.), but none of the pottery from them was published and all of it has since been lost. In the Citadel Museum there is only Islamic material, with the already noted exception of the bronze age figurine. There is said to be some masonry from the Iron Age: a carving in stone (Orthmann 1971, page 54), some lions and some geometrically carved orthostats.

Arising from the 1924-25 excavations at Tell Rifa' at by Bedrich Hrozný, he spoke of a large Iron Age palace in the south-west corner of the tell. 'This palace, 23 m wide and 30 m long, has a large portal with two columns in the Hittite style and a great courtyard, on the sides of which there were two rooms, and on the front side of which there evidently stood a large hall. It is an administrative palace dating from the first thousand years before Christ.' He also speaks of finding the 'fragment of an inscription in Phoenician letters.' (Hrozný 1926, page 512). No pottery was associated with these findings.

In the 1956-64 excavations at Tell Rifa' at, several Iron Age levels were found. I have chosen out two destruction levels which by parallels with the

Hama level of 720 B. C., can best be put in the 8th century B. C. They are G I (6) and M 6(9b). Both levels are distinguished by the presence of red-slipped and burnished platters, by high-footed 'fruitstands', by thin burnished bowls, by black-on-red ware, by vessels painted in both the 'White Painted' and the 'Bichrome' traditions, and by some heavy rope-decorated vessels (Figures 232-235).

3. From the Survey 1977-79

Figure 236 shows sherds from different sites, but they represent the main types for recognizing the Iron Age. No. 2 is a typical red-slipped and burnished platter, with No. 4 representing the high foot for such a platter. Nos. 5 and 6 show the jar rim, with or without paint or plastic decoration, that was so frequent in the Iron Age. No. 7 is the Mycenaean derivative both in decoration and in shape, as a deep bowl with sinuous sides. It is from Iron 1. No. 8 is a hole-mouth cooking pot. With a little practise they are easily distinguished from the rather similar Roman vessels. They are abundant at various sites for a long part of the Iron Age. Nos. 9 and 10 are examples of the heavy vessels with rope decoration found in the Iron Age. Nos. 11 and 12 are both from Aazaz and they are from a small juglet (11 and from a larger closed vessel, both being decorated in the 'White Painted' tradition. On Figure 237 the first three have appeared also on Figure 236. This figure 237 shows the possible imports. No black-on-red was found in the three seasons of survey, although we know some was found at Tell Rifa' at during the 1956-64 excavations. No. 3 was painted in the 'Bichrome' tradition. No. 6 is the base of a painted bowl. It could easily be classified as 'part of a Gezer Bowl', though at Hama such bowls are found in Hama E. No. 7 is painted in the 'White Painted' tradition. Figure 238 shows the distribution of these types as found in this survey 1977-79.

4. Topographical Points

In the preliminary report of the 1977 season (Matthers et al. 1978 pp. 144-147), we dealt with the suggestions that Arne (as it appears on the Balawat Gates: King 1915, plate LXIX upper register: our Figure 239) is best identified with Tell Aarane (Figure 8a) than with El Aareime/Erine (Figure 20a) as Dussaid thought (Dussaud 1927, page 468). Also it was suggested that Arne was the capital until Bit-Agusi acquired territory to the north sometime after 850 B. C., at which time Arpad or Tell Rifa' at became the new capital. The other points raised in that preliminary report was the role of Aleppo in the Iron Age and the possible borders of Bit-Agusi. The following points were investigated in subsequent seasons:

a. Braij Er Rih (Braidj) was the place where the Melqart Stele was found (Dunand 1939, pages 59ff.; and our Figure 18c). Today it is the site of a modern village. Although there are signs of many rebuilt walls and of abandoned wall lines, there is no sign of occupation older than Roman. The presence of much re-used masonry suggests that the stele was imported already carved. It could have been imported at any time from any site.

- b. Jekke was where the Hittite hieroglyphic inscription was found (Barnett 1948, pages 122ff.). Like Breidj it is now the site of a modern village (our Figure 24a). No trace can be found of pre-Roman levels. As at Breidj the stele was probably imported already inscribed for re-use in the village houses. Any attempt to identify the surrounding villages seems irrelevant.
- c. Hazazu, the town visited by Assur-nasir-apli II on his way from Carchemish to Hattin (Pattin) is easily identified with modern Aazaz (Hawkins RIA IV page 240). On the same page he makes the identification of Aazaz with the town of Khazazu captured by Shalmaneser III and depicted on the Balawat Gates (King 1915, plates XIII-XVIII). It seems an odd place to besiege a town in a campaign against Phoenicia.
- d. Kalne of the Assyrian texts was identified by Dussaud as Kullan Keui (Dussaud 1927, pages 468-9), presumably to be identified with the modern Qol Srouj. The expedition found nothing for or against this identification.
- e. Tell Dabiq (Figure 19b). was the scene of the battle between the Ottoman and Mamluk armies in 1514. Apparently the site was that of Dabigu of Assyrian texts. The site was that captured by Shalmaneser III in c. 858 B.C. (Figure 240) (King 1915, plates XIX-XXIV). The fact that at that time it was in the territory of Bit-Adini, supports the theory that Bit-Agusi was further south at the time.

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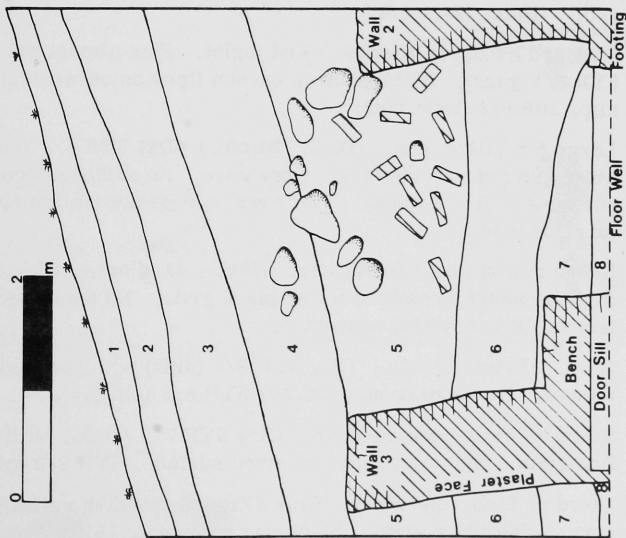
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Fig. 232

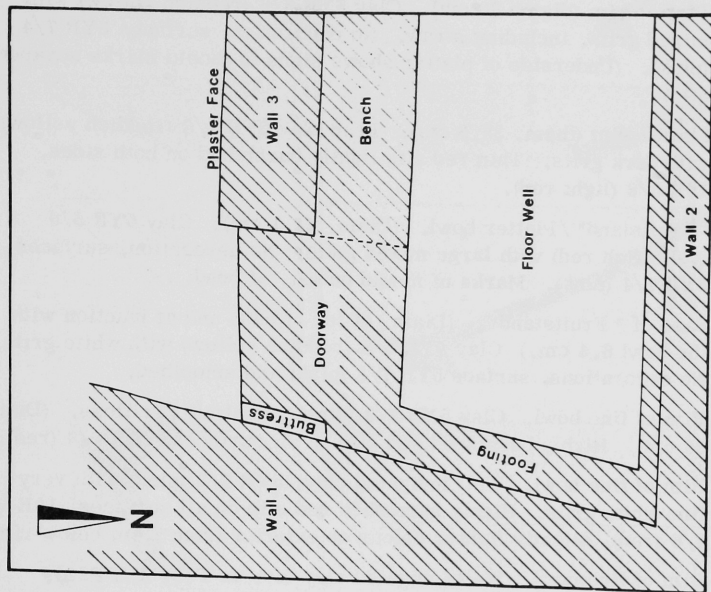
West Section of Area G1: giving soil descriptions and pottery readings of
Possible Iron Age levels

- (1)-(4) mixed erosion fill
- (5) Grey-brown soil. In the bottom of this level is a heavy fall of mud brick, (Pottery book: beske jar, fine red burnished ware, bowl in plain brown ware, dishes with inturned rims, sherds with comb decoration).
- (6) Dark Black-brown soil, mixed also with mud brick. This is the first deposit to indicate a fairly level accumulation of material, parallel with the original floor of the structure. This level represents accumulated debris rather than an occupational layer. (Pottery noted in field book by supervisor: the characteristic pottery is a fine red burnished ware which sometimes shows black specks. The supervisor also noted two Red-on-Black sherds and two Cypriot style bichrome sherds (red and black on buff). Pottery book: fruitstands, buff wares, black-on-red, large straw-tempered jars, red burnished wares.)
- (7) Ash-grey soil mixed with charcoal. This deposit was undoubtedly formed at the time of the room's destruction as it was found to lie immediately above the floor level. The depth of the grey soil is considerable (30 cm and more), which suggests that large amounts of timber must have been used in the construction of the building. A flooring of mud brick bonded into the walls, was found to extend across the doorway and down the sides of the room. (Pottery: the supervisor noted some sherds of painted pottery and a much smaller number of red burnished sherds. From this he concluded that this level was of the same period as (6). The pottery notebook: a grey ware base, a bichrome sherds, ware with rope decoration, red burnished ware, cooking pot ware with straw temper, flat and ring bases, straw-tempered cream ware, brown burnished wares, large jar with a roll rim.)
- (8) Brown soil. The supervisor conjectured that this was an occupation layer, saying that it showed no signs of a proper floor. He concludes that the room was designed with a floor well rather than that level (8) represents an earth packing between the surrounding brick footings. The presence of pottery and metal in this deposit, as well as the fact that the bricks in the well, at least on the side of wall 2 had been faced with whitewash. Under (8) only clean earth could be found. (Pottery: the supervisor noted that in this layer a small piece of geometric pottery was found, with black stripes on a buff ground). There is no entry in the pottery notebook.

TELL RIFA'AT 1956
GI



West Section



Plan of Room

Fig. 232 West section and plan of Tell Rifa' at GI.

Key to Figure 233 Pottery from G I(6)

1. P206 Platter rim (diam. 30 cm). Clay 5YR 6/6 (reddish yellow) with mixed grits, including straw. No decoration, surfaces 5YR 7/4 (pink). (Underside of platter shows signs of mould marks scraped off.)
2. P199 Platter rim (diam. 35.9 cm). Lean clay 5YR 7/6 (reddish yellow) with dark grits. Thin red slip lightly burnished on both sides, 10R 6/8 (light red).
3. P124 "Fruitstand" /Platter bowl. (Diam. 34.1 cm). Clay 5YR 5/6 (yellowish red) with large mixed grits. No decoration, surfaces 5YR 7/4 (pink). Marks of mould on ext. of bowl.
4. P207 Base of "Fruitstand". (Diam. at top of base and at junction with the bowl 6.4 cm.) Clay 5YR 6/8 (reddish yellow) with white grits. No decorations, surface 5YR 7/3 (pink) and smoothed.
5. P404 Rim of fine bowl. Clay 5YR 7/3 (pink) and almost gritless. (Diam. 26 cm). Highly burnished red slip on all surfaces, 10R 4/8 (red).
6. P224 Rim of fine bowl. Well levigated clay, 5YR 7/3 (pink) with very fine white grits. Highly burnished red slip on all surfaces, 10R 4/6 (red), slightly lighter colour on exterior from 1 cm below rim.
7. P405 Rim of fine bowl. Well levigated clay etc. as P404 and P224.
8. P209 Black-on-Red bowl. Clay 5YR 6/4 (light reddish brown) with white grits. Black paint on red burnished slip, 10R 6/6 (light red). (Diam. 24.1 cm.)
9. P238 Neck and handle of Black-on-Red juglet. Fine almost gritless clay 5YR 7/4 (pink). Black paint in uneven lines on unburnished red slip, 10R 6/6 (light red).
10. P383 Large jar/pithos rim. (Diam. 34 cm.) Clay 5YR 7/4 (pink) with white grits of varying size. Grey core. No surface decoration, surfaces 5YR 7/3 (pink). Two rows of rope decoration applied on exterior below rim.
11. P312 Rilled rim of large jar/krater. (Diam. 41.6 cm.) Clay 5YR 6/3 (light reddish brown) with fine black grits. No decoration, surfaces 5YR 7/3 (pink), smoothed.
12. P384 Base. (Diam. 11 cm.) Clay 5YR 8/4 (pink) with some straw temper. No decoration, surfaces 5YR 8/3 (pink).
13. P233 Sherd of White-painted Ware. Clay 5YR 7/3 (pink), with very fine grits. Black paint on smoothed surface, 5YR 8/3 (pink).
14. P231 Sherd of Bichrome Ware. Clay 5YR 6/6 (reddish yellow) with some large white grits. Black and red paint, 10R 6/6 (Light red) on surface 5YR 7/4 (pink).
15. 36 A shell disc with a central perforation, broken.

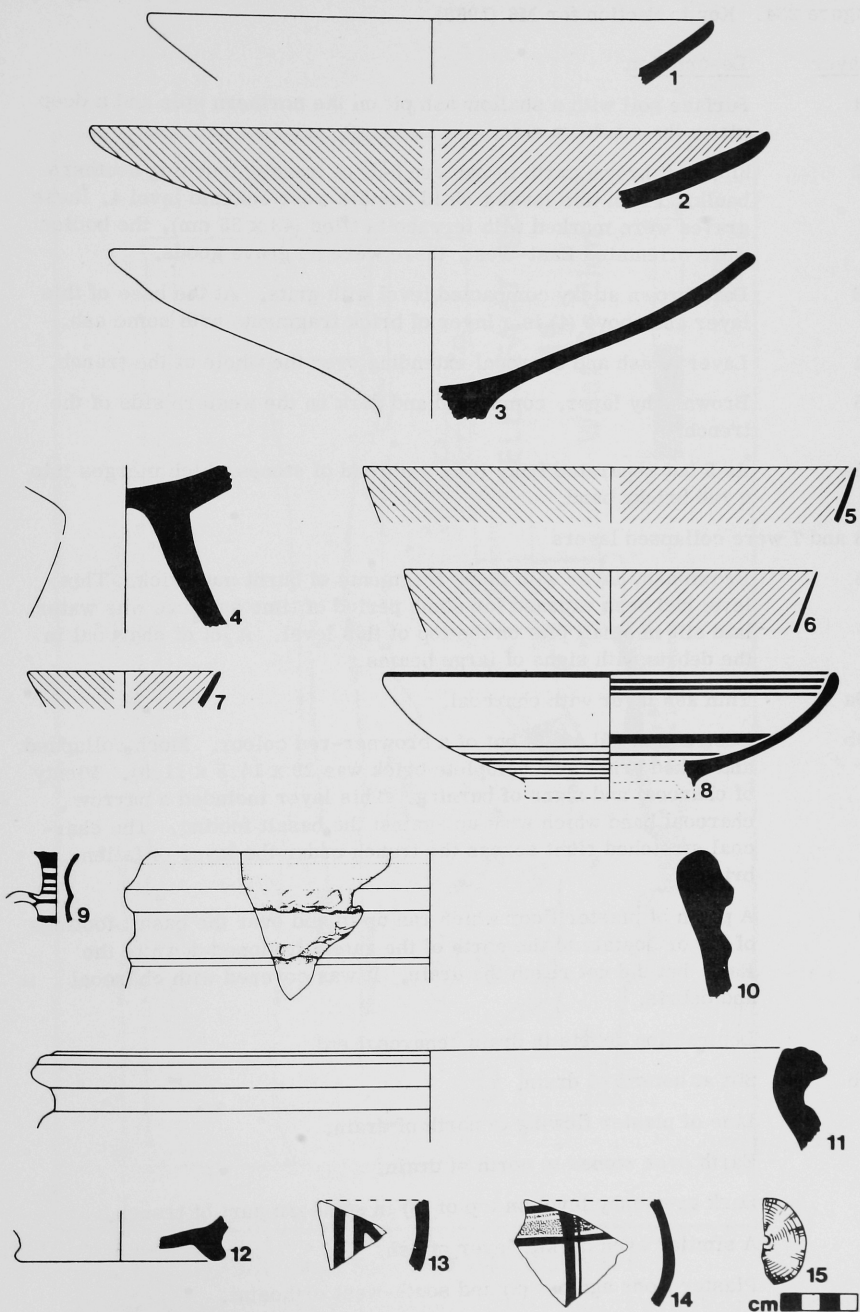


Fig. 233 Pottery from Tell Rifa' at G I (6).

Figure 234. Key to Section for M6 (1960)

<u>Layer</u>	<u>Description</u>
1	Surface soil with a shallow ash pit on the northern side and a deep pit on the southern side.
2	Fine soft brown earth in eastern half of trench, touching southern baulk. From this level 4 child burials were cut into level 4, these graves were marked with terracotta tiles (43 x 35 cm), the bodies were orientated East-West, there were no grave goods.
3	Dark brown sticky compacted level with grits. At the base of this layer and above (4) is a layer of brick fragments with some ash.
4	Layer of ash and charcoal extending over the whole of the trench.
5	Brown ashy layer, compacted and dark on the western side of the trench.
5a	As 5 but separated from it by a spread of stones which merges into a red bricky band.
6 and 7 were collapsed layers	
8	Brown ashy layer with many fragments of burnt mudbrick. This level had been exposed for some period of time as there was water laid silt in small pits on the top of this level. A lot of charcoal in the debris with signs of large beams.
9a	Thin ash layer with charcoal.
9b	Destruction fill as (8) but of a browner-red colour. Much collapsed and baked brick (one complete brick was 29 x 14.5 x 11.5). Plenty of charcoal and signs of burning. This layer included a narrow charcoal band which went up against the basalt footing. The charcoal stretched right across the trench under the layer of fallen brick.
10	A patch of plaster floor which ran up to and over the basalt footings of the orthostats to the north of the gate. It sloped down to the East, but did not reach the drain. It was covered with charcoal and debris.
11a	Destruction debris in drain, charcoal etc.
11b	Silt at bottom of drain.
12	Line of plaster flowing to north of drain.
13	Earth over stones to north of drain.
14	Dark grey ashy level on top of (8) in southern part of trench.
15	A similar even darker layer of ash.
16	Plaster floor against (8) and south-west orthostat.
17	Brown bricky filled pit cut into (8) at east end of trench.

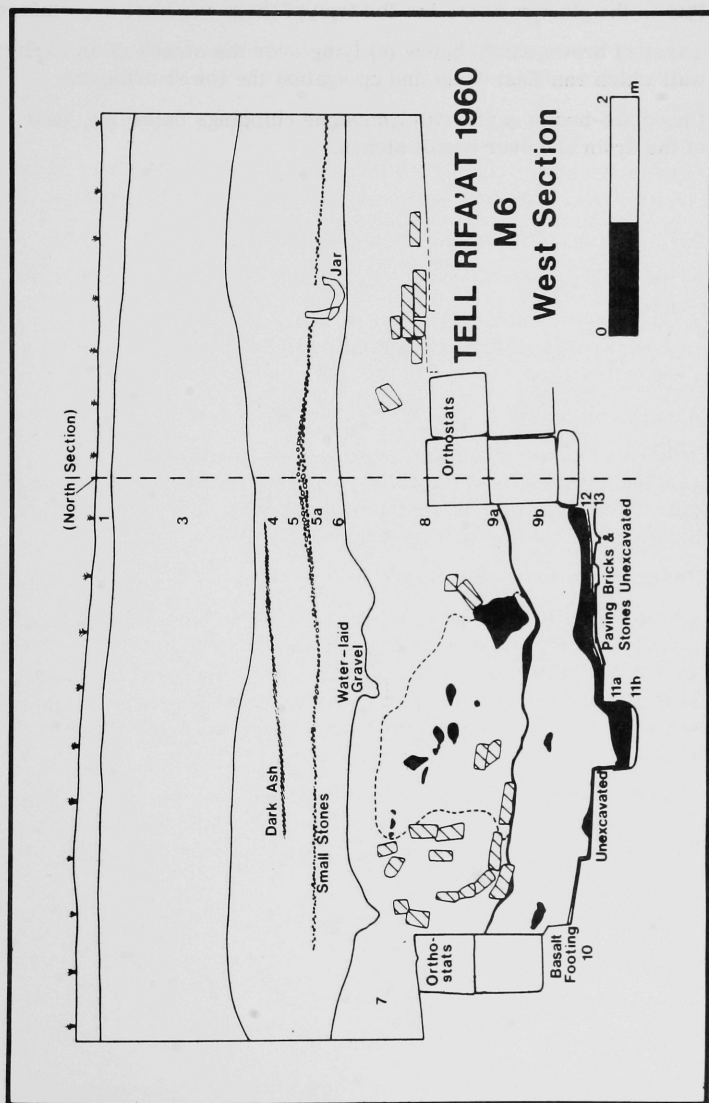


Fig. 234 West Section of Tell Rifa' at M6.

18. Band of compacted earth below plaster floor 16.
- 19 Pit below and earlier than pit 17.
- 20 Number not used.
- 21 and 22 Pits in the plaster floor, but the tops of them were not determined.
- 23 Layer of brown earth below (8) lying over the stones of an earlier wall which ran East-West and up against the lower orthostat.
- 24 Chocolate-brown earth with limestone chippings below (8), east of the drain and over basalt stones.

1. S307 Red burnished Platter (diam. 30-32 cm). Clay 5YR 6/4 (light brown). Surface decoration: red slip burnished inside and over rim. Ext. colour 5YR 7/3 (pink). Int. colour 10R 6/6 (light red). Black and white grits, straw?
2. S304 Red burnished Platter (diam. 32 cm). Clay 5YR 7/4 (pink). Surface decoration: red slip burnished inside and over rim. Ext. colour 5YR 7/4 (pink). Int. colour 10R 5/4 (weak red). Black and white grits, straw?
3. S303 Platter Rim (diam. 23 cm). Clay slightly lean 7.5 YR 7/6 (reddish yellow). No surface decoration. Ext. colour 5YR 8/3 (pink). Black and white grits, straw?
4. S305 Red burnished Bowl (diam. 22 cm). Clay 5YR 4/4 (reddish brown). Slightly grey core. Surface decoration: red slip and burnished interior and exterior. Ext. colour 10R 4/4 (dark yellowish brown). Int. colour 10R 4/4 (dark yellowish brown). Some white grits.
5. S180 Red burnished Platter (diam. unknown). Clay pink. Black core. Surface decoration: red slip and burnished interior and exterior. Large white grits and straw.
6. S74 Fine red burnished Bowl. (diam. unknown.) Clay very fine, egg-shell thin. Orange core. Red slip and burnished interior and exterior. Special features: as S74 found in B12(2).
7. S306 Red burnished Bowl (diam. 26 cm). Clay 5YR 6/6 (reddish yellow). Surface decoration: red slip and burnished inside only. Ext. colour 5YR 7/4 (pink). Int. colour 10R 6/6 (light red). White grits, straw?
8. S181 Carinated Bowl (diam. unknown). Clay green. Soft-fired core. No surface decoration. Large white grits. Special features self-smoothed.
9. S310 Jar (diam. 14.5 cm). Clay hard 5YR 5/2 (reddish grey). Greyish core. No surface decoration. Ext. colour 5YR 7/3 (pink). Numerous white and black grits.
10. S308 Body sherd of a black-on-red Bowl. Fine hard clay 5YR 5/6 (yellowish red). Slightly greyish core. Surface decoration: Black decoration on red burnish. Ext. colour 2.5 YR 5/4 (reddish brown). Fine white grits, straw?
11. S178 Jar (diam. unknown). Hard green clay. No surface decoration. Special features: self-smoothed with traces of a handle.
12. S309 Jar (diam. 8 cm). Clay slightly lean 5YR 6/6 (reddish yellow). No surface decoration. Ext. colour 5YR 7/3 (pink). Many white grits.
13. S313 Jar (diam. 18 cm). Clay 5YR 5/4 (reddish brown). No surface decoration. Ext. colour 5YR 7/3 (pink). Black and white grits.

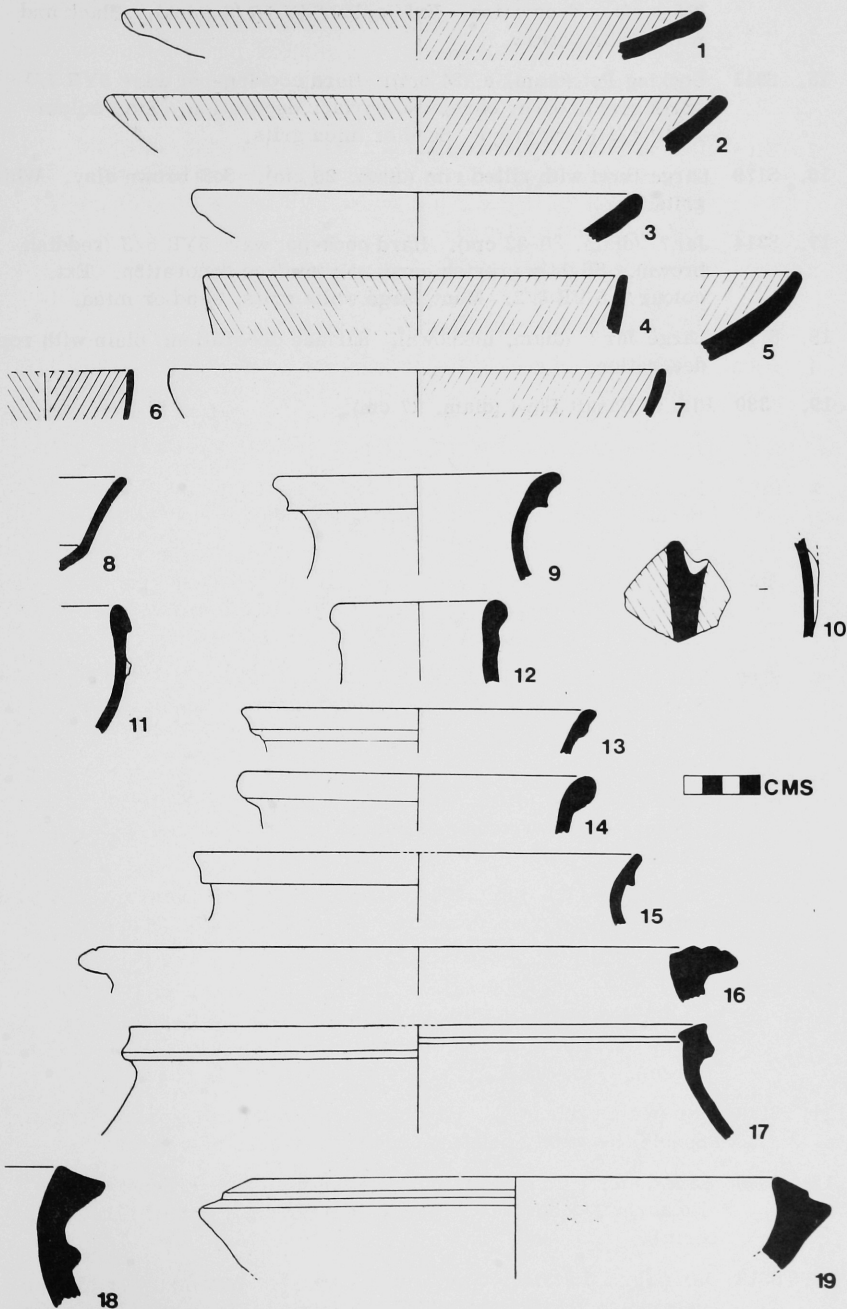


Fig. 235 Pottery from Tell Rifa' at M 6 (9b).

14. S312 Jar (diam. 18 cm). Clay buff somewhat lean 7.5 YR 7/4 (pink). No surface decoration. Ext. colour 5YR 7/3 (pink). Black and white grits, straw.
15. S311 Cooking Pot (diam. c. 24 cm). Hard cooking-pot ware 5YR 4/1 (dark grey). Grey core. No surface decoration. Ext. colour 10YR 4/1 (dark grey). Sand or mica grits.
16. S179 Large Bowl with rilled rim (diam. 28 cm). Soft brown clay. White grits.
17. S314 Jar? (diam. 30-32 cm). Hard cook-pot ware 5YR 5/3 (reddish brown). Slightly greyish core. No surface decoration. Ext. colour 7.5 YR 6/2. Many large white grits, sand or mica.
18. S177 Large Jar? (diam. unknown). Surface decoration: plain with rope decoration.
19. 330 Rim of Basalt Bowl (diam. 27 cm).

Key to Figure 236 Iron Age Pottery

1. Yel Baba: a plain platter.
2. Tell Chair: a platter. Red slipped and burnished inside and outside.
3. Tell Aajar: a plain platter.
4. Tell Chair: the high foot of a platter/Fruitstand. Red slipped and burnished on outside.
5. Tell Aajar: triangular rim of jug.
6. Yel Baba: lines of dark paint.
7. Tell Bararhite: a deep bowl with sinuous sides and the remains of one horizontal handle.
8. Tell Qaramel: part of a hole-mouth cooking pot, with at least one vertical Handle at the rim.
9. Yel Baba: rim of rope decorated vessel.
10. Provenance lost: same type as (9).
11. Aazaz: piece of circular juglet, White-painted ware.
12. Aazaz: piece of larger closed vessel, in White-painted ware.

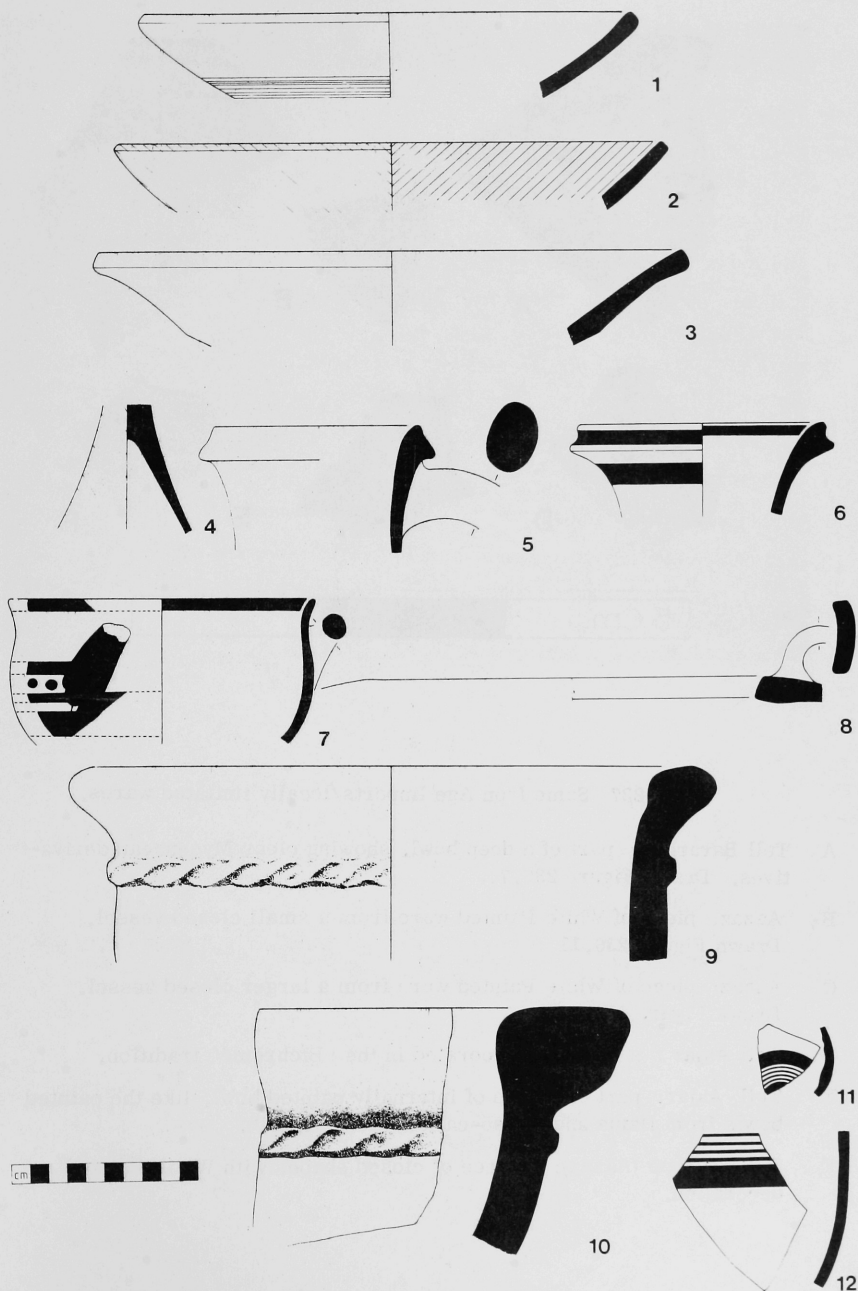


Fig. 236 Iron Age pottery from various sites.

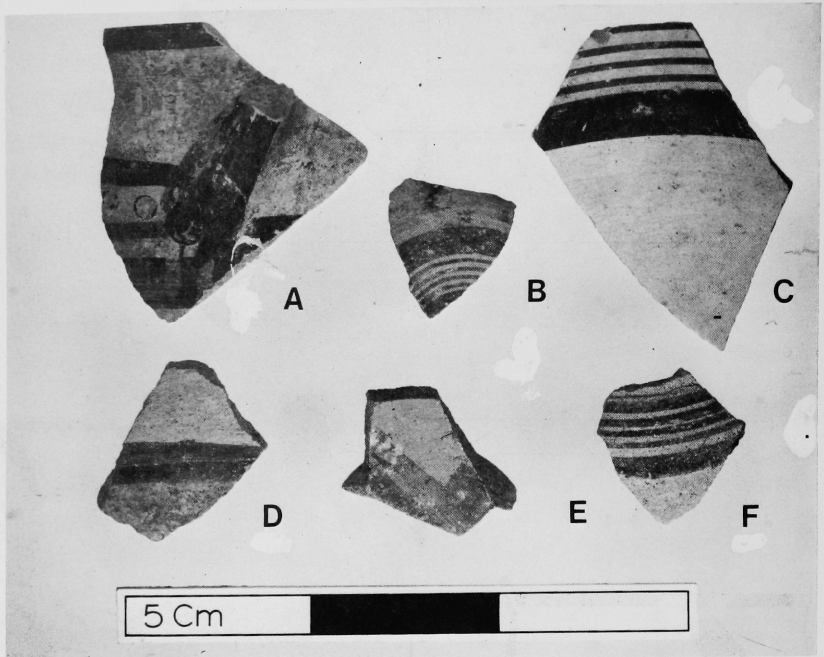


Fig. 237 Some Iron Age Imports/locally imitated wares.

- A Tell Bararhite: part of a deep bowl, showing clear Mycenaean derivatives. Drawn Figure 236.7.
- B Aazaz: piece of White Painted ware from a small closed vessel. Drawn Figure 236.11.
- C Aazaz: piece of White Painted ware from a larger closed vessel. Drawn Figure 236.12.
- D Tell Aajar : a fragment decorated in the ' Bichrome' tradition.
- E Tell Aajar: part of a base of internally painted bowl, like the painted bowls from Hama and the so-called ' Gezer Bowl' .
- F Tell Sourane (Aazaz): a piece of closed shape, with White Painted decoration.

	RED BURNISHED PLATTERS	PLATTER FOOT	PLAIN PLATTER	RED BURNISHED BOWLS	TRIANGULAR RIM JARS	HOLE-MOUTH COOK POT	HEAVY CORD DECORATED RIMS	IMPORTED OR LOCAL IMITATION WARE
T. Aajar	X	X	X		X	X	X	Imitation Myc. bowls; tassel-dec handles; white painted and bi-chrome tradition; base of Gezer bl. various sherds dec with paint. White Painted Ware
T. Aar	X	X		X		X		
T. Aarane	X		X					
T. Aezaz	X		X					
T. Akhiareine	X		X	X		X		
T. Anchaq	X							
T. Bahouerte	X		X	X			X	
T. Banat	X		X			X		
T. Baranहितe	X		X	X			X	
T. Battal			X					
T. Botnan	X						X	Deep bowl with Myc. derivatives, Black-on-red ware and tassel-dec handle;
T. Chair	X	X	X	X	X			
Douabiq					X	X		Black-on-red ware; tassel dec handles. Imitation of Myc. bowl
Erine					X			
T. Fafine			X			X		
T. El JJjane						X		
T. Keffine					X	X		
T. Karmine	X							
T. Khibi	X					X		
T. Mouslimiye	X	X	X	X	X			
T. nef	X		X	X		X	X	
Qara Keupru				X	X			
T. Qaramel	X					X		White Painted Ware
Qol Sroul						X		
T. Qoubessine								
T. Rahhal			X			X		
T. Rifalat		X				X		
T. Sidjaraz	X							
TT. Sourane A				X	X			White Painted Ware
Yel Baba	X		X	X	X	X	X	Black-on-red Ware

Fig. 238 A diagram showing the distribution of the main Iron Age types.



5. 239 The upper register shows the capture of Arne. (King 1915, pl. LXIX, Band XII.4.) (With kind permission of the Trustees of the British Museum.)



Fig. 240 The upper register shows the capture of Dabigu. (King 1915, pl. XXI, Band IV. 3.) (With kind permission of the Trustees of the British Museum.)

FINE WARES OF THE HELLENISTIC AND ROMAN PERIODS

P. M. Kenrick

I. INTRODUCTION

Of the Hellenistic and Roman pottery, only the fine wares are dealt with in the following section, which covers the period from the fourth century B. C. until the seventh century A. D. A report on the material recovered in 1977 has already appeared (Kenrick 1978); that which follows is a revision of this report (of which the published version unfortunately contained many typographical errors and omissions), extended by the inclusion of material from the 1978 and 1979 expeditions, and of pottery from the excavations of the fifties and sixties at Tell Rifa' at.

The Hellenistic and Roman fine wares of the eastern Mediterranean are well-known in general terms: areas of distribution are large and local variations are correspondingly limited. Greater variation may be expected in the character of the coarse wares, but these have received less attention in the past and lie outside the competence of the writer. For the fine wares circulating in the survey area the extensive published finds from Antioch, Samaria and Tarsus may be expected to provide most of the parallels. The Antioch and Samaria reports are frequently cited below, as are the monographic studies of many of the relevant wares by Dr. J. W. Hayes.

Comparison of the fine wares from the survey with these various reports shows a puzzling absence of pottery attributable to the second, third and fourth centuries A. D. At Antioch, the needs of the period are filled at first with late derivatives of Eastern Sigillata A (here Group V) and then from about the mid third century with African Red Slip Ware (Group IX) which swamps the market. The latter dominates the market until the later fifth century, when the major share is taken by Late Roman C Ware (Group VIII) and Cypriot Red Slip Ware (Group X).¹ Late Roman C has been recorded in the survey, also a few sherds of Cypriot R. S. Ware, but African R. S. Ware is represented by only two sherds, both dated in the first half of the fifth century. Likewise though sherds of Eastern Sigillata A were found in plenty, all are attributable to types of the first century B. C. and the first A. D., and none to the second century A. D.

Late Roman fine ware was found on twenty six of the sites covered by the survey: of these only four did not also yield earlier material. Of the others, nine yielded sherds of the Early Roman period and thirteen yielded evidence of Hellenistic occupation but not Early Roman. This suggests either a considerable mobility in the area, with sites being abandoned and then reoccupied at a later date, or that in many cases occupation was continuous, but the sampling of the site was insufficient to reveal evidence of all its periods of occupation. The latter is likely to be a significant factor, and one which can

rarely be avoided in survey work of this kind. It may account for the lack of Early Roman material from some of the sites at which both Hellenistic and Late Roman occupation are attested, but it can hardly explain the total lack of fine wares of the Middle Roman period on all sites. Such a lack may only be explained in rather drastic terms, such as a serious long-term depopulation of the area or a decline in living-standards which reduced the population to the exclusive use of coarse wares (which have not been studied). Neither explanation is satisfactory and the question must, for the present, remain open.

II. LIST OF WARE GROUPS AND ILLUSTRATED TYPES

In the list which follows the numbering of the report in Kenrick (1978) has been retained and extended. The slight inconsistencies which result were thought preferable to the confusion which might have been caused by wholesale re-numbering. The drawings in figs. 241-243 which accompany this section are the work of myself and my wife Sue.

Group I: Hellenistic black-glazed wares (Fig. 241)

Various black-glazed wares are represented, including a few pieces of Aegean or possibly even Italian manufacture, though most are probably of more local origin. The systematic production of wares with a red slip, so typical of the Roman period, began early in the Syro-Palestinian region (if indeed the earlier tradition of burnished red wares was ever entirely suppressed) and it is clear that during much of the Hellenistic period both black- and red-slipped wares were current simultaneously.²

Type 1. Fragment of a ribbed cup with decoration in the rim-zone executed in incision and added paint. 'West Slope' Ware, possibly Attic, in which fabric, however, the form is rare.³ Probably third century B. C.

(Illustrated sherd from Tell el Jijane: fine, hard, orange-buff clay with lustrous grey-brown slip; traces of red 'miltos' in the two horizontal grooves above the ribbing; fragment of ivy-scroll above with incised stem and leaf painted in thinned clay.)

Type 2. Fragment of a large vessel (krater?) with decoration in added paint. A local version of 'West Slope' Ware: fourth to second centuries B. C. ?

(Illustrated sherd from Tell el Jijane: finely granular pink clay with occasional white and dark (flinty) inclusions; dull black slip on outside, slightly lustrous dark brown slip on inside; spiral decoration in thin white paint.)

Type 3. Large basin/krater with a broad flat rim. Local ware: between the fourth and second centuries B. C. ?

(Illustrated sherd from Tell el Jijane: clay and slip as Type 2, possibly from the same vessel.)

Type 4. Plate with a down-turned rim. Probably part of a fish-plate, probably imported.⁴ Third century B. C.

(Illustrated sherd from Tell Aarane: fine pinkish-buff clay with lustrous black slip.)

Type 5. Plate with a convex rim. Possibly imported from South Italy: similar plates have been found at Benghazi (ancient Berenice) in Libya.⁵ Dr. J. W. Hayes has expressed the opinion that this could be the best of the local black-glazed ware: the clay is certainly not unlike that of Eastern Sigillata A. Probably third century B. C.

(Illustrated sherd from Tell Fafine: fine cream clay with excellent, smooth, lustrous black slip.)

Type 6. Plate with a down-turned rim. Origin uncertain: sherds of this ware have also been found at Benghazi.⁶ Probably third-second centuries B. C.

(Illustrated sherd from Tell Khibi: very fine pale brown clay with thin, barely lustrous brown to black slip; upper surface smooth, underside shows prominent turning-marks.)

Type 7. Large dish or plate with a sloping floor and hooked convex rim. Local: probably second century B. C.

(Illustrated sherd from Aazaz: clay as Type 2, semi-lustrous black slip.)

Type 45. Plate with a hooked rim. Local ware, second-first centuries B. C.⁷

(Illustrated sherd from Aajar: clay as Type 2, dull brown to black slip all over.)

Type 46. Plate with a convex rim. Local ware, second-first centuries B. C.⁸

(Illustrated example from Tell Noubbol: clay and slip as Type 45.)

Type 47. Plate with a convex rim (cf. Types 13 and 14, below). Local ware, probably second century B. C.

(Illustrated sherd from Tell Bahouerte: finely granular cream clay with partial dull black slip.)

Type 48. Bowl with a flat floor, sloping wall and everted rim. With Type 8 (below) this is the most common bowl-form in most Hellenistic fine wares, extending throughout the Hellenistic period. Apart from the illustrated example, only one other sherd of this form has been found in the survey, at Tell Bahouerte. Local ware.⁹

(Illustrated sherd from Tell Akhtareine: clay and slip as Type 45.)

Type 8. Bowl with a curving body, incurved rim and ring-foot: three sherds illustrated. Local;¹⁰ one of the most common forms in any fine ware of the Hellenistic period. Many rims and bases, varying widely in diameter and divided more or less equally between those with black and those with red slip, were found on many of the sites covered by the survey. Third-second centuries B. C.

(Nos. 1 and 2, Tell Fafine, no. 3, Tell el Jijane: clay as Type 2 with partial dull or slightly lustrous dark brown to black slip.)

Type 9. Bowl with incurved rim, similar to the preceding, but with an apparently deliberate bichrome effect. Bowls of this form showing the effect have been recorded at Samaria and Beth Shan.¹¹ Third or second century B. C. ?

(Illustrated sherd from Tell Botnan: finely granular cream clay with lustrous slip: red on the inside and lower part of the outside, black on the upper part of the outside, sharply differentiated (shown on the drawing by an arrow: due to stacking in the kiln). Rather rough surfaces, showing turning-marks).

Type 10. Mastos with internal rim-mouldings. See Samaria, 259, fig. 53.5 and discussion. Black-glazed examples are probably contemporary with examples of the same shape in Eastern Sigillata A (Type 25). Second century B.C.

(Illustrated sherd from Tell el Malek: fine cream clay with smooth, semi-lustrous black slip.)

Group II: 'Megarian' Bowls (Fig. 241)

The fragments found in the survey all belong to the Syrian series, which is well documented in the Antioch, Samaria and Hama reports.¹² The earlier pieces have a black slip and the later ones a red slip; the latter are indistinguishable in fabric from Eastern Sigillata A and there is no clear dividing line between them. Two rim-fragments are illustrated here as representatives of the type.

Type 11. Hemispherical 'Megarian' Bowl with everted rim. Third century B. C. to first century A. D.

(No. 1, from Aleppo citadel: fine pinkish-buff clay with lustrous slip, brown on outside and over rim, shading into red-brown on inside. No. 2 from Tell Fafine: fine orange-buff clay with semi-lustrous red slip.)

Group III: fusiform unguentaria (not illustrated)

These vessels are particularly characteristic of the Hellenistic period on Mediterranean sites, and are dated between the late fourth and the late first centuries B. C. The fragments from the survey mostly conform to the plain grey ware described by Thompson amongst the finds from Athens;¹³ he suggests a Syrian source for the vessels. If this were confirmed, the possibility of a longer period of use within the region should be allowed for.

Type 12. Fusiform unguentarium, not illustrated. Small fragments of rims and stems were found at several sites in a plain grey clay (unslipped). Fragments in a coarse pinkish-buff ware were also found at Tell Bahouerte and Tell Nef.

Group IV: Hellenistic red-glazed wares (Fig. 241)

This term is used to distinguish Hellenistic pottery of variable quality with a red slip, which does not belong to the distinctive and readily definable class of Eastern Sigillata A (below, Group V). The distinction is to some extent arbitrary, as it may include direct forerunners of that ware, but it probably corresponds at least to a chronological difference, in that the forms included here belong to an earlier repertoire of shapes, not found in Eastern Sigillata A and probably attributable to the third century B. C. and the earlier part of the second. This is reflected in Waagé's treatment of the early Hellenistic pottery from Antioch.¹⁴ There are several different fabrics amongst the pieces listed below, which suggests a plurality of sources.

Type 13. Plate with a shallow curving body and convex everted rim. Paralleled at Antioch, where all the examples illustrated are fish-plates with a central recess in the floor (see Type 19).¹⁵ Cf. Types 46 and 47 in Group I.

(No. 1 from El Aareime: hard, finely granular pink clay with dull pinkish-red slip. No. 2 from Tell Fafine: fine pinkish-buff clay with thin, semi-lustrous, dark brown slip. No. 3 from Tell Aarane: hard, finely granular, pinkish-buff clay with uneven, dull, red-brown slip.)

Type 14. Plate, curving up towards the edge, with a sharply down-turned rim. Presumably a further variant of the preceding.¹⁶

(Illustrated example from Tell Fafine: fine pinkish-buff clay with thin, slightly lustrous brown slip.)

Type 15. Plate with a sloping floor and knobbed rim, marked off by a deep groove on the inside.¹⁷

(Illustrated example from Tell Botnan: fine pinkish-buff clay with dull orange-red slip.)

Type 16. Plate with a sloping floor and knobbed rim, flat on top. Similar to the preceding.¹⁸

(Illustrated example from Tell Botnan: finely granular orange-buff clay containing some dark particles and golden mica, with dull, uneven, orange-red slip; outside rough with prominent turning- and knife-marks.)

Type 17. Bowl with a curving body and incurved rim. Cf. Type 8, from red examples of which this type is distinguished by the finer clay, probably that of Eastern Sigillata A.

(Illustrated example from Tell Qaramel: fine pinkish-buff clay with dull red-brown slip; prominent turning- and knife-marks.)

Group V: Eastern Sigillata A (Fig. 241)

This ware (formerly referred to by some writers as 'Pergamene' Ware) becomes the standard fine ware of the region from the mid or late second century B. C., and remains so until the second century A.D. (though none of the latest forms were recorded in the survey). Variations in the colour of the body-clay suggest more than one centre of production, but there is a greater uniformity than amongst the preceding 'red-glazed' wares; the fineness of the clay and the smoothness of finish are prominent characteristics. The colour of the clay varies between cream, pinkish-buff and, in some of the later forms, orange-buff. The slip ranges from a bright red to a dark red-brown, usually of medium lustre, and often shows a darker 'double dipping' streak across the centre of the vessel.¹⁹ This ware is most fully described in the Antioch and Samaria reports, but a new typology has recently been collated by Dr. J. W. Hayes, to be included in a supplementary volume of the Enciclopedia dell'Arte Antica on Roman pottery. I am most grateful to Dr. Hayes for making this study available to me in typescript (dated 1974): the Hayes form-numbers are cited below, together with the dating now suggested by him for each form.

The first three types are to be regarded as transitional between the preceding 'red-glazed' wares and Eastern Sigillata A proper: the fabric is that described above, of high quality with an even, semi-lustrous, red-brown slip, but the forms belong to the earlier Hellenistic series and have not been reported beyond the Syro-Palestinian region.

Type 18. Part of a plate with a shallow curving body and down-turned rim. Cf. Antioch, Shape 12 and Type 13 above. Probably second century B. C.

(Illustrated example from Tell Maksour.)

Type 19. Base of a fish-plate. Cf. Antioch, Shapes 10-17; Hayes Form 1. Probably second century B. C.

(Illustrated example from Tell Fafine.)

Type 20. Large bowl with incurved rim: two examples illustrated. Cf. Types 8 and 17: the three types show between them a progressive increase in technical quality. Second century B. C.

(Illustrated examples from Tell Aarane (no. 1) and Tell Khibi (no. 2).)

Type 21. Large dish with a flat floor, plain upcurved rim and low, broad ring-foot. Three sherds illustrated: of the two rims no. 1 is thin-walled and early, no. 2 the more common version. Antioch, Shapes 121-126; Samaria, Form 1; Hayes Forms 3 and 4. This is the most common shape in Eastern Sigillata A, dated between the mid (or late) second century B. C. and the end of the first century B. C. Within this period small variations of form suggest some evolution but there are no fixed points.

(Illustrated sherds from Tell Fafine (nos. 1 and 2) and Tell Botnan (no. 3).)

Type 22. Base of dish with a flat floor, straight sloping wall and heavy, squarish ring-foot. Related to Antioch, Shapes 150, 151, Samaria, Form 2a and Hayes Form 5: probably Augustan.

(Illustrated example from Tell Kaffine.)

Type 23. Part of plate with a broad stepped rim and a grooved moulding at the lip. Antioch, Shape 137; Samaria, Form 3; Hayes Form 6: late second century B. C. - c. 20/1 B. C.

(Illustrated example from Aleppo citadel.)

Type 24. Flat-based dish with a low curving wall and bead-rim. Antioch, Shapes 143, 144; Samaria, Form 10; Hayes Form 12: c. 40 B. C. - A. D. 10.

(Illustrated example from Tell Rifaat.)

Type 49. Base of a bowl with flat floor, steep flaring wall, (hanging rim) and low, broad foot. Antioch, Shape 140; Samaria, Form 8c; Hayes Form 11: c. 50-20/1 B. C.

(Illustrated example from Yel Baba.)

Type 25. Mastos with internal rim-mouldings. Not illustrated: shape as Type 10. Samaria, Form 18; Hayes Form 17: second half of second century B. C.

Type 26. Hemispherical bowl with a small flat base and ledge-foot; two narrow bands of rouletting on the floor. Antioch, Shape 168; Hayes Form 18: late second or early first century B. C.

(Illustrated example from Tell Fafine.)

Type 27. Hemispherical bowl, footless, with vertical gouging on the lower half of the outside, bounded above and below by horizontal grooves. Antioch, Shapes 173, 175, 177; Samaria Form 19; Hayes Form 19: probably first half of first century B. C.

(Illustrated example from Tell Rifaat.)

Type 28. Hemispherical cup with a plain or slight bead-rim and a moulded ring-foot: four fragments illustrated. This is the cup shape which corresponds to the dish, Type 21. The order in which the bases nos. 2-4 are listed probably corresponds to a chronological evolution (no. 4 being Augustan), but no such significance can be attributed to variations in rim-form. Antioch, Shapes 164, 165; Samaria, Form 16; Hayes Form 22: late second century B. C. - c. A. D. 10.

(No. 1, Tell Botnan; nos. 2 and 3, Tell Fafine; no. 4, Tell Aarane.)

Type 50. Rim of a large plate with a low sloping wall and small overhanging rim; a concave moulding at the foot of the wall on the inside. Antioch, Shape 113f; Hayes Form 28: probably c. 10/1 B. C. - A. D. 15/30.

(Illustrated example from Tell Bararhite.)

Type 29. Dish with a flat floor, sloping wall, slight bead-rim and low ring-foot with a stepped underside; fine rouletting covers the outside of the wall. Rim- and base-fragments illustrated. Antioch, Shapes 405, 407; Samaria, Form 12; Hayes Form 30: c. A. D. 10-50+. The stepped underside is characteristic of several forms of the first century A. D.

(Illustrated examples from Tell Rifaat (no. 1) and Tell Botnan (no. 2).)

Type 30. Part of a dish similar to the preceding, but with a steep moulded rim; there is sometimes rouletting on the upper and lower mouldings. Antioch, Shape 412; Samaria, Form 13; Hayes Form 33: c. A. D. 1-30/50.

(Illustrated example from Tell Kaffine.)

Type 31. Part of a dish with a flat floor and low triangular ring-foot. Antioch, Shape 432; Samaria, Form 14b; Hayes Form 36: c. A. D. 60-100.

(Illustrated example from Aazaz.)

Type 32. Part of a large dish with a sloping floor and vertical rim with projecting mouldings at top and bottom; high tapering ring-foot. Antioch, Shape 426; Samaria, under Form 14; Hayes Form 37: c. A. D. 60-100.

(Illustrated example from Aazaz.)

Type 33. Conical cup with a concave vertical rim, curving floor and ring-foot. Antioch, Shapes 453, 455; Samaria, under Form 23; Hayes Form 45: A. D. 1/10-50/60.

(Illustrated example from Tell Rahhal.)

Type 34. Conical cup similar to the preceding, with vertical moulded rim stepped out from the wall by a flat band bearing rouletting. Antioch, Shape 457; Hayes Form 46: early first century A. D.

(Not illustrated.)

Type 35. Conical cup with a vertical moulded rim (as Type 30), carination low on outside, flat floor and high flaring ring-foot. Two fragments illustrated Antioch, Shape 460; Samaria, under Form 23; Hayes Form 47: c. A. D. 10-60/70.

(Illustrated sherds from Tell Rahhal (no. 1) and Tell Botnan (no. 2).)

Type 36. Hemispherical bowl with external rim-mouldings above a slight flange (and pedestal-foot). Antioch, Shape 473; Hayes Form 48: c. A. D. 40-70+.

(Illustrated example from Tell Aarane.)

Group VI: Italian Sigillata

Only two small fragments of this ware were recovered in the course of the survey: one from Tell Fafine and one from Tell Rifaat. Both are fragments of plates and are likely to belong to the first century A. D. The ware was well represented at Antioch, and its virtual absence from the survey area may suggest that it was unable to compete with Eastern Sigillata A in the inland markets.

Group VII: Miscellaneous red wares (Fig. 243)

Type 37. Part of a cup or bowl with a curving body and oblique moulded ring-foot of large diameter; two light grooves at the edge of the floor, a groove/offset at the inner edge of the resting-surface of the foot. Fine orange ('cinnamon') clay containing some very fine mica and occasional larger particles of lime, with a semi-lustrous red slip.

This is Eastern Sigillata B, or a close imitation.²⁰ This ware is now thought to have been made in the neighbourhood of Tralles in Asia Minor,²¹ between the time of Augustus and about the mid second century A. D. Fragments from Syria remain rare. The present fragment may be compared to examples from Priene which are datable within the first three quarters of the first century A. D. 22

(Illustrated sherd from Tell Aarane.)

Type 38. Part of a deep basin with incurving wall and flat tapering rim. This type probably belongs to the first century B. C. or the first century A. D., to judge by the sites upon which it has been found.

(Illustrated example from Tell Fafine: fine pink clay containing some very fine mica, with a barely lustrous red-brown slip.)

Type 39. Part of a large bowl with curving body and rounded ring-foot. This may be the shape of base that belongs with Type 38.

(Illustrated example from Tell Botnan: clay as Type 38; semi-lustrous slip, even red-brown on the inside, red-brown with darker patches on the outside, not wholly covering the inside of the foot.)

Type 51. Base-*sherd* from a large dish with stamped decoration. Late Roman? The ware is unfamiliar and possibly local: the style of the stamp can be compared only approximately to that occurring on red slip wares of the fourth to sixth centuries A.D.

(Illustrated *sherd* from Tell Beida: hard, finely granular orange-brown clay with a thin, dull, orange-red slip.)

Group VIII: Late Roman C Ware (Fig. 243)

This is a red ware of the fourth to seventh centuries A.D., made somewhere in western Asia Minor and distributed throughout the eastern Mediterranean; the name is that coined by Waagé²³ and retained by Hayes,²⁴ whose account of the ware is the most recent and most comprehensive. The fabric is largely uniform: the clay is a hard, fine-grained red or orange-red, often containing fine specks of lime, with a very thin slip of the same colour, usually dull but occasionally with a slight metallic lustre. On some pieces the outside of the rim is discoloured brown or creamy-white (due to stacking in the kiln).

Type 40. Dish with a curving body, incurved rim and tapering ring-foot; a slight carination on the outside of the body. Hayes (1972) Form 1A: late fourth to early fifth century A.D.

(Not illustrated.)

Type 52. Fragment of a bowl with a strongly incurved rim. A variant of Type 40. The form appears almost purely Hellenistic, but both the fabric and the associated finds assure its Late Roman date. Late fourth or early fifth century A.D.

(Illustrated *sherd* from Qol Srouj.)

Type 41. Part of a dish/bowl with a shallow curving body and vertical flanged rim; the rim is tall with a concave outer face (sometimes rouletted) and flat top with the highest point at the outer edge. Hayes (1972) Form 3C: second half of fifth century A.D. (Hayes's Form 3 has a long history with a continuous but subtle evolution: the dating of individual pieces within the series is not always easy. See also Type 42.)

(Illustrated example from Tell Sourane. Bab.)

Type 42. Part of a bowl similar to the preceding: the rim is lower and more triangular, with an S-profile on the outer face and inward-sloping top. Hayes (1972) Form 3F: first half of sixth century A.D. See the comments under Type 41.

(Illustrated example from Tell Nisbine.)

Type 43. Part of a bowl with a straight sloping wall and squarish knobbed rim; outer face rounded, concave beneath and marked off from wall by an offset. Hayes (1972) Form 10A: late sixth to early seventh century A.D.

(Illustrated example from Tell Bouhaira.)

Type 44. Part of a bowl similar to the preceding with a more elongated knobbed rim. Hayes (1972) Form 10C: early to mid seventh century A. D.

(Illustrated example from Aazaz.)

Type 53. Part of a bowl with a broad flanged rim, ridged on top. Hayes (1972) Form 8: second half of fifth century A. D.

(Illustrated example from Aazaz.)

Group IX: African Red Slip Ware (Fig. 243)

This is the unifying name given by J. W. Hayes to a group of wares made in Tunisia from the late first until the seventh century A. D. and distributed throughout the Mediterranean. This class of pottery is well represented at Antioch²⁵ and the singularity of its virtual absence from the survey area has already been mentioned (p. 439).

Type 54. Part of a deep bowl with a broad hooked flange below the rim. Hayes (1972) Form 91A or B: first half of fifth century A. D.²⁶

(Illustrated example from Tell Hailane: finely granular red clay with a thin, barely lustrous, burnished slip on inside and over flange. Another rim-fragment from Tell Ares.)

Group X: Cypriot Red Slip Ware (Fig. 243)

This ware has been so named by J. W. Hayes, whose study of it is again the most recent and most comprehensive.²⁷ It was common at Antioch²⁸ and its presence was therefore to be expected in the survey area: four sherds were found on different sites in 1978-79. Only one form is clearly represented.

Type 55. Part of a dish with steep wall and triangular knobbed rim; broad feather-rouletting on the wall, three grooves on the rim. Hayes (1972) Form 2: late fifth to early sixth century A. D.

(Illustrated example from Tell Aar: very fine, hard, pinkish-brown clay with a thin, dull, slightly darker slip which is fired white over the rim.)

III. DISTRIBUTION OF FINE WARES AND DATING OF SITES

The Hellenistic and Roman fine wares found on sites covered in the survey are listed below in terms of ware groups and of individual types where these could be identified. The dating of the sites deduced from the pottery is indicated in broad periods as follows.

H Hellenistic, 3rd-1st centuries B. C.

EH Early Hellenistic, 4th-3rd centuries B. C.

LH Late Hellenistic, 2nd-1st centuries B. C.

ER Early Roman, 1st-2nd centuries A. D.

LR Late Roman, 5th-7th centuries A. D.

'Early' and 'late' Hellenistic are not always differentiated, as it is unclear to what extent the shapes in production in the third and second centuries B. C. before the emergence of Eastern Sigillata A may have continued in use alongside it.

Name of Site	Groups and Types Present	Date of Site
<u>Tell Aajar</u>	I (45); III (12); IV (15, 17); V (21, 27); VII (38)	<u>H</u>
<u>Tell Aar</u>	V (28); VII (38); VIII (42); X (55)	<u>LH + LR</u>
<u>El Aareime</u>	I (8); IV (13.1, 17); V (21, 28); VIII (41, 43)	<u>H + LR</u>
<u>Aazaz</u>	I (7, 8); IV (17); V (21, 27, 28, 29, 31, 32); VIII (44, 53)	<u>H + ER + LR</u>
<u>Tell Akhtareine</u>	I (8, 48); II (11); IV (13, 14); V (28, 31 + several sherds)	<u>LH + ER</u>
<u>Alep—citadel</u>	II (11.1); IV; V (23, 25)	<u>LH</u>
<u>Tell Archaq</u>	I (8); II (11); V	<u>H</u>
<u>Tell Ares</u>	VIII (42, 44); IX (54)	<u>LR</u>
<u>Tell Bahouerte</u>	I (6, 8, 47, 48); III (12); IV (13, 17); V (20, 21, 24, 27, 28, 30, 32, 35); VII (38)	<u>H + ER</u>
<u>Tell Banat</u>	V (28)	<u>LH</u>
<u>Tell Bararhite</u>	I (8, and a good black-glazed sherd); IV; V (27, 28, 50)	<u>H + ER</u>
<u>Tell Battal Chimali</u>	I (8); II (11); IV.	<u>LH</u>
<u>Tell Beida</u>	VII (51)	<u>LR?</u>
<u>Beka</u>	VIII (42, 43)	<u>LR</u>
<u>Tell Berne</u>	II (11)	<u>H</u>
<u>Tell Berne (West)</u>	IV; V (28)	<u>H</u>
<u>Tell Bouhaira</u>	V; VIII (42, 43)	<u>ER + LR</u>
<u>Tell el Cadi</u>	I (8)	<u>H</u>
<u>Tell Chair</u>	I (3, 8); II (11); IV (17)	<u>H</u>
<u>Tell Dabiq</u>	I (one good-quality black- glazed sherd); IV (17)	<u>H</u>
<u>Douabiq</u>	One sherd of a small globular jug in hard buff clay with a metallic brown slip on the upper part of the outside only	<u>ER?</u>
<u>Tell Fafine</u>	I (5, 8, 10, one high-quality sherd, possibly Attic of the 4th century B. C.); II (11); III (12); IV (13.2, 14); V (19, 21, 26, 28, 30, 35); VI? (possibly one sherd); VII (38); VIII (40)	<u>EH + LH + ER</u> <u>+ LR</u>

Name of Site	Groups and Types Present	Date of Site
<u>Tell Hailane</u>	I; IV (17); V (21, 28); IX (54)	<u>LH + LR</u>
<u>Hamamat</u>	I (good-quality black-glazed sherd); VIII (42, 43); X (55)	<u>H + LR</u>
<u>Haouar enn Nahr</u>	II (11); IV (17); V (35); VIII (44)	<u>LH + ER + LR</u>
<u>Tell Haourane</u>	V (21); VIII (41/2: Hayes 1972, Form 3 E)	<u>LH + LR</u>
<u>Tell Ilbol</u>	I; V (25, 32); VIII (41)	<u>LH + ER + LR</u>
<u>Tell Jaadiyeh</u>	II (11); IV (17); V	<u>LH</u>
<u>Jekke</u>	V (1st cent. A. D.); VIII (44)	<u>ER + LR</u>
<u>Tell el Jijane</u>	I (1, 2, 3, 8); IV (13.2, 17); V; VIII (one sherd?)	<u>LH</u>
<u>Tell Kadrich</u>	II (11); V (28)	<u>LH</u>
<u>Tell Kaffine</u>	I; II (11); V (21, 22, 24, 28, 29, 30, 32)	<u>LH + ER</u>
<u>Tell Kassiha</u>	IV (17); V (21, 28)	<u>LH</u>
<u>Tell Khibi</u>	I (6); V (20.2, 21, 28)	<u>LH</u>
<u>Tell Maled</u>	IV (17)	<u>LH</u>
<u>Tell el Malek</u>	I (10); IV	<u>LH</u>
<u>Tell Mouslimiye</u>	I; III (12); IV (17); V	<u>LH</u>
<u>Tell Nef</u>	I (8, 10); II (11); III (12); IV (17); V; VIII (stamped base, Hayes 1972, Type 67)	<u>LH + LR</u>
<u>Nisbine</u>	VIII (42)	<u>LR</u>
<u>Tell Noubbol</u>	I (8, 46); II (11); IV (13.2, 17); V (21, 28)	<u>LH</u>
<u>Ouardiye</u>	II (11); VIII (42)	<u>LH + LR</u>
<u>Qara Keupru</u>	I; IV; V (21, 28); VIII (41)	<u>LH + LR</u>
<u>Qara Mazraa</u>	V (28)	<u>LH</u>
<u>Tell Qaramel</u>	II (11); IV (17); V (21); VII (38)	<u>LH</u>
<u>Qol Srouj</u>	I; IV; V; VIII (41, 42, 52); X	<u>LH + LR</u>
<u>Tell el Qoubli</u>	I (8); IV; V (24)	<u>H</u>
<u>Rasm</u>	IV (17); V	<u>H</u>
<u>Tell Rifaat</u>	See below	<u>H + ER + LR?</u>
<u>Tell Sidjaraz</u>	I; IV; V (28.4)	<u>LH + ER</u>

Name of Site	Groups and Types Present	Date of Site
<u>Tell Sourane (Aazaz)</u>	V (29)	<u>ER</u>
<u>Tourhleu</u>	V (21)	<u>LH</u>
<u>Yel Baba</u>	I (8); II (11); IV (17); V (21, 28 49); VIII (41)	<u>H + LR</u>
<u>Tell Zaitane</u>	I (9, 10, also some 4th-century black-glazed ware including a lamp fragment of Type 58, see below); II (11); IV (13, 17—many exx.); V (27, 28); VII (38); VIII (41, 42, 44); X (possible base-sherd)	<u>EH + LH + LR</u>
<u>Khirbet ez Souaine</u>	I (8); V (22); VIII (42, 43)	<u>H + ER + LR</u>

SITES OUTSIDE THE QOUEIQ AREA

<u>Tell Aarane</u>	I (4, 8); IV (13.3); V (20.1, 21, 27, 28.4, 36); VII (37).	<u>EH + LH + ER</u>
<u>Bab citadel</u>	V (21, 28)	<u>LH</u>
<u>Tell Botnan</u>	I (8, 9); II (11); IV (15, 16); V (21.3, 28.1, 29.2, 33, 35.2); VII (38, 39)	<u>H + ER</u>
<u>Tell Maksour</u>	II (11); IV (17); V (18)	<u>H</u>
<u>Tell Rahhal</u>	I (8); III (12); IV (17); V (21, 28, 33, 34, 35); VIII (42).	<u>H + ER + LR</u>
<u>Tell Sourane (Bab)</u>	I (8); III (12); VIII (41)	<u>H + LR</u>
<u>Tell Soussiane</u>	I (high-quality sherd: imported?); II (11); V (24, 29)	<u>EH + LH + ER</u>

IV. TELL RIFAÁT

A quantity of Hellenistic and Roman fine wares from the Tell Rifaat excavations of 1956, 1960 and 1964, including a few sherds collected in the course of the present survey, was examined as an unstratified site collection. In general, they reflect the same characteristics as the rest of the survey material, though the greater quantity available for study gives a greater opportunity for minor wares to reveal their presence. Groups I-V are all well represented, covering the Hellenistic and early Roman periods. A single sherd of Late Roman C Ware was noted (Group VIII, Type 42), but once again no fine ware attributable to the Middle Roman period was identified. This problem has already been discussed in the introduction to this section.

Several sherds of high-quality black-glazed ware, almost certainly of Attic origin and dated to the first half of the fourth century B. C., indicate occupation during a period barely represented at other sites. Indeed, the only sites which have produced sherds of this date in significant quantity are Tell

el Jijane and Tell Zaitane. Three examples from Tell Rifaat are illustrated here (Types 56-58). The Hellenistic red-glazed ware (Group IV) includes fragments of ring-handled cups, of which I illustrate the most complete (Type 59).

The Eastern Sigillata A (Group V) includes many of the forms recorded at Antioch: types not recorded elsewhere in the survey include Antioch, Shapes 115, 465-468, 618 and 670²⁹ and the two rims illustrated here as Types 60 and 61. There are two fragments of dishes with central stamps, one reading XA/PIC as Antioch, fig. 20, no. P1299, the other an illegible rectangular stamp. One fragment of a decorated krater was noted.³⁰

The early Roman material also included two fragments of cups with barbotine decoration, one of which is illustrated here as Type 62, and a small sherd from the base of a large plate in Italian Sigillata (Group VI).

Additional types illustrated from Tell Rifaat (Fig. 243)

Type 56 (Group I). Base of a skyphos with toroid foot. Fine orange clay with lustrous blue-black slip. The resting-surface of the foot and the underside are reserved, also a narrow band on the outside at the base of the wall. Small concentric black circles in the centre of the underside.

See Talcott and Sparkes (1970) nos. 349 and 350: first half of fourth century B. C.

Type 57 (Group I). Base of a bowl with a convex ring-foot, grooved on the resting-surface; a pattern of palmettes linked by arcs on the floor, within a band of rouletting. Clay and slip as the preceding; underside completely slipped, resting-surface of foot reserved. This is probably part of a bowl with everted rim, a later example of which in local ware has been illustrated as Type 48.

See Talcott and Sparkes (1970), p. 129 and nos. 805, 806. Mid fourth century B. C.

Type 58 (Group I). Fragment of a wheel-turned lamp with a horizontal handle. Clay and slip as the preceding.

See R. H. Howland, The Athenian Agora iv, Greek Lamps and their Survivals (Princeton 1958) Type 23C: first half of fourth century B. C.

Type 59 (Group IV). Part of a cup with plain vertical rim and ring-handles. Clay as Type 2, with dull orange-red slip.

Local ware, probably third or second century B. C.

Type 60 (Group V). Part of a large cup or bowl with a steep flaring wall and grooved rim.

This appears to be a very large example of Antioch, Shape 160; Samaria, Form 21; Hayes Form 23: c. 100-50 B. C.

Type 61 (Group V). Part of a bowl with a curving wall and a short flat rim.

Flat rims of this type appear to be characteristic of second-century forms, such as Antioch, Shapes 622, 630, 638, though none of the shapes quoted is so sharply angular as the present example. Probably first half of second century A. D.

Type 62. Body-*sherd* of a large hemispherical (?) cup, decorated on the outside with stylized leaves and berries in high relief, executed in the barbotine technique, overlying a horizontal groove or guide-line. Fine, brittle cream clay with a dull, blotchy, brown to black slip. (A fragment of a second vessel is similarly decorated.)

The style of decoration is typical of the Augustan and Tiberian periods; it is well represented at Tarsus³¹ and fragments of cups with similar decoration have been reported from as far afield as Petra and Dura Europos.³² The shape of the vessel illustrated here is more rounded than the examples referred to, but the clay appears also to differ and the pieces from Tell Rifaat may have a distinct origin. On the development of the barbotine technique and its use in the early Roman period, see M. T. Marabini Moevs, The Roman thin-walled Pottery from Cosa (Princeton 1973) 127ff.

NOTES

1. Eastern Sigillata A is listed in the Antioch report as "Pergamene" Ware, African Red Slip Ware as the Late Roman A and B Wares, and Cypriot Red Slip Ware as Late (Roman) D Ware.
2. See Antioch, 10, 15. The terms 'slip' and 'glaze' are both in common use to describe the surface-coating of these wares. The former is technically the more correct and is used in the descriptions of fabric that follow; the latter is, however, sanctioned by tradition in the term 'black-glazed ware', which is retained here solely as a designation for the class.
3. Cf. G. R. Edwards, Corinth vii. 3, Corinthian Hellenistic Pottery (Princeton 1975) nos. 401, 404, 456 for its occurrence in local ware at Corinth and M. Bernardini, Vasi dello stile di Gnathia; vasi a vernice nera (Lecce, n. d. [1961]) pl. 21 for examples in South Italian 'Gnathia' ware, in which it is very common.
4. Cf. Samaria, 222, fig. 37.1.
5. Form B40 in Black-Glazed B³ Ware: publication by the writer forthcoming.
6. Where it is described as 'Brown Slip Ware' (Forms B434-B444): publication by the writer forthcoming. Cf. also Samaria, 222, fig. 37.3.
7. Antioch, Shape 10; Samaria, 262f., fig. 54.5-6.
8. Antioch, Shape 12; Samaria, 262f., fig. 54.7, 11.
9. Antioch, Shapes 40-45; Samaria, 245, fig. 48.
10. Cf. Antioch, Shapes 75-80; Samaria, figs. 38, 49.
11. Samaria, 250, under fig. 49.5; G. W. Elderkin (Ed.), Antioch-on-the-Orontes i (Princeton 1934) 70, fig. 2.
12. Antioch, 29f., figs. 9-18 and pl. 4, Shapes HM 1-7; Samaria, 272ff.; A. P. Christensen & C. F. Johansen, Hama, fouilles et recherches

1931-1938 iii. 2. Les poteries hellénistiques et les terres sigillées orientales (Copenhagen 1971) 24 ff. and 124ff.

13. See H. Thompson in Hesperia 3 (1934) 472-474 with Agora v, F48 and comments under F50.
14. Antioch, pp. 10-15.
15. Antioch, Shapes 12, 14, 15.
16. Not represented at Antioch but cf. Samaria, 222, fig. 37.2, 11, 13.
17. Antioch, Shape 17.
18. Cf. Samaria, 253, fig. 51.5, 8.
19. See Agora v, 6.
20. See Samaria, 283 and references.
21. Hayes (1972) 9-10.
22. T. Wiegand & H. Schrader, Priene (Berlin 1904) 436 and fig. 551, nos. 144, 147.
23. Antioch, 51f.
24. Hayes (1972) 323ff.
25. See note 1.
26. For this (revised) dating see J. W. Hayes in J. Dore & K. Greene (Edd.), Roman Pottery Studies in Britain and Beyond, Papers presented to John Gillam, July 1977 (Oxford 1977) 279-287.
27. Hayes (1972) 371-386. See also H. W. Catling & A. I. Dikigoropoulos in Levant 2 (1970) 37-62 and H. W. Catling in Levant 4 (1972) 1-82.
28. See note 1.
29. Hayes Forms 29, 50, 54 and 51 respectively. The currency of the last two extends into the second century A. D.
30. See Antioch, Shapes 485, 486 and Hayes Form 26.
31. See H. Goldman, Excavations at Gözltü Kule, Tarsus i (Princeton 1950) 188f., 258 and figs. 149, 197, nos. 605-614.
32. QDAP 9 (1936) 36, fig. 1; D. H. Cox, The Excavations at Dura-Europos, Final Report iv. i. 2, The Greek and Roman Pottery (New Haven 1949) 13 and pl. IV, no. 75.

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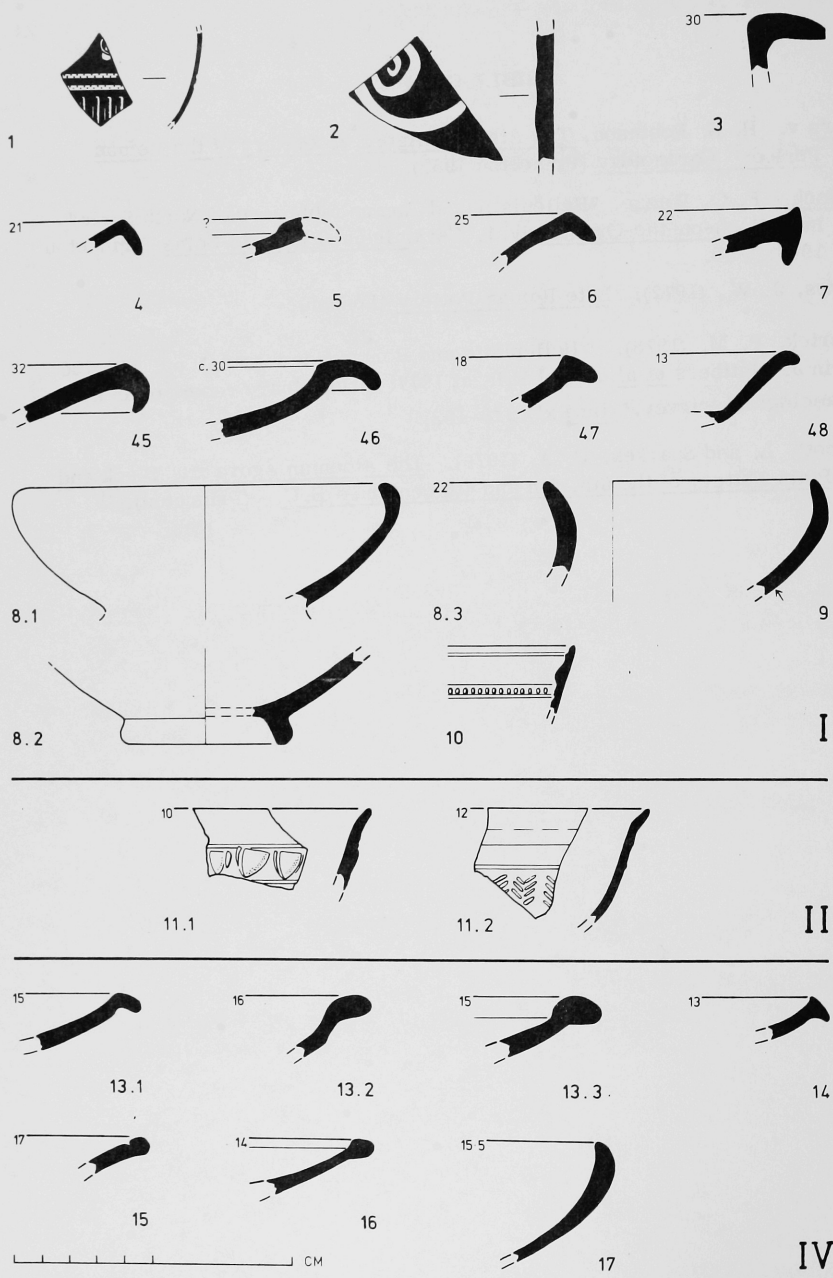


Fig. 241 Hellenistic fine wares (Groups I, II and IV). Scale 1:2.

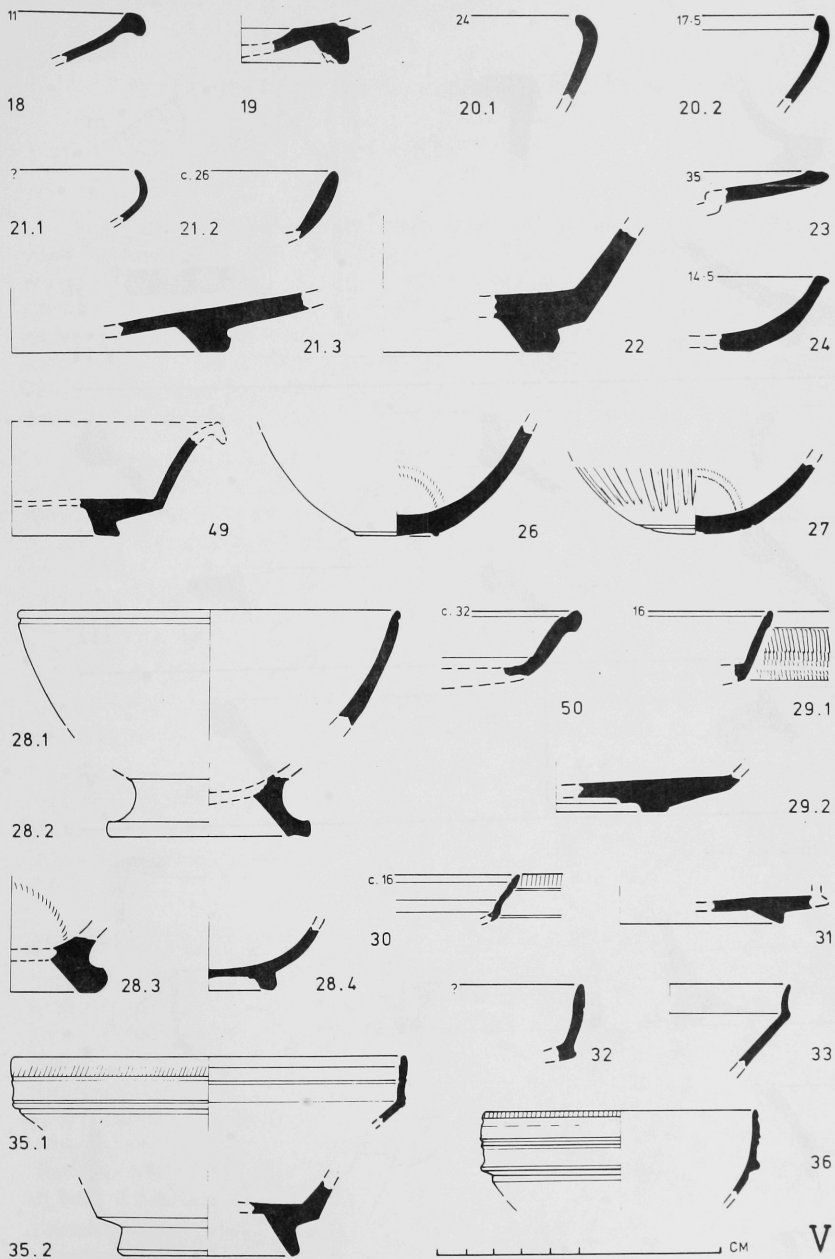
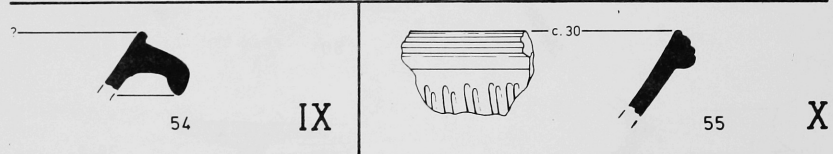
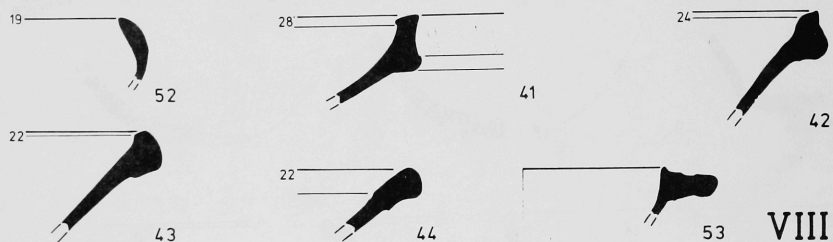
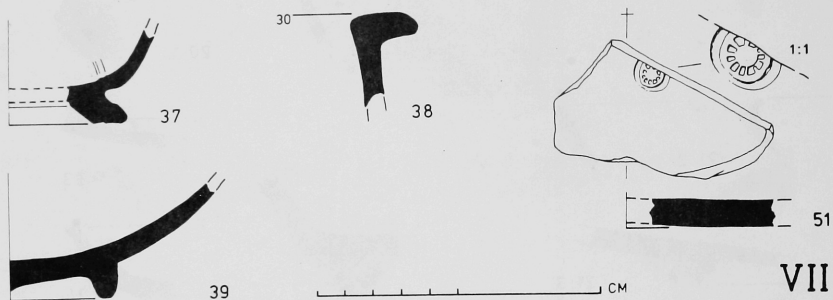


Fig. 242 Eastern Sigillata A (Group V). Scale 1:2.



TELL RIFAAT

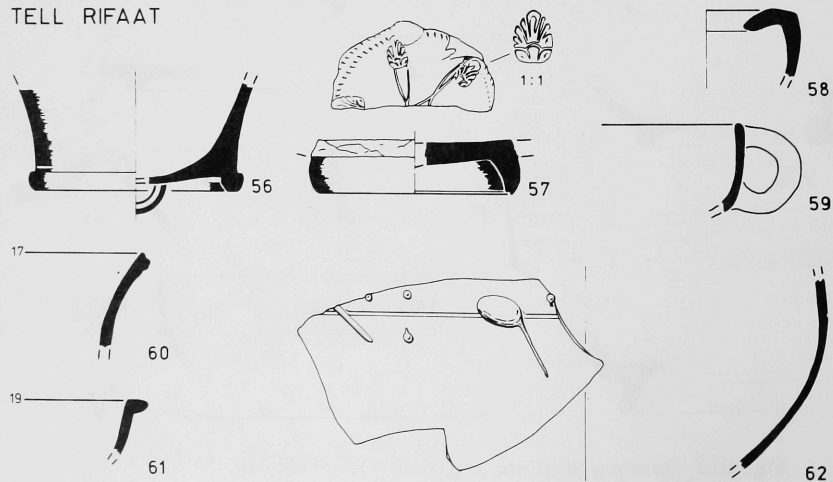


Fig. 243 Miscellaneous and late Roman fine wares (G additional types from Tell Rifa' at. Scale 1:

SELECTED LATE ROMAN AND ISLAMIC COARSE WARES

Alastair Northedge

The main problem confronting the student of Roman and Islamic coarse ware from the Tell Rifaat Survey is a lack of local excavation material for comparative purposes. Local variation in coarse wares is of course more significant than for fine wares, and it is often not possible to use comparative material from distant sites with any degree of reliability. There is little local material, the difficulty being most apparent in the field of Roman coarse wares, where the two major excavations, Hama and Antioch, published their fine pottery but not their coarse wares.

For this reason we are limited to what can be easily identified as relevant to our period, that is, the red wares, extending from the Late Roman to the Middle Islamic Periods,¹ together with a number of large basins in buff ware. A note on nomenclature: at Ain Sinu (Oates 1968), Dura Europos (Dyson 1968), and Dibsi Faraj (Harper 1980), some of the wares here called red wares are known as Brittle Ware. That term, although widely used for Euphrates sites, is not useful for this study, principally because various Islamic wares have been included that are not brittle ware. Red ware simply implies 'made from red-firing clays'. The material gathered by the Tell Rifaat Survey should make a useful contribution to the rather knotty problems of the coarse ware of North Syria, in identifying several widespread types.²

However the discussion of dating with materials from surface survey must rely upon excavation evidence and I must acknowledge that a number of important excavations to be published may well shortly supersede this study. I include here the recent work at Dibsi Faraj, Dehes, Balis-Meskene and Mayadine.

Red Wares: Groups I-VI

Fabrics: The fabric remained relatively uniform over the period under discussion suggesting little change in the clay sources. If any variation in the fabric is to be seen, it might be said that the Late Roman wares display relatively low temperature firing with occasional grey cores (sherds 1-3, 7), rather different from fine hard brittle ware. In the Early Islamic period the clay is more compact and fired to a higher temperature without grey cores (sherds 4-6, 8-11).³ Blackening of the surface is sometimes found, a feature that may stem from either firing or use. However the buff-coloured surface, or body fired buff all through, that occurs with red-firing clays in the southern Levant (Amman Citadel; Sauer 1973:41-43) is only seen here in the imported sherds of Group VI.⁴ The Middle Islamic Group VI (sherds 12-14) are rather variable in quality, but the examples from the Survey often have black cores, and a blocky, poorly prepared clay.

The addition of a fine mineral temper is typical of red wares of the Roman tradition. However although no petrographic analysis of the sherds was done, it would seem that the clay contains naturally occurring lime, for the fired ware contains fine lime particles and occasional lumps of up to 2 mm, which have pitted the surface of the pottery. The Middle Islamic Group VI has an irregular content, including particles of up to 1 mm of chert. This content could mean a badly washed clay or a carelessly prepared temper.

Ribbing: The most common surface treatment applied to red wares is ribbing, a series of parallel ridges made with a tool applied while the vessel is turned on a fast wheel (Franken-Kalsbeek 1975). Not surprisingly ribbed body sherds are very common on Roman sites. As a time indicator the combination of red ware and ribbing has been included in the distribution table, and would seem to represent a span of 2nd-8th centuries A.D. At Tarsus (Goldman 1950:1/207) it is described as rare until the 2nd century. In the author's own excavation at Amman Citadel (unpublished) a building fill dated to the reign of Marcus Aurelius (A.D. 161-180) contained only a small proportion of this ware, mainly an early form of the 2-handled ribbed cooking pot (Gp. I). As Brittle ware the treatment appears in 2nd and 3rd century contexts at Ain Sinu and Dura. A large part of the pottery from a tomb group of the 3rd century at Amman (Harding 1950) consists of this ware. Deposits of the 4th-6th centuries in Jordan contain high proportions of this type, e.g. Sauer 1973:figs. 1 & 2. In Jordan it survives to the middle of the 8th century, in a destruction level of that period at Amman (Harding 1951:figs. 2-3, nos. 27, 45, 46, 48 & 69). Although the Jordanian examples seem to coincide with the end of the Roman red ware tradition there, in North Syria the red wares appear to continue unribbed, except for broad undulations on Gp. IV ledge-handled cooking pots. Qasr ul-Hair East, a site which begins in the Early Islamic period (c. 110/728-9), has only one ribbed sherd among its drawn red wares (Grabar *et al.* 1978:B/11).

Group I-2: Handled Ribbed Cooking Pots (nos. 1-2)

The form is represented by sherd no. 1. No. 2, which together with nos. 1 & 3 comes from a contemporary deposit of a tomb at site 34, Hammamat, appears to be essentially an unribbed version of the same form.

General parallels for no. 1 are Oates 1968:fig. 23, no. 81; Dyson 1968: 60-1. nos. 429-33 and 63, no. 451; Sauer 1973:fig. 2, sherds 84-92; Crowfoot *et al.* 1957:298-303; Harding 1950:pl. xxvi; Harding 1951:fig. 3 no. 46; Tushingham 1972:fig. 9 nos. 1-27; Meyers *et al.* 1976:fig. 7.13-16; Thalmann 1978:fig. 38 nos. 1, 2 & 4; Amman Citadel—2nd century (unpublished—see above). These parallels illustrate a broad spread from 2nd to 8th century, but do not give a specific parallel.

However there is a rim shape parallel from Anamur (Williams 1977:fig. 2 no. 12) dated to the 7th century, and from Cyprus (Catling 1972:fig. 7 no. P96 & fig. 27 no. P185) dated to the second half of the 7th century and the first half of the 8th century: cf. also Catling & Dikigoropoulos 1970:fig. 3 no. 14, dated to the 7th century. However the Hammamat tomb group does not appear actually to postdate the Arab Conquest, and this view seems to be supported by Dibsi Faraj (Harper 1980:fig. C no. 58) where a close parallel

is described as later Roman. Harper suggests (1980:335) that this type of cooking pot gave way to the Group II type before the Conquest. Late Roman parallels for no. 3 would also support a 6th-7th century date for the tomb group.

Group II: Cooking Pots with 2 Handles on the Shoulder (nos. 3-4)

Complete forms of this group are illustrated by Harper 1980:fig. D nos. 61-64, and Thalmann 1978:fig. 38 no. 3. These pots differ from Group I mainly in having the handles on the shoulders. Harper (1980:335) suggests that the ribbed type (no. 3) is Late Roman, and that the pointed handle of no. 4 is Umayyad (early 8th century). The latter version may be unribbed. The type is widespread in the Survey area, occurring at 24 sites.

Group III: Bowls and Miscellaneous (nos. 5-7)

Bowl rim no. 5 belongs to a deep bowl with a hemispherical base and two flat-section handles placed vertically. The rim is turned in. A complete form is illustrated by Grabar *et al.* 1978:B/10. It is commonly found in the same contexts as the Group IV ledge-handled cooking pots. They occur together at the one period 2nd/8th century Umayyad site of Tulul al-Ukhaidir in Iraq (Finster & Schmidt 1976:Abb. 45g & i, Taf. 60d), also at Dibsi Faraj (Harper 1980:fig. C no. 56) and Qasr ul-Hair East (Grabar *et al.* 1978:B/10), both of which could support an Early Islamic dating. It is not reported so far from Late Roman deposits.

Bowl no. 6 is also reported from Tulul al-Ukhaidir (Finster & Schmidt 1976:Abb. 45f.) but is in addition comparable to 6th century bowls from Amman Citadel.

No. 7 is a jar handle, cf. Harper 1980, fig. C nos. 59-60.

Group IV: Ledge-handled Cooking Pots (Nos. 8-11)

One of the most distinctive of the red wares, these cooking pots can be recognised by their triangular ledge handles. Complete forms are illustrated in Harper 1980:fig. D no. 65. and Grabar *et al.* 1978:B/5. Most commonly surface treatment consists of an impressed decoration of a zigzag pattern produced by a rocker stamp below the rim, with the remainder of the body either plain or lightly ribbed. However on a sherd from site 42, T. Jisr, the zigzag is omitted and the ribbing continues to the rim. Note that no. 11 represents a miniature version with a rim diameter of 9.5 cm. This type of cooking pot is widely reported from Northern Syria, at Raqqa (al' Ush 1961:pl. 4 no. 19), al-Mina (Lane 1937: fig. 5c), Qasr ul-Hair East (Grabar *et al.* 1978) Dibsi Faraj (Harper 1980: fig. D nos. 65-6), and 26 sites in the Survey area. It is not found in the Southern Levant.

There is also a distribution in Iraq, at Samarra (Dept. of Antiquities 1940:fig. xxxviii; Sarre 1925:no. 82), Tulul al-Ukhaidir (Finster & Schmidt 1976:Taf. 50a, Abb. 45d & 1), and Tell Abu Sarifa (Adams 1970:fig. 5i). Adams (1970:96) remarks that this and other red wares occur in small numbers at Abu Sarifa and other sites in the Nippur region, and assesses the material as an import. The same seems true of Tulul al-Ukhaidir, cf. also the incidence of bowls nos 5 & 6 there, and this might indicate that an export of North Syrian production is involved.

While there are no reports dating this ware before the Arab Conquest, Tulul al-Ukhaidir is identified by its excavators as an Umayyad building: the terminus ante for the end of occupation at the site is the introduction of Samarra and splashed glaze wares, which are absent. The author picked up a probable rim sherd of this ware during a visit to the unfinished Abbasid palace of Hiraqla at Raqqa, suggested by its excavator, Kassem Toueir, to belong to the reign of Harun ar-Rashid (170-193/786-809) (Toueir 1979). At Dibsi it is called Early Abbasid (Harper 1980:335), while Sarre's report is of material from Herzfeld's excavation of Qasr ul-'Ashiq, whose construction is dated between 264/878 and 268/882 (Creswell 1940:364).

At Abu Sarifa the drawn sherd is assigned to Level 5, dated 800-950. If it is not residual the ware must still have been in production after the introduction of Samarra wares, including Abbasid lustre, which occur first in Level 4. Lustre ware is suggested by Whitehouse on the basis of material from Siraf to be the latest of the Samarra wares, not introduced 'until c. 900 or even later' (Whitehouse 1979:60). Ledge-handled cooking pots then continued at least until the beginning of the 4th/10th century and probably much later in the century.

To sum up, a spread from the 2nd/8th century to the 4th/10th century would seem likely. It is typical of the horizon preceding Samarra wares (Tulul al-Ukhaidir), but is also contemporary with them (Abu Sarifa).

Group V: Glazed Cooking Pots (Nos. 12-14)

These cooking pots are characterised by handles of a flattish section looping up from the shoulder (no. 14). Sometimes two decorative thumb-impressed ledge handles are also found, though these are often vestigial. Complete forms are illustrated in Thalmann 1978:fig. 32.

Only the interior of the base is glazed, although there are also examples where the glaze has been omitted. The glaze appears to be lead, stained brown. That the glaze is itself coloured, although seen on a dark red background, may be deduced by a few sherds from Amman Citadel with a clear glaze, and the appearance of these is quite different.

Associated with these cooking pots is an allied form, an open frying pan with two horizontal handles and two decorative ledge handles, or four functional handles, both versions with brown glaze over the interior.

The distribution area ranges from isolated handle sherds at Dhiban and Deir'Alla in Jordan (Tushingham 1972:fig. 7.25; Franken-Kalsbeek 1975:fig. 9.26) to Amman Citadel (unpublished), Qaryat al 'Ainab/Abu Gosh (de Vaux and Steve 1950:pl. 9 no. 38), to 'Arqa in Lebanon (Thalmann 1978:fig. 32), Al-Mina (Lane 1937:fig. 5F), Hama (Riis and Vagn Poulsen 1957:210 fig. 840), Qasr ul-Hair East (Grabar et al. 1978:1/1) and Paphos in Cyprus (Megaw 1972:fig. D). It is interesting that the distribution includes apparently both Crusader and Islamic sites.

At Amman these cooking pots are dated to the 5th/11th century. Although never found in Jordan in deposits of post-Hattin (583/1187) Ayyubid occupation, there is some evidence from the Northern Levant that they continue into the

7th/13th century there. We should note its occurrence as the major cooking pot form in a deposit connected with the destruction of a Crusader castle at Paphos in 1222 (Megaw 1972). Both the frying pans and the cooking pots may be connected with Crusader occupation of the first half of the 13th century at Al-Mina. While undated at Hama, both the cooking pots and the frying pans may well be related to the second period of occupation at Qasr ul-Hair (12th-13th centuries).

Group VI: Red-Painted Ware (No. 15)

Only two sherds from the survey area seem to belong to the most distinctive Early Islamic ware of the Southern Levant, Umayyad red-painted ware. It is possible to confuse simply painted sherds of the hand-made painted ware of the Middle Islamic period (also known as Pseudo-Prehistoric, or Geometric Ware), which has a wide variety of different fabrics, with Umayyad red-painted ware. Sherd 15, however, is wheel-made, with a light red core, a buff surface, and simple red-painted designs, all typical of this ware.

The normal distribution area of this ware is from Central Jordan, Dhiban, Umm er-Risas, and Qasr Tuba, to Jerusalem and Bethany in the West, and Jebel Seis in Southern Syria to the North. Red-painted ware is distinctive and easily visible in the process of surface sherding. Thus its rarity in the survey area, and its appearance at the major centre of Aazaz suggest that these sherds are imports from the South.

Evidence from Jordan (Sauer 1973:40-50) indicates that red-painted ware was introduced sometime during the Umayyad Caliphate, perhaps at the beginning of the 2nd/8th century, and is very common in destruction or abandonment deposits associated with the end of that dynasty (132/750) (Harding 1951; Bennett & Northedge 1977:Pl. ci. 1). It may have continued in production for some time under the Abbasids, perhaps up to the beginning of the 3rd/9th century.

Group VII: Buff ware—Basins (nos. 16-19)

Nos. 16-19 represent large, flat-bottomed basins with flaring sides. The fabrics from which these basins are made tend to have large quantities of a mixed mineral temper. They are often hand-made, although smaller ones may be wheel-made.

Unfortunately they are little reported among excavation material. From Jordan only one non-comparable form of basin may pre-date the Arab conquest, while they are common in the Early Islamic period, extending into the Middle Islamic. Whether this picture would be true of Northern Syria is simply not known. However Qasr ul-Hair provides an important parallel for nos. 16-18 (Grabar et al. 1978:A3/5), possibly Early Islamic.

CATALOGUE

Note: The colours of the sherds are described using the notation of the Munsell Soil Color Chart.

Group I: 2-handled Ribbed Cooking Pots

1. 2-handled cooking pot, ribbed. 5YR 5/6 reddish brown. Site 34, Hammamat tomb group.
2. Unribbed cooking pot with everted rim, probably omitted 2 handles from the rim. 2.5YR 4/6 red. Site 34, Hammamat tomb group.

Group II: Cooking pots with 2 handles on shoulder

3. Ribbed cooking pot, flat section handle on shoulder. 10R 3/6-4/6 red, N4 dark grey core. Site 34, Hammamat tomb group.
4. Flat-section handle, placed vertically. 2.5YR 4/6 red. Site 37, T. Ibol.

Group III: Bowls & Miscellaneous

5. Deep bowl or small basin with inturned rim and rounded base, 2 handles omitted. 10R 4/6 red. Site 76, Tourhleu.
6. Shallow bowl. 2.5YR 4/4 red. Site 3, T. Aar.
7. Jar handle. 2.5YR 5/6 red. Site 61, Qol Srouj.

Group IV: Ledge-handled Cooking Pots

8. Rim. 2.5YR 5/6 red, exterior blackened. Site 75, Tleilat.
9. Rim. 2.5YR 5/6 red. Site 35 Haour enn Nahr.
10. Rim, zigzag pattern of rocker stamp. 10R 5/6 red, blackened exterior. Site 58, Qara Keupru.
11. Ledge handle. 2.5YR 4/8 red, blackened on parts of exterior. Site 34 Hammamat.

Group V: Glazed Cooking Pots

12. Rim with handle stub. 2.5YR 4/6 red, with dark grey core N4, blackening of exterior. Site 22, T. Battal Chimali.
13. Folded rim. 2.5YR 5/6 red. Site 38, T. Jaadiyeh.
14. Loop handle with flat section. 2.5YR 4/4 red with dark grey core N4. Site 23, Beka.

Group VI: Red-painted ware

15. Neck of jar. Trace of handle attached to rim. Core 2.5YR 6/6 light red, exterior 2.5YR 8/4 pale yellow, painted design 10R 4/6 red. Site 5, Aazaz.

Group VII: Basins

16. Rim. Core 7.5YR 7/6 brown, surface 5Y 8/3 pale yellow. Site 76, Tourhleu.
17. Rim. Core 5YR 7/4 pink, surface 5Y 8/3 pale yellow. Site 12, Alep, T. es-Soda.
18. Rim with thumb-impressed decoration. 5YR 5/4 brown. Site 55, Nisbine.
19. Rim. 5Y 8/3 pale yellow. Site 59, Qara Mazra'a.

Distribution Pattern of Coarse Wares

Fig. shows the distribution pattern of Late Roman and Islamic coarse wares within the survey area.

The Late Roman and Early Islamic occupations are roughly equivalent at 27 and 30 sites respectively out of 88. The high figure for Early Islamic occupation is worth noticing. The evidence, principally ledge-handled cooking pots, presumably refers to the period late 2nd/8th century-4th/10th century.

This stimulates two remarks: firstly, that this conclusion is in marked contrast to Tchalenko's hypothesis (1953:435) that the limestone massif to the west was largely abandoned as a result of the Arab Conquest. Occupation in the valley of the Qoueiq held up well in the post-Conquest period.

Secondly, one might speculate that there is a connection here with the importance of the Byzantine frontier, 100-150 km away, to the Abbasids. In the second half of the 2nd/8th century and the first half of the 3rd/9th century, four Caliphs, al-Mahdi (d. 169/785), Harun ar-Rashid (d. 193/809), al-Ma'mun (d. 318/833), and al-Mu'tasim (d. 227/842) personally attended in Syria to the problems of the frontier. We hear of considerable expenditure in the re-building of the frontier fortresses in Cilicia and the Taurus (Baladhuri:256-64). Manbij was designated capital of a new province called al-Awāsīm, a rear area for the frontier ar- (ath-Thughur) (Baladhuri:203): this province included the upper Qoueiq basin. In 180/796 ar-Rashid settled at Raqqa, where his grandfather al-Mansur had built the city of ar-Rafiqa, and expanded it into a city that resembles Samarra from aerial photographs (Creswell 1940:39-49). Thus it might be argued that the spending policies of the Caliphs, in their building operations, could have had a stimulating effect on the local economy, and the resultant settlement density in the surrounding area. I merely offer the suggestion.

Notes

1. Late Roman: 5th-7th centuries A.D. Early Islamic: 1st/7th-4th/10th centuries. Middle Islamic: 5th/11th-7th/13th centuries. Dates after the Arab Conquest are quoted with the Hijri date first, and the Christian date second. Use is made of dating by centuries wherever possible.
2. Thanks are due to John Matthers for permitting me to publish this material. I would also like to thank the following: Dr. J. M. Rogers for reading the manuscript and advising me on the finds from Apamea; Richard Harper for introducing me to the pottery from Dibsi Faraj; and M. Thierry Bianquis for inviting me to visit the IFEAD excavations at Mayadine,

and his pottery team, Mme. Dorothy Kazemi; and Mlle. Dominique Orssaud for an introduction to Islamic pottery from the Euphrates.

3. From the survey material the change appears distinctive; all the sherds of the compact ware have Early Islamic parallels. One speculates that the more attractive appearance of these sherds may have affected pickup rates in the fieldwork. This might suggest a dominance of Early Islamic types among the collected sherds. The effect would be to reduce the representation of Late Roman.
4. The author is studying Islamic pottery from the excavations of the Department of Antiquities at Amman Citadel, Jordan, directed by Mrs. C-M. Bennett, together with some material from his own excavation at that site for a PhD thesis.

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Totals			Ribbing																
	Late Roman	Early Islamic	Middle Islamic	no. 19	nos. 16-18	Gp. VII	Gp. VI	Gp. V	no. 11	no. 10	no. 9	no. 8	Gp. IV	no. 6	no. 5	Gp. III	Gp. II	Gp. I	Ribbing
	x																		3. T. Aar
	x	x																	4. El Aareime
	x	x	x																5. Aazaz
	x																		8. Ain Fuwwar
	x	x																	9. T. Akhtereine
	x	x																	12. Alep—T. es-Soda
	x	x																	14. T. Archaq
	x	x																	15. T. Ares
	x	x																	20. T. Banat
	x	x																	21. T. Bararhite
	x	x																	22. T. Battal Chimali
	x	x																	23. Beka
	x	x																	25. T. Bouhaira
	x	x																	28. T. Chair
	x	x																	29. T. Dabiq
	x	x																	30. T. Douaibiq
	x	x																	34. Hammamat
	x	x																	35. Haouar enn Nahr
	x	x																	36. T. Haourane
	x	x																	37. T. Ilbol
	x	x																	38. T. Jaadiyah
	x	x																	40. T. Jibbine
	x	x																	41. T. el-Jijane
	x	x																	42. T. Jisr
	x	x																	52. Kh. Mareaa
	x	x																	55. Nisbine
	x	x																	58. Qara Keupru
	x	x																	59. Qara Mazraa
	x	x																	61. Qol Srouj
	x	x																	62. T. el-Qoubli
	x	x																	64. T. Rail
	x	x																	67. T. Rifa'at
	x	x																	69. T. Sfeir
	x	x																	70. T. Sidjaraz
	x	x																	72. T. Sourane (Aazaz)
	x	x																	75. Tleilat
	x	x																	76. Tourhleu
	x	x																	77. Yel Baba
	x	x																	79. T. Zaitane
	x																		80. Kh. ez-Zouaine
15	30	27		2	5	1	12	18	12	2	3	24	1	9					Total

Fig. 244 A diagram showing the distribution of the types chosen.

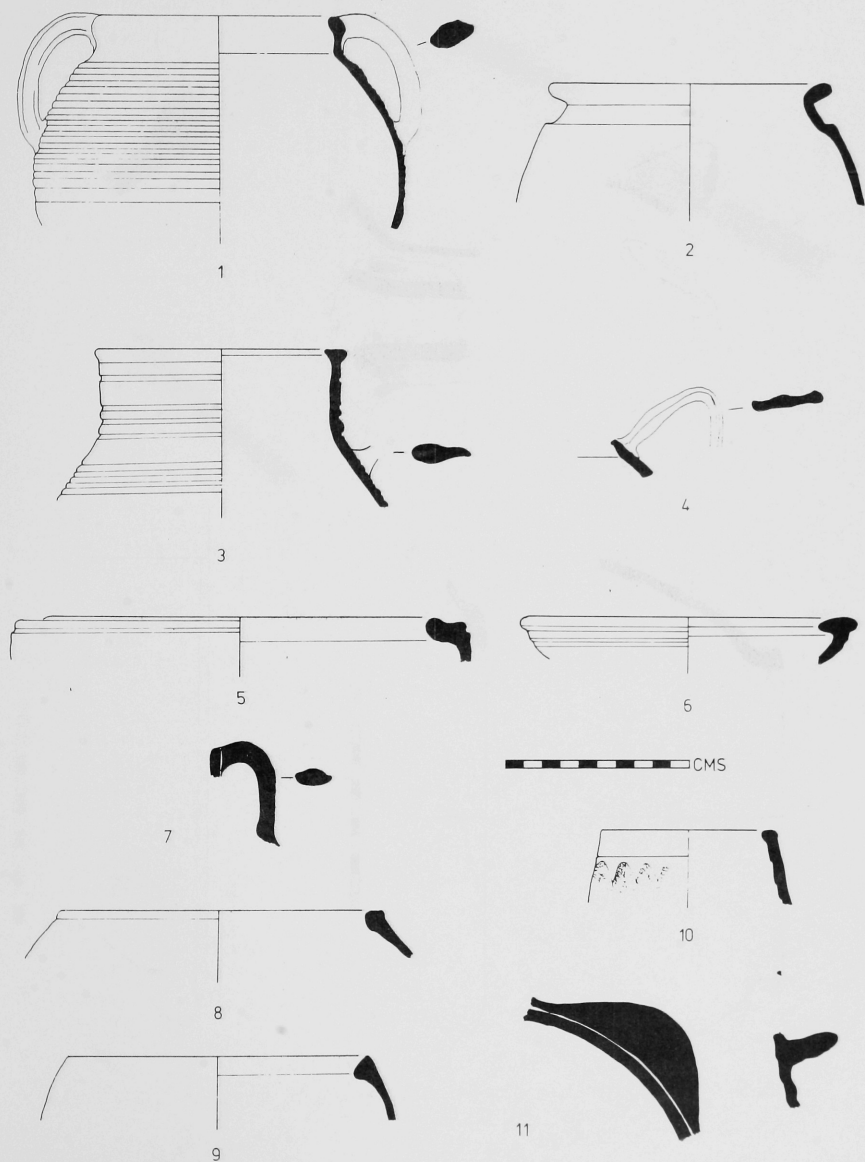


Fig. 245 Selected Late Roman and Islamic Coarse Wares: sherds 1-11.

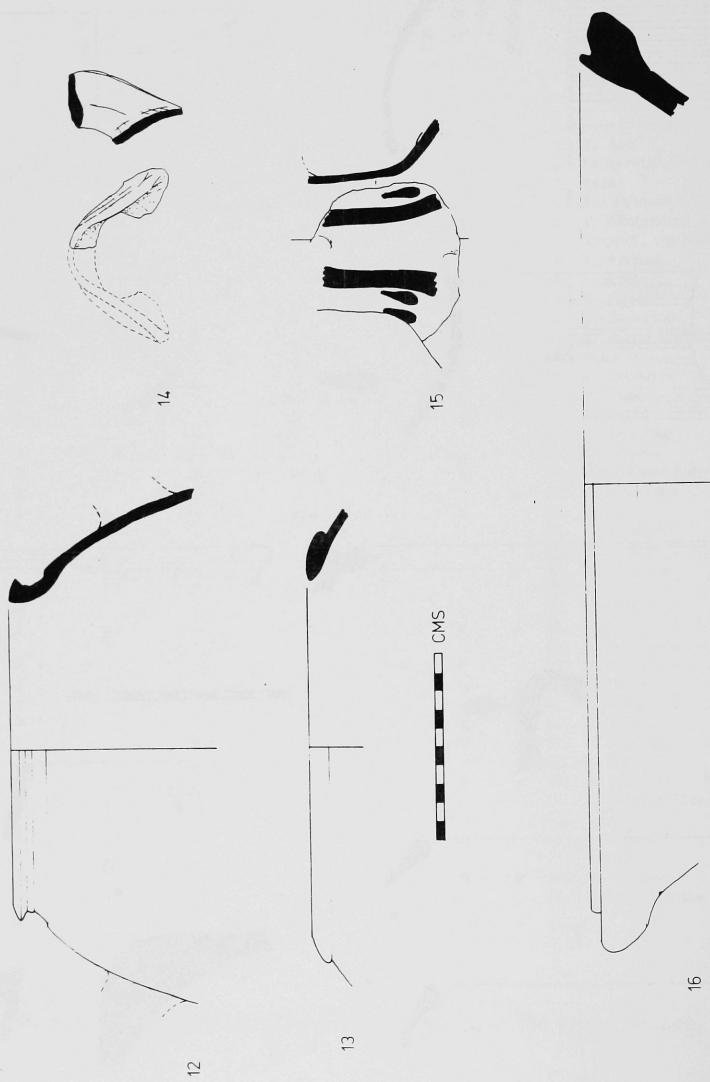


Fig. 246 Selected Late Roman and Islamic Coarse Wares: sherds 12-16.

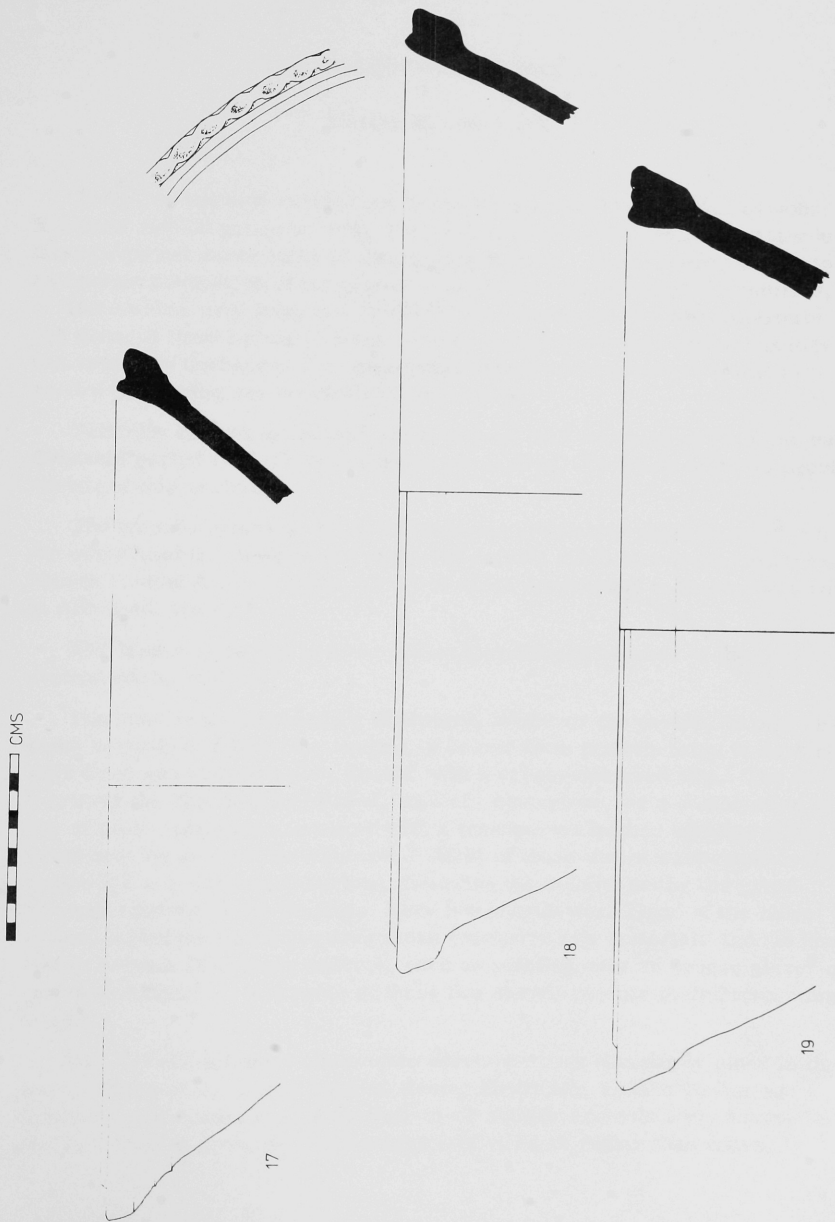


Fig. 247 Selected Late Roman and Islamic Coarse Wares: sherds 17-19.

THE ISLAMIC GLAZED POTTERY

Marthe Bernus Taylor¹

The three surveys carried out in the area around Tell Rifa' at by John Matthers and his group in 1977, 1978 and 1979 have revealed the existence of islamic glazed wares in 58 of the 88 tells studied. These sherds testify to an islamic occupation of the region between the VIII and the XIV centuries, at times which vary from tell to tell.² The sherds are not too numerous³ and many of them belong to commonplace everyday vessels whose typology has remained unchanged throughout the centuries; hence some caution is needed in drawing any conclusions from them.

The tells richest in sherds⁴ seem to have been occupied as from the early Abbassid period (VIII-IX centuries) if not earlier. Of the 58 sites 22 provided sherds of this period.

The troubled times of the X-XI centuries are poorly represented.⁵ On the other hand the Zenguid and Ayyoubid periods are better represented with sherds coming from 22 tells, not all of which correspond to those occupied in Abbassid times.⁶

The Mameluk period is more difficult to discern because of the lack of characteristic sherds.⁷

The most frequent category of pottery, whatever the period, is that whose paste is made of a fine clay ranging in colour from pinkish-beige to dark pink, well fired and homogeneous; coated with a cream-coloured slip. The decoration over the slip may be painted, incised, champlévé, or a combination of any of these techniques, covered with a transparent lead or alkaline glaze which may or may not be coloured.⁸ Most of these wares were made in the region for a middle-class society, following the fashion set by the great ceramic centres of the Empire. Very few sherds were found of the more refined technique which requires more expensive raw materials and the know-how of certain IX century secrets, such as painting over an opaque glaze⁹ or lustre painting.¹⁰ The paste of these few sherds reveals their Mesopotamian origin.

The XII-XIII silicious paste ware which has been abundantly found in important sites of the region such as Hama, Meskeneh, Qala' a Djabar and Rakkha¹¹ and made for a fairly well-to-do society are relatively scarce in the Tell Rifa' at area, no doubt a region of villages rather than cities.

SLIP WARES

I. MONOCHROME DECORATION

Ceramics with a slip coating and a monochrome glaze are usually an ordinary ceramic, a typical utility ware of everyday use.

1. Turquoise glaze

This series is not well represented. When it is found it usually comes from jars and large bowls, glazed but with no slip. Two samples were found at Tell Mareaa (128 a handle, 129 the base of a bowl) and one sherd at T. Nisbine.

2. Ochre-yellow glaze (Fig. 248)

The yellow colour ranges from honey, mustard, to cognac. It is the colour best represented within this type but it is not easy to give any precise date¹² to the various sherds. Most of the fragments were found at: T. Jaadiyeh (3 sherds, 126, 108 being rims), T. Ares, Alep Citadel (16, thick base), Sidjaraz, Bararhite (104, slanting rim), Mareaa (136, rim with glaze drops proving that the piece was fired upside down), Mareaa and T. Fafine.

3. Pistache-green glaze

Tell Mareaa, Qaramel, Nisbine, T. Sfeir, T. Jaadiyeh have all provided one sherd each (N104 from T. Aar is part of a lamp).

4. Medium or dark green glaze

This series is fairly frequent. It is found at Alep Citadel (4 sherds of which N 19 is part of a lamp), at T. Jisir (3 sherds), T. Maled (3 sherds of which N 202 is part of a bowl with inverted rim), T. Akhtareine (3), Tell Ares (3), T. Aamar (2), Tell Jaadiyeh (2 of which N 112 come from a lamp with a pinched spout, the reservoir and the handle not there), Yel Baba and T. Bukar (1).

5. Dark brown

It is difficult to say whether these sherds are not modern. There are 20 to 25 from Aazaz, 2 from Sidjaraz and from Mazraa.

II. PAINTED DECORATION ON SLIP AND UNDER GLAZE (Figs. 249 & 250)

It is probably the most common production in the early Abbassid period, and it is generally admitted that it is an imitation of the T'ang ceramics. The reddish paste is covered with a cream-coloured slip.

The decoration, not outlined, has been made to "run" in a given direction, converging towards the centre. It can be streaks, spots or splashes, painted with one, two, or three colours, under a transparent glaze—generally a lead glaze. This type is widely represented in the Middle East in the 9th century,¹³ and the shapes are rather simple: bowls on low footring bases, convex sides and edges more or less everted,¹⁴ and small bowls with straight sides and straight rims, similar to the glassware of the same period.¹⁵

A Painted decoration with one colour

1. Under yellowish glaze

- a) Green streaks. This type of decoration seems to have been among the first ones—if not the first one—in the islamic glazed ceramics. It has been found at Aazaz (4 sherds, of which 332 is from a bowl with straight rim), at Qara Keupru and T. Houar.
- b) Green spots. The spots are not outlined. Samples of this category come from: Tell Battal (108, part of a bowl with oblique sides and wide convex rim), Tell Jaadiyeh (102 and 104, parts of bases), and T. Sfeir.
- c) Brown streaks. A thick base at T. Jaadiyeh (102) and a rim at T. Ilbol (117).

2. Under bright yellow glaze

- a) Green streaks. At T. Sourane(A) (rim), T. Sfeir (116) and T. Jaadiyeh (128).
- b) Green spots. Two sherds at Aazaz (of which a base, 104) one at T. Ilbol (103), T. Houar (135, base) and T. Aar.

B Painted decoration with two colours

1. Under yellowish glaze

- a) Green and ochre-yellow streaks. On the most of the samples, the colours are alternate. Three tells provided sherds: T. Dabiq (two sherds, of which 101 is a base with three holes of restoration), T. Sourane (A) and T. Akhtareine.
- b) Green and yellow spots. At T. Baharhite (113, a rim) and T. Sfeir.
- c) Green and brown streaks. One sherd at Aazaz and T. Jaadiyeh.
- d) Green and brown spots. This category is rather common, and some sherds attesting to it have been found in different tells: T. Ilbol, T. Hammammat, T. Rahhal, T. Tourhleu, and Q. Srouj.
- e) Green streaks and brown lines or dots. A large, flat, footing base found at Tleilat (102) shows a decoration made of streaks on the sides, and of curved lines around the centre. Three sherds at Aazaz show the same decoration. On another base found also at Tleilat, dots replace the lines.

2. Under bright yellow glaze

- a) Green and brown streaks. A large flat base at Hammammat (102).
- b) Green spots and brown dots. One sherd at Qol Srouj (103).

C Painted decoration with three colours

1. Under yellowish glaze

- a) Green and yellow spots and brown dots. One sample at T. Aar.
- b) Green, brown and purple splashes. Any one of the colours may predominate. Samples have been found at Aazaz (3 sherds) and T. Rifa' at.

III. MOULDED AND PAINTED DECORATION UNDER GLAZE (Fig. 250a)

One sherd only (T. Rifa' at, 18) represents this type, which is however widely found in all Mesopotamian sites, inherited from the Roman ceramics, but also inspired from Chinese models and from Sassani silverware.

It is a fragment from a small bowl with straight sides, a common shape both in ceramics and in glass; the outer side is fluted and decorated with lozenges and roundels in relief, the inside with green streaks under a bright yellow glaze.¹⁶

IV. INCISED DECORATION UNDER GLAZE (Fig. 251)

This type of decoration, very typical in Islamic ceramics, is found everywhere and is related to the T'ang or to the Byzantine wares according to the period. When the decoration is both incised and polychromed the colours may be either independent of the incised design, in the form of splashes, or juxtaposed and limited by the incised line.

1. Under monochrome glaze¹⁷

This, as well as the next type, are very common in the IX to XI centuries.

a) Yellowish glaze. Two sherds (T. Rifa' at 1, T. Houar 106).

b) Bottle-green glaze. Only one sherd of this type was found for each of the following sites: T. Tourleu, T. Sidjaraz, T. Ares (226 large footing base), T. Jaddiyeh (152 everted rim).

2. Under yellowish glaze with polychrome but no coincidence between the colours and the incisions¹⁸

Streaks or splashes in one or in several colours enhances the incised decoration. Even though these colours may flow from the edge to the centre of the bowl they are unrelated to the incised decoration.

a) Green streaks. Examples have been found at four different tells: T. Houar (1), T. Ilbol (133 base), Kh. Mareaa (134), Alep Citadel (20).

b) Ochre yellow and green. Three sherds, one from Jaddiyeh, from T. Ilbol, and from Aazaz.

c) Green and brown splashes. Found at Aazaz (108 a thin rin), at T. Ilbol (2 sherds), at T. Barahite (3 sherds), and at T. Sourane 4 sherds which may well all come from the same plate.

d) Yellow and brown splashes. One sherd from T. Houar.

e) Green, brownish-ochre and purple. They are the three colours appreciated in early Abbassid times and often said to have been inspired by the T'ang ware. Two sherds represent this type: T. Sfeir (103) and T. Aar (110 the edge of a bowl).¹⁹

3. Green and purple limited by the incisions, the Al-Mina type²⁰ (Fig. 252)

The decoration is incised in a carefree and sketchy manner and furthermore decorated by green and purple under a pale-yellow glaze. The colours seem

to have been placed within the areas limited by the incisions but they have often run. The decoration, mainly geometrical, is based on radiating motifs, with triangles on the flattened rim; it may also be figurative—animals and persons.

The shapes are generally bowls, not too deep nor too thick, on a heavy footring base and a rim of varying profiles. This production is closely related to a North-West Iranian production (Aghkand in particular), to Byzantine and to the so-called "Crusaders" ware. It is well represented in the sites of Northern Syria of the first half of the XIII century. It gets its name from Al-Mina (destroyed in 1260) on the mouth of the Orontes river where many pieces of this type were found.

Sherds were found at several tells: Sidjaraz (4 sherds, 2 of which are big footring bases, 106 and 114); Qara Mazraa (3 sherds, one of which is the centre of a bowl on a high base and decorated with a fish, no. 109); T. Aar (3 sherds, 2 of which are two different-type rims); T. Sfeir (3 sherds) T. Soda (2 sherds of which one is a thick foot base with a radiating decoration of purple and green segments); many other sites have provided 2 sherds whose decoration is practically invisible: T. Jisr. Alep Citadel, T. Jaddiyeh, T. Maled; while others have provided only one: T. Chair, Kafar Sehir, Smouqa, Aazaz, T. Jibbine, T. Ares and Erine.

V. CHAMPLEVE AND INCISED DECORATION UNDER GLAZE (Figs. 253 & 254)

The paste, pink, fine grained and well fired, is covered with a cream-coloured slip. The decoration is floral-geometric, carved through to the body and often incised as well. The glaze, bright and glossy, is either monochrome or enhanced with splashes in one or two colours.

The shapes seem to be bowls on footring bases (most of the sherds are bases), shallow and thick walled with straight rims.²¹

This category of wares seems to be very frequent in the XII century sites of Northern Syria judging from the Apamé,²² Meskeneh and Hama²³ excavations. The same decorative techniques is to be seen on a plate from Susa though no precise date can be assigned to it.²⁴ It was also used in Afghanistan as exemplified by the vessels found at Bamiyan.²⁵ It would seem however that the Syrian wares are more closely related to those from North West Iran.²⁶

1. Under monochrome glaze

a) Very pale yellow. Most of the sherds have a green glaze on their outer wall, and most of them come from Aazaz (12 sherds), also from Tell Ares, Tell Haouar, Tell Jaadiyeh and Tell Battal Chimali.

b) Green. Only found at Aazaz (103 and 107, a base and a rim), and at Tell Jaadiyeh.

2. Enhanced by monochrome splashes

a) Green splashes under a bright yellow glaze. This type is represented at Tell Battal Chimali (4 sherds), Tell Jaadiyeh (4), Kh. Mareaa (3), Aazaz, Tell Bararhite and Jekke.

b) Purple splashes under a very bright yellow glaze; only one example was found, at Tell Ilbol (139).

3. Enhanced by green and purple splashes under yellow glaze

Of this type four sherds were found at Aazaz. The yellow glaze gives to the green and purple splashes the characteristics of those "three-coloured" wares common in the Islamic world of the IX-X centuries and which were inspired by the Chinese T'ang wares.

VI. SLIP DECORATION

This group is extremely rare as compared with those where the slip is directly applied to the clay body.

Only one small sherd was found: a bowl rim (Aazaz, 2) decorated with a line of brown slip drawn over the white slip coating and which gives the glaze a pale yellow tinge.²⁴

NON-SLIP WARES

I. THE USE OF A MONOCHROME GLAZE FOR DECORATION (Monochrome glaze used as decoration)

A White opaque glaze (Fig. 255)

The Mesopotamian potters from the very early Abbassid times were trying to render a transparent glaze opaque. They were no doubt trying to imitate the Chinese porcelain held in such high esteem at the time.

Their various efforts to produce them are made evident by the laboratory analysis of certain wares which come from excavations.²⁹ The Mesopotamian potters finally arrived at the production of "faience": over a clay body (as from the second half of the XII century a silicious paste) a coating was used made of lead glaze rendered opaque generally by introducing tin oxide. This new technique was soon being used in a great number of Islamic countries, from western Iran to Spain, several centuries before it was transmitted to Europe. Nevertheless, and due probably to the price of tin, it seems to have been used only in the great ceramic centres. Either white or coloured the opaque glaze has often been used as background for a painted decoration or for lustre. But it has also been used all by itself as a monochrome glaze.

Two tells have provided examples of this technique: Tell Haouar (1 small sherd, 137) and Aazaz (3 sherds). Among the latter, one is a wide flat rim (102) 9 mm thick exactly like certain Mesopotamian pieces although it would seem from its paste that it is unlikely to be an imported piece; and one is a fragment of a base whose paste is fine-grained, compact and buff coloured which does suggest a Mesopotamian origin.

B Transparent glaze over a clay body (utility ware)

Most of the sites have provided thickly turned sherds coming from utility ware. The most common models are the jar with footring base, ovoid shaped body, cylindrical neck with out-turned rim, two handles; and the large bowl on footring base, convex sides, upright rim.²⁹ The decoration, where there is one, is made of very simple lines either straight or wavy.
or wavy.

a) Ochre-yellow glaze. One sherd was found at Qara Mazraa and it is thick flat rim with a groove, most probably coming from a plate.

b) Turquoise glaze.

b₁) The examples from the early Abbassid period are usually covered with a dark, bright turquoise glaze. The decoration consists usually of moulded ribs or gadroons or of small stamped motifs. From Tell Battal (110) comes a fragment of a jar or ribbed vase of this type. There is also a small sherd of the same type from Tell Haourane.

b₂) Many sites have provided sherds that can be dated to the XII-XIII centuries: jars (from T. Sfeir, Alep Citadel, Erine, T. Haourane; T. Jaadiyeh, T. Bukar) and large bowls (from Qol Srouj, T. Mareaa, Douabiq, T. Sidjaraz, T. Jaddiyeh, T. Aar, T. Bukar, T. Tourhleu). This turquoise glaze is less glossy, less smooth and not as dark as that of the Abbassid period.

c) Dark green glaze (Fig. 256). Two sites, Tell Sidjaraz (2 sherds of which one is from a jar) and Tell Jibbine (1 sherd) have provided examples of this colour; it is applied to objects similar to those of the above group.

C Transparent glaze over silicious paste

From the middle of the XII century, the moslem potters rediscovered the silicious paste. No slip was now required in order to have a white surface. Potters used it with a colourless glaze to emphasize its translucency, and under a coloured glaze to bring out the colour of the glaze.³⁰

The glazes are mainly alkaline and easily decay. The shapes are generally moulded, fine, elegant and enhanced by the thinness of the paste (1 to 4 mm). Vessels may be plain, without decoration, their esthetic value being due to their shape and colour; others may have their decoration moulded or incised (Fig. 257).

This luxury ware, some of which is already the soft-paste porcelain, is abundantly found in the important sites of Iran and Syria where it was meant for a bourgeois clientele. It is very poorly represented in the Rifa'at sites under study.

1. Esthetic effects due to the glaze only

No sherd with a colourless glaze has been found.

a) Turquoise glaze. The sherds found are very small and not more than 2 mm thick. It is difficult to establish with any degree of certainty the shape of the vessel to which they belonged except through analogy with vessels from

Iran or other Syrian sites. Some have been found at Alep Citadel (no. 7), Botnan (1 sherd), Qol Srouj (no. 102 could be a fragment from a "cloche" bowl), 31 T. Haouar (no. 131) and especially at Aazaz (no. 49 a vase fragment (?), 47 straight rim from a "cloche" bowl (3), 1 flat rim).

b) Emerald green glaze. Not a common colour, but however one small sherd was found at Aazaz (142).

c) Deep blue glaze. Four minute sherds were found at Aazaz.

d) Purple glaze. This colour, ranging from aubergine to a purplish-black, seems to have been in vogue in Syria. It is applied both over very thin and fine pieces such as those described above, and over heavier pieces (plates and vases) with thick walls (4-5 mm), soft and not so white a paste. Sherds of this type were found at two sites: T. Ares (a very small fragment, probably from an everted rim), and Aazaz (3 sherds, 2 of which are rims (no. 35) from a small fine bowl, (no. 340) from a heavier and thicker plate.

2. Moulded decoration under glaze

The decorative motifs cannot be determined due to the small size of the sherds.

a) Colourless glaze. One example of rib or gadroon decor was found at Aazaz (114).

b) Turquoise glaze. One small sherd from T. Haouar (123).

c) Deep blue glaze. Four small sherds from Aazaz.

d) Purple glaze. One thin straight rim from Jaadiyeh (115).

3. Incised decoration under glaze

The decoration on this type of ware is very finely incised. On certain particularly refined pieces, the fineness of the paste provides a translucent effect. Few examples have been found on the Rifa' at sites.

a) Turquoise glaze. At Aazaz 4 sherds have been found: from a straight wall (120), a small, very fine everted rim (123), and a narrow flattened rim (111).

b) Deep blue glaze. One sherd only was found, at Aazaz (327).

II. DECORATION PAINTED ON OPAQUE GLAZE

This technique, of which several examples have been found in the important sites of Mesopotamia and Northern Syria of the IX century, is represented by only one sherd (Aazaz 232): a wide, thick flat rim (42 mm wide, 10 mm thick), decorated with a green stripe over white opaque glaze.

III. LUSTRE DECORATION

A Polychrome on opaque glaze

Only two small sherds were found of this luxury ware invented by the Mesopotamian potters of the IX century. Its scarcity is explained by the delicate technical process and the potters' secrets which were required to produce it.

One of the sherds (Aazaz 1) shows on one side a high quality lustre of various tones over a uniform white background, on the reverse side there are dashes, a type of decoration which has often been thought to be the potters' marks.³²

The second sherd (T. Tourhleu 101) has a predominantly ruby red decoration typical of a very short-lived Mesopotamian production.³³ Both sherds have the same type of paste, a fine-grained, compact, well potted, buff coloured clay which is the same as is found in the Mesopotamian lustre wares of Samarra and Susa. Like all such rare sherds found at other sites in Northern Syria,³⁴ they seem to be from imported vessels.

B Monochrome on transparent glaze

One sherd only (Alep 10) of this category has been found though it is commonly represented in Northern Syrian cities of the Ayyoubid period. The paste is "silicious" and white; the glaze transparent, colourless and undoubtedly alkaline; the decoration is reddish-brown lustre.

IV. PAINTED EARTHENWARE UNDER COLOURLESS GLAZE

This type of ceramic is characteristic of the early Abbassid period and can be found throughout the Middle East Islamic empire. The most common shape in this type of pottery are bowls on low footring base, convex sides and slightly everted edge. The decoration, very simple, consists mainly in streaks converging towards the centre, and is similar to the one used on the slip wares (II).

a) Green streaks. Two examples were found at T. Ilbol, one of which is a slightly everted rim (118).

b) Green and brown streaks. One example from Tell Azraq (131).

V. PAINTED DECORATION OVER "SILICIOUS" PASTE AND UNDER GLAZE

By the middle of the XII century the "silicious" paste with a painted decoration in black or in black and blue, sometimes even enhanced by red, is commonly being produced in Northern Syria and Egypt. It shares certain features, on the one hand with the Iranian production, in particular Kashan, and on the other with the Anatolian Seldjoukid production, at present yet not too well known. The decoration is mainly geometric and floral, closer to a carefree type drawing than to painting. The silicious paste covered with an alkaline glaze contributes greatly to the stability of the pigments. The quality and the quantity of the pieces found in the important sites of Northern Syria proves the evidence of an economic renaissance during the Ayyoubid period. Some such sherds have been found on the tells explored by the J. Matthers expedition, with the exception of those known as the "Resafa" type, the use of red being its distinguishing feature and which in any case are always scarce in all sites.

The shapes are mainly thin walled bowls: on tall cylindrical footring, straight flaring sides, or convex sides with either flat or everted rims ("cloche").

a) Blue-black painted under colourless glaze. In all cases it is a geometrical decoration similar to that found in all the important sites of the region: lines (Aazaz 43, T. Ares 212), blue spots (Aazaz 110 small bowl with slightly everted rim; Ilbol 6); spots and lines sometimes interrupting a pseudo-inscription (T. Ares 212 rim of bowl); sometimes very fine radiating lines alternating with small dots inspired by the Iranian models said to be particular to Kachan and forerunning certain Syro-Egyptian motifs of the XIV century (Qara Mazraa 109).

b) Blue-black painted under turquoise glaze. This type is better represented than the previous one. Imitated from Iranian models which are still produced today. The shapes are the same as in the previous group. Sherds were found in many sites (Aazaz 10 sherds; T. Houar 3; T. Mareaa 2; T. Jaddiyeh 2; Alep Citadel; Douabiq; T. Haourane; T. Ares; T. Sfeir). Of the decorative motifs which are still visible: lattices (Aazaz 112) lozenges (Douabiq 115) and segments (T. Houar 134).

c) Blue and black under colourless glaze. Only one sherd was found, at T. Ares (205). It is the edge of one of those bowls on a tall cylindrical footring, straight flaring sides; the slightly everted rim is decorated with a black line; the sides have segments filled with fine cross-hatchings, separated by a finely dotted band. For lack of a laboratory analysis it is difficult to certify its Syrian origin, so great is its similarity with its Iranian counterparts.

VI. SLIP DECORATION (Fig. 258)

During the Ayyoubid period a commonplace ware for everyday use appeared and which continues to be made even today in these Middle-East countries. Such sherds have been found in several of the tells.

Most of the vessels are thickly turned bowls on a footring base, with flaring sides, or more often still with wide rims of various inclinations.

The paste, hard and homogeneous is of a dark brick-red colour. The decoration, drawn with a white slip in a very low relief, is covered with a glossy transparent slightly tinged lead glaze which sets off the colour of the clay.

The slip adheres poorly, tends to flake off, and the decoration can only be seen "in negative", that is to say, in the form of a trace over the bare clay body. The decoration consists of simple geometric elements.

a) Pale yellow glaze. It is one of the most widely represented: Alep-Citadel (3 sherds), Erine (7), Tell Jisr (6), Tell Haourane (4), Aazaz (3), Tell Ilbol (3). (3). On some of the sherds the decoration is only partly visible; free-flowing lines (T. Baba 102), stripes (T. Jisr 212), wave between two bands (T. Ares 210), segment filled with hatches (T. Berne 101).

b) Pale green glaze. This type is not well represented—about one fifth as compared with the above mentioned one: Tell Ares (4 sherds), Tell Jisr (2), Haourane and Qol Srouj (1).

The decorations are hardly visible and seem much more intricate.

PAINTED BUT UNGLAZED

Painted decoration on slip, no glaze

Various examples of this rather unrefined ware known by the name of "geometric ceramics" have been found on several of the sites, in particular Tell Ares (30 sherds), Tell Jisr (25) and Tell Haourane (7).³⁵

The pastes, whose colour ranges from beige-gray to pink, with a high proportion of impurities, are covered with a thin slip often coloured beige (at times somewhat pinkish). The exact shape of the vessels cannot be determined due to the small size of the sherds, but they were certainly modelled, relatively thick (5-6 mm), some have a handle (Haourane 203) and belong to a vase or jar such as those found at Hama.³⁶

The decoration is painted in a dull black or a dull reddish-brown and (in some cases) tinged unevenly. The decorations are very simple and geometric; lines and dots. (Tell Ares 282), cross hatchings (Tell Ares 202), saw-tooths, circles and triangles (Tell Haourane 203).

CONCLUSION

The conclusions exposed in the preliminary report of the archaeological survey of Tell Rifa' at in 1977 have been confirmed by the material found in 1978 and 1979.

The categories represented correspond to those found already at other sites of the region and belong to the different types produced in Northern Syria before the Mongol invasion. It is well known that after the invasions of the Mongols in the middle of the thirteenth century, most of the towns and villages of the Euphrates Valley and of Northern Syria were abandoned.

The pastes (at least superficially) present much homogeneity, so that one may suppose they all come from the same production centre, or at least from neighbouring sites only. The ceramic reflects the political and economic situation of the region within the Islamic empire. The first decades of the Abbasid period saw the blossoming of Islamic art in all its singularity. This brief period of centralized power is a moment of relative political and, above all, cultural equilibrium, conducive to the spread of imperial art and artistic productions, examples of which have been found at very widely dispersed sites. Many examples of this period have been found on the tells surveyed, most of them belonging to rather common vessels (painted on slip and under glaze); the more sophisticated productions, particularly the tin-glazed ceramic and the lustre ones are very scarce, and imported.

Various political troubles marked the period from the tenth to the middle of the twelfth century in Northern Syria, the main ones being undoubtedly the settling of the Seljuk Turks throughout the greater part of the empire and the arrival of the Crusaders. The economic, social and cultural impact of these events was enormous. Northern Syria, being at the cross-roads, was continually the battleground for the various belligerents. The instability of the time is reflected in all the sites of the region by the scarcity and the relative poor quality of the material found.

Both the amount and the quality of the material found in the various important sites of the region testify to an economic revival around the middle of the thirteenth century, amplified by the Ayyubid dynasty, which provided roughly a century of political stability. It was the time when the Moslem potters rediscovered the silicious paste, so widely spread in Iran, Arab middle eastern countries, and Seljuk Anatolia. Even if there is a close link between the productions of those different countries, it is obvious that in Syria the paste is not as white and smooth or fine as that of the corresponding Iranian production, and that the geometric motifs are preferred to the figurative ones. This category of production is scantily represented in the tells studied here: very few fragments of monochrome wares and those painted under glaze, only one sherd of the local lustre ware, which even so corresponds to the most widespread series. It is surprising that no Fatimid lustre fragments have been found: nor are there fragments of the slightly thick and rough series with floral decoration, finely scratched, under transparent glaze, found for instance at Hama;³⁷ nor fragments of the more refined series of very white paste which often has figurative decorations and which is attributed to Tell Minus, a site very near those studied in the survey.³⁸

In fact, on most of the sites, it is the category of common vessel that is best represented, jars and bowls of everyday use, even pipes,³⁹ very often imitated from those fashionable in big cities. The wares of a more recent technique and those with a more refined decoration are very scarce, undoubtedly because they were meant for a different clientele, one more urban and more demanding of a certain form of luxury. The chinese caledons, much appreciated in the Middle East and imported, are represented by two bases, at Qara Mazraa and Alep Citadel. It is not by chance, therefore, if the sites where some examples of the more luxurious material have been found, are a city like Aleppo or towns such as Azaz, T. Ilbol, T. Ares, Q. Mazraa, T. Jaddiyeh, which enjoyed a relative prosperity due to their location on the commercial routes and their proximity to rivers not yet dried out.

NOTES

1. I am most grateful to John Matthers for allowing me to publish the Islamic material found in the area around Tell Rifa' at, to Mrs. Guillerming Joel for rereading and translating this paper in English, and to Mr. J. L. Lange for the drawings.
2. So far it has been difficult to establish the wares of the Ummayad period with any degree of certainty, so the date of the 8th century has been preferred.
3. In many cases, only one sherd proving a category has been found. This study is based on the glazed wares, easier to classify than the unglazed ones.
4. Tell Aazaz, T. Ares, T. Jaddiyeh, T. Ilbol, Q. Mazraa, T. Rifa' at, T. Houar, T. Sidjaraz, Alep Citadel, T. Sfeir and T. Aar.
5. M. Canard, Histoire de la Dynastie des Hamdanides de Fazira et de Syrie (Alep, 1951), C. Cahen, La Syrie du nord a l' époque des croisades (Paris, 1940).

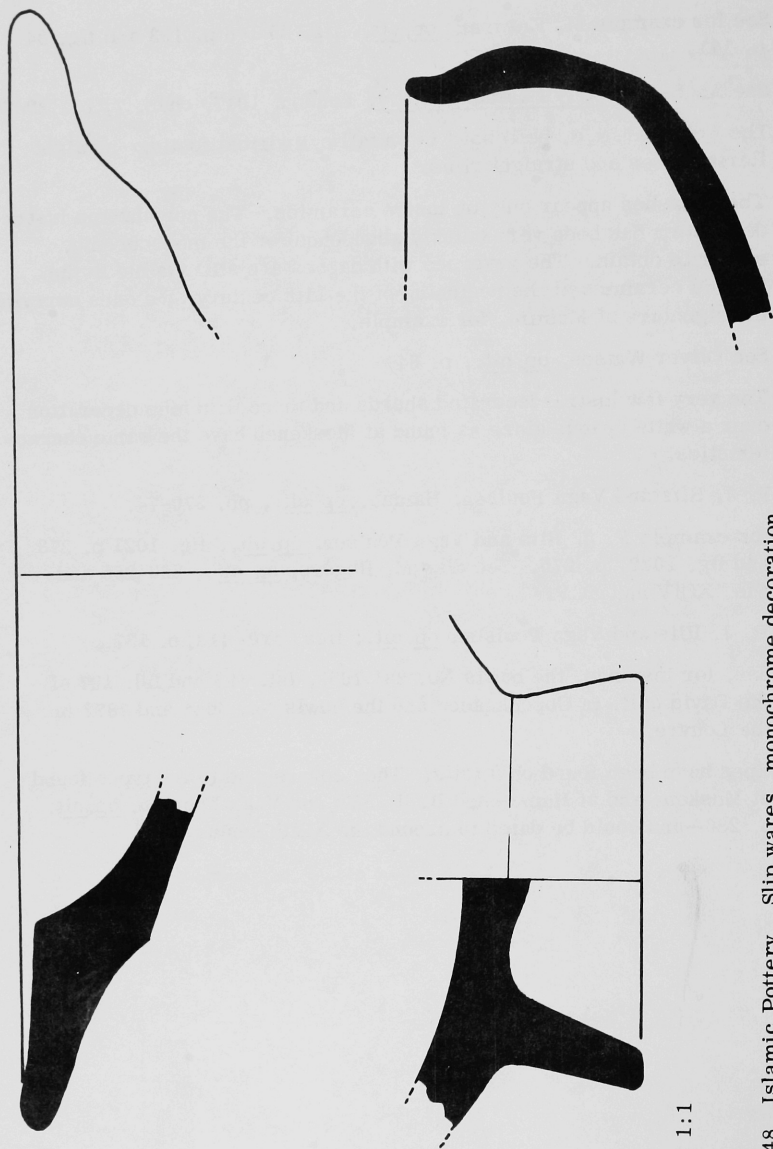
6. Even if they are represented, the white "silicious paste", are scarce in these tells.
7. Many of the sherds with a pink paste covered with a cream-coloured slip and a monochrome green or brown glaze could be Mameluk, but there is no certainty about this. It is known that the Mongol invasion brought about, for a certain length of time, a decline in the quality of the production together with the disappearance of certain techniques.
8. The alkaline glaze, inherited from the Roman and Iranian antiquity, was still used at the beginning of the Islamic period as was the lead glaze. The choice depended on the technique of decorating. Some glazes representing a mixture of both, also found.

The sherds studied here have not been analysed. We have always been cautious not to assume the quality of the glaze.

9. It seems that the lead opaque tin-glaze is the result of different techniques: alkaline glaze not well melted, close to a "glass-paste"; addition of 2% of tin, which gives the opacity and the white colour, but has a bad adherence to the body; the use of lead glaze will eliminate this defect.
10. For a good description of this technique, see Oliver Watson, 'Persian Lustre ware, from the 14th to the 19th centuries', Le Monde Iranien et L' Islam, 1975, pp. 63, 65.
11. For the wares found at Hama: P. J. Riis and Vagn Poulsen, Hama, Fouilles et Recherches de la Fondation Carlsberg 1931-1938, IV (ii), Les verreries et poteries médiévales (Copenhagen, 1957). The Qala' a Djabar excavations have not yet been published, but many of the sherds found on the surface belong to the so-called "silicate" category of the Ayyubid period. The ceramics from Raqqa have been studied, among others, by Ernst J. Grube, Raqqa—Keramik in der Sammlung des Sammlung des Metropolitan Museum in New York (Kunst de Orients IV, 1963), 42-78. The excavations directed by Qassem Toueir, of the Service des Antiquités Syriennes, are still in progress in Raqqa on the site called Qasr el Banat; The ceramics from these excavations are being studied by Q. Touier and by the author who is also finishing the study of the wares found at Balis-Meskeneh during the five excavation campaigns (1970-1974) under the direction of Professor L. Golvin, from the Faculté d' Aix-en-Provence, and of A. Raymond, at the time Director of the Institut Francais d' Etudes Arabes de Damas.
12. In fact, some of those sherds and some belonging to the next category (pistache green glaze) could be Mameluk.
13. All these categories can be found in other sites within the Absassid Empire of the 9th century: at Samarra, Susa, Meskeneh, Raqqa, Antioch and Nichapur, their variety however being richer.
14. See for instance bowls found in Susa, Monique Kervran, Les niveaux islamiques du secteur oriental du t p  de L' apadana, Cahiers de la D. A. F. I., 7. 1977 fig. 42, 43, pp. 137, 139.

15. M. Kervran, op. cit., fig. 36 no. 25, p. 125.
16. See for instance samples at Susa: M. Ayalon, La poterie islamique, Paris, 1974, p. 167, fig. 386; at Samarra: F. Sarre Die Keramik von Samarra, p. 34 no. 135, Tafel XI 10, and p. 64 no. 225, Tafel XXIII₄ (chinese object. The same kind of ceramic is also found at Meskeneh).
17. Same remarks as in note 13.
18. Idem. Many Chinese sherds have been found in Samarra: F. Sarre, op. cit. chap. IX, pp. 54-64. This type of production has been imitated in all the important sites of the Abbassid Empire in the 9th century and exported too, as proved by the excavations actually going on in the different countries of the Arabic peninsula.
19. This type seems to be the more accomplished of the category. It is found also in Susa—see for instance M. Kervran, op. cit. fig. 44 no. s, 5, 6, 7, p. 141, Musée du Louvre no. MAO S. 450 and MAO 607, in Nichapour, -Ch. K. Wilkinson, Nishapur: Pottery of the Early Islamic Period, New York, 1973, chap. 2, pp. 54-89, Samarra, Raqqa and Meskeneh.
20. On this subject see article: A. Lane, Medieval finds at Al Mina in North Syria (Archaeologia 87 [1937], 19-78.). This type of ceramic has been found at sites throughout the Mediterranean; see for example W. B. Kubiak, Crusaders' pottery of Al Mina found at Fostat (Folia Orientalis 12 [1970], Melanges Lewicki, Cracovie, 1971).
21. They correspond at least in shape of objects, to those found at Hama and Meskeneh.
22. J. Michael Rogers, Apamea—The Medieval Pottery, Preliminary report (Colloque Apamée de Syrie, 15-18, avril 1972; Musées Royaux d' Art d' Histoire, Bruxelles), 262-263, Pl. XCII, 2.
23. P. J. Riis and Poulsen, op. cit., note 58.
24. Louvre Museum No. MAO. S. 477, illustrated in M. Pezard, La Céramique archaïque de l'islam et ses origines, Paris, 1920, pl. XXXVIII.
25. J. C. Gardin, Poteries de Bamyán, in Ars Orientalis II, 1957, pp. 227-245.
26. The technique is similar to that of the Zendjan wares; some specimens have been brought to light recently in Takht-i Suleiman and some at Orenkale in Soviet Azerbaidjan.
27. It is a very common technique at the Mameluk period where sometimes three coatings of slips of different colours are used.
28. On the occasion of an exhibition in Paris on the "Ceramics from the Muslim middle-east-techniques and evolution" (Paris, Palais de Tokyo déc. 1979-nov. 1980), several pieces from Susa excavations have been analysed by the Laboratory of the Museums of France. Those results will make the subject of a later article.

29. See for example M. Kervran, op.cit., fig. 25 1-6 p. 103 and fig. 34 p. 121.
30. See A. Lane, Early Islamic Pottery, London, 1947, chap. 7, pp. 29-32.
31. The "cloche" (i. e. bell) bowl is on tall cylindrical footing, straight flaring sides and straight rims.
32. Those dashes appear only on lustre ceramics. The polychrome lustre decoration has been very quickly abandoned for the monochrome, easier to obtain. The reverses with dashes are still visible in the fatimid ceramics at the beginning of the 11th century, the ones carrying the signature of Muslim, for example.
33. See Oliver Watson, op.cit., p. 64.
34. The very few lustre-decorated sherds and those with blue decoration over a white opaque glaze as found at Meskeneh have the same characteristics.
35. P. J. Riis and Vagn Poulsen, Hama...op.cit., pp. 270-74.
36. For example P. J. Riis and Vagn Poulsen, op.cit., fig. 1021 p. 273 and fig. 1032, p. 275. See also M. Rogers, op.cit., 263-265 and Pls. XCIV and XCV.
37. P. J. Riis and Vagn Poulsen, op.cit., figs. 410-413. p. 137.
38. See, for instance, the bowls No. 281 1959, Isl. 195 and Isl. 197 of the David coll. in Copenhagen, and the bowls No. 6044 and 7872 in the Louvre.
39. Pipes have been found on 9 tells. They correspond to the types found at Meskene and at Hama—see R. J. Riis and Vagn Poulsen, op.cit. p. 280—and could be dated to around the XIIIth century.



Scale 1:1

Fig. 248 Islamic Pottery. Slip wares, monochrome decoration, ochre yellow glaze.

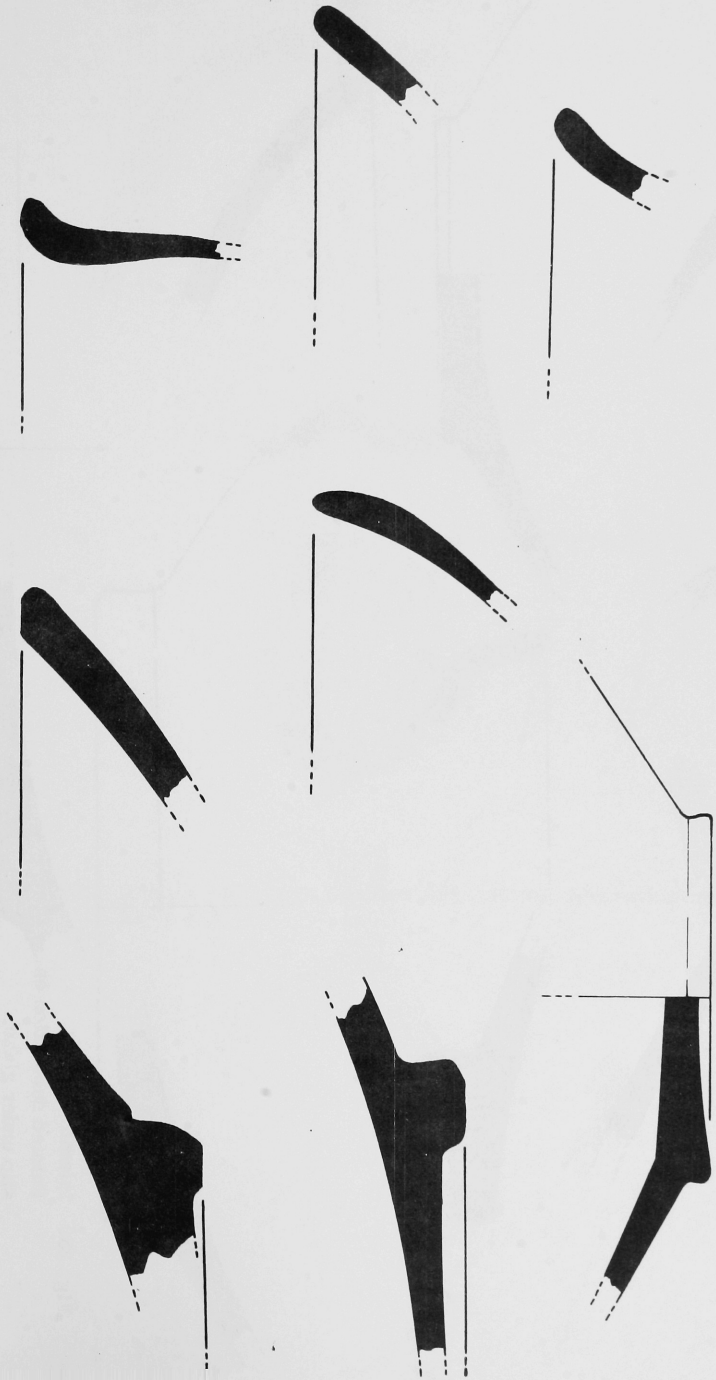


Fig. 249 Islamic Pottery. Slip wares, painted decoration on slip under glaze.

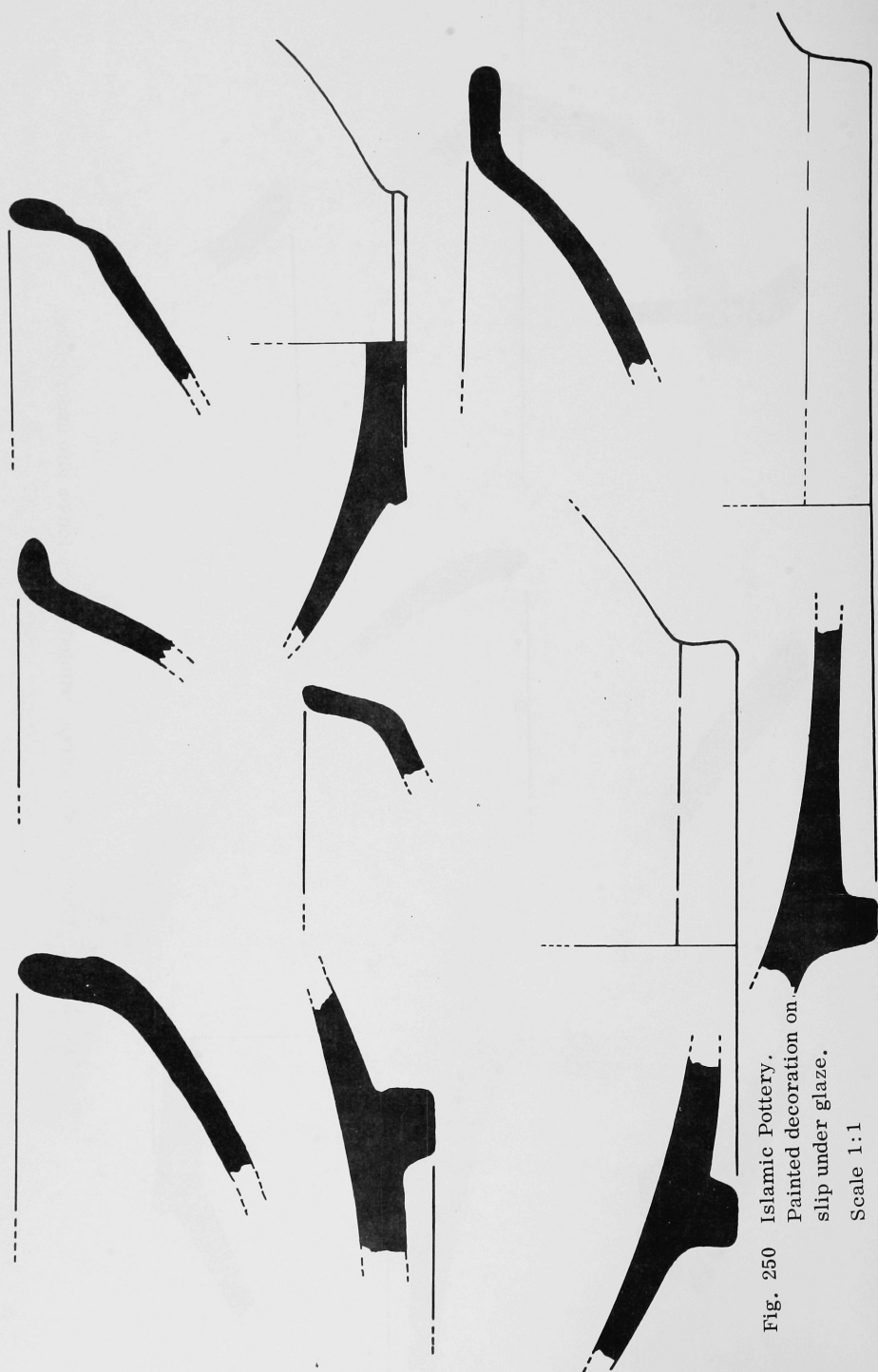


Fig. 250 Islamic Pottery.
Painted decoration on
slip under glaze.

Scale 1:1

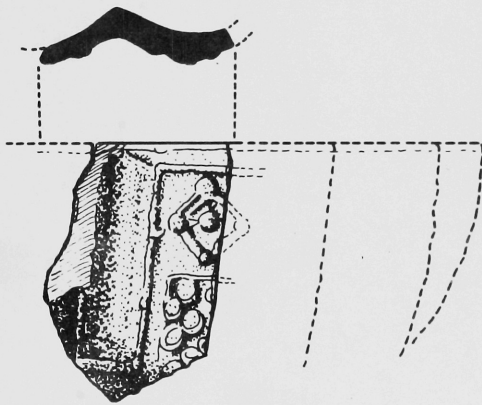
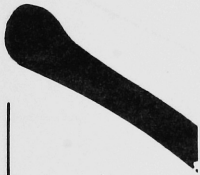


Fig. 250a Islamic pottery. Moulded and painted decoration under glaze.
Scale 1:1.



Scale 1:1

Fig. 251 Islamic Pottery. Slip wares, incised and painted decoration on slip under glaze.

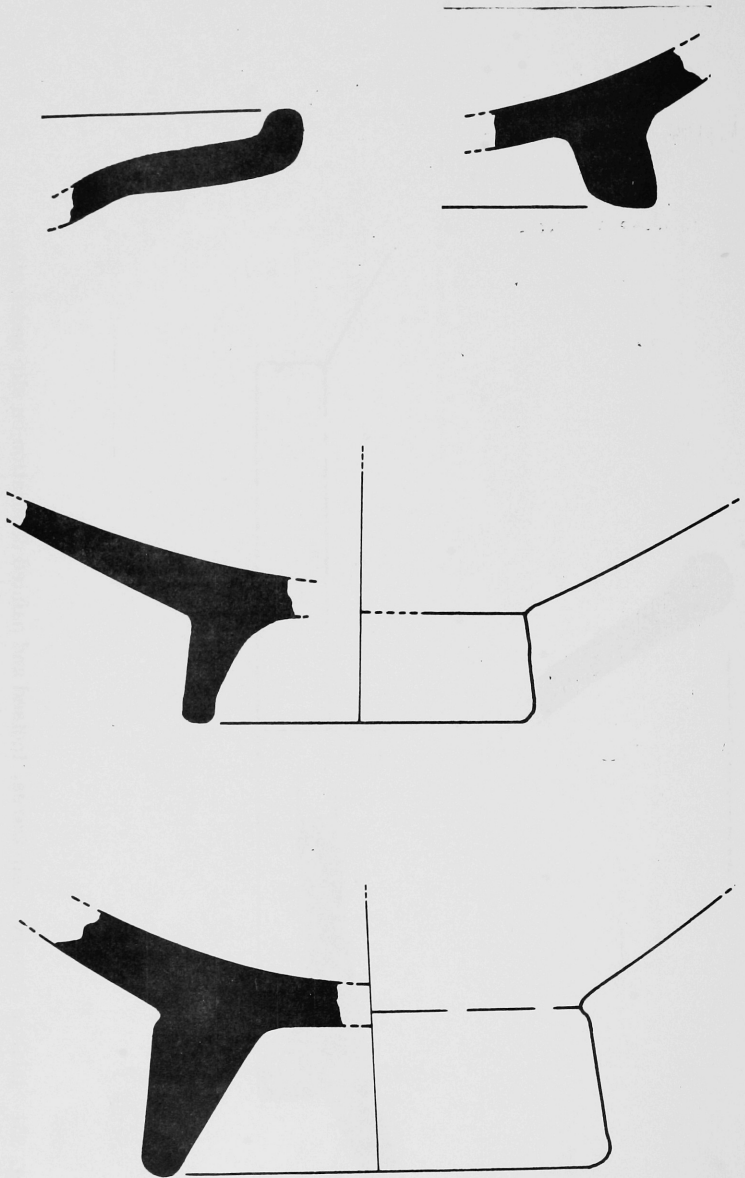


Fig. 252 Islamic Pottery. Slip wares, incised decoration under glaze. 'El Mina' type.



Scale 1:1

Fig. 253 Islamic Pottery. Slip wares, champlévé and incised decoration under glaze.

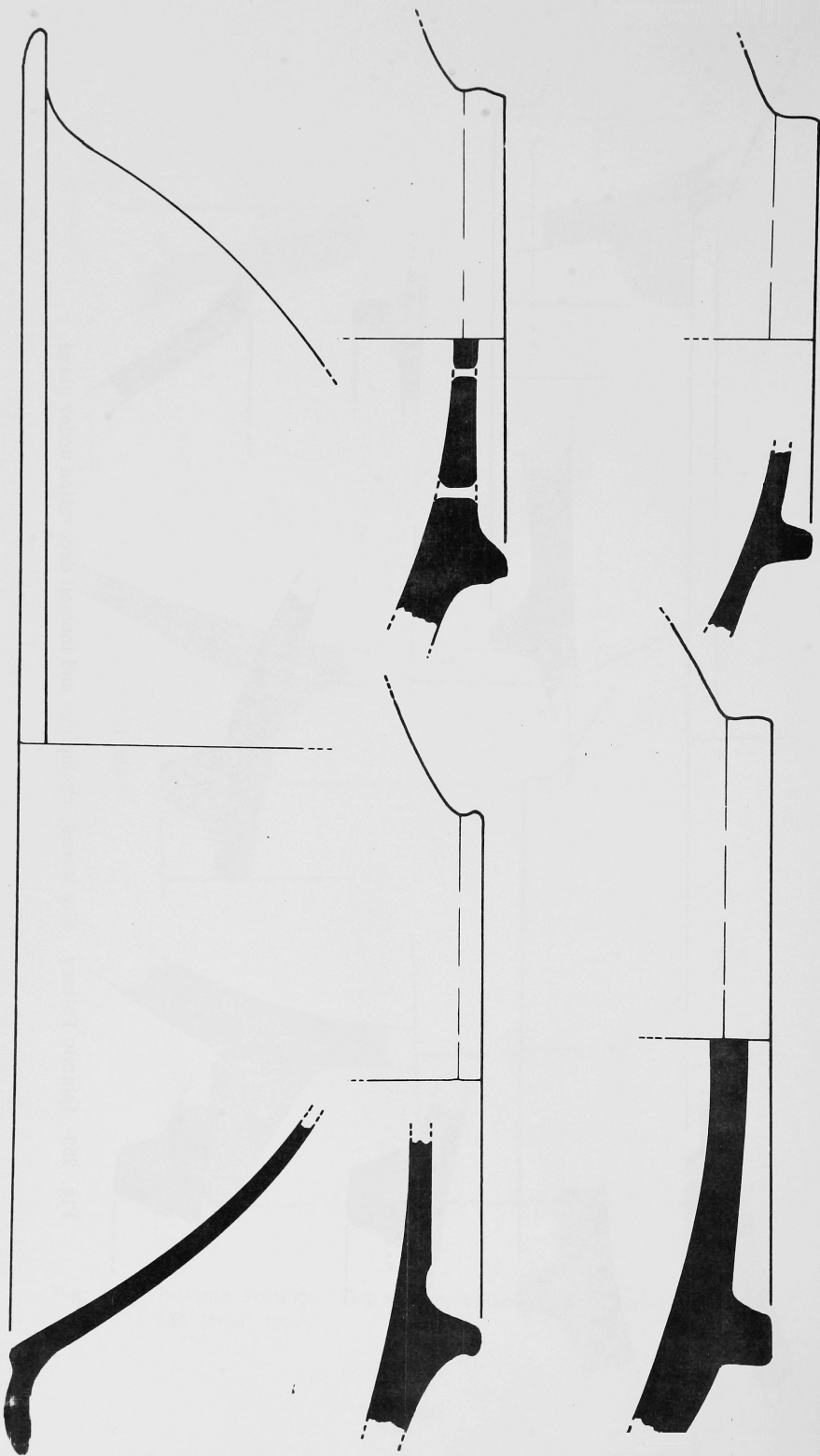
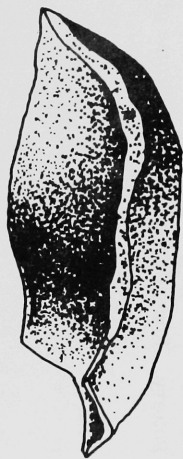


Fig. 254 Islamic Pottery. Slip wares, champlévé and incised decoration under glaze. Scale 1:1



Scale 1:1

Fig. 255 Islamic Pottery. Non-slip wares, monochrome glaze, opaque.



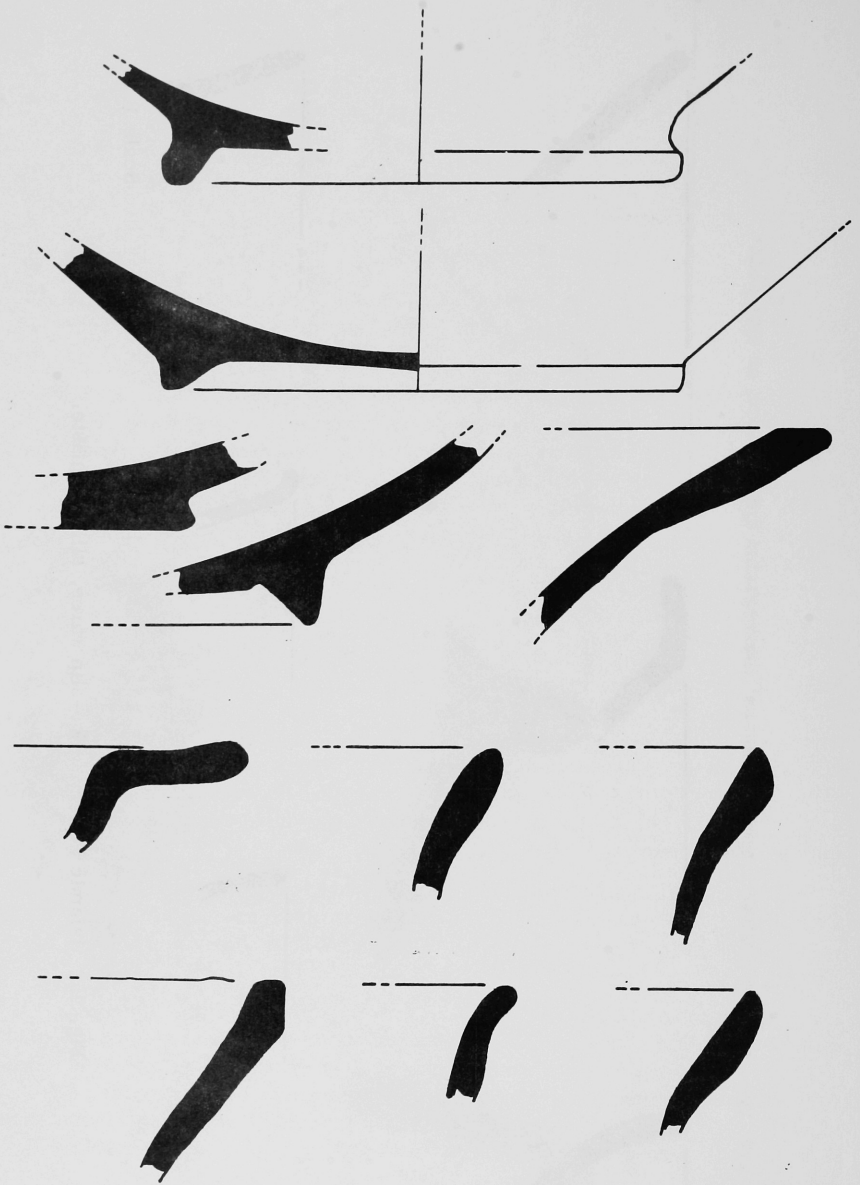
Scale 1:1

Fig. 256 Islamic Pottery. Non-slip wares, monochrome glaze (green) on clay body.



Scale 1:1

Fig. 257 Islamic Pottery. Non-slip wares, silicious paste.



Scale 1:1

Fig. 258 Islamic Pottery. Non-slip wares, slip decoration.

APPENDIX A

THE SEAL IMPRESSIONS

TELL AAR

Dominique Collon

Fragmentary cylinder seal impression on a body sherd of fine grained, light brown, hand-made ware, about 1 cm thick and wet-smoothed on the exterior.

The seal which made the impression was approximately 4.1 cm high. The design, as it survives, shows a figure (upper part missing) holding a dagger or sword in one hand. Before this figure is a rearing quadruped (head missing) whose long tail hangs between its hind legs. Above it is another quadruped, shown tête-bêche; wedge-shapes and triangles represent this animal's ears or horns and fill the spaces in the design. To the right is the partial outline of a large, unidentifiable element in the composition. The imbricated silhouettes stand out as a flat cut-out pattern and there are no details shown.

Seal impressions on pottery are a common and distinctive feature of Early Bronze Age Syria and Palestine.¹ Examples from Byblos,² from Levels J5 and J6 at Hama,³ and from Megiddo⁴ provide the closest parallels to the example under discussion, with the same tête-bêche arrangement of animal silhouettes and, in the case of at least one of the Hama impressions, similar human figures.⁵ The tête-bêche arrangement and the triangular filling motifs seem to be specifically Syrian and the Megiddo example may, in fact, be an import into Palestine.⁶

The dating of the Byblos material has recently been discussed by Amnon Ben-Tor,⁷ and he concludes that the Byblos parallels are probably to be dated to EB II and may extend into EB III. The Megiddo impressions he dates to EB I or earlier,⁸ while the Hama material is EB IV.

We do not have examples of actual excavated seals of the type which made the Byblos, Hama and Megiddo impressions and it is therefore thought that the seals were made of wood.⁹ Our seal would have been closer in size to the Hama examples while the squared-off shapes and the presence of a human figure among the animals make it stylistically closer to the Hama seals. A date in the second half of the Early Bronze Age is therefore probable and the present writer would favour an EB III rather than an EB IV date.

TELL CHAIR

Fragmentary cylinder seal impression diagonally just below the rim (diam. c. 27 cm) of a large jar of hard, light brown, hand-made ware with a pale grey core and white grits.

The impression was made by a seal which was 1.1 cm in height. A horizontal line ran round one end of the seal and another groove ran round

the middle of it and formed the central stem of a herring-bone design.

Horizontal and vertical chevron designs are a common motif on EB I cylinder seals, particularly in northern and eastern Mesopotamia, Syria and Palestine.¹ On larger seals they are combined with concentric circles but in view of its size, this is unlikely to have been the case with our seal. The presence of a central stem is a somewhat unusual feature and so is the fact that there is a line border round only one end of the seal. It is possible that our seal originally resembled ones from Khafajah² and Tell Brak³ which have a line border round each end, two grooves running round the seal and an additional row of diagonal hatching forming a zig-zag pattern. If the seals had broken cleanly along one of these grooves, the larger of the resulting pieces would produce an impression which would be identical in all respects to ours. In view of the fact that both the Khafajah and the Brak seals were made of composition (frit), and other seals of this type are often made of bone,⁴ such a break could easily have occurred in the case of our seal.

NOTES

Tell Aar

The present writer has included a list of these, which does not claim to be exhaustive, in a review of P. Amiet's *Glyptique susienne* in AfO 26 (1978), pp. 106-107. Recent excavations in the Hamrin area of Iraq have produced evidence for the use of seals on pottery—particularly the rims—in that area, perhaps due to trade relations with Syria. These impressions would date to the Early Dynastic period. See J. N. Postgate's report in Iraq 41 (1979), pp. 160, 172, 176.

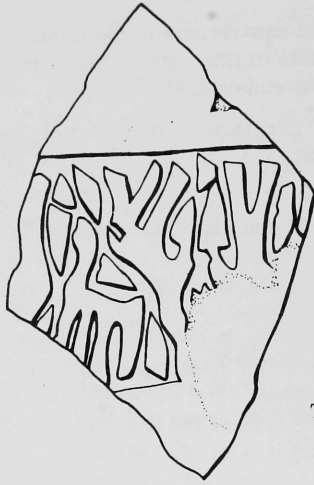
2. M. Dunand, Byblos I, Paris 1937, pl. CXXXIII, esp. Nos. 3232 and 4512; id., Byblos II, Paris 1950, pls. CXCIV and CXCVI.
3. O. E. Ravn, A Catalogue of oriental cylinder seals and impressions in the Danish National Museum, Copenhagen 1960, nos. 119 and 121.
4. Amnon Ben-Tor, Cylinder Seals of third-millennium Palestine (BASOR Suppl. Series No. 22, 1978), esp. pp. 9, 24-25, No. IIBa-2
5. Ravn, op. cit., No. 121; in the case of No. 119, the photograph is not clear enough.
6. Ben-Tor, op. cit., pp. 104-105.
7. Ibid., p. 69ff.
8. Ibid., p. 44.
9. Ibid., p. 39. An unprovenanced seal in a private collection is stylistically fairly close and is made of steatite. It is 3.6 cm high.

Tell Chair

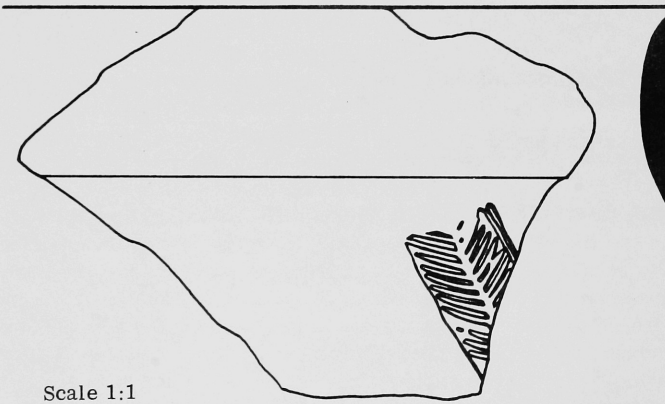
1. Amnon Ben-Tor, Cylinder Seals of third-millennium Palestine (BASOR Suppl. Series No. 22, 1978), Class I.
2. H. Frankfort, Stratified cylinder seals from the Diyala region (OIP LXXII), Chicago 1955, Nos. 328 and 357. Found in ED III contexts but dated to the Jemdet Nasr Period. It seems likely, however, that an ED III date is a

possibility since recent excavations in the Hamrin area of Iraq have produced numerous seals of this type in ED III contexts (J. N. Postgate, lecture in London in November 1979).

3. M. E. L. Mallowan, "Excavations at Brak and Chagar Bazar," in Iraq 9 (1947), p. 134, Pl. XXI, 7-8, No. B. 807 = BM 125797. Found in surface soil on site CH.
4. Ben-Tor, op. cit., p. 39 and esp. Nos. IA-1 to 3.



Tell Aar



Scale 1:1



Tell Chair

Fig. 259 Seal Impressions from Tell Chair and Tell Aar.

APPENDIX B

CEREAL REMAINS FROM TELL ILBOL AND TELL QARAMEL

Gordon Hillman

During his survey of sites in the Tell Rifa'at area of N. W. Syria, John Matthers sampled certain charcoal-rich deposits visible in exposed sections at two of the sites: Tell Ilbol and Tell Qaramel (see Matthers, 1978). From pottery recovered from the same or adjacent deposits, the remains can be tentatively referred to the Bronze Age or, in the case of the Tell Ilbol sample, possibly to the Chalcolithic or late Neolithic (John Matthers, pers. comm.). Despite the somewhat uncertain chronological association of these samples, however, the relative dearth of studies of prehistoric crop husbandry in this area clearly justified a brief examination.

Tel Qaramel

This sample of probable Bronze Age date consists of a remarkably pure hoard of over 200 large barley grains of the six-row, hulled type. There is absolutely no chaff present, whether awn, rachis or culm fragment, and there are no seeds of weeds other than just one of Coronilla cf. scorpioides (one of the Scorpion Vetches; Arabic Qurainah) which is a very common weed of arable throughout the Levant and Anatolia.

The barley grains are almost all well-formed, and this absence of tail-grain and all the other contaminants such as chaff fragments and weed seeds usual in partially cleaned grain suggests that the grain had been through the full sequence of threshing, winnowing and sifting (with both coarse- and fine-meshed sieves) as still applied in the processing of barley grain in agriculturally conservative parts of the Near East today (see Hillman, forthcoming a and b). Like sample 8A from Rifa'at, therefore, this sample consists of grain ready for—or taken from—bulk storage. However, the grain was clearly not yet ready for cooking as food as each grain is (or was at the time it was charred) still enveloped in its coarse husk. In general this husk would first have to be rubbed off, whether the grain was simply to be eaten roasted, broken up for groats or ground for flour. Dehulling could be achieved either by loose querning, by pounding in a stone mortar or by using the device consisting of a stone bowl and vertically twisted stone wheel which the Turks today call a seten or bulgur machine. As for how the grains became charred and thereby preserved archaeologically, the possibilities range from some small-scale accident to a wholesale destruction of the sort apparently visited on Iron Age Rifa'at.

Tell Ilbol

John Matthers tentatively assigns this rather remarkable sample to the Bronze Age, though a Chalcolithic or even Late Neolithic date cannot, apparently, be entirely ruled-out (Matthers, pers. comm.).

The composition of the sample from Ilbol is as follows:

<u>Triticum dicoccum</u> (domestic emmer wheat)	- grains	² ca. 9,800 ¹
	- spikelet forks	370
<u>Triticum boeoticum</u> (wild or weedy einkorn wheat)	- grains	² ca. 220
	- spikelet forks	ca. 25
<u>Hordeum</u> cf. <u>hexasticum</u> (domestic, 6-row hulled barley)	- assymetric grains	18
	- symmetrical grains	5
	- unreferable grains	25
<u>Cephalaria syriaca</u> (Syrian Scabious)	- seeds	13

Two features of this sample make it very unusual: firstly, almost all the wheat grain is highly fragmented and survives only as small, angular crumbs; secondly, those few grains that have survived intact are all remarkably small (4.6 mm long x 1.8 mm broad by 1.7 mm high),³ certainly much smaller than the grain of any present-day wheat, present-day emmers included. Indeed the only wheat of similarly diminutive size which I have encountered hitherto is the tiny-grained form of bread wheat (Triticum aestivum) recovered from the Phrygian destruction levels at Gordion in Anatolia (Hillman, unpublished report).

Contaminants. The most conspicuous contaminant of the grain is, not surprisingly, chaff from the emmer crop itself. The relatively few barley grains can, most probably, be attributed to stray barley plants of the sort which invariably find their way into any wheat crop. As for the grain and chaff from wild-type einkorn, this can safely be blamed on weed forms of einkorn infesting the emmer crop, just as they do the fields of emmer (and even free-threshing wheats) being cultivated in parts of Anatolia today.

Yet another apparent contaminant is Cephalaria syriaca, a cream-flowered relative of our British scabious and a noxious weed of cereals (wheat crops especially) in many parts of the Near East. It is perhaps appropriate, therefore, that it is specifically to this plant that the name Ziwan (=tare) is applied, and this not only by Arabic speakers in Syria and Iraq (Guest, 1933) but also amongst Kurdish and Turkish speakers in S. E. Anatolia.⁴ The farmers have often told me that even five of the bitter seeds of Ziwan are enough to ruin a loaf of bread or bowl of bulgur, though to my palate this is something of an exaggeration. Oddly enough, a large-seeded form of this plant was (and perhaps still is) occasionally grown in Anatolia as a crop though, in this case, always under the name Pelemir. The oil pressed from the harvested seeds was apparently used specifically for rubbing into the hides of water-buffalo to prevent them cracking during the cold, dry Anatolian winters when it is clearly impossible for them to keep their hides moist by wallowing in water or mud (Zhukovskii 1922). At Tell Ilbol however, a more prosaic explanation must suffice, namely that the plant was no more than a weed in the emmer crop.

Interpretation of the hoard. Surprisingly, perhaps, the fragmented Ilbol grain almost certainly represents prime grain which had already been through the

complete bulk-cleaning process and was ready for—or already in—bulk storage. The ratio of spikelet forks to grain (1:27) is well within the range usual in grain which has been bulk-cleaned with wheat sieves in the normal way but which has not yet been hand-sorted ready for preparation as food.⁵ The absence of all weed seeds other than a few seeds of Cephalaria also reinforces the view that this is cleaned prime grain: Cephalaria syrica is one of the relatively few weeds that produce seeds closely matching the size and proportions of wheat grains such that they cannot be removed by sifting, and it is appropriate that, in this hoard of small-grained wheat, we find correspondingly small-seeded Cephalaria.⁶

It is perhaps worth adding that, traditionally, the only way in which seeds of Cephalaria can be removed from wheat grain is to sort through the grain by hand, and it is specifically to remove contaminants of this kind that most Near Eastern households still hand-sort their grain prior to grinding it for flour or processing it as groats. Two other seed types in this category are corn-cockle—Agrostemma githago and Darnel—Lolium temulentum both of which are poisonous. That neither is present in this sample may perhaps be attributable to the fact that the width of these tiny wheat grains falls below the lower end of the range of seeds widths usually found in Near Eastern races of either corn-cockle or darnel.⁷ Both could therefore have been eliminated by coarse-sieving with meshes designed to barely allow the prime grain wheat to pass through.

Alternative explanations?

The fragmented state of the grains and their small size could, at first sight, be taken to suggest, in the first case, that we are dealing with a sample of groats or bulgur, or, in the second, that this sample represents mere cleaning-waste composed of tail grain and 'contaminants'. On closer inspection, however, neither explanation fits. (i) The preparation of groats or bulgur firstly involves removing the pericarp (bran) of the grain and then cracking it—either by pounding or loose milling. In these remains, not only is the pericarp still firmly attached to each charred fragment, but the fragments bear no signs of any crushing; all the cracking seems to have occurred since carbonisation and, indeed, is still continuing. (The slightest touch with a camel-hair brush proved sufficient to complete the fragmentation of some of the remaining intact grains, all of which are badly fissured.)

(ii) It is equally clear that this material cannot represent processing waste. The ratio of grain to chaff and weed-seeds is too high for any category of waste, and the small grain-size cannot convincingly be attributed to its being tail-grain: a slight deviation from normality (attributable to sieving) in the distribution of grain-sizes is apparent only at the lower end of the distribution of sizes and not at the top end as would generally be expected in tail grain.

When Tell Ilbol and Tell Qaramel are eventually excavated the excavators will almost certainly have no difficulty in recovering substantial quantities of plant remains from a wide range of site contexts—including the deposits sampled here. What our preliminary study hopefully suggests is that, recovered systematically, such material could well yield information sufficient

to fill many of the glaring gaps in our knowledge of the late prehistoric agriculture and domestic economy in this corner of the 'fertile crescent' and so throw some light on those day-to-day activities which doubtless occupied so much of the lives of the Bronze Age inhabitants of sites such as Ilbol and Qaramel.

NOTES

1. In view of their highly fragmented state, the total number of grains was estimated by weighing the mass of crumbled grain and dividing this figure by the average weight of a single grain. This average was, in turn, based on 25 intact grains.
2. 'Spikelet forks' are the small, fragments of chaff derived from the woody, basal part of each spikelet of the wheat ear.
3. Mean for 50 measured intact grains.
4. Alternative names in Turkish are Pelemir and Orun.
5. The sequence of major operations which are (or were until recently) generally applied to these archaic glume wheats are as follows: threshing, primary winnowings, coarse sifting of spikelets (2 steps), parching (not always), pounding, secondary winnowings and then coarse and fine sifting with grain sieves. (Further details in Hillman, forthcoming, a and b.) The grain is then transferred to bulk storage facilities of one sort or another. Hand-sorting is generally done in small batches as and when the grain is needed for further processing for food. During sifting, many of the intact spikelet forks (as distinct from separate glume-bases) stay with the prime grain simply by hooking over the strands of the sieve in which the prime grain is retained.
6. The use of wheat sieves with mesh-sizes closely matched to the small grain-size of this odd race of emmer will clearly have operated against any larger seeds of Cephalaria remaining in the cleaned grain. Whether or not all plants of Cephalaria infesting crop were small-seeded clearly depends, above all, on whether they succeeded in disseminating some of their seeds at (or prior to) harvesting. If they failed to do so, then sieving could clearly have selected for a race of Cephalaria with seeds as small as the grain of the crop—given minimal introgression or invasion from neighbouring populations.
7. This is true only when darnel seed becomes swollen following infection by the poisonous fungus Gloeotinia temulenta.

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APPENDIX C

THE BARLEYS FROM IRON AGE RIFA'AT

Gordon Hillman

During the excavations at Tell Rifa'at, 1956-64 Seton Williams recovered two samples of charred remains of cereals from the destruction level of an Iron Age House (West baulk: B23/214). These were samples made available for analysis, and although the samples are small, they are clearly of importance in view of the paucity of archaeological information on crop husbandry in N. W. Syria during the early historic times.

Sample '8A': This sample consists entirely of well-formed, prime grain of six-row hulled barley Hordeum vulgare. Although six-row hulled barley was cultivated widely in the Near East from the Aceramic Neolithic onwards, it seems to have achieved pre-eminence as the staple crop primarily during the Bronze Age, especially in areas such as Mesopotamia which were then arguably becoming marginal for wheat cultivation as a result of ever increasing soil salinisation (see Helbaek 1970), though soil salinity clearly cannot account for the over-riding importance of barley in, say, Bronze- and Iron-Age Greece.

The ample size of the grains and the purity of the hoard both suggest that we are here dealing with charred grain ready for—or taken from—bulk storage. Our reasoning here is outlined in the accompanying report below in respect of the similar (though much larger) sample of six-row barley from Tell Qaramel.

Sample '8B': This sample consists of a few grains of barley together with a range of contaminants which here include rachis fragments of the barley ears.¹ (See Table 1.) The better preserved of these rachis fragments indicate that, in this sample, we are dealing with the two-row form of barley Hordeum distichum, and this identification is reinforced by the fact that all the grains are of the symmetrical type. The lengths of the rachis internodes also tell us that this was the 'nutans' variety of two-row barley and would have had those graceful, loosely nodding ears that are today so characteristic of many of our European cultivars. As for other Levantine records of Hordeum distichum, examples of comparable antiquity to these from Rifa'at were found at Deir'Alla in N.W. Jordan in both Late Bronze Age and Iron Age Levels (van Zeist 1973).

In this second sample our few grains are perhaps small and scrawny enough to be regarded as tail grain.² (They average 5.2 mm long by 2.2 mm broad.) This fact, together with their association with a number of items commonly found today as contaminants of grain suggests that much if not all of this sample consists of one or more waste fractions separated from the prime grain (thereafter destined for storage) during cleaning. Most of the straw, awns and some rachises would normally be separated by winnowing; on the other hand, all the denser contaminants (including the remaining rachises,

Table 1 Charred plant remains in sample 8B from Rifa'at

<u>Hordeum distichum</u> var. <i>nutans</i> (lax-eared, 2-row hulled barley)		
	—rachis segments	6
	—symmetrical grains	22
<u>Triticum durum</u> (macaroni wheat)	—rachis segments	6
<u>Triticum</u> sp. (indeterminate wheat)	—awn fragments	1
	—(no wheat grain)	—
Indeterminate cereal (or large grass)	—culm nodes	9
	—culm internodes: many frags.	
<u>Phalaris</u> sp. (one of the canary grasses)	—seed	1
<u>Galium</u> or <u>Rubia</u> sp. (a goosegrass)	—seed	1 frag.
<u>Chenopodium</u> sp. (one of the goosefoots)	—seed	2

straw nodes and most weed seeds) were probably separated from the prime grain by sifting with one or more grades of 'gut' sieve—perhaps not unlike those sieves we find in use in traditional agricultural settlements in parts of the Near East today. Such amalgamated 'waste' fractions from the processing of barley grain would, in more recent times at least, generally be used for (a) tempering mud bricks and daub, (b) for fuel or (c) possibly as fodder, though with barley chaff, the sharp pieces of awn can cause choking, and the waste fractions from robust-awned forms of barley are therefore less suitable for fodder than the equivalent waste fractions from wheat, oats or rye, even though barley straw itself is nutritionally superior to the straw of wheat. But as for which of these three every-day domestic activities is represented by this second sample from the Iron Age destruction, we shall never know.

The two samples from Rifa'at differ, therefore, not only in coming from entirely different types of barley crop, but also in the agricultural product that they represent: the first sample consisted of cleaned grain ready for further preparation as food; the second appears to be a mixture of 'waste' fractions or, rather, the by-products of grain-cleaning.

The presence of rachis remains of macaroni wheat—Triticum durum in sample 8B should not go unmentioned. This wheat can be identified with certainty only from rachis remains and, even then, only when they come from extreme forms distinctly different from any of the bread wheats Triticum aestivum s.l. Secure identifications of charred remains of T. durum are therefore very rare³ and we know correspondingly little of the history of the cultivation of this wheat, this despite its present-day importance as a crop both relatively tolerant of arid conditions and (in some varieties) capable of an excellent response to even occasional irrigation. These T. durum specimens from Rifa'at are therefore of considerable interest and the remains will be illustrated in a later publication.

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NOTES

1. In a cereal ear the 'rachis' is the central axis to which all the grain and chaff is attached.
2. 'Tail grains' are the small, often malformed, grains that fall through the mesh of the finer grain-sieves along with the smaller weed seeds and some chaff fractions. (For a fuller explanation, see Hillman, forthcoming.)
3. So far, the only earlier record of T. durum comes from the Later Aceramic Neolithic levels at Can Hasan III (see Hillman, 1978, footnote 12), though Helbaek (1961) suspected the presence of grains of the closely related T. turgidum (rivit wheat) in Late Bronze Age samples from Beycesultan, and Hopf (1970) suspected that certain of the grains present in Neolithic deposits at Nerja in Spain could also be T. turgidum.

