

MANFRED BIETAK, ERNST CZERNY (EDITORS)

THE BRONZE AGE IN THE LEBANON

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ÖSTERREICHISCHE AKADEMIE DER WISSENSCHAFTEN
DENKSCHRIFTEN DER GESAMTAKADEMIE, BAND L

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of the Eastern Mediterranean

Edited by Manfred Bietak
and Hermann Hunger

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Studies on the Archaeology and Chronology
of Lebanon, Syria and Egypt

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ABBREVIATIONS

<i>Ä&L</i>	<i>Ägypten und Levante</i> , Vienna	<i>BSA</i>	British School of Archaeology at Athens
<i>AAAS</i>	<i>Les Annales Archéologiques Arabes Syriennes</i> ,	<i>BSAK</i>	<i>Studien zur Altägyptischen Kultur, Beiheft</i> , Hamburg
<i>AASOR</i>	<i>Annual of the American Schools of Oriental Research</i> , Cambridge Mass.	<i>BSFE</i>	<i>Bulletin de la Société Française d'Égyptologie</i> , Paris
<i>ABSA</i>	<i>The Annual of the British School at Athens</i> , London	<i>CNIP</i>	<i>The Carsten Niebuhr Institute of Ancient Near Eastern Studies</i> , University of Copenhagen, Museum Tusulanum Press, Copenhagen
<i>ADAJ</i>	<i>Annual of the Department of Antiquities of Jordan</i> , Amman	<i>CRAIBEL</i>	<i>Comptes rendus de l'Académie des inscriptions et belles-lettres</i> , Paris.
<i>Aegaeum</i>	<i>Aegaeum. Annales d'archéologie égéenne de l'Université de Liège</i> , Liège	<i>E&L</i>	see <i>Ä&L</i>
<i>ÄF</i>	<i>Ägyptologische Forschungen</i> , Glückstadt	<i>EI</i>	<i>Eretz Israel</i> , Jerusalem
<i>AfO</i>	<i>Archiv für Orientforschung</i> , Wien	<i>HÄB</i>	<i>Hildesheimer Ägyptologische Beiträge</i> , Hildesheim
<i>AHL</i>	<i>Archaeology and History in Lebanon</i> , London, formerly NMN	<i>HdO</i>	<i>Handbuch der Orientalistik</i> , Leyde, Boston, Cologne.
<i>AJA</i>	<i>American Journal of Archaeology</i> , New York, Baltimore, Norwood	<i>JARCE</i>	<i>Journal of the American Research Center in Egypt</i> , Boston
<i>Antiquity</i>	<i>Antiquity: a quarterly review of archaeology</i> , Oxford	<i>JCS</i>	<i>Journal of Cuneiform Studies</i> , New Haven, Baltimore
<i>AOAT</i>	<i>Alter Orient und Altes Testament. Veröffentlichungen zur Kultur und Geschichte des Alten Orients und des Alten Testaments</i> , K. BERGERHOF, M. DIETRICH et O. LORETZ (eds.), Münster.	<i>JEA</i>	<i>Journal of Egyptian Archaeology</i> , London
<i>ASAE</i>	<i>Annales du service des antiquités de l'Égypte</i> , Caire	<i>JHS</i>	<i>Journal of Hellenic Studies</i> , London
<i>ASOR</i>	<i>American Schools of Oriental Research</i>	<i>JNES</i>	<i>Journal of Near Eastern Studies</i> , Chicago
<i>Atiqot</i>	<i>Atiqot. Journal of the Israel Department of Antiquities</i> , Jerusalem	<i>JPOS</i>	<i>Journal of the Palestine Oriental Society</i> , Jerusalem
<i>Aula Orientalis</i>	<i>Aula Orientalis. Revista de estudios del Próximo Oriente Antiguo</i> , Sabadell (Barcelone).	<i>JSSEA</i>	<i>Journal of the Society for the Study of Egyptian Antiquities</i> , Toronto
<i>AV</i>	<i>Archäologische Veröffentlichungen. Deutsches Archäologisches Institut, Abteilung Kairo</i> , Berlin/Mainz am Rhein	<i>Kush</i>	<i>Kush, Journal of the Sudan Antiquities Service</i> , Khartoum
<i>BA</i>	<i>The Biblical Archaeologist. American Schools of Oriental Research</i> , Michigan, New Haven	<i>LÄ</i>	<i>Lexikon der Ägyptologie</i> , ed. by W. HELCK, W. WESTENDORF, 7 vols. Wiesbaden 1972 ff.
<i>BAAL</i>	<i>Bulletin d'Archéologie et d'Architecture Libanaises</i> , Beyrouth	<i>LAAA</i>	<i>Liverpool Annals of Archaeology and Anthropology</i> , Liverpool
<i>BAH</i>	<i>Bibliothèque Archéologique et Historique</i> , Beyrouth	<i>Levant</i>	<i>Levant. Journal of the British School of Archaeology in Jerusalem and the British Institute at Amman for Archaeology and History</i> , London
<i>BAR Inter.Ser.</i>	<i>British Archaeological Reports, International Series</i> , London	<i>MDAIK</i>	<i>Mitteilungen des Deutschen Archäologischen Instituts</i> , Abteilung Kairo, Berlin, ab 1970: Mainz
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research</i> , New Haven	<i>MHEO</i>	<i>Mesopotamian History and Environment, Occasional Publications</i> , Leuven
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i> , Athens	<i>MDOG</i>	<i>Mitteilungen der Deutschen Orientgesellschaft</i> , Berlin
<i>BdE</i>	<i>Bibliothèque d'Étude</i> , Institut Français d'Archéologie Orientale, Kairo	<i>NMN</i>	<i>National Museum News</i> , London
<i>Berytus</i>	<i>Berytus. Archaeological Studies</i> , Musée d'archéologie et université américaine de Beyrouth, Beyrouth	<i>OIP</i>	<i>Oriental Institute Publications</i> , University of Chicago, Chicago
<i>BIFAO</i>	<i>Bulletin de l'Institut Français d'Archéologie Orientale</i> , Le Caire	<i>OLA</i>	<i>Orientalia Lovaniensia Analecta</i> , Leuven
<i>BMB</i>	<i>Bulletin du Musée de Beyrouth</i> , Beyrouth	<i>OLP</i>	<i>Opuscula Lovaniensia Periodica</i> , Louvain
<i>BMMA</i>	<i>Bulletin of the Metropolitan Museum of Art</i> , New York	<i>PEFA</i>	<i>Palestine Exploration Fund Annual</i> , London
		<i>PEQ</i>	<i>Palestine Exploration Quarterly</i> , London
		<i>QDAP</i>	<i>Quarterly of the Department of Antiquities in Palestine</i> , London
		<i>RB</i>	<i>Revue Biblique</i> , Paris

<i>RDAC</i>	<i>Report of the Department of Antiquities of Cyprus, Nicosia</i>	<i>UF</i>	<i>Ugarit-Forschungen. Internationales Jahrbuch für die Altertumskunde Syrien-Palästinas, Münster</i>
<i>RIA</i>	<i>Reallexikon der Assyriologie, München, Berlin.</i>	<i>UZK</i>	<i>Untersuchungen der Zweigstelle Kairo des Österreichischen Archäologischen Institutes, Wien</i>
<i>RSO</i>	<i>Ras Shamra-Ougarit, Paris.</i>	<i>ZA</i>	<i>Zeitschrift für Assyriologie und Vorderasiatische Archäologie, München, Berlin, New York</i>
<i>SCE</i>	<i>The Swedish Cyprus Expedition, Stockholm, Lund</i>	<i>ZÄS</i>	<i>Zeitschrift für ägyptische Sprache und Altertumskunde, Leipzig, Berlin</i>
<i>SEb</i>	<i>Studi Eblaïti. Missione Archeologica Italiana in Siria. Università degli Studi di Roma, Roma</i>	<i>ZDMG</i>	<i>Zeitschrift der Deutschen Morgenländischen Gesellschaft, Leipzig</i>
<i>Semitica</i>	<i>Semitica. Cahiers publiés par l'Institut d'Études Sémitiques du Collège de France, Paris</i>	<i>ZDPV</i>	<i>Zeitschrift des Deutschen Palästina-Vereins, Stuttgart, Wiesbaden</i>
<i>StudMed</i>	<i>Studia Mediterranea, Pavia</i>		
<i>Syria</i>	<i>Syria. Revue d'art oriental et d'archéologie, Paris</i>		

TOMB TYPES AND LAYOUT OF A MIDDLE BRONZE IIA CEMETERY AT TELL EL-DAB^a, AREA F/I. EGYPTIAN AND NON-EGYPTIAN FEATURES

Robert Schiestl

The presence of “Asiatics”¹ at the site of Tell el-Dab^a in the northeastern Nile Delta can be documented from stratum d/2 (phase H, late 12th Dynasty) onwards.² It has long been held that for the early Tell el-Dab^a phases H and G/4 (MB IIA,³ ca. 1820–1750 BC), the Lebanese and Syrian coastal regions, and Byblos in particular, were of special importance,⁴ both as a commercial contact zone and as a possible origin for the settlers at Tell el-Dab^a. The genesis of the site has been described as developing from a “*colony of merchants, craftsmen and sailors from the area of Byblos*”⁵ from the end of the 12th Dynasty onwards and the view of Tell el-Dab^a as a partner harbor to Byblos had been put forward⁶. This opinion is not only based on the historically well documented close and special relationship which Byblos and Egypt traditionally held⁷, but also on the presence of various distinct groups of Levantine imports found in the settlement and the tombs of these early layers at Tell el-Dab^a. Artifacts found at Tell el-Dab^a with a clustering of parallels in the Syro-Lebanese coastal region are for example the pottery of the “Levantine Painted Ware”,⁸ some types of large “Canaanite jars”, both with⁹ and without handles,¹⁰ the so-called “Dipper-juglets”,¹¹ certain types of bronzes such as a curved knife with a curled tip¹² or the “duckbill” axe.¹³ The distribution of the latter (see Fig. 1) shows a clear preponderance of finds in the northern Levant, with Byblos as one of the cen-

ters. Typological comparisons need to be supported by petrographic¹⁴ and metallurgical¹⁵ studies and such projects have been completed or are underway, which will hopefully increase our understanding of the production centers and patterns of distribution. As concerns the pottery, petrographic analysis confirms the strong typological links established to the northern coastal Levant.¹⁶

However, when looking at the whole picture which the tombs of the strata d/2 and d/1 (H and G/4) present, that is taking all aspects of funerary culture into consideration, the links to this coastal region are weakened, or better, are offset by other features. These can be roughly divided into two groups: Near Eastern features, which, however, are not documented in the Syrian- and Lebanese coastal region, as for example donkey burials in front of the tombs,¹⁷ and Egyptian features, such as for example the use of sarcophagi and coffins. It is the choice, combination and possible local adaptation of all these different aspects, which constitute the culture we are discussing. Here some of those aspects of the funerary culture, which are considered Egyptian, shall be discussed: tomb architecture and cemetery layout.¹⁸

1. OVERVIEW OF THE TOMB ARCHITECTURE

In tomb construction basic differences between the “Asiatics” in the Delta and the Levant are evident. In choosing a type of construction the topography of

¹ The term “Asiatic” is used in Egyptology for non-Egyptian people of Near-Eastern origin.

² For an overview of the tombs and some distinct artifacts from them, see R. SCHIESTL 2002.

³ In Tell el-Dab^a the chronological terminology used follows ALBRIGHTS scheme, thus MB IIA equals MB I commonly used for Syria (see P. GERSTENBLITH 1983, 3).

⁴ M. BIETAK 1979, 272.

⁵ M. BIETAK 1984, 474.

⁶ M. BIETAK 1987, 43.

⁷ P. MONTET 1928; D.B. REDFORD 1992, 37–48;

⁸ See J. TUBB 1983; T. BAGH 2002;

⁹ I. HEIN in I. HEIN and M. BIETAK (eds.) 1994, CatNr. 259; T. BAGH 2002, 100; R. SCHIESTL, in print.

¹⁰ R. SCHIESTL 2002, 349, fig. 13.

¹¹ See K. KOPETZKY 2002, 228–229, fig. 1.

¹² G. PHILIP 1995, 72, fig. 2, Nr. 3; to date its only parallel is from the Beirut Kharji Tomb, R. SAIDAH 1993–1994, pls. 4–6.

¹³ E. OREN 1973; G. PHILIP 1995, 71, fig. 1, Nr. 1; M. BIETAK 1996, fig. 11.

¹⁴ Y. GOREN and A. COHEN-WEINBERGER 2004.

¹⁵ G. PHILIP 2006; an additional metallurgic project has been initiated.

¹⁶ Y. GOREN and A. COHEN-WEINBERGER 2004, 81–83.

¹⁷ M. BIETAK 1991 b, 54, footnote 24 for compilation of parallels.

¹⁸ For the architecture and layout of the cemeteries of F/I, strata d/2 and d/1, see in particular M. BIETAK 1991 b, 53–64.

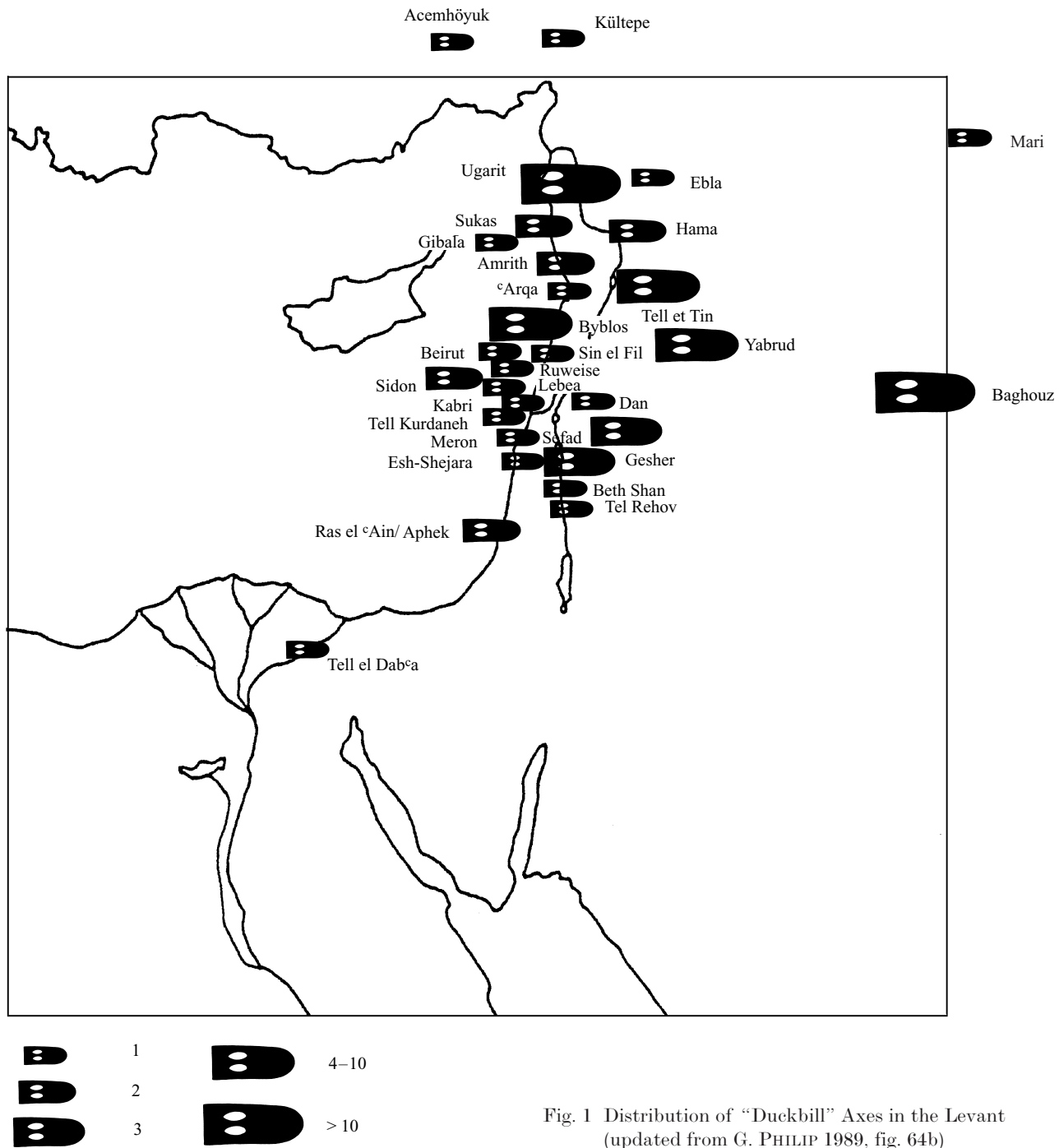


Fig. 1 Distribution of “Duckbill” Axes in the Levant (updated from G. PHILIP 1989, fig. 64b)

the site and the available building materials are of preeminent importance. In short, the builders of the tombs have to adapt their concepts to the local environment, which, undoubtedly, shape their concepts.

While burials in caves could be considered the “typ-

ical tomb” of this period in the Levantine coastal region, as for example at sites in the mountains near Sidon,¹⁹ at Beirut²⁰ and Byblos,²¹ structural tombs in stone exist, but are rare. Examples can be cited at Ras el-^cAin/Aphek,²² Sidon²³ and Tell ^cArqa.²⁴

¹⁹ At Lebe^ca, Kafer-^cArqa, Qraye, P.E. GUIGES 1937, figs. 2, 16, 30, 33, 39, 55, 56.

²⁰ Kharji tombs, R. SAIDAH 1993–1994.

²¹ E. g. M. DUNAND 1964, pls. I–II.

²² J. ORY 1938, figs. 2–6.

²³ C. DOUMET-SERHAL 2001, 162–167.

²⁴ J.-P. THALMANN 2000, 50–54, fig. 41.

The most common structural tomb from the Nile Delta is built of sun dried sandy mud bricks. It should be noted that burnt brick is never employed at Tell el-Dab^a, nor are parts of the construction ever built of stone or of rubble.

Tombs built of stone are very rare in the Delta at all times. Examples from the Middle Kingdom are the tomb of *Khesu* the Elder in Kom el-Hisn²⁵ and a group of chambers from the mayoral cemetery at Bubastis.²⁶ The construction of low-lying tomb pits or chambers accessed via deep shafts was not an option in the Delta, due to the threat of rising water. Therefore, the tomb chambers at Tell el-Dab^a were always set in pits which were not much deeper than necessary to accommodate the chamber.

The mud brick chamber tomb constitutes an enduring tomb type of the Delta. In a stratigraphic excavation, as in Tell el-Dab^a, the chronologically diagnostic variations of the architecture, be they in building materials or types of roofing, become evident. Very little comparative architecture is, however, available when discussing the Tell el-Dab^a tombs. While brick roofing of tombs is often mentioned in site reports, such as at Kom el-Hisn²⁷ or Bubastis,²⁸ they are rarely elaborated on and detailed drawings or photographs are not provided. The tombs of the site of Tell el-Dab^a present the first large scale detailed documentation of such mud brick constructions in Egypt.

The chamber tombs of the strata d/2 and d/1 stand at the beginning of this “sequence” and some characteristic features of this period shall be presented in the following. One such feature is the great degree of variation within vault constructions. In

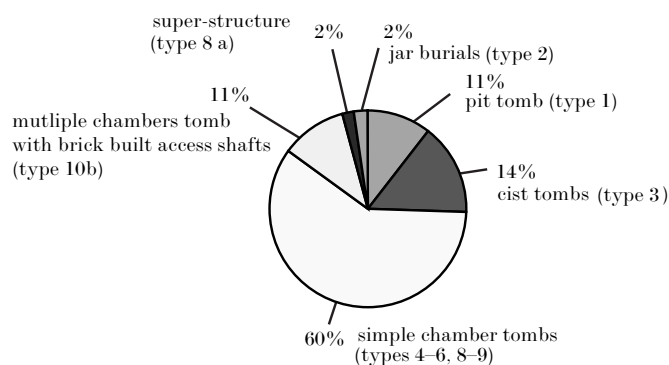


Fig. 2 Distribution of tomb types in str. d/2

1982 Edwin van den Brink published his fundamental analysis of tomb architecture at Tell el-Dab^a, which was mainly based on Second Intermediate Period tombs, because that is what had been primarily discovered until then. The picture emerging for that period was a fairly homogenous one, with all vaulted mud brick chamber tombs falling into three main groups: the single vaulted tomb, with two sub-types, the double vaulted tomb, with three main sub-types, and the vaulted chamber tomb with brick lined shaft. New Second Intermediate Period tombs unearthed since then generally fit well into van den Brink's typological classification. However, with the discovery of the earliest cemeteries of str. d/2 and d/1 at Tell el-Dab^a in the 1980ies in the area of F/I, a different picture emerged. To a surprising degree additional types are present, many of which were eventually abandoned.

The cemeteries of str. d/2 and d/1 were both erected to the south of a residential area, which in str. d/2

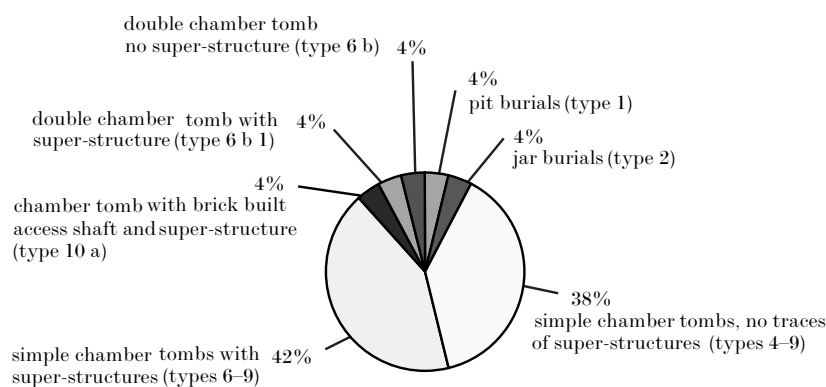


Fig. 3 Distribution of tomb types in str. d/1

²⁵ D.P. SILVERMAN 1988.

²⁶ S. FARID 1964, 86, fig. 3; further limestone vaults from Bubastis are discussed in C. VAN SICLEN 1990, 189, Abb. 1.

²⁷ A. HAMADA and S. FARID 1947, 102-103, pls. XXII, L, LII.

²⁸ S. FARID 1964.

centered on a building of the Syrian “Mittelsaalhaus”-type above which in str. d/1 a very large palatial compound was erected.²⁹ The cemetery area seems to have been used only for funerary purposes.

An overview of tomb types from these two strata (see Figures 2 and 3) shows that structural tombs dominate in both (Str. d/2: 87 %; Str. d/1: 92 %).

A tomb type very characteristic for str. d/2 is a small cist tomb for a child (type 3). These often haphazard constructions have very different shapes from square and rectangular to round and oval. They are generally covered with bricks laid flat, are only one or two courses of bricks high and the children interred in these are very young, from newborns to small infants. The use of Canaanite Jars as burial containers, typical for the interment of this age group in later periods at Tell el-Dab^a, is not documented in these strata. With the disappearance of separate burials of such young children in the cemetery by the next stratum (d/1), this tomb type vanishes as well.

2. TOMBS WITH BARREL VAULTS

Simple chamber tombs, with various types of roofing, are the most common tombs in both strata: in str. d/2 they constitute 62 %, in str. d/1 80 % of all types.

The remains of superstructures built of mud brick have been found above very different types of chamber tombs, but never above pit burials, jar burials, cist tombs, tomb chambers with a gabled roof and tomb chambers with a single, simple barrel vault. That is they are found above different types of double and triple vaulted tombs and tombs with special vaults, such as domical constructions or barrel vaults ending in half-domes. The absence of superstructures is in many cases also due to recent agricultural activity at the site, as the original horizon has been removed in most places. Thus, only the foundation layers of such superstructures could, at best, be documented and it is reasonable to argue that in this necropolis originally many more chamber tombs had possessed structures above ground.

Small chambers can be covered with a gabled roof (here type 4, van den Brink type III a and b).³⁰ While this type is rare in these strata (two examples in str.

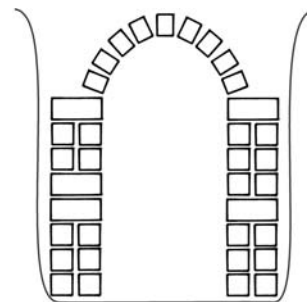


Fig. 4 Tomb with barrel vault, bricks laid in the axis of the chamber

d/2, one example in str. d/1) it is very consistent and can be documented throughout all strata at Tell el-Dab^a until the end of the Second Intermediate Period.³¹

The most common type of roofing for chambers are barrel vaults, which are set on top of the sidewalls and between the entrance wall and the rear wall of the chamber. In str. d/2 the single layer barrel vault³² (type 5) is the most common vaulting and is used for 37.7 % of all chamber tombs.

In the single layer barrel vaults the bricks of the vaults are usually set in a right angle to the axis of the chamber. Rarely, and only in str. d/2 and not in any other stratum, the single vault is constructed of bricks laid in the axis of the chamber, as is shown by the type 5 c, below, (Fig. 4).

When laying the bricks in a right angle to the axes of the chamber (types 5 a and b), various systems were devised in order to avoid overlap between the

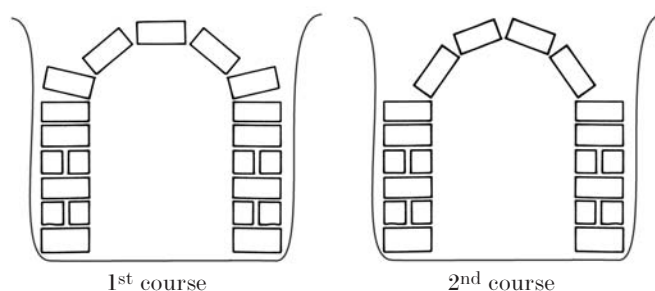


Fig. 5 Tomb with single layer barrel vault, using a sloping brick in every second course.

²⁹ See in particular M. BIETAK 1984 a; D. EIGNER 1985; M. BIETAK 1991 b.

³⁰ E. VAN DEN BRINK 1982, 20, fig. 15–16.

³¹ See M. BIETAK 1991 a, 210; I. FORSTNER-MÜLLER 2002 a; eadem, 2002 b, 169, fig. 6.

³² van den Brink type IV a, see E. VAN DEN BRINK 1982, 21–22; plus additional variations in str. d/2, discovered after van den Brink's compilation.

crevices between the brick courses. In very rare cases this was ignored, and all courses of the vault were built identically, creating long straight crevices running parallel to the axis of the chamber. Usually, however, the second courses start or end with half bricks or sloping bricks are used for the beginning and end of a course. In single layer vaults such sloping bricks jut out of the barrel vault (Fig. 5).³³

This type of vaulting had not been documented in Egypt apart from Tell el-Dab^a and other sites in the eastern Nile Delta associated with the Syro-Palestinian Middle Bronze age culture and it would therefore seem obvious to find technical parallels for this feature in that region.³⁴ However, the scarcity of documented vaulting or any form of Middle Bronze Age brick architecture in the Levant³⁵ makes clarification of this question difficult. Even if we look further a field to the Syrian Gezira tradition of brick built tombs we find roughly contemporary examples at Chagar Bazar,³⁶ Mohammed Diyab³⁷ or Tell Barri/Kahat,³⁸ which show distinctly different traditions that offer no compelling parallels. In the extensive study of Near Eastern vaulting by Roland Besenval³⁹ no parallel for this type of sloping brick construction can be found. However, in the meantime further Egyptian parallels can be cited: A long vaulted subterranean storage room in a 6th Dynasty (late 24th–early 22nd century BC) Mastaba at Balat, in the Dakhla Oasis, shows precisely this feature of bricks jutting out of every second course, creating, in the words of the excavator, the effect of a comb on the exterior of the vault.⁴⁰ In the New Kingdom cemetery at Tell Hebua, on Sinai, a mud-brick vaulted tomb also was constructed in this manner.⁴¹

It thus is becoming clear that this feature is neither based on a Near Eastern model nor is it a local Eastern Nile Delta development, but stands in an Egyptian tradition, for which we simply lacked documentation.⁴² Our picture of Egyptian vaulting remains very patchy⁴³ and the singularity of some

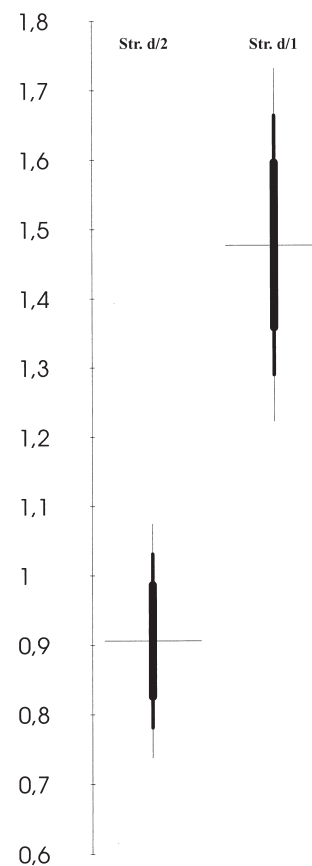


Fig. 6 Bullet diagram showing distribution of wall thickness of sidewalls of chambers of tombs from strata d/2 and d/1

Tell el-Dab^a constructions probably should not be overemphasized.

By str. d/1 the share of single layer barrel vaults had receded to 7.7 % of all chamber tomb roofs. This decrease is primarily due to increase of size of the chambers in this stratum, reflecting the shift from the cemetery of str. d/2, in which a wide spectrum of society is buried, towards a necropolis exclusively for the local elite in str. d/1. With the bigger size of the

³³ van den Brink type IV a, see E. VAN DEN BRINK 1982, 21–22.

³⁴ E. VAN DEN BRINK 1982, 21–22.

³⁵ See however the increasing recent evidence of mud brick construction, e.g. at Jericho/Tell es-Sultan (N. MARCHETTI, lecture at 2nd Euro Conference in Vienna, May 2003), Sidon (C. DOUMET-SERHAL 2001, 162), Beirut (L. BADRE 1997, 22) and Tell eArqa (J.-P. THALMAN 2000, 36–39). No complete or reconstructable mud brick vaults have to date been documented in this region.

³⁶ M. MALLOWAN 1937, fig. 8.

³⁷ L. BACHELOT 1992, fig. 1, pl. IV, Nr. 1, 2.

³⁸ P.E. PECORELLA 1998, fig. 3.

³⁹ R. BESEVAL 1984.

⁴⁰ Mastaba II, *Ima-Pepi*, “Magasin Nord-Est”, A. MINAULT-GOUT 1992, 47–48, pl. 24 D.

⁴¹ I thank I. FORSTNER-MÜLLER, W. MÜLLER and J. DORNER for pointing this out to me; for publication of the site see J. DORNER 1996.

⁴² For the problems of documenting vaults in general, see M. NOVAK and J. SCHMID 2001.

⁴³ For most recent studies on Egyptian vaults see A.J. SPENCER 1979, D. ARNOLD 1994, 92–93, S. EL-NAGGAR 1999.

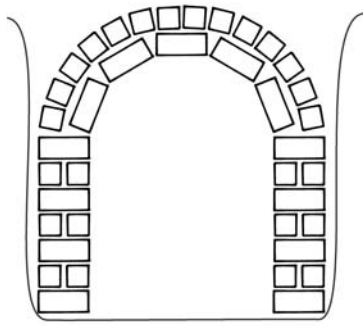


Fig. 7 Tomb chamber covered with a double barrel vault, bricks in inner layer laid in a right angle to the chamber axis, outer layer using radially laid bricks

tombs, the layers of vaulting increase to two and three for most chambers.⁴⁴ Correspondingly, the walls of the chambers have to be strengthened as well. The bullet diagram on Fig. 6 expresses the marked difference in chamber wall thickness between str. d/2 and d/1. The chambers are not only more massively constructed, they are also deeper: The most shallow chamber in str. d/2 is three layers deep, in str. d/1 six layers deep, the deepest in str. d/2 is 11 layers, in str. d/1 17 layers deep.

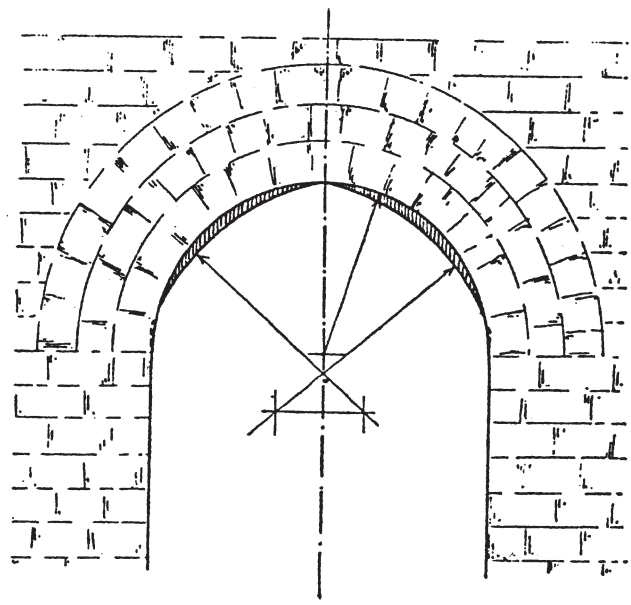
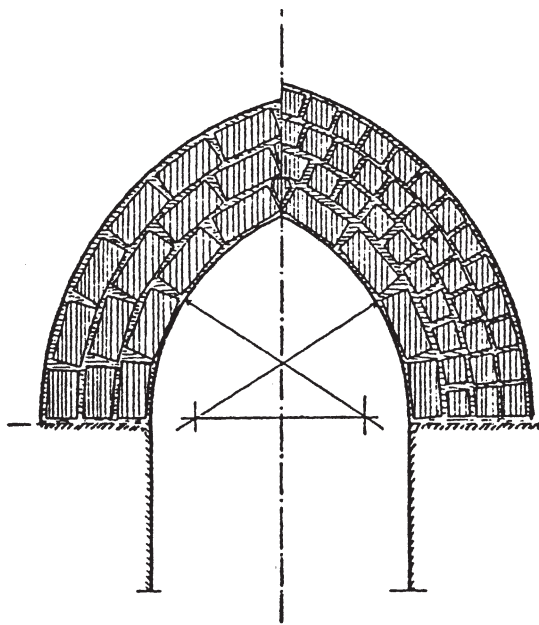


Fig. 8 Vaults in tomb I at Qattah (after E. CHASSINAT, H. GAUTHIER and H. PIERON 1906, figs. 4 and 5)

Within domestic architecture both in Egypt⁴⁵ and the Near East⁴⁶ the use of wall thickness has been identified as a possible means for representing status. This seems to hold true for the construction of mud brick tombs as well: Not all of these features are architectural necessities due to the increases in chamber volume or the results of new constructional challenges. For example, the thickness of the vaults could vary between similarly dimensioned chambers, indicating that such individual features could also be employed in order to signify status. The high degree of variation could also be considered indicative of a phase of experimentation.

Double vaults are represented in many variations. Frequently, the sloping bricks are employed in the beginning of a course. As they are usually only used on the inner course, they do not jut out. Rarely, and only in str. d/2, are they also used on the outer course, causing them to stand out of the vault, as with the single layer vaults. Double chambers – two parallel adjoining tomb chambers – are always covered with two double vaults.

Variations of the double vault are outer layers using radially laid bricks, tomb type 6 c (Fig. 7).⁴⁷

This type is the most common vault in str. d/1 (30

⁴⁴ Possibly even four layers in two cases, but the vaults had collapsed and the reconstruction remains uncertain in this regard.

⁴⁵ C. VON PILGRIM 1996, 208.

⁴⁶ E. HEINRICH und U. SEIDL 1968, 5.

⁴⁷ This type equals van den Brink type V b, E. VAN DEN BRINK 1982, 24.

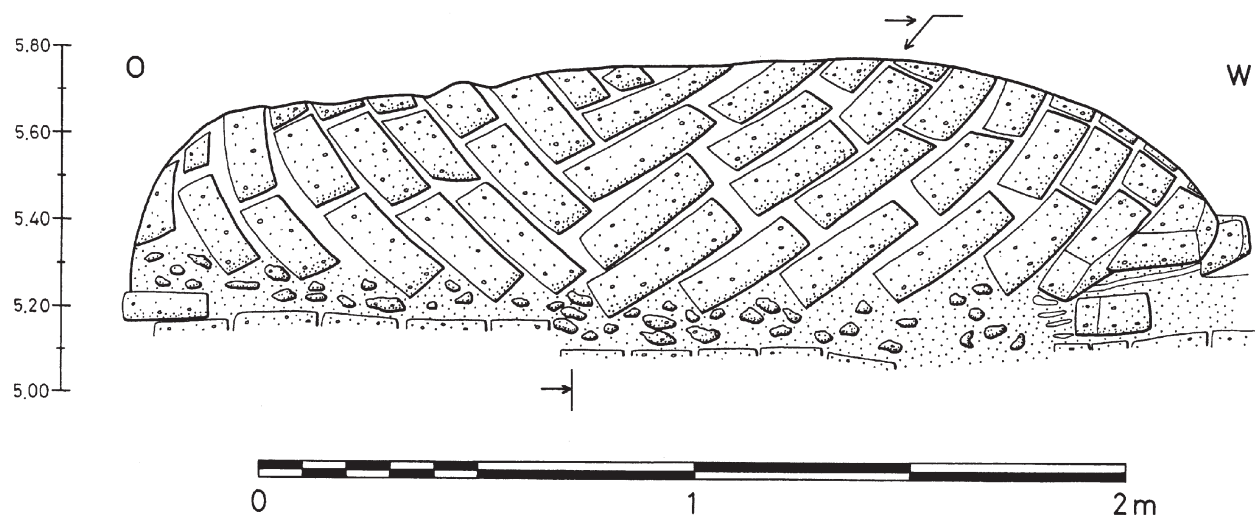


Fig. 9 Tell el-Dab^a, F/I-n/21-tomb 10, domical vault, view looking north

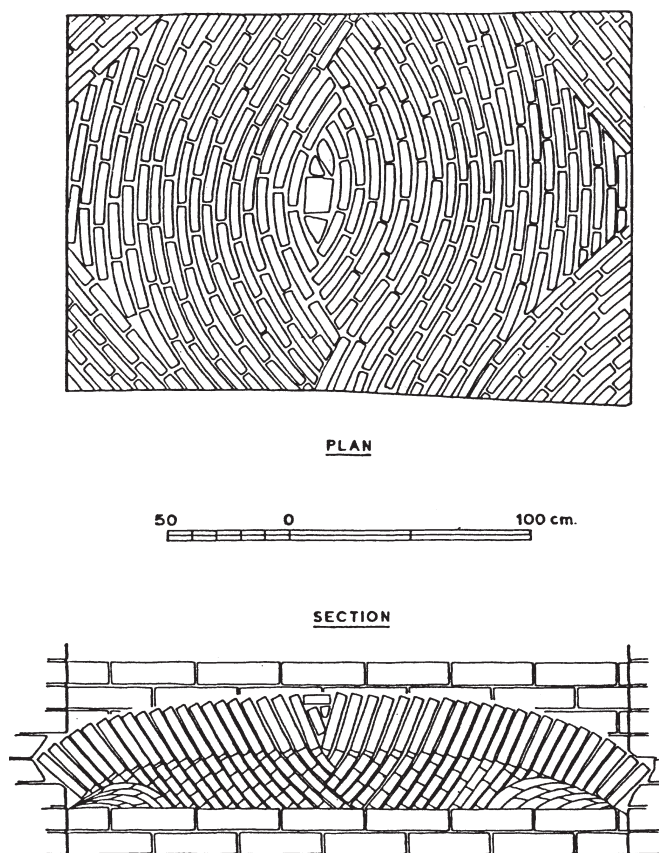


Fig. 10 Tell Rimah, Old Assyrian Temple, domical vault covering room AS 1 a (R. BESEVAL 1984, pl. 115, after D. OATES 1969, pl. V a)

% of all chamber tombs) and generally associated with tombs with superstructures. Less common is the use of radial bricks for both layers, which is a type of vault only known in str. d/1.

The variety in vault-types reaches its apex in some of the large tombs of str. d/1. Triple vaults (type 7) appear in two different combinations, with one or two outer layers using radially laid bricks. Whereas at Tell el-Dab^a these multiple layered vaults are restricted to str. d/1, by Middle Kingdom Egyptian standards such constructions are not very unusual. On Fig. 8 are for example the vaults from tombs at the early Middle Kingdom site of Qattah in the western Nile Delta.⁴⁸

3. TOMBS WITH OTHER TYPES OF VAULTS: DOMICAL CONSTRUCTIONS

Another group of tombs has domical vaults, a type of construction again restricted to these two strata (type 8), see Fig. 9. They are not true domes but have a flattened shape, constructed of antithetic rings of brick joined in the middle. Parallels for this generally rare type exist in a late Old Kingdom tomb in Elephantine⁴⁹ and in the vault construction covering a room of the Old Assyrian temple at Tell Rimah,⁵⁰ see Fig. 10.

Also only in these strata combinations of barrel vaults and this domical construction exist in the form

⁴⁸ E. CHASSINAT, H. GAUTHIER and H. PIERON 1906, figs. 4, 5, 14.

⁴⁹ S. SEIDLMAYER 1980, 286, fig. 13 a.

⁵⁰ D. OATES 1969, 14, pl. V a.

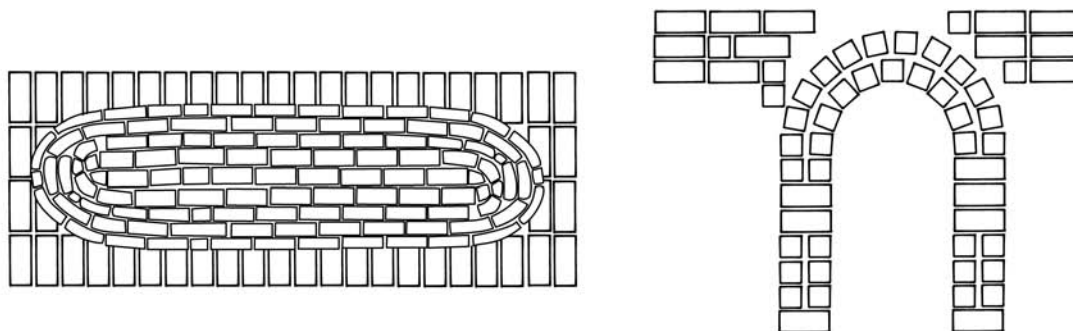


Fig. 11 Long narrow barrel vault with two half domes as ends (F/I-o/20 tomb 11)

of barrel vaults with domical or apsidal ends (type 9), see Fig. 11.

In the case shown in Fig. 11, both ends are constructed as half domes, in another variation, only the rear end is constructed in such a way, while the barrel vault merges into the entrance wall of the chamber.

In a very remarkable reduction in types, by the next stratum all of these vault types disappear at Tell el-Dab^a. It should be emphasized that this development must not only be interpreted chronologically, as the tombs of str. d/1 represent an elite cemetery including some of the largest and most luxuriously equipped tombs found at Tell el-Dab^a. The necropolis was associated with a palatial residence, and the people interred in these tombs, while maintaining some of their Near Eastern cultural background, were in many ways closely linked to the Egyptian state. Possibly the wealth of vaulting techniques used during this phase is to be linked to the strong Egyptian contacts.

4. INTERNAL AND EXTERNAL EGYPTIAN FEATURES

The planning of the cemetery was conceived in an Egyptian mindset. This finds its expression in both small and large features of the cemetery. Both internal measurements of tomb chambers and external features such as the layout of the necropolis make use of exact Egyptian measurement, the Egyptian cubit, which equals 52.3 to 52.5 cm.⁵¹ It should be noted, however, that the Egyptian cubit might

already have been established as unit of measurement in some Near Eastern regions in the Early Bronze Age.⁵²

Tomb m/19-Nr. 22 is part of the row of six particularly prominent tombs constructed immediately south of the palatial residence (Fig. 12) in str. d/1. These tombs cut into the original garden layout built in connection with the palace. Both their size and their placement near the focus of the necropolis, the palace, emphasize the importance of this row of tombs. While the precise function of the palace is not known, it is likely that functionaries associated with it were buried in these prominent constructions.⁵³

The internal design of the tomb is constructed according to exact Egyptian measurements: for example, the internal width of the tomb chamber in the east is 3 cubits, the niche in the west is 2.7 m long and 1.12 m wide, that is 5 cubits and 1 hand width \times 2 cubits and 1 hand width.⁵⁴ The tomb chamber possesses a singular shape with a niche in the west, which mirrors the layout of a bedroom in Egyptian domestic architecture. Two such bedrooms were found in the palatial residence immediately to the north, the western one can be seen in Fig. 12. The room is located to the east of the four-pillared hall and is marked by the thickened walls in the south, which thus create the bed niche. Such alcoves have been noted as bedrooms in many domestic contexts,⁵⁵ such as in the Middle Kingdom sites of Kahun⁵⁶ and Dahshur.⁵⁷

⁵¹ This also holds true for the palatial building north or the cemetery, as already shown by D. EIGNER 1985, 25; for the Egyptian cubit in general see for example D. ARNOLD 1994, 74.

⁵² P. DE MIROSCHEDEJI 2001.

⁵³ M. BIETAK 1991 b, 71–72.

⁵⁴ For measurements of Middle Kingdom royal tomb chambers, see D. ARNOLD 1987, 31.

⁵⁵ For later New Kingdom examples of such rooms at Deir el-Medineh and a discussion of possible other functions, see L. MESKELL 1999, 99–102.

⁵⁶ W.M.F. PETRIE 1891, pl. XIV; H. RICKE 1932, 52–54; B.J. KEMP 1989, 150–153, figs. 53–54.

⁵⁷ Building south of causeway of pyramid of Amenemhet III., DI. ARNOLD 1987, Taf. 36.

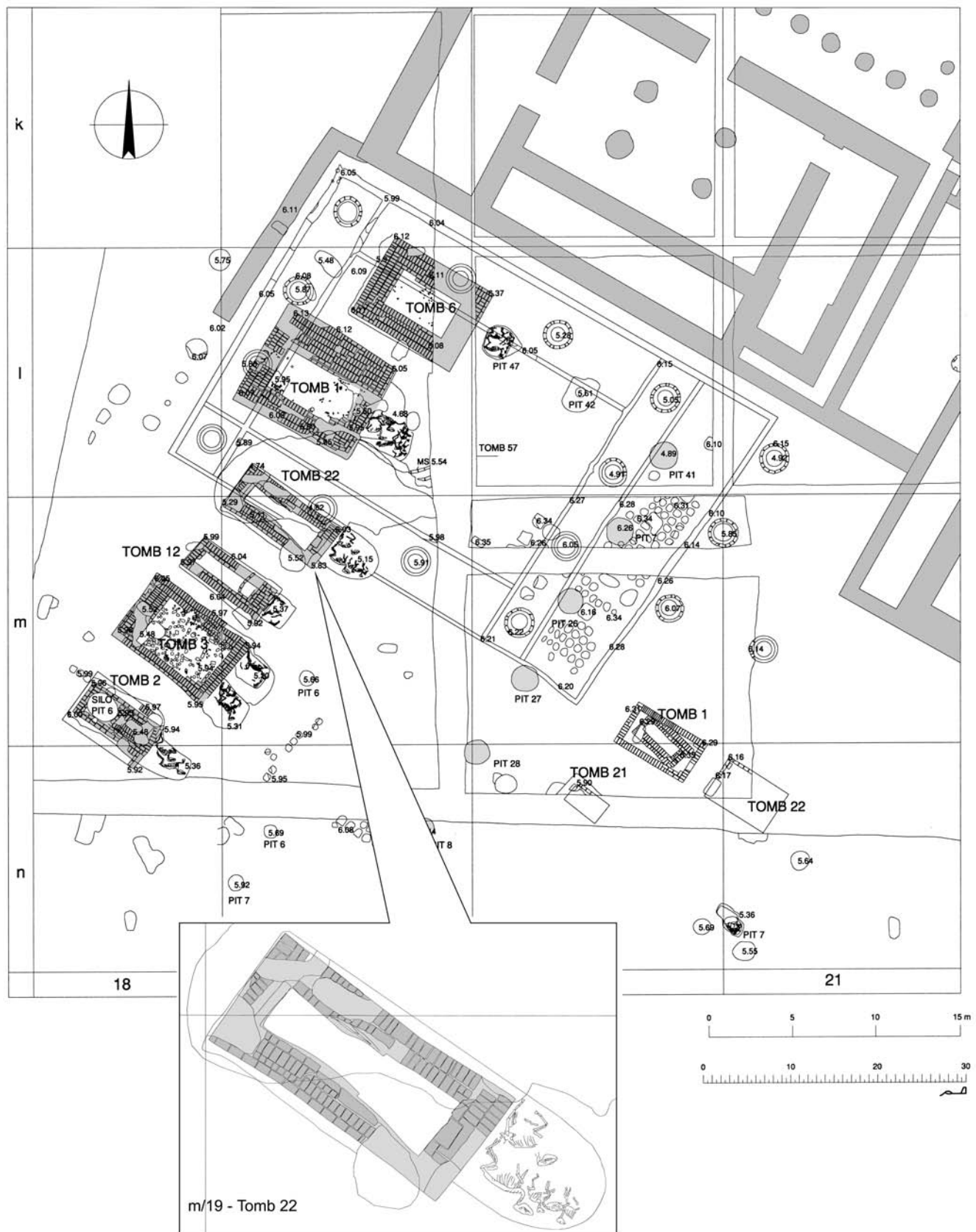


Fig. 12 Tell el-Dab^a, area F/I, str. d/I, southwestern part of palatial residence and tombs to the south, cutting into the original garden layout (map by R. Schiestl and N. Math)

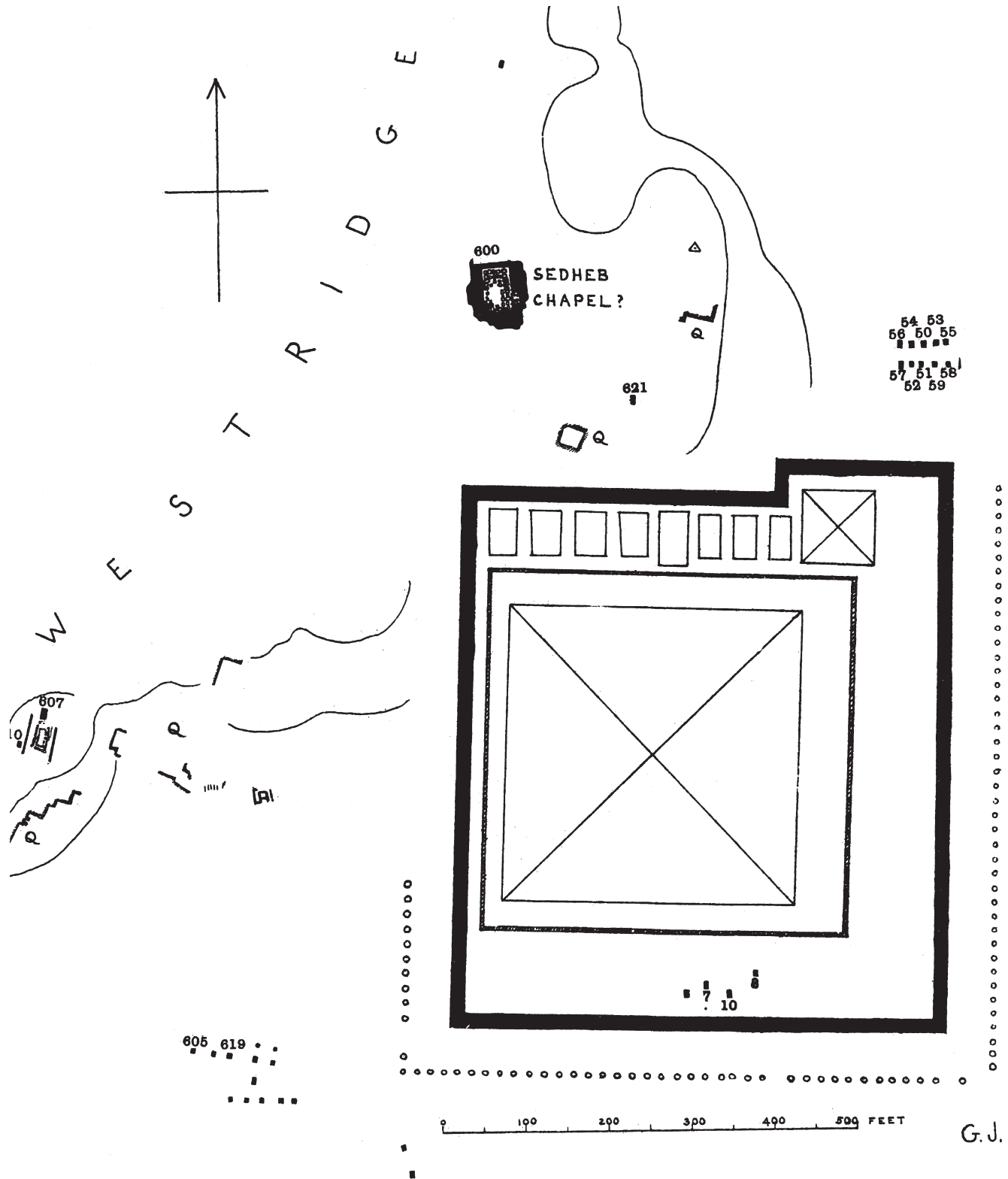


Fig. 13 Pyramid complex of Senwosret II at Lahun (after W.M.F. PETRIE, G. BRUNTON and M. MURRAY 1923, pl. III)

Tomb m/19-Nr. 22 stands exactly at a right angle to the bedroom, however, if we put the sarcophagus, of which large fragments were found in the tomb, in the niche oriented east west, it would be oriented exactly like a bed would have been in the residence. It has been noted that these two Tell el-Dab^{ca} bedrooms are among the largest ever discovered in Egypt, equaled only by some later royal examples.⁵⁸ The architectural designation of a specific room as a bedroom can as such be considered an expression of high status, as is shown by lower class Middle Kingdom and Second Intermediate Period houses in Elephantine, where such clear ascriptions can not be made.⁵⁹ While there is no direct access from the residence to the cemetery, the proximity of the two bedrooms to the cemetery is striking. This is paralleled by the placement of the “ceremonial bedroom” chamber in the mayoral building at Bubastis,⁶⁰ again placed near the adjoining mayoral necropolis.

Further parallels between these constructions exist: The vault of this tomb has completely vanished, yet there can be no doubt that it originally was covered with a barrel vault of two to three layers. While in the domestic context no roofing of bedrooms remains, it has been convincingly argued that vaults also covered these alcoves,⁶¹ whereas the rest of the house probably had a flat roof.

The rather obvious association of sleep and death was also made in Egypt,⁶² while the analogy of “death as eternal sleep” is a notion which certainly falls short of the complex concept of Egyptian after-life. However, within tombs a sleeping position is often recreated, from the positioning of the body, to the addition of a headrest, as used for sleeping.⁶³ If a tomb represents the house for the dead, the sarcophagus or coffin represents the bed. In an early Middle Kingdom tomb at Memphis, the walls of the funerary chamber were decorated like the room of a house, with doors, columns and windows.⁶⁴ In a late Middle

Kingdom tomb at Hawara, the owner was also equipped with the model of a bed.⁶⁵ Furthermore, the bed-coffin analogy could express more associations than sleeping, namely sexuality and fertility as aspects of rebirth.⁶⁶

It is here argued that this very Egyptian bedroom layout was transplanted into a funerary context, possibly to emphasize the link between the person buried here and the residence.

But also on a grander scale, the layout of the cemetery offers more examples for the application of Egyptian measurements and concepts. To the east of this row of six particularly prominent tombs (Fig. 12), at a distance between 13 and 15 m, a row of six tree pits was laid out. Planting trees near or around tombs is a very old Egyptian tradition and M. Bietak has convincingly argued for linking this layout with the ancient necropolis (or shrines of gods) of Sais and Buto.⁶⁷

What is also most remarkable is the exact system maintained in the layout of the tree pits. The distance between the centers of one tree pit to the next is exactly 10 Egyptian cubits. For such a layout two Middle Kingdom royal parallels can be cited, the temple of *Mentuhotep* at Deir el Bahari and the pyramid complex of *Senwosret II* at Lahun. The former possessed a garden flanking the ramp ascending to the temple. It consisted of rows of larger and smaller tree pits originally containing tamarisk and sycamore trees. The distance between the smaller tree pits is roughly 5,3 m or 10 Egyptian cubits.⁶⁸ The pyramid of *Senwosret II* (see Fig. 13) had been surrounded by a single file of trees.⁶⁹ As in Tell el-Dab^{ca}, it was unfortunately not possible to identify what tree had originally been planted, but again, the tree pits show an exact distance of 10 Egyptian cubits to each other.⁷⁰

So the “Asiatics” at Tell el-Dab^{ca} did not only employ exact Egyptian measurements, their model was royal Egyptian.

⁵⁸ D. EIGNER 1996, fig. 3.

⁵⁹ C. VON PILGRIM 1996, 216.

⁶⁰ C. VAN SICLEN 1996, 243, fig. 8.

⁶¹ H. RICKE 1932, 52–54; summary of data by A. ENDRUWEIT 1994, 90–103.

⁶² See R. SCHLICHTING 1984, 642.

⁶³ S. SEIDLMEYER 2001, 227–230.

⁶⁴ C. LILQUIST 1974, 28, pl. II c, III a.

⁶⁵ Tomb 58; W.M.F. PETRIE, G. WAINWRIGHT and E. MACKAY 1912, 35, pl. XXX; The model bed is in the collection of the

Petrie Museum at University College London (UC. 16139); For a Middle Kingdom/SIP (?) bed model from a funerary context, see also Dra Abu el-Naga, Cemetery VI, Univ. of Pennsylvania Museum 29-86-605, E.A. EVANS 2000, 28, figs. 3–33.

⁶⁶ G. ROBINS 1996, 27–30, see also L. MESKELL 1999.

⁶⁷ M. BIETAK 1994.

⁶⁸ D. ARNOLD 1979, pl. 49.

⁶⁹ W.M.F. PETRIE, G. BRUNTON und M. MURRAY 1923, pl. III.

⁷⁰ W.M.F. PETRIE, G. BRUNTON und M. MURRAY 1923, 11.

5. CONCLUSION

Despite its strong links in material culture to the northern coastal Levant, the Tell el-Dab^a MB IIA culture represents a cultural mix. While taking into account that the association of material culture with ethnicity is fraught with many problems,⁷¹ in analyzing this culture, two factors should be considered: a possibly multiethnic community and the high degree of Egyptianisation of the “Asiatics”. The multiethnic character of harbor-towns has been stated for the New Kingdom harbor of *perw-nefer*, which, according to a theory M. Bietak recently put forward, could be possibly located at Tell el-Dab^a and not Memphis.⁷² A similar model, on a much more modest scale, could also be envisioned for late Middle Kingdom Tell

el-Dab^a. Such a model could explain the unique combination of Near Eastern features in some tomb complexes.

Secondly, the process of acculturation had possibly already begun before the “Asiatics” settled in Egypt, as the degree of Egyptianisation of the local elite at Byblos and presumably other Lebanese and Syrian coastal centers suggests.

The cemeteries discussed here offer not the picture of superficial imitation or adaptation to Egyptian culture – the people who lived and were buried at the site of Tell el-Dab^a were evidently very knowledgeable about Egyptian culture. However, possibly it was precisely the fact that they were not Egyptians, which allowed them to use aspects of this culture in new, occasionally unorthodox ways.

Bibliography

- ARNOLD, DI.
 1979 The Temple of Mentuhotep at Deir el-Bahari, *Publications of the Metropolitan Museum of Art Egyptian Expedition* 21, New York.
 1987 *Der Pyramidenbezirk des Königs Amenemhet III. in Dahschur I. Die Pyramide*, AV 53, Mainz am Rhein.
 1994 *Lexikon der ägyptischen Baukunst*, Zürich.
- BACHELOT, L.
 1992 Une tombe construite du deuxième millénaire av. J.-C., à Mohammed Diyab, 31–38, in: DURAND, J.M. (ed.), *Recherches en Haute-Mésopotamie. Tell Mohammed Diyab, Campagnes 1990–1991*, Mémoires de N.A.B.U., 2 supplément, Paris.
- BADRE, L.
 1997 Bey 003 Preliminary Report, *BAAL* 2, 6–94.
- BAGH, T.
 2002 Painted Pottery at the beginning of the Middle Bronze Age: Levantine Painted Ware, 89–102, in: M. BIETAK (ed.), *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MB IIA Ceramic Material in Vienna, 24th–26th of January 2001*, CChEM 3, Wien.
- BIETAK, M.
 1979 *Avaris and Piramesse: Archaeological Exploration in the Eastern Nile Delta*, Proceedings of the British Academy LXV, London.
 1984 a Eine Palastanlage aus der Zeit des späten Mittleren Reichs und andere Forschungsergebnisse aus dem östlichen Nildelta (Tell el-Dab^a 1979–1984), *Anzeiger der phil.-hist. Klasse der Österreichischen Akademie der Wissenschaften* 121, 313–349.
 1984 b Problems of Bronze Age Chronology: New Evidence from Egypt, *American Journal of Archaeology* 88, 471–485.
 1987 Canaanites in the Eastern Nile Delta, 41–56, in: RAINEY, A. (ed.), *Egypt, Israel and Sinai. Archaeological and Historical Relationships in the Biblical Period*, Jerusalem and Tel Aviv.
 1991 a unter Mitarbeit von MLINAR, C. und SCHWAB, A., *Tell el-Dab^a V. Ein Friedhofsbezirk der Mittleren Bronzezeitkultur mit Totentempel und Siedlungsschichten*, Teil I, UZK 8, Wien.
 1991 b Der Friedhof in einem Palastgarten aus der Zeit des späten mittleren Reiches und andere Grabungsergebnisse aus dem östlichen Nildelta. Tell el-Dab^a 1984–1987, *Ä&L* 2, 47–75.
 1994 Zu den heiligen Bezirken mit Palmen in Buto und Sais – ein archäologischer Befund aus dem Mittleren Reich, in: BIETAK, M., HOLAUBEK, J., MUKAROVSKY, H. und SATZINGER, H. (eds.), *Zwischen den beiden Ewigkeiten. Festschrift Gertrud Thausing*, Wien, 1–18.
 1996 Zum Raumprogramm ägyptischer Wohnhäuser des Mittleren und des Neuen Reiches, 23–43, in: M. BIETAK (ed.), *House and Palace in Ancient Egypt. International Symposium in Cairo, April 8 to 11, 1992*, UZK 14, Wien.
 2005 The Thutmocide stronghold of Perunefer, *Egyptian Archaeology* 26, 13–17.

⁷¹ Cf. S. JONES 1997, 106–127.

⁷² M. BIETAK 2005.

- BIETAK, M. und HEIN, I. (eds.)
 1994 *Pharaonen und Fremde. Dynastien im Dunkel*, 194. Sonderausstellung des Historischen Museums der Stadt Wien in Zusammenarbeit mit dem Ägyptologischen Institut der Universität Wien und dem Österreichischen Archäologischen Institut Kairo, Rathaus Wien, Volkshalle, 8. Sept.–23. Oktober 1994, Wien.
- BESENVAL, R.
 1984 *Technologie de la Voûte dans l'Orient Ancien, Recherche sur les Civilisations, Synthèse* 15, Paris.
- VAN DEN BRINK, E.
 1982 *Tombs and Burial Customs at Tell el-Dab^a and their Cultural Relationship to Syria–Palestine during the Second Intermediate Period*, Veröffentlichungen der Institute für Afrikanistik und Ägyptologie der Universität Wien 23, Beiträge zur Ägyptologie 4, Wien.
- CHASSINAT, E., GAUTHIER, H., PIERON, H.
 1906 *Fouilles de Qattah*, MIFAO 40, Kairo.
- DORNER, J.
 1996 Vorbericht über die Grabungskampagnen 1993/94 auf Tell Hebwa IV/Süd am Nordsinai, *Ä&L* 6, 167–177.
- DOUMET-SERHAL, C.
 2001 Third Season of Excavation at Sidon. Preliminary Report, *BAAL* 5, 153–172.
- DUNAND, M.
 1964 Rapport Préliminaire sur les Fouilles de Byblos en 1962, *BMB* 17, 29–35.
- EIGNER, D.
 1985 Der ägyptische Palast eines asiatischen Königs, *Jahreshefte des Österreichischen Archäologischen Instituts in Wien* 56, 19–25.
- ENDRUWEIT, A.
 1994 *Städtischer Wohnbau in Ägypten. Klimagerechte Architektur in Amarna*, Berlin.
- EVANS, E.A.
 2000 *Scholars, Scoundrels, and the Sphinx: A Photographic and Archaeological Journey up the Nile*, Knoxville.
- FORSTNER-MÜLLER, I.
 2002 a *Die Gräber des Areals A/II von Tell el-Dab^a*, unveröffentlichte Dissertation, Universität Wien.
 2002 b Tombs and Burial Customs at Tell el-Dab^a in Area A/II at the End of the MB IIA Period (Stratum F), 163–184, in: BIETAK, M. (ed.), *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MB IIA Ceramic Material in Vienna, 24th–26th of January 2001*, CChEM 3, Wien.
- GERSTENBLITH, P.
 1983 *The Levant at the Beginning of the Middle Bronze Age*, ASOR Dissertation Series 5, Winona Lake.
- GOREN, Y. and COHEN-WEINBERGER, A.
 2004 Levantine-Egyptian Interactions during the 12th to the 15th Dynasties Based on the Petrography of the Canaanite Pottery from Tell el-Dab^a, *Ä&L* 14, 69–100.
- GUIGES, P.E.
 1937 Lébé^a, Kafer-Ĝarra, Qrayé. Nécropoles de la Région Sidonienne, *BMB* 1, 35–76.
 1938 Lébé^a, Kafer-Ĝarra, Qrayé. Nécropoles de la Région Sidonienne, *BMB* 2, 27–72.
 1939 Lébé^a, Kafer-Ĝarra, Qrayé. Nécropoles de la Région Sidonienne, *BMB* 3, 53–63.
- HAMADA, A. und FARID S.
 1947 Excavations at Kom el-Hisn, 1945, *ASAE* 46, 195–205.
 1948 Excavations at Kom el-Hisn, Third Season 1946, *ASAE* 48, 299–308.
- HEINRICH, E.
 1957–1971 Gewölbe, *Lexikon für Assyriologie und Vorderasiatische Archäologie* 3, 323–340.
 1984 *Die Paläste im Alten Mesopotamien*, Denkmäler antiker Architektur 15, Berlin.
- HEINRICH, E. und SEIDL, U.
 1968 Maß und Übermaß in der Dimensionierung von Bauwerken im Zweistromland, *MDOG* 99, 5–58.
- KEMP, B.J.
 1989 *Ancient Egypt. Anatomy of a Civilisation*, London and New York.
- KOPETZKY, K.
 2002 The Dipper Juglets of Tell el-Dab^a. A Typological and Chronological Approach, 227–244, in: M. BIETAK (ed.), *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MB IIA Ceramic Material in Vienna, 24th–26th of January 2001*, CChEM 3, Wien.
- LILQUIST, C.
 1974 Early Middle Kingdom Tombs at Mitrahina, *JARCE* 11, 27–30.
- MALLOWAN, M.
 1937 The Excavations at Tall Chagar Bazar and an Archaeological Survey of the Habur Region, Second Campaign 1936, *Iraq* 4, 91–177.
- MESKELL, L.
 1999 *Archaeologies of Social Life. Age, Sex, Class et cetera in Ancient Egypt*, Oxford.
- MINAULT-GOUT, A.
 1992 *Balat II. Le Mastaba d'Ima-Pepi (Mastaba II)*, FIFAO 33, Cairo.
- MIROSCHEJ, P. DE
 2001 Notes on Early Bronze Age Metrology and the Birth of Architecture in Ancient Palestine, 465–491, in: S.R. WOLFF (ed.), *Studies in the Archaeology of Israel and Neighbouring Lands in Memory of Douglas L. Esse*, *Studies in Ancient Oriental Civilization* 59, *ASOR Books* 5, Chicago and Atlanta.
- MONTET, P.
 1928 *Byblos et l'Égypte. Quatre Campagnes de Fouilles a Gebeil. 1921–1922–1923–1924*, Haut Commissariat de

- la République Française en Syrie et au Liban. Service des Antiquités et des Beaux Arts. Bibliothèque Archéologique et Historique II, Paris.
- EL-NAGGAR, S.
1999 *Les voûtes dans l'architecture de L'Égypte ancienne*, Bibliothèque d'Étude 128, Kairo.
- NOVAK, M. and SCHMID, J.
2001 Zur Problematik von Lehmziegelgewölben, Konstruktionstechniken und Verfahren zur Analyse am Beispiel von Gewölbgebäuden im ‚Roten Haus‘ in Dur-Katlimmu/Magadalu, *Baghdader Mitteilungen* 32, 205–253.
- OATES, D.
1969 The Excavations at Tell al Rimah, 1968, *Iraq* 31, 1–24.
- ORY, J.,
1938 Excavations at Ras el cAin. II, *QDAP* 6, 99–120.
- PECORELLA, P.E.
1998 Tell Barri- Kahat 1997, 183–191, in: *Chronique archéologique en Syrie II. Rapports des campagnes 1994–1997*, Damaskus.
- PETRIE, W.M.F.
1891 *Illahun, Kahun und Gurob*, London.
- PETRIE, W.M.F., WAINWRIGHT, G.A. and MACKAY, E.
1912 *The Labyrinth, Gerzeh and Mazghuneh*, London.
- PHILIP, G.
1989 *Metal Weapons of the Early and Middle Bronze Ages in Syria-Palestine*, BAR Inter. Ser. 526, Oxford.
1995 Tell el-Dabca Metalwork: Patterns and Purpose, 66–83, in: DAVIES, W.V. and SCHOFIELD, L. (eds.), *Egypt, the Aegean and the Levant, Interconnections in the Second Millennium BC*, London.
2006 *Tell el-Dabca XV. Metalwork and Metalworking Evidence the late Middle Kingdom and the Second Intermediate Period*, UZK 26, Wien.
- VON PILGRIM, C.
1996 *Elephantine XVIII. Untersuchungen in der Stadt des Mittleren Reiches und der Zweiten Zwischenzeit*, AV 91, Mainz.
- REDFORD, D.B.
1981 Interim Report on the Excavations at East Karnak (1979 and 1980 Seasons), *JSSEA* 11:4, 243–260.
- RICKE, H.
1932 *Der Grundriss des Amarna-Wohnhauses*, 56. Veröffentlichung der Deutschen Orient Gesellschaft, Berlin und Leipzig.
- ROBINS, G.
1996 Dress, Undress, and the Representation of Fertility and Potency in New Kingdom Egyptian Art, 27–40, in: N. BOYMEL KAMPEN (ed.), *Sexuality in Ancient Art. Near East, Egypt, Greece and Italy*, Cambridge.
- SAIDAH, R.
1993–1994 Beirut in the Bronze Age: The Kharji Tombs, *Berytus* 41, 137–210.
- SCHIESTL, R.
2002 Some Links Between a Late Middle Kingdom Cemetery at Tell el-Dabca and Syria-Palestine: The Necropolis of F/I, Strata d/2 and d/1 (= H and G/4), 329–352, in: M. BIETAK (ed.), *The Middle Bronze Age in the Levant. Proceedings of an International Conference on MB IIA Ceramic Material in Vienna, 24th–26th of January 2001*, CChem 3, Wien.
- in press Three Pendants: Tell el-Dabca, Aigina and a new silver pendant from the Petrie Museum, in: FITTON, L. (ed.), *The Aigina Treasure. Proceedings of the 24th British Museum Classical Colloquium. 21–22 November 2000*, London.
- SCHLICHTING, R.
1984 Schlaf, in: HELCK, W. und OTTO, E. (eds.), *Lexikon der Ägyptologie* 5, Wiesbaden, 642–644.
- SEIDLMEYER, S.
1980 Nordweststadt: Friedhof, in: KAISER, W., DREYER, G., GROSSMAN, P., MAYER, W. und SEIDLMEYER, S., Stadt und Tempel von Elephantine. Achter Grabungsbericht, *MDAIK* 36, 280–289.
2001 Die Ikonographie des Todes, 205–252, in: H. WILLEMS (ed.), *Social Aspects of Funerary Culture in the Egyptian Old and Middle Kingdoms*, Orientalia Lovaniensia Analecta 103, Leuven.
- VAN SICLEN, C.
1990 The Mayors of Basta in the Middle Kingdom, in: *Akten des Vierten Internationalen Ägyptologischen Kongresses München 1985*, Band 4, Beiheft Studien zur Altägyptischen Kultur 4, 187–194.
1996 Remarks on the Middle Kingdom Palace at Tell Basta, 239–246, in: BIETAK, M. (ed.), *Haus und Palast im Alten Ägypten. Internationales Symposium 8. bis 11. April 1992, in Kairo*, UZK 14, Wien.
- SILVERMAN, D.P.
1988 *The Tomb Chamber of Hsw the Elder. The Inscribed Material at Kom El-Hisn*. Part 1: Illustrations, ARCE Reports 10, Winona Lake 1988.
- SPENCER, A.J.
1979 *Brick Architecture in Ancient Egypt*, Warminster.
- THALMANN, J.-P.
2000 Tell Arqa, *BAAL* 4, 5–74.
- TUBB, J.
1983 The MBIIA Period in Palestine: Its Relationship with Syria and its Origins, *Levant* 15, 49–62.