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BAKING TRAYS IN THE SECOND MILLENNIUM BCE LEVANT AND EGYPT: FORM, FUNCTION AND CULTURAL SIGNIFICANCE

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Résumé – Cette étude présente un type de récipients de l'âge du Bronze moyen et récent au Levant : un plateau fait à la main à fond épais et à bords courts, d'habitude identifié comme une plaque de four. Bien que reconnu comme un type distinct, cet élément n'a jamais été discuté en détail. Dans la plupart des rapports de fouilles, les exemples de ce type sont datés du Bronze moyen et présentés de face, à l'endroit ou à l'envers, de sorte que les bords en soient visibles. Cet article propose d'étudier la typologie, la fonction, la distribution géographique, la chronologie et l'origine de ces objets et d'analyser leur proximité avec les récipients semblables trouvés en Égypte et d'en tirer des conclusions sur cette proximité entre l'Égypte et le Levant à l'âge du Bronze moyen.

Mots-clés – Égypte, Cananéens, pain, cuisson, Moyen Empire, Deuxième période intermédiaire

Abstract – This study discusses a vessel type from the Middle and Late Bronze Age Levant — a flat handmade tray with thick bottom and low sidewalls — that is usually identified as baking tray. Although it was recognized as a distinct type, it was almost never discussed in a detailed manner. In most excavation reports, the examples of this type are described as being characteristic of MBA, and they are published with the rim facing either up or down. This paper presents an overview of the typology, geographical distribution, chronology, origin and function of these vessels. In addition, the Egyptian vessels of related shapes and possibly similar function are discussed, and the bearing of these parallels on the connections between Egypt and the Levant during the MBA is studied.

Keywords – Egypt, Canaanites, Bread, Firing, Middle Kingdom, Seconde Intermediate Period

ملخص – تقدم هذه الدراسة نوعاً من الأواني العائدة لعصري البرونز الوسيط والحديث في منطقة المشرق: طبق أو صينية مصنوعة يدوياً ذات قعر سميك وحواف قصيرة. محددة عادة كصينية فرن. وبالرغم من كونه معروفاً كنوع مميز. لم يتم مناقشة هذا العنصر أبداً بالتفصيل. في معظم تقارير الحفريات، تُرُخ الأمثلة من هذا النوع من البرونز الوسيط وتقدم من وجهها الأمامي. واقفة أو مقلوبة رأساً على عقب. بحيث تكون الحواف فيها مرئية. تقترح هذه المقالة دراسة شكل. وظيفة. التوزيع الجغرافي. التسلسل التاريخي وأصل هذه القطع. و تحليل قريباها من أوانٍ ماثلة وجدت في مصر. واستخلاص نتائج حول هذا التقارب بين مصر والمشرق في العصر البرونزي الوسيط.

كلمات محورية – مصر. كنعانيون. خبز. طهي. المملكة الوسطى. المرحلة الانتقالية الثانية *

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BAKING TRAYS FROM THE LEVANT

Typology, Chronology and Distribution

These objects are handmade platter- or tray-like ceramic vessels with short rim and slightly convex or, more commonly, flat bottom (fig. 1-2, 4:10-12).

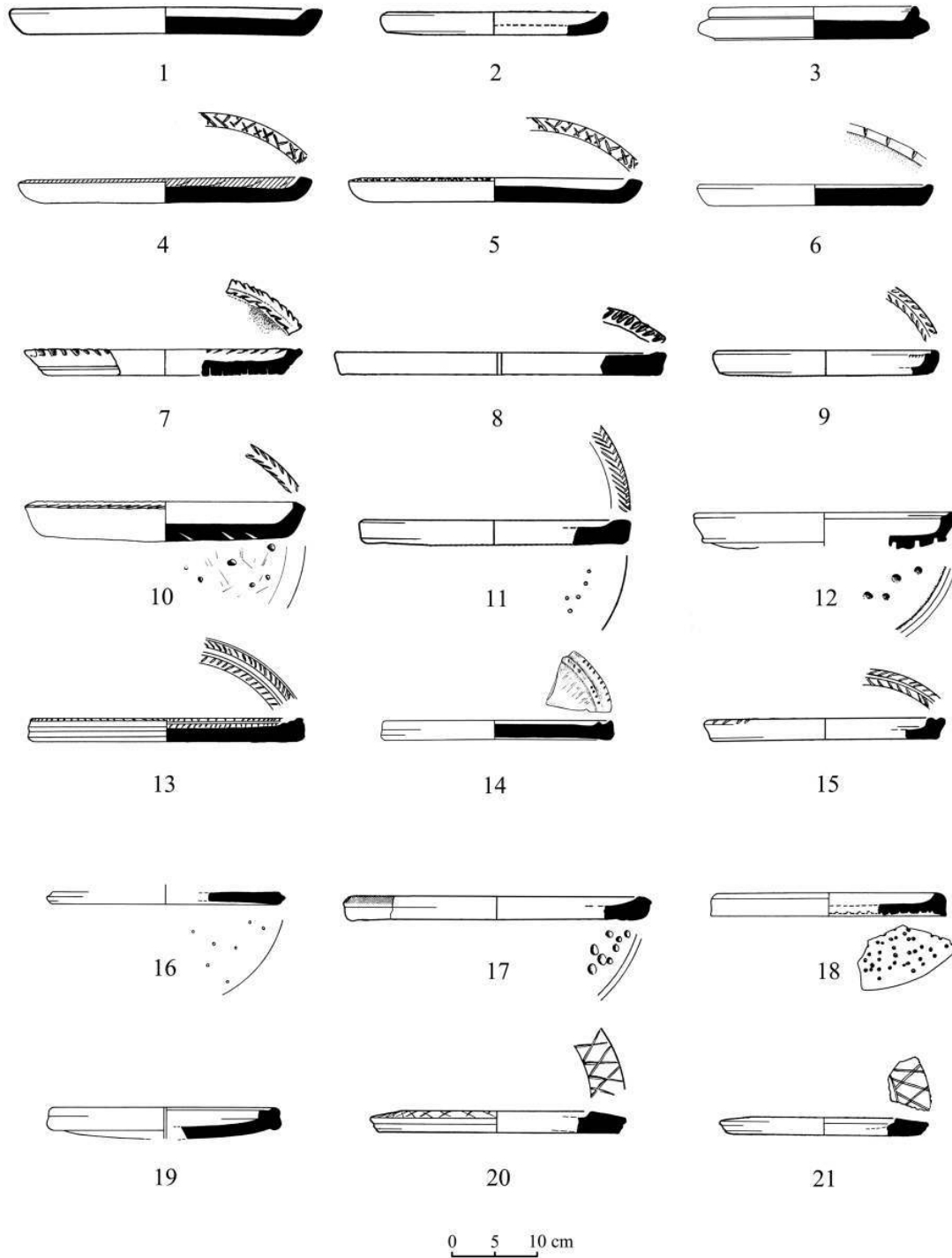


Figure 1. Baking trays from southern Levant.

Their diameter usually ranges between 25 and 40 cm, their well-fired fabric is coarse and has numerous inclusions, and most of them are made of cooking fabric. Their rims are commonly flat or ridged and have incised linear decorations in various patterns: short parallel lines, crosses, zigzags and chevrons (fig. 1:4-11, 13-15, 20-21; 2:4-9, 13-19).

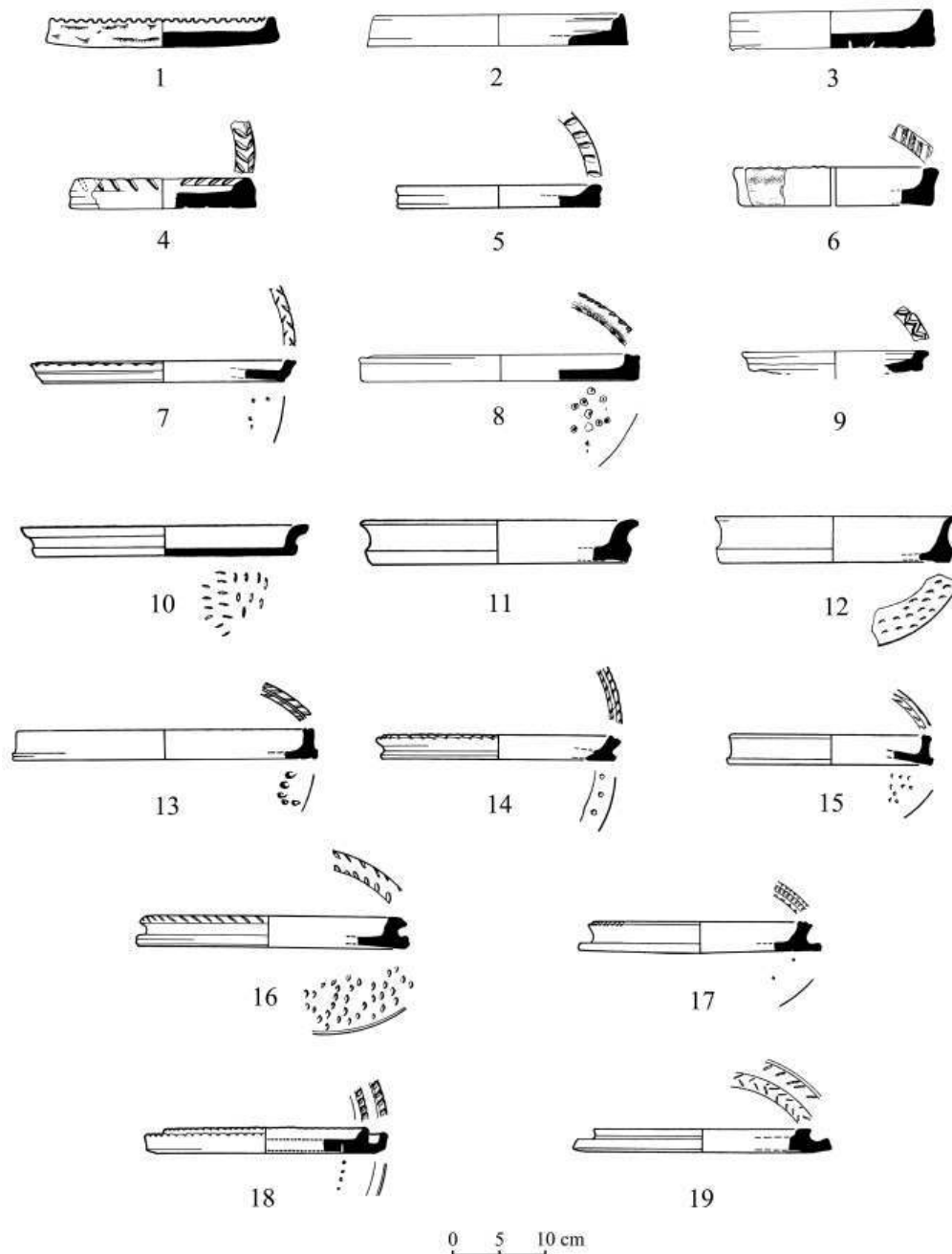


Figure 2. Baking trays from southern Levant (continuation).

Numerous examples have elaborately molded rims, with several ridges and grooves (e.g., fig. 1:3, 19; 4:10-11), while others have a very short and indistinct rim (e.g., fig. 1:6, 8). Some examples of baking trays have what can be described as a “double” rim: a main one, which is vertical and decorated

with incisions, and an extension that continues horizontally from the base of the tray, beyond the vertical rim (**fig. 2:16-19**). It is possible that this extension was designed to facilitate the gripping of the vessel ¹. Most examples of baking trays have shallow rounded incisions on the convex (bottom) side (e.g., **fig. 1:7, 10, 12, 16-18**). The concave (inner/upper) side is frequently burnished or smoothed (**fig. 1:1, 4, 10, 13, 16; 2:1**), while the opposite side is always left unsmoothed.

Selected examples of baking trays from the southern Levant (from Hazor, Achziv, Megiddo, Beth-Shean, Shiloh, Aphek, Gezer, Ashdod and Lachish) are illustrated in figure 1-2 ² (**table 1**).

Figure	Site, context, and period	Reference
1:1	Hazor Stratum 1B (LB II)	after Yadin <i>et al.</i> 1960, pl. CXXIII:15
1:2	Hazor Stratum 1A (LB II)	after Yadin <i>et al.</i> 1961, pl. CCLXXXI:19
1:3	Shiloh Stratum VI (LB I-IIA)	after Bunimovitz & Finkelstein 1993, fig. 6.37:13
1:4	Megiddo Stratum IX-VIII (LB IB-IIA)	after Loud 1948, pl. 61:22
1:5	Megiddo Stratum IX-VIII (LB IB-IIA)	after Loud 1948, pl. 53:21
1:6	Tel Beth-Shean Stratum R-1a (LB IIA)	after Mullins 2007, pl. 76:9
1:7	Tel Beth-Shean Stratum R-3 (MB IIB)	after Maeir 2007, pl. 35:4
1:8	Aphek Stratum X12 (LB IIB)	after Gadot 2009, fig. 8.51:6
1:9	Hazor Stratum 3 (MB IIB)	after Yadin <i>et al.</i> 1960, pl. CXV:16
1:10	Aphek Stratum B Vd (MB IIA)	after Beck 2000a, fig. 8.11:6
1:11	Hazor Stratum 1B (LB II)	after Yadin <i>et al.</i> 1960, pl. CXXIII:14
1:12	Gezer Trench 4168 (MB II)	after Dever <i>et al.</i> 1974, pl. 17:7
1:13	Megiddo Stratum IX (LB I)	after Loud 1948, pl. 53:22
1:14	Hazor Stratum XVIIB (MB IIB)	after Garfinkel & Greenberg 1997, fig. III.7:19
1:15	Hazor Locus 3268 in Area B (LB II)	after Yadin <i>et al.</i> 1961, pl. CC:7
1:16	Lachish Level P-2 (LB IIB)	after Clamer 2004, fig. 20.4:18
1:17	Hazor Locus 3322 (mixed EB-MB)	after Yadin <i>et al.</i> 1961, pl. CXC VII:5
1:18	Gezer Stratum XIV (LB IIB)	after Dever 1986, pl. 16:23
1:19	Gezer Trench 4168 (MB IIA-B)	after Dever <i>et al.</i> 1974, pl. 16:16
1:20	Hazor Stratum 3 (MB IIB)	after Yadin <i>et al.</i> 1960, pl. CXV:15
1:21	Achziv fill of the glacis (MB II)	after Oren 1975, fig. 4:84
2:1	Tel Beth-Shean Stratum R-3 (MB IIB)	after Maeir 2007, pl. 31:5
2:2	Hazor local Stratum 8 (LB)	after Bonfil 1997, fig. II.29:1
2:3	Ashdod Stratum XX (LB I)	after Dothan & Porath 1993, fig. 5:8
2:4	Ashdod Stratum XVII (LB II)	after Dothan & Porath 1993, fig. 8:24
2:5	Hazor Stratum 5 (MB IIB)	after Yadin <i>et al.</i> 1958, pl. CXXVII:16
2:6	Hazor Stratum XVI (MB IIB)	after Garfinkel & Greenberg 1997, fig. III.13:2
2:7	Hazor Stratum 3 (MB IIB)	after Yadin <i>et al.</i> 1960, pl. CXV:19
2:8	Aphek Stratum A XIVa (MB IIA)	after Beck 2000b, fig. 10.13:17

1. This device somewhat resembles flat horizontal tab-like handles that extend sideways from the flat base of the Early Minoan “frying pans” (BETANCOURT 2008, p. 37, fig. 4.2 top right).

2. Some miscellaneous Middle-Late Bronze Age flat-bottomed vessels of unique shapes (e.g., YADIN *et al.* 1960, pl. CX:24; 1961, pl. CCXXXIX:25; CCLX:13; SMITH 1973, pl. 39:806; KENYON & HOLLAND 1982, fig. 147:7-10) may have been also used for bread baking, although YASUR-LANDAU (2012, p. 57) quite plausibly defined them as cooking dishes. These rare vessels with relatively high sidewalls somewhat resemble MBA handmade cooking pots with straight walls and plastic decoration (see below), and are very different from the baking trays discussed in the present study.

2:9	Ashdod Stratum XX (LB I)	after Dothan & Porath 1993, fig. 5:10
2:10	Hazor Stratum 3 (LB I)	after Yadin <i>et al.</i> 1961, pl. CCXCVI:18
2:11	Hazor Cistern 7021 in Area E (LB I)	after Yadin <i>et al.</i> 1958, pl. CXLII:9
2:12	Hazor Locus R 15 (mixed MB II-LB)	after Yadin <i>et al.</i> 1958, pl. XCVIII:23
2:13	Hazor local Stratum 10 in Area BA (LB)	after Yadin <i>et al.</i> 1961, pl. CCXXXVII:16
2:14	Hazor Stratum 3 (MB IIB)	after Yadin <i>et al.</i> 1960, pl. CXV:18
2:15	Hazor Stratum 1A (LB II)	after Yadin <i>et al.</i> 1960, pl. CXXIV:22
2:16	Hazor Stratum 1 (LB II)	after Yadin <i>et al.</i> 1960, pl. CXLVI:14
2:17	Hazor Stratum 1 (LB II)	after Yadin <i>et al.</i> 1960, pl. CXLVI:15
2:18	Hazor Stratum 1A-B (LB II)	after Yadin <i>et al.</i> 1960, pl. CXXV:14
2:19	Hazor Stratum 1B (LB II)	after Yadin <i>et al.</i> 1961, pl. CCXCVIII:3

Origin and reference of Baking trays cited in figures 1 and 2.

Almost every settlement site in this region yielded at least one vessel of this type³. In Syria and Lebanon these vessels were found, for example, in MBA contexts at Ebla⁴, Hama (**fig. 4:10–11**) and Tell Arqa (**fig. 4:12**)⁵, and in LBA Ugarit, Tell Mishrifeh/Qatna, Byblos, Sarepta, and Kamid el-Loz⁶. Some baking trays with short upright rim and bearing reed impressions on the bottom were found in the 12th cent. BCE settlement of Ras Ibn Hani, constructed above the remains of the monumental LBA palace of the kings of Ugarit⁷. Single examples of baking trays were reported from the Hurrian settlements of Nuzi and Tell Brak in northern Mesopotamia⁸. Rounded bread molds or baking trays with elaborate interior designs attested in that region probably belong to a different tradition unrelated to Levantine baking trays⁹.

In the Levant, baking trays are known from all phases of Middle and Late Bronze Ages. The find of a complete baking tray at Aphek Stratum BVd demonstrates that these vessels were used already in the early phases of MBA¹⁰. The question of the continuation of these baking trays into the Iron Age depends on the way this type is defined. According to the above definition, the Iron Age dome-shaped baking trays (**fig. 3**)¹¹ represent a slightly different phenomenon from the vessels discussed here, as the two types have different shapes (see also below)¹².

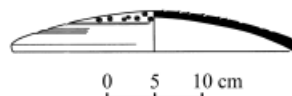


Figure 3. Iron Age dome-shaped baking tray from Megiddo, after ARIE 2006, fig. 13.51:8.

3. ASTON 2004, p. 170-71; MAEIR 2007a, p. 263; MULLINS 2007, p. 421, n. 46.

4. PEYRONEL & SPREAFICO 2008, p. 214-216.

5. For Tell Arqa, see also THALMANN 2006, pl. 105:7-8, 10-11.

6. See, respectively, MONCHAMBERT 2004, fig. 47; AL-MAQDISSI & BADAWI 2002, fig. 34:38; SALLES 1980, p. 40-41, pl. 18:7-8; ANDERSON 1988, p. 227-228, pl. 24:17; METZGER 1993, pl. 143:2; ADLER & PENNER 2001, pl. 64:6.

7. DU PIÉD 2011, p. 221, fig. 5D.

8. See, respectively, STARR 1937, p. 404, pl. 93:B; OATES *et al.* 1997, p. 76, fig. 115, cat. no. 654.

9. For ex. of Mesopotamian baking trays with incised designs on their interior, see PARROT 1959, p. 33-57 (from Mari); POSTGATE *et al.* 1997, pl. 99:1194 (from Tell al Rimah).

10. BECK 2000, fig. 8.11:6. YADIN 2009a, p. 10, tabl. 2.1, dated Aphek Stratum BVd to the early phase of MBA IIA.

11. ESHEL 1995, p. 44; HARRISON 2004, p. 40, (both with further ref.).

12. For a different view, see ANDERSON 1988, p. 227. Published ex. of dome-shaped baking trays found in pre-Iron Age contexts come from Tel Dan Stratum VIII (BEN-DOV 2011, fig. 178:25), Hazor Strata XIV–XIII (YADIN *et al.* 1961, pl. CLX:21) and Aphek Stratum X16 (YADIN 2009b, fig. 7.16:12), demonstrating that the two types overlap chronologically.

Origins

As far as the origin of this vessel type is concerned, the natural initial assumption might be that Middle–Late Bronze Age baking trays represent a development of the platter form, which is well-known in the local Levantine ceramic repertoire of the EBA. Platters from the EBA II–III are large flat vessels, frequently with red-slipped and burnished upper surface. These vessels, made of non-cooking ware, were used for serving food rather than for baking. However, an undecorated coarse-ware variant of these platters, which appears in small numbers in the EBA III C Yarmuth, might possibly be a predecessor of the MBA baking trays¹³. These vessels are described as “large coarse platters, with a diameter between 60 and 80 cm, a very thick wall and a coarse finish, usually with a lime wash,”¹⁴ but their precise function — food serving, baking or other— is unknown.

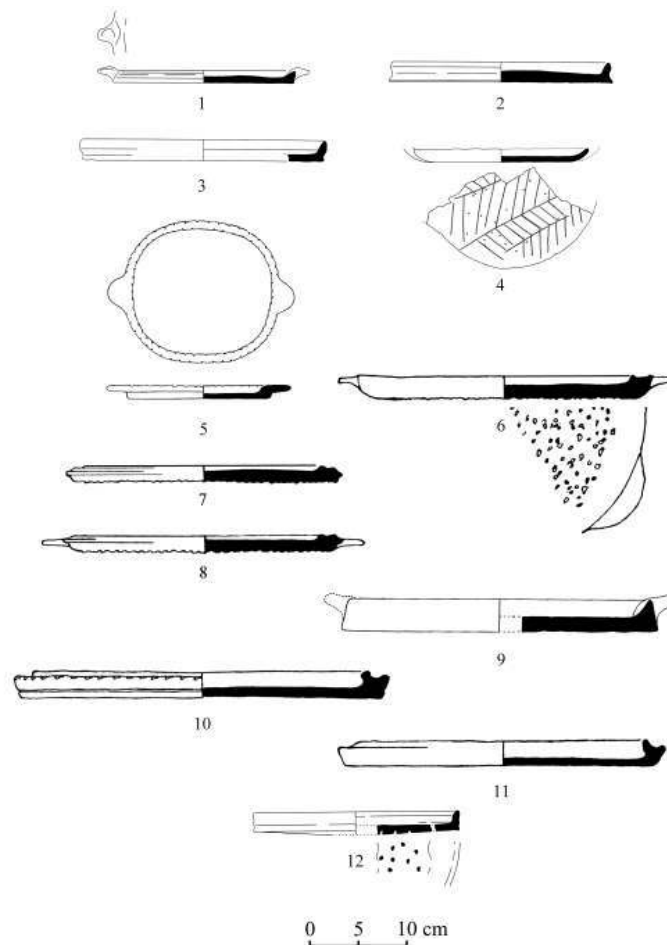


Figure 4. Baking trays and “cooking plates” from northern Levant and Mesopotamia. 1. Tell Arqa, after THALMANN 2006, pl. 78:8; 2. Tell Arqa, after THALMANN 2006, pl. 78:9; 3. Tell Arqa, after THALMANN 2006, pl. 78:10; 4. Tell Sukas, after OLDENBURG 1991, fig. 51:11; 5. Ugarit, after SHAEFFER 1949, pl. 101:32; 6. Hama, after FUGMANN 1958, fig. 75:3 H 917; 7. Hama, after FUGMANN 1958, fig. 85:3 E 980; 8. Hama, after FUGMANN 1958, fig. 93:3 D 394; 9. Tell al Rimah, after POSTGATE *et al.* 1997, fig. 46:283; 10. Hama, after FUGMANN 1958, fig. 120:2 C 936; 11. Hama, after FUGMANN 1958, fig. 120:2 C 941; 12. Tell Arqa, after THALMANN 2006, pl. 105:9.

13. MIROSCHEJLI 2000, fig. 18.8:14.

14. MIROSCHEJLI 2000, p. 322.

More pertinent data concerning the predecessors of Middle–Late Bronze Age baking trays comes from northern Lebanon, Syria and northern Mesopotamia. Numerous examples of large flat trays with short sidewalls were found at Tell Arqa (in the ‘Akkar Plain of northern Lebanon), in phases P and N that are dated to the EBA IV/MBA I and to the beginning of the MBA II respectively (fig. 4:1–3). One of these trays has short lug handles (fig. 4:1).

These vessels, termed “cooking plates” and made of cooking fabric, are usually 30–40 cm in diameter and their concave (inner) side is burnished. In Phase M at Tell Arqa, dated to MBA II, both vessel types — “cooking plates” and baking trays — appear simultaneously (for a baking tray from this phase see fig. 4:12)¹⁵. The term “cooking plates” is used in the present study to distinguish these vessels from Middle–Late Bronze Age baking trays with notched bottom and incised rim.

Additional evidence for “cooking plates” comes from several other Syrian sites. One such vessel was reported from the EBA IV/MBA I al-Rawda in inner Syria¹⁶, and another, with oval rather than rounded body and incised rim, was found in Ugarit, reportedly in an MBA II context (fig. 4:5). Yet another such vessel, from Tell Sukas in the Jableh Plain on the Syrian Coast, has the body and rim shape that is usual for this type, but its bottom is covered with incised lines that form a herringbone pattern, as well as with small and irregularly placed circular incisions (fig. 4:4). This vessel, found in EBA III context, bears some resemblance to Iron Age baking trays mentioned above (fig. 3), and might belong to the same general family of Syrian “cooking plates”, perhaps reflecting a stage of potters’ experimentation during the period when well-defined “cooking plate” and baking tray types were crystallizing.

Baking trays of various types were found in Hama on the Orontes River, in north-western Syria. Unfortunately, the significance of this material is somewhat limited as the final report virtually lacks ceramic descriptions, and since the finds are grouped into levels primarily according to typological criteria (rather than stratigraphic ones)¹⁷. Recent reassessments of the site’s stratigraphy have established that Hama Levels J6–J1 date to the EBA IV/MBA I, while Levels H5–H3 belong to MBA IIA¹⁸. The evidence from Hama, problematic as it is, makes it possible to formulate a hypothesis concerning the origin of Levantine baking trays. Three tray-like vessels with molded rim and notched base, two of which also have lug handles, were published from Hama Levels J5–J3 (fig. 4:6–8). Their handles are similar to those of “cooking plates”, but other characteristics, first and foremost notched bottoms, identify these vessels as baking trays. In fact, these vessels can be defined as typological predecessors of Middle–Late Bronze Age baking trays. In Hama itself, two examples of what seem to be baking trays were published from the MBA IIA Level H3 (fig. 4:10–11, note the notched rim of the second example)¹⁹.

It can be concluded that baking trays emerged in the northern Levant, and from there diffused to the southern part of this region. Syrian “cooking plates”, and particularly notched trays from Hama, represent direct predecessors of this type. “Cooking plates”, apart from their undecorated rim and unperforated bottom, are quite similar to baking trays discussed here, and the vessels from Hama show even closer resemblance to them. Although more information is needed in order to verify this hypothesis, the available information seems to indicate that MBA Levantine baking trays indeed evolved in EBA IV/MBA I Syria.

If baking trays indeed emerged in Syria in EBA IV/MBA I and spread to the southern Levant by MBA IIA, then they could be seen as part of a wider phenomenon of northern features in the material

15. For additional illustrations see THALMANN 2006, pl. 78:5–7 (Phase P); 80:1–4 (Phase N); 105:7–12 (Phase M); and see also EMERY *et al.* 2008, p. 316.

16. CASTEL *et al.* 2004, p. 74, fig. 20:RW1.2040.24.

17. FUGMANN 1958; NIGRO 2007, p. 369, n. 21.

18. NIGRO 2000; 2002; 2007, see also a chronological chart in BUNIMOVITZ & GREENBERG 2004, p. 23, tabl. 1.

19. In northern Mesopotamia, “cooking plates” appeared later than in Syria, and, therefore, seem to represent Syrian influence. One example of these vessels comes from early Hurrian Tell Brak (16th cent. BCE), and another comes from what appears to be a mixed Middle/Late Assyrian context at Tell al Rimah (fig. 4:9; this same site also yielded one “cooking plate” without handles, from a Hurrian-period context, 16th–15th cent. BCE). See, respectively, OATES *et al.* 1997, fig. 214:653; POSTGATE *et al.* 1997, fig. 46:284.

culture of MBA IIA Israel and neighboring regions. These features, many of which are already attested in the early phases of MBA II, include gates and earthenworks (ramparts and glacis)²⁰, plain and decorated pottery²¹, metals²², and perhaps also the use of bone beverage strainers²³. The background for these changes and innovations is a moot point, which is outside the scope of the present study²⁴.

Status and Function

In the entire Levant the relative amount of baking trays at any site is very small. Quantitative data on these vessels from the relevant sites is almost totally lacking, and therefore it is currently impossible to identify any temporal changes in their frequency during the 2nd millennium BCE. Due to the relative dearth of baking trays, they seem to have been used only for special occasions. For example, an intact baking tray, found leaning against the corner of the main hall of Fosse Temple I at Lachish (LBA I), was almost certainly used for the preparation of food offerings²⁵, and the same function is also possible for the vessels found near the Level IX temple at Tel Beth-Shean (**fig. 1:6**), as well as in the Area A temple at Hazor (**fig. 2:2**) and in the temple at Nahariyah²⁶. In everyday life, however, bread was baked mainly in bread ovens (*tabuns* and *tannurs*), in hot ashes, or on pre-heated flat stones or pebbles, without using any ceramic vessels; the same practice seems to be common during all archaeological periods²⁷.

Several examples of baking trays from Megiddo and Byblos were found in the exceptionally unusual context of burials²⁸. It seems that these objects represent the same phenomenon as ground stone tools (grinding stones, mortars, pestles, etc.) and ceramic mortaria bowls that are also occasionally found in tombs²⁹. All of these objects might have been used in the preparation of funerary meals to honor the dead or, alternatively, they might represent personal belongings of the deceased or objects that symbolize the person's occupation and social status³⁰. The custom of depositing bread-baking vessels in tombs is also known outside the Levant (for example, it is common in Egypt)³¹.

The vast majority of baking trays come from domestic contexts. However, in most cases, the findspots of these vessels do not contribute to clarification of their function. In this respect, the contextual data from MBA IIA Aphek (Stratum BV) is unique, as it provides important evidence for the way these vessels were used³². A complete baking tray (**fig. 1:10**) was found next to a stone hearth, which was

20. BURKE 2008.

21. COVELLO-PARAN 1996; ILAN 1996; NIGRO 2000; BAGH 2003; GREENBERG & EISENBERG 2006, p. 166-168; COHEN & BONFIL 2007, p. 81, 86, 91.

22. BEN-DOV 1996.

23. MAEIR 2007b.

24. In current research, features of northern origin in MBA IIA are usually seen as resulting from cultural influence and trade, as well as small-scale migration. For discussions of this issue see ILAN 1996; MAEIR 2007a, p. 141, 151.

25. TUFNELL *et al.* 1940, p. 39, pl. 54:338.

26. BEN-DOR 1950, fig. 44:1-2; 45.

27. AVITSUR 1976, p. 106; Zukerman in press b. A special status attested to baking trays is possibly supported by the provenance study of MBA pottery from Tel Beth-Shean. Numerous cooking pots sampled from this site were of local manufacture. However, the only baking tray sampled was made of a clay that is not local to the Beth-Shean Valley (MAEIR & YELLIN 2007, p. 559-560; MAEIR 2010, p. 108). Although inter-regional trade in simple cooking vessels is a well-known phenomenon (e.g., PAZ & ISERLIS 2009) it might appear that the importation of a vessel of such an uncommon type was made for a specific, perhaps high-level consumer, and not as a part of the regular trade network between the town of Beth-Shean and its neighbors.

28. GUY 1938, pl. 49:10; SALLES 1980, p. 40-41, pl. 18:7-8.

29. EBELING 2002; ZUKERMAN & BEN-SHLOMO 2011, p. 101, n. 6.

30. See EBELING 2002 and further ref. therein.

31. E.g., JACQUET-GORDON 1981, p. 12, n. 13.

32. The following chronological nomenclature for the sub-divisions of MBA II is used in the present study: MBA IIA (ca. 1920/1900-1700 BCE) and MBA IIB (ca. 1700-1590 BCE); see also chronological charts in BIETAK 2002b, fig. 2, 15; and in ASTON 2004, fig. 1.

surrounded by ash³³. The bottom surface of the hearth was constructed from a single flat rounded stone, which was approximately the same size as the baking tray. The hearth was partially surrounded by upright stones that created a raised rim around it. The baking tray was placed either on the rim of the hearth or directly on the hot coals inside it.

Current scholarship almost unanimously defines these Levantine vessels as trays used for baking flat bread³⁴, but there is no consensus concerning the exact way they were used. Some scholars think they were used with their concave side down, and are published accordingly³⁵, while others suggest they were placed above the source of heat with their concave side up³⁶. The location of use-related burn marks is one of the indicators of the location of the source of heat when these vessels were used. Unfortunately, this criterion is highly problematic for several reasons. First, the existence and location of burn marks (or of black organic residue) on the surface of most published examples of these vessels are not described in publications, making the utilization of this important information extremely difficult. The rare cases when the location of burn marks is recorded do not provide a clear-cut picture: the burn marks on some vessels are described as having burn marks on the concave (inner) side (from Ugarit, Sarepta, Tel Beth-Shean, and Tel Miqne-Ekron)³⁷, while in other cases burn marks are located on the underside (from Beth-Shemesh and Tell el-Dab'a)³⁸. Similarly, the above-mentioned dome-shaped baking trays with incised convex (top) side (**fig. 3**), typical at sites in Iron Age southern Levant, are also sometimes burned on the upper face and sometimes on the bottom³⁹. Second, it is possible that these vessels were multi-functional, being utilized, in addition to their primary function as baking trays, for roasting grains of barley, wheat or emmer, which was one of the simplest types of food in the Ancient Near East⁴⁰. The multi-functionality of food preparation vessels is exemplified by Hellenistic-period baking trays from Tel Dor, which are blackened on the interior⁴¹. Classical Greek vessels of this shape contained coals and were used as grill-holders⁴² and it is possible that some Hellenistic-period baking trays from southern Levant were used similarly. Multi-functionality of many ancient ceramic types is also confirmed by ethnographic studies of traditional Palestinian food-preparation methods, which included the use of common bowls, placed upside-down over a hearth, as baking trays⁴³. It should be additionally mentioned that black residue on baking vessels may result not only from the impact of fire or hot coals but also from charred or decomposed remains of bread, cakes, etc.⁴⁴. Thus, the evidence of soot marks on baking vessels for reconstructing their use should be approached with caution. Clearly, a thorough visual and chemical analysis of residues and soot marks on this type of vessels is needed.

The incised decoration on rims of baking trays may represent another indication of the way Levantine baking trays were used. It has been suggested that these incisions were made for the purpose of holding the baking trays firmly in place, implying that they were situated on a flat surface with the concave side down⁴⁵. The incisions, however, are too narrow and shallow to be useful for this purpose. Moreover,

33. GAL & KOCHAVI 2000, p. 75, fig. 7.24. Unfortunately, the exact position of the tray in relation to the hearth is not described in the publication.

34. See, for ex., DOTHAN & PORATH 1993, p. 29; BECK 2000, p. 116; MAEIR 2007a, p. 263; MULLINS 2007, p. 421.

35. E.g. YADIN *et al.* 1960, pl. 155: 13-21; DEVER *et al.* 1974, pl. 16:16; BECK 2000, fig. 8.11:6; BEN-AMI & LIVNEH 2005, fig. IV.10:10-11.

36. E.g. BUNIMOVITZ & FINKELSTEIN 1993, fig. 6.37-13; MAEIR 2007a, p. 263-264.

37. MONCHAMBERT 2004, p. 124, cat. no. 744; ANDERSON 1988, p. 227; MULLINS 2007, p. 421; ZUKERMAN *in press a*.

38. GRANT & WRIGHT 1938, pl. 32:17; ASTON 2004, p. 171, no. 669.

39. Compare, for ex., ESHEL 1995, pl. 13:3 to ARIE 2006, p. 218.

40. For roasted grains as a food in the ancient Near East see ELLISON 1984, p. 89; for classical Greek vessels used for this purposes ("parchers") see SPARKES 1962, p. 128; for ethnographic parallels from Ethiopia to roasting grains on flat pans see D'ANDREA & MITIKU 2002.

41. GUZ-ZILBERSTEIN 1995, p. 300.

42. SPARKES 1962, p. 129, pl. V:5 bottom.

43. DALMAN 1935, p. 39-51.

44. See, for ex., a soot mark on a tray from Tel Beth-Shean, MULLINS 2007, p. 421, photo 5.32.

45. BEN-AMI & LIVNEH 2005, p. 280-282.

their rim is frequently slanted or pointed, and thus poorly suitable for “anchoring” them to a surface (e.g., **fig. 1:13-15, 20-21**). In any case, it seems that when put on (or inside) a hearth, such as the one from Aphek described above, these heavy vessels needed no special devices to anchor them.

It is suggested here that these vessels were normally placed on hearths with the notched side down and the concave side up. If the edges of the dough were spread over the rim and pressed into the incisions, a raised decorative pattern would emerge on the edges of a bread loaf when taken out of the tray and turned over. In fact, the smooth burnished interior of these vessels would make the baked bread quite pliable for removal by simply turning them over and lifting⁴⁶. If stuffed bread or cakes were baked, their edges had to be pinched together or pressed against a flat or molded surface, and thus peculiar rims of baking trays would then be very useful from both functional and aesthetic viewpoints. The incisions on the interior of the Egyptian bread molds (see below), as well as of the above-mentioned 2nd millennium BCE Mesopotamian baking trays with incised interior, most probably had the same function⁴⁷.

Yet, this interpretation fails to explain all the features of these vessels sufficiently. This is because the notched convex surface of the Iron Age baking trays (**fig. 3**) was certainly facing up, and the notches on both Bronze and Iron Age baking trays must have had the same function. It seems, therefore, that the notched bottom surface of the flat Bronze Age baking trays was, at least occasionally, also used for baking. As suggested by Hunt⁴⁸, the function of notches on the Iron Age dome-shaped baking trays was to hold the dough in place on the convex surface of the vessel, and the same functionality can be assumed for the notches on Middle-Late Bronze Age baking trays as well. Since many Bronze Age baking trays had no notches (**fig. 1:1-6, 13-14, 19; 2:1**), it would appear that this feature was not essential to the function of these vessels (in contrast to their Iron Age dome-shaped counterparts). As such, it may be concluded that Bronze Age trays were versatile multi-functional vessels which were used mainly for baking thick bread or cakes on their concave sides, and, occasionally, also for baking thin pita-like bread on their notched (bottom) sides. It is possible that these two types of bread were made of different kinds of dough: the dough placed on the burnished upper side had a propensity to stick to the surface, while dough that was placed on the notched surface tended to slide easily off the vessel’s surface.

BREAD BAKING VESSELS FROM EGYPT AND CANAAN: POSSIBLE CONNECTIONS AND IMPLICATIONS

A long tradition of utilizing ceramic vessel for baking bread existed in Egypt. From the Old Kingdom through the Second Intermediate Period and later these vessels are either bowl-shaped or have elongated conical body⁴⁹. Due to their similarity to vessels depicted in scenes of bread baking as well as to their archaeological association with ovens and charred material, these vessels are unanimously defined as bread molds⁵⁰. In addition, three types of flat-bottomed platters are thought to have been used as baking trays or bread molds, and it is these vessels that exhibit varying degrees of resemblance to the Canaanite baking trays discussed above⁵¹.

46. Burnished or polished interior (upper) surface is typical of baking vessels and frying pans from various periods and cultures. It appears, for example, on certain types of Minoan cooking trays (BETANCOURT 1980, p. 8), on Lydian-period baking trays from Anatolia (GREENEWALT *et al.* 1990, 148), and of Hellenistic-period frying pans from southern Levant (e.g., GUZ-ZILBERSTEIN 1995, p. 300, type FP 1). Traditional griddles produced in Ethiopia also have a highly polished upper surface in order to prevent the bread from sticking to it (LYONS & D’ANDREA 2003, p. 517-518). Smoothed interior is typical of various types of Egyptian bread molds as well (e.g., JACQUET-GORDON 1981, p. 11, n. 4; VERECKEN *et al.* 2009, p. 198-199, and see also below).

47. For a discussion of function of elaborate Mesopotamian baking trays, see ELLISON 1984, p. 91.

48. HUNT 1987, p. 199.

49. REISNER 1908, p. 98-99; JACQUET-GORDON 1981; FALTINGS 1998, p. 130-132; SAMUEL 2000, fig. 15a-b; HAWASS & SENUSSI 2008, p. 206-207, types F1a-F1b.

50. SAMUEL 2000, p. 567, with ref.

51. The definitions of these types follow ASTON 2004, p. 43 (note that he defined all three of them as bread plates rather than as baking trays).

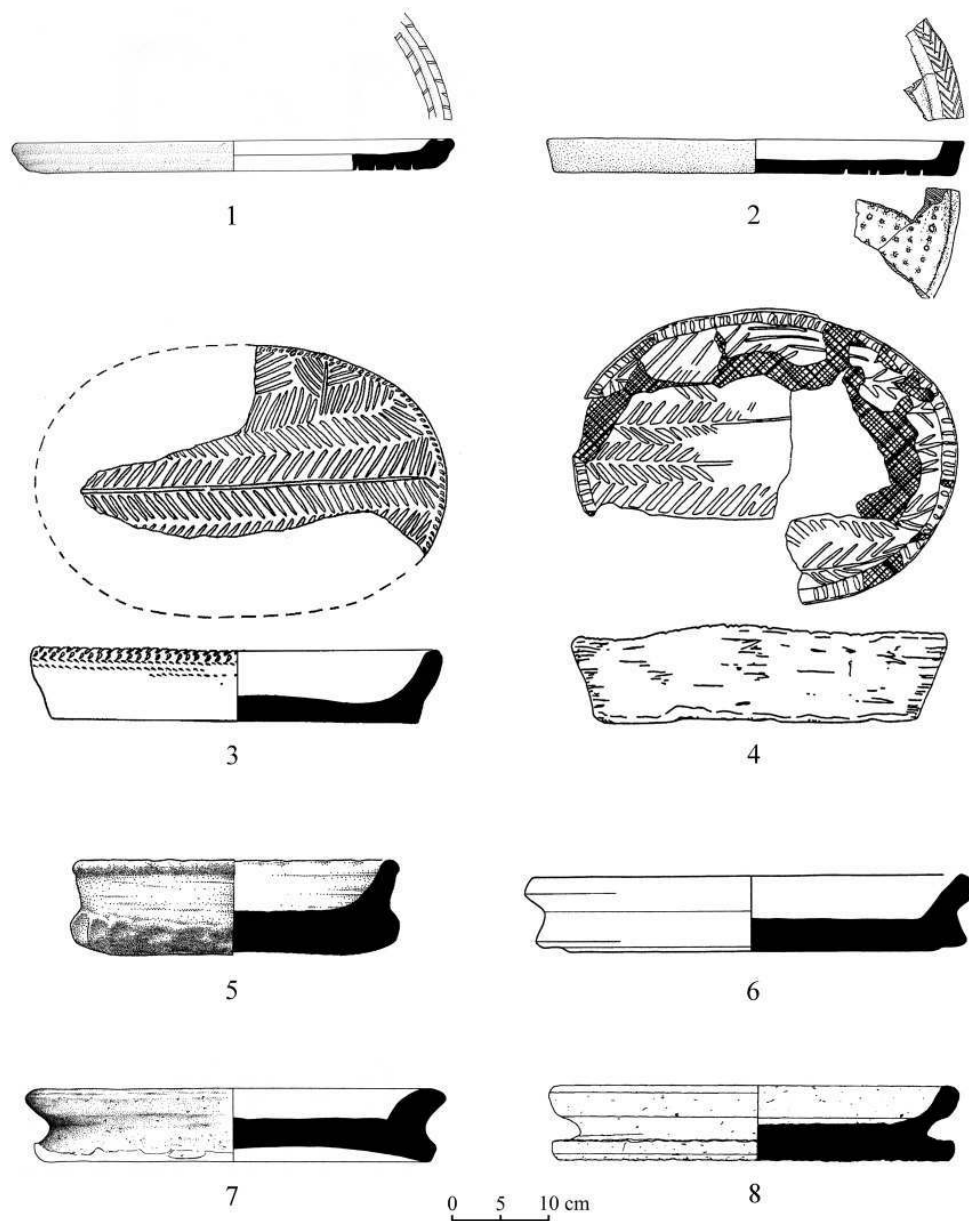
Type 1: Levantine-Style Baking Trays

Figure 5. Egyptian baking trays and bread molds. 1. Tell el-Dab'a, after ASTON 2004, cat. no. 669; 2. Tell el-Dab'a, after ASTON 2004, cat. no. 671; 3. Badari, after BRUNTON & CATON-THOMPSON 1928, pl. XL:3700; 4. Dra' Abu el-Naga, after WODZIŃSKA 2010, cat. no. 49; 5. el-'Amarna, after ROSE 2007, cat. no. 660; 6. Qantir, after WODZIŃSKA 2010, cat. no. 243; 7. Tell el-Dab'a, after ASTON 2004, cat. no. 1086; 8. Abydos, after WEGNER *et al.* 2000, fig. 25.

Several vessels from Tell el-Dab'a (ancient Avaris, capital of the Hyksos), dated to the late Middle Kingdom and the beginning of the Hyksos period (that is, mid-Dynasty XIII – beginning of Dynasty XV, Phases G-3 through E-1), are identical to the Levantine baking trays described above (**fig. 5:1-2**)⁵².

52. ASTON 2004, p. 170-172, 275, Group 163a–b; KOPETZKY 2010, p. 208.

As noted above, these vessels appeared in the Levant already in the early phase of MBA IIA, while the examples from Tell el-Dab'a can be dated, in Levantine terms, to late MBA IIA and MBA IIB⁵³. Recognizing the Levantine derivation of the Tell el-Dab'a examples, Aston assigned them to a category of "Levantine imports and local copies", and, significantly, he mentioned no local Egyptian-style comparanda for them. Since most of the examples from Tell el-Dab'a have no evidence of burning, Aston argued that these vessels were in fact bread plates that "held the prepared dough, whilst it rose before being transferred to the oven."⁵⁴ It seems, however, that the Tell el-Dab'a vessels can be safely defined as baking trays on basis of the parallels from the Levant. The historical-cultural significance of these Levantine-style food preparation vessels is discussed below.

Type 2: Bread Molds with Incised Interior

These vessels have oval or rounded body, flat bases and low walls. They are crudely made of coarse Nile silt fabric and are decorated with simple and repetitive incised patterns (zigzags, herringbone, short parallel lines, highly stylized plants, etc.) on their rims and their interiors (**fig. 5:3-4**)⁵⁵. The interior is frequently covered with red or reddish-brown wash. They are found in Dynasty XII and later contexts. One such vessel, excavated from the Dynasty XIII cemetery at Qau, still has the remains of husks of whole cereal grains in the incisions on its interior surface, and clearly indicates that this was the upper surface of the vessel⁵⁶. This ceramic type is not very common in Egypt. The incised rim of these vessels and their general shape closely resemble Levantine baking trays⁵⁷. The latter vessels, however, are never oval and have no incisions on their flat interior surfaces.

Type 2 should be differentiated from the so-called "fish dishes" or "fish bowls" — oval flat-bottomed vessels with sidewalls of uneven height that give them a boat-like shape⁵⁸. The "fish bowls" are typically decorated on their interiors with elaborate incised designs such as fish and fishing nets (and, rarely, other animals), lotus blossoms, lily pads and papyrus stems. These vessels come from Dynasty XIII contexts. The type 2 vessels have shorter and thicker sidewalls than "fish bowls" and also different (usually geometric) incised designs.

Type 3: Bread Molds with Smooth Interior

These vessels can be described as large crudely-made plates (**fig. 5:5-8**). They were made of oval or rounded slab of clay, and a clay coil was added to create a low side-wall. As with the type 2 vessels, coarse Nile silt fabric was used. Type 3 vessels are characterized by prominent fingerprints on their exteriors in the area of the join between the base and the slightly everted wall. The interior is usually smoothed, while the exterior is left rough and is frequently covered with soot, indicating that the source of heat was located underneath the vessel. These vessels are very common during the Middle Kingdom through the Third Intermediate Period and later, but, interestingly, they are infrequent at Tell el-Dab'a⁵⁹.

53. These correlations follow the chronological scheme established by M. Bietak (see, e.g., BIETAK 2002b, p. 41, fig. 15, as well as a chronological chart by Bietak in ASTON 2004, p. 28, fig. 1).

54. ASTON 2004, p. 170-171.

55. MILLARD 1979, p. 167, types 85, 87, 90; pl. 65, 73; BOURRIAU 1981, p. 65-66; 1990, p. 18-19, fig. 4.1:12-13; ASTON 2004, p. 91, n. 379-385; SEILER 2005, p. 104. The identification of fragments of this vessel type on basis of published drawings alone is sometimes difficult. Some of the oval vessels with incised patterns on interior, found in Kahun, might belong to this type (PETRIE 1890, pl. XIII: 103-106, 108-111), while other possible ex. come from Amarna (FRANKFORT & PENDLEBURY 1933, pl. 54:XXI 14) and el-Ashmunein (SPENCER 1993, pl. 75 type O:4).

56. BOURRIAU 1981, p. 65-66, no. 117. BOURRIAU 1990, p. 19 and ASTON 2004, p. 43, defined these vessels as plates or trays used to hold unbaked dough.

57. This resemblance was already noted by MAEIR 2007a, p. 263 and supported by personal communications to Maeir from M. Bietak and J. Bourriau (MAEIR 2007a, p. 298, n. 11).

58. E.g., ASTON 2004, p. 43, 91-92, pl. 55-57; ASTON & BADER 2009, p. 42-52.

59. NAGEL 1938, p. 152-153; ARNOLD 1982, 37; WEGNER 2000, p. 119-120; ASTON 1999, p. 19-20; 2004, p. 243-244, with ref.; ROSE 2007, p. 141-142, and note a possible Old Kingdom example cited in Aston 2004, n. 1165.

This type most probably developed out of the platter-shaped flat-bottomed vessels of the Old Kingdom⁶⁰. In the literature these vessels are usually defined as bread platters or bread plates (*'prt* forms). Although the precise way they were used is unclear⁶¹, it seems that they were multi-functional vessels, and that at least some of them, particularly those with soot marks on the bottom, were used as bread-baking trays⁶². As compared to the Levantine baking trays, the type 3 vessels are cruder, have much thicker bottoms, and have no linear incisions on their rims and no notches on their undersides. In contrast to the hard fabric of Levantine baking trays, their fabric is crumbly and poorly fired. Bread baked in the type 3 molds was clearly thicker than the pancake-like thin bread baked on the type 1 trays (thus the difference in terminology used to describe them — baking trays vs. bread molds). It follows that technologies of production and use of the two types of vessels were considerably different. The possible implications of these differences are discussed below.

Function and Social Significance

The functional definition of the three types of platter-shaped vessels is debated among scholars. These vessels are frequently categorized as bread plates, that is, receptacles used to hold the rising dough before baking⁶³. However, due to the fact that the type 3 vessels frequently have soot marks on their bottoms, this interpretation seems to be not entirely satisfactory⁶⁴. Jacquet-Gordon, who published a preliminary typology of Egyptian bread molds, did not include these three types, and the same tendency is seen in some other publications of Egyptian bread molds⁶⁵. In addition, in many studies of Egyptian pottery the term “bread molds” is used rather loosely, and is sometimes applied to vessels with very low walls or even to completely flat trays⁶⁶.

The iconographic evidence concerning the use of these vessels is inconclusive, because of the difficulty in the precise identification of the bowl —or tray-like objects depicted in scenes of baking. For example, according to Bourriau, the vessels that appear in the tomb model from Beni Hasan, which is dated to the early Middle Kingdom, are a type 2 bread mold⁶⁷. However, it is also possible that these vessels belong in fact to our type 3, or that they might alternatively be large round flour sifters. The same problem exists in interpreting the depiction of a baking vessel in the Middle Kingdom tomb of Intefiqer (Antefoker) and Senet at Thebes (**fig. 6**).

60. BARTA 1995, p. 22-23, fig. 1b; FALTINGS 1998, p. 83-88. HAWASS & SENUSSI 2008, p. 206-207, types F2-F3.

61. See WEGNER 2000, p. 119, n. 82, and, especially, SAMUEL 2000, p. 257-258.

62. For a similar interpretation see PEET & WOOLLEY 1923, p. 64; SAMUEL 2000, p. 568 (he also mentions that these vessels “have been found in close association with cylindrical ovens”).

63. ASTON 2004, p. 43; see also WEGNER 2000, p. 119 (for the type 3 vessels).

64. It should be also noted that dough made of emmer wheat does not require a lengthy rising period (e.g., SAMUEL 2000, p. 568; GOULDER 2010, p. 357), although this was certainly not the only type of dough flat bread molds were used for.

65. JACQUET-GORDON 1981, p. 12; CHAZAN & LEHNER 1990, p. 27.

66. E.g., RZEPKA *et al.* 2011, p. 160, fig. 51:4-5.

67. BOURRIAU 1981, p. 63, no. 113.

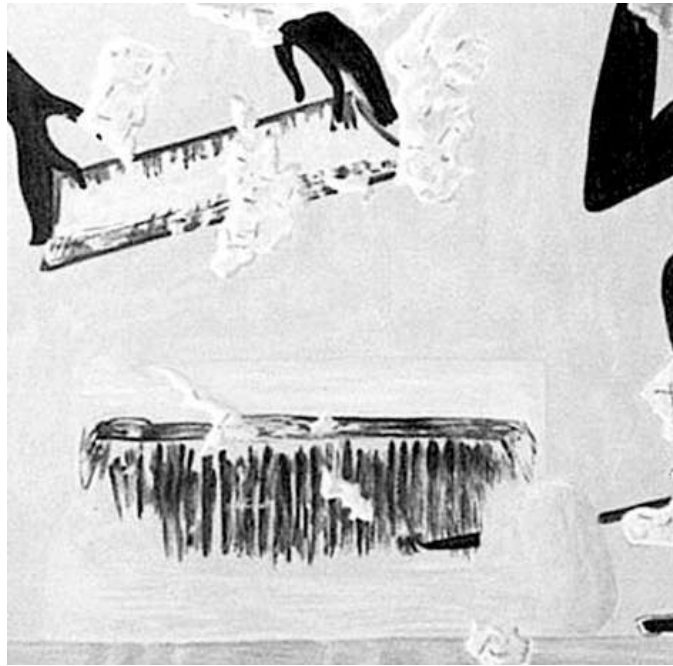


Figure 6. Detail of bread-baking scene, tomb of Intefiqer (Antefoker) and Senet at Thebes, after DAVIS 1920, pl. IXa.

Here, a vessel that is represented as a flat trapezoid is placed on the oven with its rim either up or down⁶⁸. The suggestion of Curtis that this object is in fact an oven cover and not a bread mold⁶⁹ illustrates, once again, the problems in correlating the iconographic evidence and archaeological finds. Another Middle Kingdom baking scene is found in the tomb of Amenemhat (Tomb 2) at Beni Hasan (fig. 7).

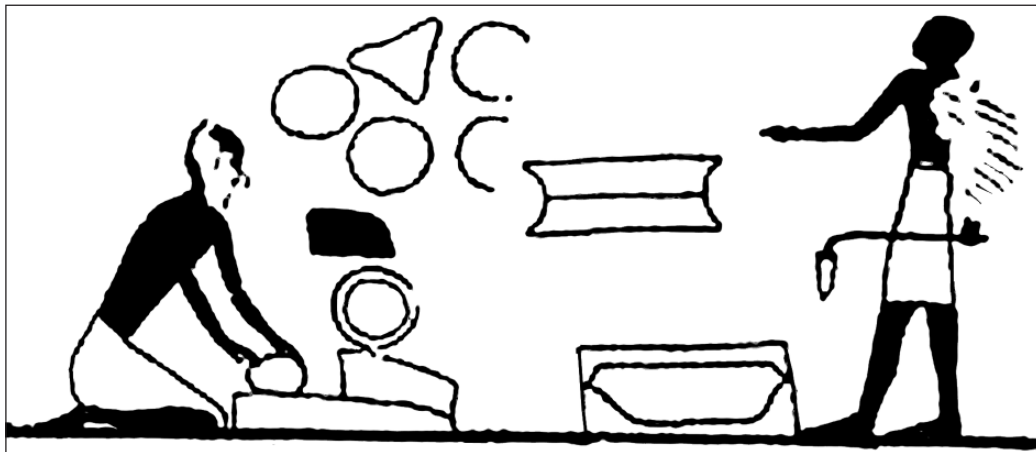


Figure 7. Detail of bread-baking scene, tomb of Amenemhat at Beni Hasan, after NEWBERRY 1893, pl. XII bottom right.

68. According to SAMUEL 2000, p. 568, the vessel is depicted with its concave side, filled with dough, facing downwards, thus making the scene even more puzzling.

69. CURTIS 2001, p. 123, n. 91.

If the lens-shaped object portrayed there is indeed the representation of two baking vessels covering one another, as assumed by Davies⁷⁰, then the dough would be placed in the interior space delimited by the slightly inverted walls. In this case, the above-mentioned vessel shown on the walls of the Theban tomb would be placed with the inner side, filled with dough, facing down⁷¹, but such a precarious position for the dough is highly unlikely. It should be additionally noted that other Egyptian depictions of baking, such as the well-known brewery and bakery scene from the Dynasty V Mastaba Tomb of Ti at Saqqara⁷², portray bread molds of other, different types.

As was contended earlier in the present study, several valid reasons exist to define the type 1 vessels as baking trays and the type 2 and 3 vessels as bread molds. As far as cultural derivation of these vessels is concerned, it is suggested here that type 2 is a hybrid form that emerged as a result of interaction between the local Egyptian population (who used the type 3 bread molds) and Canaanite immigrants (who used the type 1 baking trays)⁷³. Type 3 is clearly a traditional Egyptian ceramic form, which, as demonstrated above, had a long history in Egypt before the Middle Kingdom. Type 2 vessels can be seen as a modification that introduced the hitherto foreign (Canaanite) idea of using incised patterns to create a raised design on a bread loaf. Egyptian potters developed this idea by creating bread molds with elaborate incised designs not only on the rims but on their entire inner surfaces as well. If this suggestion is correct, the type 2 bread molds can be considered as evidence for interaction between the local Egyptian population and the Canaanites in the Delta.

This innovation was, however, of limited popularity, as reflected by the uncommonness of the type 2 vessels. One possible reason for this is a foreign “look” of this ceramic type that prevented it from being accepted into the traditional Egyptian ceramic repertoire, known for its conservativeness. Even more importantly, the reason for the limited distribution of the type 2 vessels might stem from the socio-economic significance of Egyptian bread molds of common types (that is, our type 3 as well as various molds shaped as deep bowls or as elongated conical vessels)⁷⁴. These latter vessels were mass-produced of coarse clay by potters who supplied their products to bakeries and breweries (which often operated under the same roof). Bakeries provided large amounts of bread loaves of fixed size and weight to workers engaged in various agricultural and construction projects managed by the state. In addition, bread was used in the production of beer — another important staple. Therefore, these vessels were an integral part of a complex system of redistribution of food that characterized the Egyptian state from its beginning (but apparently did not exist in Canaan). The skillful administration of resources and of rationing of food supplies, which was at the foundation of this economic structure, necessitated the use of a unified measuring system. Thus, bread was measured in loaves of fixed sizes, and a simple, efficient and standardized form of these cheap molds was specifically designed for this purpose. In contrast, elaborate incised decoration would contribute to the expense of such vessels, and these designs were certainly unnecessary on the breads utilized for beer production. Since bread molds used in private houses were apparently mostly of the same types as those used in large bakeries, it seems that simplicity and efficiency in preparing mold-baked bread was largely accepted on level of private non-elite Egyptian households as well⁷⁵. Surveys of the site of el-‘Amarna suggested that the use of bread molds was

70. DAVIES 1920, p. 14, fn. 6.

71. See also SAMUEL 2000, p. 568.

72. ÉPRON & DAUMAS 1939, pl. 66; CURTIS 2001, p. 119; for ref. to additional depictions see SAMUEL 2000, p. 537-538.

73. The relationship between the Egyptian and Levantine bread-baking vessels was proposed by MAEIR 2007a, p. 263-264. Based on the Middle and New Kingdom Egyptian parallels, he suggested, with reservations, that some of the Levantine baking trays/bread molds are Egyptian-style items, possibly indicating the presence of some ethnic Egyptians in Canaan.

74. KEMP 1979, p. 7-12; 1989, p. 163-179; SPALINGER 1986; WEGNER 2000, p. 119-120; CURTIS 2001, p. 129-131.

75. It should be emphasized that numerous types of bread existed in ancient Egypt (WÄHREN 1963; CURTIS 2001, p. 119-120, both with further ref.). Certain kinds of bread, pastries and cakes were used for religious and other festive purposes, and some of them might have been quite expensive. Several bread-baking technologies were practiced, including baking in the oven or in hot ashes without any molds, but the interpretation proposed in the present study concerns only bread baking in flat molds as reflected by archaeological findings.

restricted to large bakeries, while domestic bread-baking was apparently done (mainly) without molds⁷⁶. Although this interesting conclusion might not be fully applicable to other Egyptian cities and certainly not to many smaller towns and villages⁷⁷, it might provide another, supplementary explanation as to why private non-elite Egyptian households were not potential consumers of large amounts of decorated type 2 bread molds. Other kinds of molds for special types of pastry are also rare in Egypt, and the bread or cakes baked in them were most probably intended for elite consumption⁷⁸. It is also significant that the chronological span of the type 2 bread molds was relatively short, as they were largely limited to the Dynasties XII–XVI⁷⁹. It can be concluded that these vessels did not fit the lifestyle and the traditional social structure of the indigenous Egyptian population, and thus were of only limited popularity⁸⁰.

In contrast to types 2 and 3, type 1 is a *bona fide* Canaanite-style vessel. Both in the Levant and at Tell el-Dab'a, the type 1 baking trays were used only on special occasions, as indicated by their relative rarity. Thus, the difference between Canaanite baking trays and Egyptian bread molds reflect not only different food preparation technologies but also different social significance of bread baking using ceramic vessels.

Food-preparation Vessels as Evidence for Canaanite Presence in Egypt

The appearance of foreign-style bread baking vessels at the site of Tell el-Dab'a is significant, as this city was a focus of Egyptian-Canaanite interaction from late Dynasty XII through the Second Intermediate Period⁸¹. These heavy vessels were not luxury or prestige items, particularly due to the fact that crude and undecorated ceramic vessels were low-status objects in Egyptian culture. Being food-preparation vessels of foreign tradition, they emerged in Egypt because of their special function. Numerous archaeological and ethnographic studies indicate that food preparation techniques, with associated objects and customs, are inherently conservative, since they reflect the behavioral patterns that are among the most basic manifestations of human identity. These deeply embedded values and traditions are best expressed in the private sphere of the household. Thus, the introduction of objects and techniques relating to foreign food preparation might indicate, particularly when accompanied by other sharp changes in material culture, the appearance of a new population of foreign origin⁸².

It follows that Canaanite-style baking trays from Tell el-Dab'a, which are found primarily in domestic contexts, as well as the above-mentioned rarity of the Egyptian-style type 3 bread molds, should be connected to the influx of Levantine population to the eastern Nile Delta during the late Dynasty XII and through the Second Intermediate Period. Although type 1 vessels are rare at Tell el-Dab'a, their association with Levantine immigrants is supported by several additional categories of material and written evidence from the same period. Canaanite-style baking trays are part and parcel of

76. KEMP 1979, p. 11; 1989, p. 289. Note that type 3 bread molds were found in a domestic contexts at Amarna (ROSE 2007, p. 141-142). Clearly, the above-mentioned survey results point to a general tendency, but do not exclude a limited extent of bread baking using molds use in private contexts at the site (the rarity of this type in Amarna is noted in ROSE 2007, p. 141). For domestic bread baking in the Amarna Workmen's village see also JANSEN 1983, p. 281; SAMUEL 1999.

77. For ex. of bread molds from domestic contexts in towns see, for example, ASTON 2004, p. 172 (from Tell el-Dab'a), and for those from small towns/villages see NAGEL 1938, pl. I, type I (from Deir el-Medineh); WENKE *et al.* 1988, p. 27 (from Kom el-Hisn).

78. E.g., MARCHAND & SOUKIASSIAN 2010, p. 168, group 3a (Mesopotamian-style [!] "cake molds" from Ayn Asil, Second Intermediate Period); JACQUET-GORDON 2012, p. 142-143, fig. 64:a-c (from the "treasury building" of Thutmose I at Karnak).

79. BOURRIAU 1990, p. 19.

80. Additional conservative aspects of ancient Egyptian bread baking are discussed by KEMP 1989, p. 188-191.

81. Recent publications on the subject of Levantine material culture features in the Middle Kingdom–Second Intermediate Period Egypt, primarily at Tell el-Dab'a/Avaris, and at some additional Delta sites (e.g., Tell el-Maskhuta) include REDMOUNT 1995; BIETAK 1991; 1996; 2002b; 2007; 2010; BIETAK *et al.* 2001; OREN 1997; BADER 2001; 2009; 2011; ASTON 2002; COHEN-WEINBERGER & GOREN 2004; SPARKS 2004; BEN-TOR 2007; KOPETZKY 2008; 2010.

82. For the identification of migration through analysis of household assemblages see, e.g., ANTONY 2000; BURMEISTER 2000; YASUR-LANDAU 2011.

this larger corpus of migration-related evidence, rather than an isolated foreign-style feature that could be transferred by means of elite emulation, cultural influence, high-level exchange of gifts, military booty, etc. For instance, when taken *in vacuo*, large numbers of imported Canaanite storage jars found in Tell el-Dab'a⁸³ can be seen as an outcome of close commercial relations between Egypt and southern Levant, particularly in light of the fact that the city was an important harbor⁸⁴. However, when other aspects of material culture are taken into consideration, it can be argued that Canaanite residents in Egypt not only promoted this trade but also were responsible, at least in part, for creating the demand for Levantine goods among the population at Tell el-Dab'a and other Egyptian sites. Therefore, it is only a holistic approach that can elucidate the true significance of the Canaanite-style material culture features in Middle Kingdom–Second Intermediate Period Egypt. A detailed discussion of all relevant data is outside the scope of the present study, thus only selected aspects of foodways-related Egyptian finds of Canaanite derivation will be briefly surveyed here.

Indeed, the discovery of Levantine-style baking trays is not the only evidence that Canaanite foodways were practiced in the Delta in the late Middle Kingdom and the Second Intermediate Period⁸⁵. Several straight-sided cooking pots from Tell el-Dab'a and other sites in the eastern Nile Delta represent another type of evidence for Canaanite presence (fig. 8:1-2)⁸⁶.

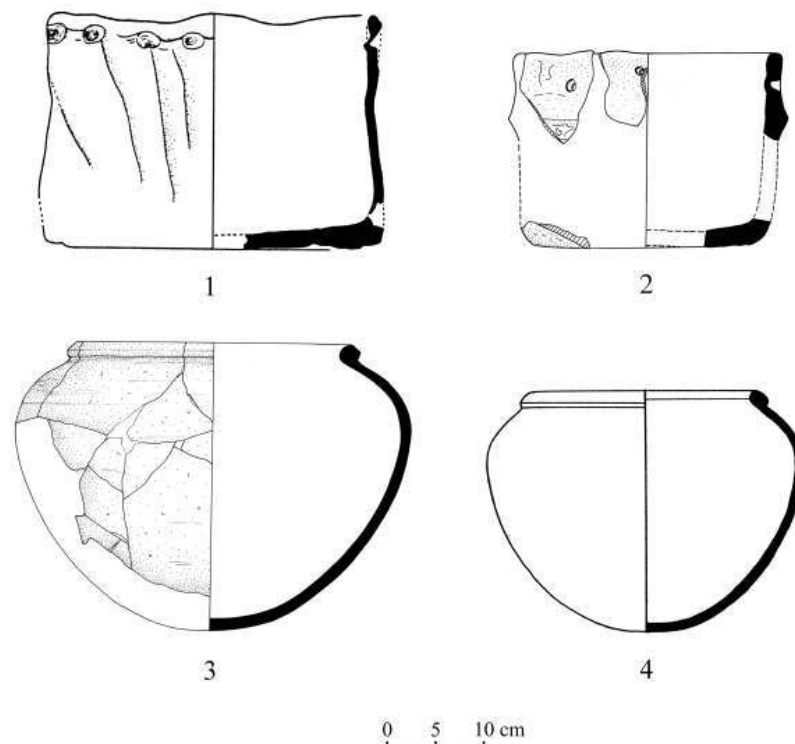


Figure 8. Levantine-style cooking pots. 1. Tell el-Maskhuta, after REDMOUNT 1995, fig. 5; 2. Tell el-Dab'a, after ASTON 2004, cat. no. 602; 3. Tell el-Dab'a, after ASTON 2004, cat. no. 1090; 4. Megiddo, after LOUD 1948, pl. 46:8.

83. E.g., ASTON 2002, p. 44-45.

84. BIETAK 2010, p. 139-140.

85. There is possible archaeobotanical evidence for introduction of new species of Levantine origin (safflower and cumin) to Egypt during this general time-period, but the exact dating and circumstances of this transference are unclear (GERMER 1998, p. 88-89).

86. REDMOUNT 1995, fig. 5; HOLLADAY 1997, p. 190, pl. 7.5:10-11; 7.13:1-14; ASTON 2002, p. 45-46; 2004, p. 156-158, pl. 149-153; FORSTNER-MÜLLER 2007, p. 89-90, fig. 14; KOPETZKY 2010, p. 213-214, 217.

These crude handmade vessels, with flat base, plastic “rope” decoration and sometimes a horizontal row of punctures on the upper exterior walls are well-known in southern Levant during MBA II⁸⁷. Most of these vessels from Tell el-Dab‘a were produced locally, while a few were imported from the Levant. At Tell el-Dab‘a these vessels are known only in early strata (phases H–F) that correspond to MBA IIA in the Levant, while at Tell el-Maskhuta their chronological range seems to include MBA IIB as well (although at the latter site they were gradually replaced by holemouth cooking pots)⁸⁸. The significance of this interesting phenomenon is a promising topic for a future study.

Wide flat base and vertical walls of these vessels do not allow for a uniform distribution of heat, and it was therefore suggested that they were used as frying pans⁸⁹. However, an uneven heating of various parts of these cooking pots during frying might result in frequent breakage of their coarse and fragile walls⁹⁰. This assumption is possibly supported by the finds from the MBA II Jordanian site of Zahrat adh-Dhra‘, where restorable flat-bottomed cooking pots are more frequent than other vessel types in similar condition⁹¹. Therefore, it can be suggested that, in spite of their open form, these vessels were used primarily for slow cooking at a low-temperature, rather than for frying. At Zahrat adh-Dhra‘, straight-sided cooking pots were found in association with simple firepits, and it is possible that these vessels were heated on hot ashes⁹². The fragility of these vessels was probably one of the factors that contributed to their gradual disappearance towards the end of the MBA.

For the purpose of the present study it is important to stress that vessels of a similar shape and function are non-existent in the local Egyptian ceramic repertoire. Similar to the type 1 baking trays, these cooking pots reflect non-Egyptian food preparation techniques, most probably introduced to the Delta region by a migrating Levantine population⁹³.

An additional type of Levantine-style cooking pot present at Tell el-Dab‘a is represented by globular wheel-made vessels with rounded bottom, simple rounded, gutter or thickened everted rim, and sometimes one or two loop handles (**fig. 8:3-4**)⁹⁴. Globular cooking pots with gutter or everted rims are quite rare in the Delta, while holemouth variants of this class of vessel are very common, and most of them were apparently locally produced. A limited amount of genuine Levantine imports among these vessels was indicated by a provenance study (Neutron Activation Analysis) of three examples from Tell el-Dab‘a (one was found to be from the Mt. Carmel region, another from either the eastern Galilee or from Syria, and the third one from the Shephelah region)⁹⁵. In addition to Tell el-Dab‘a, holemouth cooking pots are also known in other Lower Egyptian sites, such as Memphis, Lisht, Kahun, Qasr el-Sagha and Tell el-Maskhuta⁹⁶.

The widespread production of globular holemouth cooking pots in Egypt, first and foremost at Tell el-Dab‘a, seems to be a result of two interconnected factors. They were probably in high demand from the Levantine immigrants who settled in Egypt during the Middle Kingdom and the Second Intermediate Period. The rarity of genuine Levantine imports among these vessels can be explained by their higher value and by the easy availability of their locally-produced equivalents. As argued by Aston, cooking

87. E.g., MAEIR 2007a, p. 258-261.

88. REDMOUNT 1995, p. 74; HOLLADAY 1997, p. 188-190.

89. Magness-Gardiner, cited in MAEIR 2007a, p. 260.

90. ARNOLD 1985, p. 226; SMITH 1985, p. 261.

91. BERELOV 2006, p. 131. Alternatively, this phenomenon might be a result of other factors, such as a special pattern of refuse discard characteristic of the site in question (as discussed by BERELOV 2006, p. 133-134).

92. BERELOV 2005, p. 103.

93. For a similar interpretation see BADER 2012, p. 221-222; for the alternative view, that these vessels at the eastern Delta sites reflect the sedentarization of local Bedouins or pastoralists see BIETAK 1991, p. 31; HOLLADAY 1997, p. 190.

94. BIETAK *et al.* 2008, fig. 4:18; 6:13; KOPETZKY 2010, p. 214-216. Note that in some cases there is a certain difficulty in distinguishing between Levantine-style holemouth cooking pots and similarly-looking Egyptian-style vessels (ASTON 2002, p. 43, 46).

95. COHEN-WEINBERGER & GOREN 2004, tabl. 1b no. 21; tabl. 1d no. 28; tabl. 1e no. 17.

96. For holemouth cooking pots from Memphis, Lisht, Kahun and Qasr el-Sagha see references in ASTON 2002, p. 47, n. 87-90, and for ex. from Tell el-Maskhuta see REDMOUNT 1995, p. 69, fig. 3.

pots of a quite similar form were also developed locally in Egypt (e.g., in the Fayoum region), perhaps independently of the Canaanite-style cooking pots discussed here ⁹⁷. It seems, therefore, that globular holemouth cooking pots with rounded bottom could serve both the indigenous Egyptian population as well as the immigrants from the Levant, and that it was conducive to the food preparation techniques used by both groups. Thus, it can be proposed that the similarity between local Egyptian and Canaanite cooking pots facilitated interaction between the two groups on the level of everyday life. Moreover, globular holemouth cooking pots could have been produced by potters of both Egyptian and Canaanite origin. According to Redmount, the holemouth cooking pots from Tell el-Maskhuta “exhibit subtle yet distinctive differences in shape [...] from their Syro-Palestinian prototypes,” ⁹⁸ perhaps indicating that potters who produced the Tell el-Maskhuta vessels were consciously reproducing Levantine shapes but were not trained in the Levant itself, and could very well be Egyptianized Canaanites (the Hyksos) —people of Levantine descent who dwelled in the eastern Delta region for several generation. The unique ceramic assemblage associated with these people is an eclectic mixture of Levantine and Egyptian features (the former being predominant). Redmount concludes that the assemblage from Tell el-Maskhuta “represents a complicated ceramic tradition that is a hybrid formed from various sources, rather than a simple extension of Syro-Palestinian customs.” ⁹⁹ Bietak defined the material culture of Tell el-Dab‘a in a similar way ¹⁰⁰, and noted that “[t]hese settlers from the Levant exhibit highly Egyptianized features from the earliest stage [...]” ¹⁰¹. This definition fits perfectly the proposed interpretation of the type 2 baking trays.

Finally, it is interesting to note that the population movement from the Levant in the MBA to Egypt was apparently largely unidirectional, if the distribution of foreign-style cooking wares and of other types of artifacts in both regions is any indication. This is because the amount of imported or locally made Egyptian-style cooking vessels in Canaan is very small, and includes some fragments of imported Egyptian cooking pots, made of sand-tempered Nile E2 fabric, that were found in coastal Levantine sites of Ashkelon, Sidon and Tell Fadous ¹⁰². Although unequivocal evidence exists for Egyptian (administrative?) involvement in southern Levantine coastal sites during Dynasties XII–XIII, such as a large assemblage of locally-made bullae stamped with royal Egyptian seals from Ashkelon ¹⁰³, there is no sign for the large-scale presence of Egyptians in MBA Canaan.

RECAPITULATION OF CONCLUSIONS

The results of the present study can be summarized as follows:

Flat-bottomed baking trays are known from all parts of the Levant, and appear during the entire span of the Middle and Late Bronze Ages. Their quantity in each site is small, indicating that they were used only on special occasions. They are found in various types of habitation contexts. When uncovered in cult places, they were probably used for preparation of ritual meals.

97. ASTON 2004, p. 167. The notion of two independent production venues of these cooking pots is admittedly weakened by the fact that globular holemouth cooking pots made of Nile E fabric and apparently produced in the eastern Delta were found in Lahun in the Fayoum region (BOURRIAU & QUIRKE 1998, p. 71, fig. 5.4, denoted “cooking bowl”). This qualification, however, does not affect the conclusion that that globular holemouth cooking pots fitted the indigenous Egyptian food preparation techniques.

98. REDMOUNT 1995, p. 78.

99. REDMOUNT 1995, p. 78.

100. E.g., BIETAK *et al.* 2001, p. 171.

101. BIETAK 2010, p. 139.

102. BIETAK *et al.* 2008, p. 52, fig. 5:12; KOPETZKY 2011–2012, p. 170, fig. 7. If a baking tray from MBA Tel Beth-Shean indeed has Egyptian affinities (MAEIR 2007a, p. 263, see also above), then this object represents another ex. of Egyptian-style cooking vessel in MBA Canaan. In any case, this phenomenon clearly was of a very limited extent.

103. STAGER 2002, p. 353. For a summary of Egyptian finds from MBA II Hazor that may (or may not) indicate some Egyptian presence at the site see MAEIR 2010, p. 34.

Levantine baking trays of the Middle and Late Bronze Ages emerged in EBA IV/MBA I Syria and from there diffused to the southern Levant. Several Syrian sites yielded baking trays that appear to be typological predecessors of these vessels. Thus, similar to earthen fortifications and various types of pottery and small finds, baking trays in the MBA IIA southern Levant should be regarded as a feature of northern Levantine origin.

Baking trays could be used either with the concave area face up (which was probably their primary function) or with the concave surface face down, similar to Iron Age dome-shaped baking trays. In the first case, the edges of the bread or cake would have been pressed into the notched rim, leaving an impressed design, and the burnished concave surface facilitated the removal of the baked loaf from the vessel. In the second case, thin bread was baked in a way similar to a modern *saj*, and the notches prevented the bread from sliding off the tray. Such a double function is consistent with multi-functionality of many ancient vessels and tools.

Items of everyday life, particularly those connected with food preparation, are considered to be a reliable indicator of their users' cultural identity, and the presence of a wide range of foreign-style utilitarian objects may reflect an influx of new population groups from other regions. Therefore, taken together with the two types of Levantine-style cooking pots — handmade straight-sided vessels with flat bottom, and wheelmade globular vessels with holemouth opening — Canaanite baking trays represent a significant piece of evidence for the migration of people of Levantine origin (the Hyksos) into Egypt.

The vessel types discussed in the present study illuminate different facets of interaction between the local Egyptian population and the immigrant Canaanites during the MBA. Several Canaanite baking trays with notched bottom and incised rim were found in Tell el-Dab'a. A rare type of oval bread mold with incised interior can be seen as a hybrid between the local Egyptian platter-like bread molds and Canaanite-style baking trays. These vessels represent the same general phenomenon as other types of artifacts from Middle Kingdom and Second Intermediate Period Egypt that combine Egyptian and Canaanite features, and can be interpreted as a material expression of the Egyptianization of Canaanite immigrants that created a unique blend of local and foreign features.

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